

Regional Science Dialogues for Peace  
and Sustainable Development  
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26-30 August 2024



# ERSA2024 Congress Abstract book

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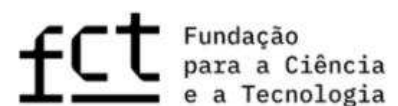
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## List of Abstracts

Presenting authors are in bold and underlined. The Session details is stated prior the Abstract content.

Abstracts listed by number order.

**7**

### **An Assessment of the Effect of Highways on the Economic Performance of the Regions in Türkiye**

**Mr Cihan Mert Sabah**<sup>1</sup>

<sup>1</sup>Istanbul Technical University, Istanbul, Turkey

❖ [Online-YSS2 Inequality and Regional Investment - EPAINOS, August 27, 2024, 11:00 AM - 1:00 PM](#)

In the contemporary landscape, public investments in infrastructure stand out as the most impactful catalyst for enticing private sector engagements in various regions across the globe. Particularly, transportation infrastructure emerges as the primary focal point for investment, playing a pivotal role in stimulating inter-regional competition by facilitating easier market access. Research on this subject affirms that a well-developed transportation infrastructure significantly contributes to regional development, fostering increased production. The augmentation of transportation infrastructure not only attracts fresh investments but also generates employment opportunities, thereby fostering economic growth. Türkiye, recognizing the significance of this correlation, has intensified its efforts by bolstering investments and implementing innovative financing mechanisms for transportation projects. This study aims to analyse the impact of Türkiye's transportation investments between 2008 and 2017 on regional economic performance. The evaluation will explore whether these investments contribute directly to the economic performance of the regions. To achieve this, the study draws insights from existing literature that underscores the role of transportation in regional development, referencing pertinent studies conducted globally and within Türkiye. Subsequently, data sourced from authoritative institutions such as the General Directorate of Highways, Social Security Institution, and Development Agency are subjected to both quantitative and qualitative analysis methods. This comprehensive approach ensures a thorough examination of the multifaceted aspects of the relationship between transportation investments and economic performance.

## 10

### How are Europe's cities and regions contributing to Europe's green transition by boosting the circular economy?

Prof. Sébastien Bourdin<sup>1</sup>, Mr Nicolas Jacquet<sup>1</sup>

<sup>1</sup>EM Normandie Business School, Caen, France

❖ [Terceira-S04 The Spatial, Regional and Urban Dimensions of Circular Economy, S01, August 28, 2024, 11:00 AM - 1:00 PM](#)

Faced with the urgent global climate crisis, the European Commission has embarked on an ambitious journey towards carbon neutrality as part of the European Green Deal. This initiative aims to transform the European Union into a resource-efficient, competitive economy with zero net greenhouse gas emissions by 2050. At the heart of this transformation is the Circular Economy (CE), considered a key pillar for achieving these lofty goals and a strategic lever for the green transition.

The European Green Deal lays out a roadmap for fostering efficient resource use, transitioning to a clean, circular economy, restoring biodiversity, and reducing pollution. In this strategic and policy framework, the CE is crucial for the European Commission to achieve carbon neutrality while promoting sustainable growth. The New Action Plan for the Circular Economy, an integral part of the Green Deal, focuses on accelerating this transformation.

Beyond economic impacts, the CE aligns with global trends in policy and regulation, underlining its growing role as a catalyst in global governance for enhanced sustainability. It offers resilience perspectives for cities and regions and encompasses diverse principles, such as the "10R" hierarchy of practices.

However, among 800 European cities with over 50,000 inhabitants, only 40 have developed circular economy strategies, highlighting a significant gap. The European Commission is actively supporting the adoption of CE at the local level through initiatives like the Circular Cities and Regions Initiative (CCRI), providing technical and financial support for local circular solutions.

This paper aims to analyze the types and extents of circular initiatives developed by European cities and regions, understanding how local approaches align with the 10R principles of CE. It also examines the role of local authorities in implementing CE at the local scale, using the concept of territorial intermediation. The paper includes a literature review defining CE, the role of local authorities, and the conceptual framework of territorial intermediation. It then discusses methodology, presents key findings, discusses policy recommendations, and concludes with insights on the critical role of local authorities in promoting and implementing circular economy for Europe's ecological transition.

## 11

### Decentralized vs. Centralized Water Pollution Cleanup in the Ganges in a Model with Three Cities

Dr. Amit Batabyal<sup>1</sup>, Dr. Hamid Beladi<sup>2</sup>

<sup>1</sup>Rochester Institute Of Technology, Rochester, United States, <sup>2</sup>University of Texas at San Antonio, San Antonio, USA

❖ [Online-G24 Human - Environmental Interactions, August 26, 2024, 4:45 PM - 6:30 PM](#)

We think of the cleanup of water pollution in the Ganges river in India as a local public good and ask whether this cleanup ought to be decentralized or centralized. We depart from the existing literature on this subject in two important ways. First, we allow the heterogeneous spillovers from cleaning up water pollution to be positive or negative. Second, we focus on water pollution cleanup in three cities--Kanpur, Prayagraj, Varanasi---through which the Ganges flows. Our model sheds light on two broad issues. First, we characterize efficient water pollution cleanup in the three cities, we describe how much water pollution is cleaned up under decentralization, we describe the set of cleanup amounts under decentralization, and we discuss why pollution cleanup under decentralization is unlikely to be efficient. Second, we focus on centralization. We derive the tax paid by the inhabitants of the three cities for pollution cleanup, the benefit to a city inhabitant from water pollution cleanup, how majority voting determines how much pollution is cleaned up when the spillovers from cleanup are uniform, and finally, we compare the amounts of pollution cleaned up with majority voting with the efficient pollution cleanup amounts.



## 12

### Artificial Intelligence Based Technologies and Economic Growth in a Creative Region

Dr. Amit Batabyal<sup>1</sup>, Dr. Karima Kourtit<sup>2</sup>, Dr. Peter Nijkamp<sup>2</sup>

<sup>1</sup>Rochester Institute Of Technology, Rochester, United States, <sup>2</sup>Open University, Heerlen, Netherlands

❖ [Online-G03-O1 Innovation and Regional Development, August 26, 2024, 11:00 AM - 1:00 PM](#)

We analyze aspects of economic growth in a stylized, high-tech region  $\Gamma$  with two distinct features. First, the residents of this region are high-tech because they possess skills. Using the language of Richard Florida, these residents comprise the region's creative class and hence they possess creative capital. Second, the region is high-tech because it uses an artificial intelligence (AI)-based technology and we explicitly model the use of this technology. In this setting, we first derive expressions for three growth related metrics. Second, we use these metrics to show that the economy of high-tech region  $\Gamma$  converges to a balanced growth path (BGP). Third, we compute the growth rate of output per effective creative capital unit on this BGP. Fourth, we study how heterogeneity in initial conditions influences outcomes on the BGP by introducing a second high-tech region  $\Delta$  into the analysis. At time  $t=0$ , two key savings rates in region  $\Gamma$  are twice as large as in region  $\Delta$ . We compute the ratio of the BGP value of income per effective creative capital unit in region  $\Gamma$  to its value in region  $\Delta$ . Finally, we compute the ratio of the BGP value of skills per effective creative capital unit in region  $\Gamma$  to its value in region  $\Delta$ .

## 13

### Aging of rural labor force in the context of the rural revitalization in China: trends, Mechanism, and responses

Prof. Jiehua Lu<sup>1</sup>, Professor Jinying Wang

<sup>1</sup>Peking University, Beijing, China

❖ Terceira-G02-O1 Demographic change, Population and Migration, S10, August 28, 2024, 11:00 AM - 1:00 PM

As the most dynamic factor of production factors in rural areas and the largest demander of Rural Revitalization Strategy, the changing trend of age structure of rural labor force is related to the level of agricultural labor productivity and the effectiveness of rural governance in China. It is found that the absolute level and relative growth rate of the aging of the rural labor force are higher than those in urban areas. In the next thirty years, the supply of rural labor force will continue to show the development track of the age structure fault, and the aging level of the labor force will always exceed the critical value of 40%. At the same time, there is a process of unbalanced distribution in spatial characteristics, with regional and provincial differences. The rapid increase of the aging level of rural labor force is due to the relative increase of elder rural labor force brought by the age-selective rural-urban transfer of labor force and the sharp rise of the dependency ratio of the rural elderly population under the background of the intensified urban-rural inversion of aging, which will gradually change the original distribution pattern of agricultural production factors and rural social governance structure. It will inevitably have a profound impact on agricultural economic activities and rural social system. Based on this, it is proposed to effectively address the aging of rural labor force in the context of comprehensively promoting Rural Revitalization Strategy, in order to improve the quality of rural human capital and unleash the initiative of rural social entities.

## 16

### Space and innovation: Unveiling Japan's Creative Economic Landscape

Dr. João Romão<sup>1</sup>

<sup>1</sup>Yasuda Women's University, Hiroshima, Japan

❖ [Terceira-G03-O3 Innovation and Regional Development, S10, August 28, 2024, 4:45 PM - 6:30 PM](#)

This study offers an exploration of the spatial distribution and intensity of creative economic activities across the prefectures of Japan. These industries are not only defined by their innovative and digital production processes but also by their shift from traditional, large-scale manufacturing to smaller to more personalized consumer-oriented units. Despite the continued dominance of conventional mass production in Japan's economy, these nascent creative sectors may represent a significant shift. Utilizing a rich dataset from the Economic Census for Business Activities for the years 2014 and 2021, the study maps out the employment trends across diverse industrial categories. It recognizes and addresses the challenges inherent in aligning the theoretical constructs of creative economies with the more rigid structure of national economic accounts. Through the calculation of location quotients for each Japanese prefecture, the study measures the relative concentration and specialization of creative industries within these regions. This approach culminates in an aggregated creative sector score for each area.

The study employs spatial analysis tools, including local and global indicators of spatial association, adhering to a broad definition of creative activities and considering two distinct temporal moments, providing a dynamic perspective on the evolution of these sectors.

The findings of this analysis align with a global trend, highlighting a pronounced agglomeration of creative industries in major metropolitan areas. This trend is evident in Japan, with a strong concentration of creative activities around Tokyo and Kanazawa, and, to a lesser extent, in Osaka and Kyoto. The comparative analysis of data from 2014 and 2021 reveals that the emergence of the creative economy is part of a slow, yet steady, structural transformation. This is evidenced by the remarkable consistency in spatial distribution patterns across both timeframes.

The study reveals the difficulty faced by Japan's peripheral regions in attracting and nurturing creative industries. This finding is crucial for understanding the geographical inequalities in the distribution of creative economic activities and has significant implications for regional development and policy-making. In this sense, refining the territorial level of analysis (municipalities instead of Prefectures) and adding new questions related to the determinants and agents of these spatial agglomerations may help to support the development of new development strategies to address these spatial inequalities.

## 17

### Low vs. high income: The impact of high-rise buildings on prevalence of obesity

Dr. Yuval Arbel<sup>1</sup>

<sup>1</sup>Western Galilee College, Acre, Israel

❖ [Terceira-G01-O1 Peace, Regional and Urban Sustainable Development, S09, August 28, 2024, 11:00 AM - 1:00 PM](#)

The relationship between health, proxied by the prevalence of obesity, and the level of income is well documented.

Based on the CDC report at a US statewide level between 2011 and 2020, the current study extends this

discussion by exploring the impact of urban environments, proxied by the number of skyscrapers, on this relationship.

In this context, the question that still remains open is what is the extent of urban development that can reduce the dimensions of the obesity pandemic to a minimum and whether this effect is different across poor

versus rich populations. Consequently, the contribution of this study is the use of the quadratic model, which

permit non-monotonic relationships between obesity prevalence and the number of skyscrapers. We also

examine the incremental change in the number of skyscrapers. The global aspect of our study may be described

as follows. For countries with per-capita GDP higher than \$75,000 (lower than \$25,000) – urban development of

skyscrapers is expected to be beneficial on obesity prevalence up to 142 (126) skyscrapers. Compared to poor

countries, the incremental impact of high-rise construction on obesity prevalence at the downward domain of the

U-shaped curve is expected to be much more beneficial among rich countries.

## 18

### The interrelationship between migrant social capital, ethnic diversity, and spatial sorting: evidence from Aotearoa New Zealand

Prof. Matthew Roskrige<sup>2</sup>, Prof. Jacques Poot<sup>1</sup>

<sup>1</sup>University of Waikato, Hamilton, New Zealand, <sup>2</sup>Massey University, Albany, Auckland, New Zealand

- ❖ [Terceira-S33 Drivers and Impacts of Migration: New Insights on the Role of Labour Markets, Demographic Change, Human Capital, and Networks, S02, August 30, 2024, 11:00 AM - 1:00 PM](#)

In this paper, we present evidence from quantitative research over the last decade on how the social capital of individuals in Aotearoa New Zealand is associated with birthplace and, for migrants, years since migration. We also consider the effects of spatial sorting and ethnic diversity on social capital formation. Aotearoa New Zealand has one of the highest rates of immigration in the OECD and, consequently, one of the highest shares of foreign-born individuals in the population. Additionally, the population is characterized by high ethnic diversity and a large indigenous population, with Māori representing 17 percent of the population. Using several data sources, we measure social capital by focusing on participation and volunteering in a range of community activities, perceptions of safety and inclusion, and voting in elections. Regression modelling shows that, as expected, migrants have little local social capital upon arrival. However, differences between their social capital and that of native-born individuals reduce considerably as the duration of residence in Aotearoa New Zealand increases. When the migrant share in a region is larger than the national average, migrants invest less in bridging social capital. Migrant clustering within a region increases their investment in bonding social capital. Bridging activities are associated with better employment outcomes. Less than one in five respondents in the utilized survey data report discrimination, and for migrants, discrimination declines with years of residence. However, the trend in discrimination has been upward over time and particularly affects non-European migrants and persons identifying with Māori and Pacific Peoples ethnicities. Residential location matters. Greater ethnic diversity is associated with the perception of a less safe neighbourhood, but individuals in ethnically diverse regions experience relatively less discrimination. Additionally, there is more involvement in elections in such regions. In contrast, greater ethnic polarisation in regions is associated with less civic engagement and more discrimination.

## 21

### Modelling transitions: transdisciplinary approaches for modelling the economy in a changing climate

Dr. Marcello Graziano<sup>1</sup>

<sup>1</sup>Ruralis, Trondheim, Norway, <sup>2</sup>Connecticut Center for Economic Analysis, University of Connecticut, Storrs, USA

- ❖ [Terceira-S09 'What's the Impact?': the State of Social and Economic Impact Modeling, and its Role in a Transitioning World, S02, August 30, 2024, 9:00 AM - 10:30 AM](#)

Renewable energy transition involves extensive planning for new solar and wind farms across the world. National and local projections for the Northeastern United States foresee an increase of variable renewable energy sources by 150% to 600% by 2030, and an increase of controllable renewable sources by 3% to 10%, in a fast decarbonization and slow denuclearization framework. The investments required to operationalize these changes will likely have a profound impact on the region's economy, which, in turn, will further affect the regional demand for energy products. Partnering with weather experts and power engineers, this work presents the socioeconomic impacts of this journey through the transition for one of the states in the US N.E. ISO region, Connecticut. Through a transdisciplinary work with experts and stakeholders from different fields, we have created a REMI-friendly input matrix, upon which the modeling (years 2025-2050) was created. More importantly, this work provides an example of how to work transdisciplinary for modelling and understanding complex and transformative phenomena such the rapid decarbonization of one of the largest energy regions in the world.

## 22

### The Portuguese Network of Municipalities for Quality of Life

Prof. Patrícia Palma<sup>1</sup>, Prof. Miguel Pereira Lopes<sup>1</sup>

<sup>1</sup>University Of Lisbon, Lisboa, Portugal

❖ [Terceira-G06-O2 Regional and Urban Policy and Governance, S11, August 28, 2024, 4:45 PM - 6:30 PM](#)

#### The Portuguese Network of Municipalities for Quality of Life

Quality of life is a key goal in municipality governance (De Guimarães et al., 2020). Local governance models evolved to transcend the hierarchical/heterarchical dichotomy into a network-based character. The goal of this proposal is to present the case of the governance model of the Portuguese Network of Municipalities for Quality of Life, led by INTEC - Behavioral Technology Institute. A not-for-profit association, INTEC has been measuring Quality of Life (QoL) in Portuguese municipalities since 2008. All Over these years, INTEC has measured QoL and/or QoL good practices and policies in over 50 Portuguese municipalities and collected over 12500 individual questionnaires. INTEC's approach is based on both the methodologies of EUROFOUND and OECD, including subjective citizen evaluations (questionnaire interviews) as well as objective indicators (living conditions). In other words, we measure both quality of life and living conditions (cf. D'Agostini & Fantini, 2008). As for 2023 forward INTEC has settled the The Portuguese Network of Municipalities for Quality of Life that currently includes the following 10 municipalities: Arronches, Cadaval, Condeixa, Famalicão, Lagoa, Pombal, Trofa, Velas, Vila Nova de Gaia e Vila Verde. These municipalities were willing to quantitatively measure the quality of life and living conditions of their citizens. In addition, this "Network" also promoted the share of best practices concerning QoL improvement. In the presentation, we will present the governance characteristics of this network and discuss limitations and opportunities.

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## 23

### From Vineyards to Value: The Influence of Corporate Legitimacy and Green Innovation on Sustainable Performance in Wine Tourism

Dr. Javier Martínez Falcó<sup>1</sup>, Dr Eduardo Sánchez-García<sup>2</sup>, Dr Bartolomé Marco-Lajara<sup>3</sup>, Dr Luis Antonio Millán-Tudela<sup>4</sup>

<sup>1</sup>University of Alicante, Alicante, Spain, <sup>2</sup>University of Alicante, Alicante, Spain, <sup>3</sup>University of Alicante, Alicante, Spain, <sup>4</sup>University of Alicante, Alicante, Spain

❖ [Terceira-S29 Savoring Sustainability: The Intersection of Wine Tourism, Heritage, and Eco-Friendly Growth in Wine Regions, S07, August 29, 2024, 9:00 AM - 10:30 AM](#)

**Purpose** - This research focuses on analysing the impact of Wine Tourism (WT) development on the Sustainable Performance (SP) of Spanish wineries, as well as the mediating effect of Corporate Social Legitimacy (CSL) and Green Innovation (GI) on this link. In addition, age, size and membership in a Protected Designation of Origin (PDO) are introduced as control variables to increase the precision of the cause-effect relationships examined.

**Design/methodology/approach** - The study proposes a conceptual model based on previous studies, which is tested using structural equations (PLS-SEM) with data collected from 196 Spanish wineries between September 2022 and January 2023.

**Findings** - The findings of the research reveal the existence of a positive and significant relationship between the development of WT and the SP of Spanish wineries, as well as the partial mediation of CSL and GI in this linkage.

**Originality/value** – The uniqueness and significance of this study can be attributed to several crucial factors. First, it enhances the understanding and knowledge regarding the advantages associated with WT development. Second, no prior research has conducted a comprehensive study on the WT development as a catalyst for economic, social, and environmental outcomes within the context of Spanish wineries. Third, to the best of the authors' knowledge, no previous study has simultaneously analysed the mediating role of CSL and GI as mediators in the relationship between WT development and the SP of wineries.



## 24

### Wine tourism as a catalyst for green performance: The mediating role of green knowledge sharing

Dr. Javier Martínez Falcó<sup>1</sup>, Dr Eduardo Sánchez-García<sup>2</sup>, Dr Bartolomé Marco-Lajara<sup>3</sup>, Dr Luis Antonio Millán-Tudela<sup>4</sup>

<sup>1</sup>University of Alicante, Alicante, Spain, <sup>2</sup>University of Alicante, Alicante, Spain, <sup>3</sup>University of Alicante, Alicante, Spain, <sup>4</sup>University of Alicante, Alicante, Spain

❖ [Terceira-S31 Entrepreneurship and Sustainable Development: Uncovering the Sources and Effects of Innovative Entrepreneurship for Sustainable Value Creation, SF4, August 29, 2024, 9:00 AM - 10:30 AM](#)

This research focuses on analyzing the impact of Wine Tourism (WT) on the Green Performance (GP) of Spanish wineries, as well as the mediating effect of Green Knowledge Sharing (GKS) on this linkage. In addition, age, size and membership in a Protected Designation of Origin (PDO) are introduced as control variables to increase the precision of the cause-effect relationships examined. The study proposes a conceptual model based on previous studies, which is tested using structural equations (PLS-SEM) with data collected from 196 Spanish wineries between September 2022 and January 2023. The findings of the research reveal the existence of a positive and significant relationship between the development of WT and the GP of Spanish wineries, as well as the partial mediation of GKS in this association. The uniqueness and significance of this study can be attributed to several crucial factors. First, it enhances the understanding and knowledge regarding the advantages associated with WT development. Second, no prior research has conducted a comprehensive study on WT as a catalyst for GP within the context of Spanish wineries. Third, to the best of the authors' knowledge, no previous study has analyzed the mediating role of GKS as mediator in the relationship between WT and GP of wineries.

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## Typology of Industries for Prioritising Infrastructure Investments in Developing Countries: A Spatial Approach

Dr. Pedro Herrera-Catalán<sup>1</sup>, Dr. Coro Chasco

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❖ [Terceira-G06-O3 Regional and Urban Policy and Governance, S12, August 29, 2024, 2:30 PM - 4:15 PM](#)

The paper constructs a typology of industries to prioritise infrastructure investments in high-return areas of developing countries, presenting the case of Peru. Based on Marshall's discussion of the economic benefits to production for firms that spatially concentrate, we use nonparametric distance-based tests of industry localisation to identify the geographic concentration of industries. We find that one-third of manufacturing industries exhibit a relatively high degree of industrial agglomeration. Then using spatial logit models, we explore spatial and non-spatial factors that firms value when deciding where to locate. We find that spatial autocorrelation effects are a key factor of a firm's location, but their importance varies significantly across concentration quartiles. Finally, we use the model estimations to construct a typology of industries that differs according to their clustering degree, accessibility to markets, access to inputs, basic infrastructure levels and neighbouring effects. This setup is proposed to help policymakers to prioritise industrial policies in Peru.

## 26

### Regionalization of house price indices, and possible applications for early warning systems

Dr. Wolfgang Brunauer<sup>1</sup>, Dr. Ronald Weberndorfer<sup>1</sup>, Dr. Karin Wagner<sup>2</sup>, Fabrice Kreuzbichler<sup>3</sup>

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❖ [Terceira-G31-O2 Methods in Regional Science or Urban Analysis, SF4, August 29, 2024, 2:30 PM - 4:15 PM](#)

Reliable residential property price indices at micro-geographic scales are increasingly important inputs into housing policy and economic research. The Austrian Central Bank (OeNB) has been publishing the Austrian residential property price index (RPPI) for many years now. In principle, the so-called double imputation methodology, which this index is based on, and which was developed by DataScience Service (DSS) with the support of OeNB following Eurostat's specifications, allows the index to be disaggregated to almost any depth because the data on which the calculation is based is available at the individual transaction level. The reason for the currently only very rough evaluation lies in the very different density distribution of the data and the change in these densities over time: While in some regions, especially urban areas, there is a relatively high transaction density, there are districts in which only a few transactions are available for a certain object category even more as quarterly indices have to be published; in some cases, markets for certain transaction types have "dried up" for various reasons. A highly regionalized index differentiated according to object features must therefore manage the "bias-variance tradeoff". In other words: How much can an index be disaggregated (reduction of bias), and how can the results be regularized in a data-driven manner (reduction of variance)? The aim of this paper is to use information from neighboring units on the one hand and, on the other hand, historical information from the same and/or from neighboring units, in order to derive time series that are as robust as possible. Thus, we derive a spatially granular panel of indices for prices and rents, which can serve as input for early warning systems. Furthermore, we investigate the possible impact on the construction of regional early warning systems for the Austrian housing markets, which can in turn be used for systemic risk analyses.

## 29

### Global Inflation Before and After the Covid-19 Pandemic: A Panel Data Approach

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❖ [Terceira-G08-O2 Covid-19 and regional and urban resilience, S13, August 29, 2024, 9:00 AM - 10:30 AM](#)

The main objective of this article is to investigate the global inflation rate behavior before and after the Covid-19 pandemic, for a panel of 42 advanced and emerging market countries. By making use of quarterly data from 2016Q3 to 2022Q3, in a System GMM econometric methodology, we will also investigate the consequences of the beginning of Russia-Ukraine War. The estimated global inflation empirical models indicate that: i) there is indication of anti-inflation persistence before the Covid-19 pandemic and increase in inflation persistence, and statistically significant, after the pandemic; ii) there is evidence of the Fisher Effect, via interest rate dynamics, for all estimated models; iii) there is exchange rate passthrough to inflation only for the post Covid-19/War period, but the deflationary process caused by the exchange rate dynamics has not been enough to contribute to an effective global inflation control after 2020; iv) food and oil prices seem to be specifically important in explaining the recent inflation surge; v) Global supply chain pressures helped to mitigate inflation, before the pandemic, but contributed significantly to the global inflation surge after the outbreak; vi) there is evidence that emerging market economies have been facing lower inflation rates, compared to advanced countries, especially in the post Covid-19/War period.

## 30

### Income inequalities among migrants in France

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- ❖ [Terceira-S21-S2 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S03, August 28, 2024, 2:30 PM - 4:15 PM](#)

This work aims to study income and labour market inequalities for the immigrant population in France. The study builds upon previous work from Dimou et al (2020) and Ettouati and Schaffar (2020) on the integration of immigrants in France. It uses however original data that comes from the 2022 TEO database which features individual attributes information both for immigrants and for the immigrants descendants. This study has been conducted within the ESSPN H2021 Project on “Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends”. This study first shows that the wages and incomes of immigrants are not significantly different than natives’ ones. However, it also shows that the immigrants have less opportunities to enter local labor markets and find a job. This means that discrimination doesn’t take place at the level of the wage but on the opportunity to find a job. For the descendants of the immigrants, the situation is improving but still doesn’t quite converge to the natives’ performances. The study also shows that differences among immigrants appear: they depend from their educational level and other personal attributes but also from the time they have moved to France and their location within an ethni community or not.

## 32

### Incentives, Preconditions, and Barriers to Transparency in Local Government Authorities

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❖ [Online-G47 The role of public policies in local development, August 26, 2024, 2:30 PM - 4:15 PM](#)

Democratic countries recognize transparency as an essential aspect of governmental accountability. Organization for Economic Co-operation and Development (OECD) members have adopted regulations or legislation to promote transparency at various levels. Even though transparency is very popular in public discussions, the research is limited mainly in the municipal area.

This research identifies and analyzes organizational, behavioral, and psychological incentives, preconditions, and barriers to transparency in local government authorities. The purpose is to generate an integrated overview of the incentives, preconditions, and barriers that influence transparency by providing evidence from the local government authorities. For example, technological or economic elements can be seen as incentives, preconditions, or barriers.

Both in literature and in practice, several motivations for transparency have been identified. These include ensuring integrity and responsibility among public officials, fostering trust and public participation, enhancing economic efficiency, and mitigating corruption (Simons, 2017; Welch et al., 2005; Shim and Eom, 2008; Andersen, 2009; Heald, 2018; Grimmelikhuijsen, 2017).

This study delves into the incentives, preconditions, and barriers faced by local government authorities in their pursuit of transparency, rather than their underlying motivations for it. It's crucial to differentiate between motivation, incentive, and precondition, as these terms encapsulate distinct concepts. Motivations refer to the perceived reasons or goals of the subject. On the other hand, incentives and preconditions represent organizational tools that aid or enable the realization of these goals.

The research questions are: what are local government authorities' incentives and preconditions to achieving transparency? What are local government authorities' barriers to achieving transparency? What are the relationships among the incentives and preconditions? What are the relationships among the barriers?

The research employs a mixed methodology, with elements of both quantitative and qualitative research. Namely, semi-structured, in-depth interviews, document analysis, and conduction of an electronic survey.

There are three theoretical contributions and applied potential contributions. First, this study deepens the understanding of local government authorities through empirical validation of the incentives, preconditions, and barriers to transparency. Second, this study contributes to the field of Public Administration Management by breaking down the broader field of Ethics and Transparency into a topic that will introduce the incentives, preconditions, and barriers that local authorities encounter towards transparency. Finally, this study's findings might contribute to practitioners in local government authorities and provide practical tools to manage their way to transparency.

## 33

### Disparities in Coping with Climate Change: Availability of Tree Canopies Across Socio-Demographic and Political Groups

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❖ [Online-G18-O2 Climate Adaptive and Resilient Regions and Cities, August 27, 2024, 2:30 PM - 4:15 PM](#)

Green spaces moderate adverse climate change effects in urban areas. We employ unique data on tree canopies in all urban areas of Israel to examine disparities in tree canopy availability associated with political beliefs and socio-demographic characteristics. Political inclination is identified based on small statistical area votes in national elections. Statistical findings show, all things being equal, that ethnic background, a higher socioeconomic index score, income level, and age, as well as proximity to central business districts and lower density, are associated with greater availability of tree canopies. Moreover, areas dominated by politically left-of-center voters are associated with a greater presence of tree canopies, compared to their right-of-center counterparts. Incorporating political belief controls considerably mitigates the observed correlation for socioeconomic status. Finally, we propose and compute a Gini measure of inequality in the availability of tree canopies, decomposition of which underscores the segmentation in tree canopy availability by political inclination.

## 34

### "Just city" - comparative analysis of Polish cities using a synthetic measure

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❖ [Terceira-G09-O1 Regional Competitiveness, Innovation and Productivity, S13, August 28, 2024, 11:00 AM - 1:00 PM](#)

The research studies the phenomenon of "just city", a concept presented in New Leipzig Charter (European Union 2020) along with "productive city" and "green city" concepts. The research aims to present the concept of "just city" measure and assess whether Polish cities are "just cities". The research shall cover 66 cities with county rights in 2014-2022. The research methods include literature survey and statistical analysis applying linear ordering method.



## 35

### Residents' Perceptions of Tourism Development in the Context of a New Governance Framework for Portuguese Protected Areas: A Case Study

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❖ [Terceira-S48 Tourism in Times of Crises: Current and Future Challenges, SF4, August 28, 2024, 2:30 PM - 4:15 PM](#)

Historically, Portuguese protected areas (PAs) have been operating under top-down governance, often neglecting local communities. In 2019, the Portuguese government established a new governance model for PAs, based on co-management. The new co-management approach emphasizes collaborative and participatory governance and positions sustainable tourism as a catalyst for territorial revitalization and local development. However, local communities' attitudes and perceptions regarding tourism in these areas remain largely uncharted. This study focuses on the Alvão Natural Park (PNAL), a small rural and mountainous Portuguese PA, which is currently in the early stages of co-management implementation. Our goal was to investigate local residents' perceptions of tourism's impacts and identify potential divergence among resident groups and their level of support for tourism development. These insights are pivotal because the active engagement of local communities is a key element for sustainable tourism development and the successful implementation of co-management. The study employed a self-administered survey, garnering responses from 250 PNAL residents representing over half of the park's population. Factor analysis identified four primary perceptual dimensions and cluster analysis classified residents into three distinct groups based on their tourism perceptions. While most PNAL residents express support for tourism development, there is a resounding call for new policies to revert the legacy of top-down governance. This research provides essential insights for shaping effective tourism policies, planning and development strategies, and ensuring the active involvement of local communities in co-management and sustainable development efforts within the PNAL. Moreover, this study demonstrates the applicability of this research approach in the context of evolving governance models with the potential for adaptation to other PAs across Portugal and other countries undergoing similar governance transitions.

## 36

### QDC: Quick Density Clustering of Geo-located Data

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❖ [Terceira-S06-S1 RSPP Special Issue: A New Toolbox for Novel Research in Regional, Urban and Spatial Studies, S01, August 29, 2024, 2:30 PM - 4:15 PM](#)

This paper develops the Quick Density Clustering (QDC) method which fills the gap in the toolbox of density clustering of spatially geo-located points. It uses a K-means algorithm which is run on two normalized spatial variables: fixed-radius nearest neighbours (NN) and a sum of distances to k nearest neighbours (NN) to find diverse densities of points in 2D. Clusters detected by QDC classify all (x,y) geo-points to high/mid/low-density clusters. QDC uses a standard clustering method on transformed data, unlike many other sophisticated methods that are run on 2D geo-coordinates. It is a quick, efficient, semi-autonomous and big-data tool applicable to static and streaming data. A major parameter in QDC, the number of K clusters to detect, is interpretation-driven, while the other two: the radius for counting NN and the number of NN to sum the distances are of secondary importance and in a minor way impact the outcome. Classification for new points (prediction) is quicker than a typical kNN algorithm by using thresholds of spatial variables. The approach is suitable for tracking human activity as traffic or crowd detection from spatially geo-located mobile data – it finds the high-density points independently of phenomenon intensity and works well with streaming data.

## 37

### The most important predictors of the subsidies in the European Union agricultural regions

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❖ Terceira-G09-O2 Regional Competitiveness, Innovation and Productivity, SF2, August 28, 2024, 4:45 PM - 6:30 PM

The particularities of the agricultural sector and its importance for the sustainability and competitiveness of our societies justify the definition of specific policy instruments supported by subsidies for the farmers. These contexts assume particular relevance in the European Union countries, considering the measures designed by the respective institutions in the framework of the Common Agricultural Policy. From this perspective, this research aims to analyse accurate models and important variables to predict the amount of financial support (subsidies) received by the farmers in each European Union agricultural regions. To achieve these objectives, statistical information from the Farm Accountancy Data Network was considered, as well as machine learning approaches proposed by new solutions. The design of adjusted policies for the great diversity of realities in the European Union context is always a difficult challenge and the findings here identified may bring relevant contributions for the respective stakeholders, namely bringing more insights to support farmers and policymakers.

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## 38

### Investment in the European Union agricultural regions: Accurate models and important predictors

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❖ Terceira-G09-O1 Regional Competitiveness, Innovation and Productivity, S13, August 28, 2024, 11:00 AM - 1:00 PM

Investment is fundamental for the competitiveness of agriculture and, consequently, for the sustainable development of the current societies and economies. Competitiveness has several dimensions and encompasses many factors from the more diverse domains. In this way, the competitiveness assessment is not an easy task. The same happens with sustainable development. In any case, investment operations have an important role in the frameworks associated with these two topics (competitiveness and sustainable development). On the other hand, the new technologies related to the digital transition may support adjusted assessments and, consequently, better contribute to more accurate management and planning decisions. Following these motivations, this research intends to contribute to a better understanding of the prediction of the investment practices in the European Union farms, considering microeconomic data (at the farm level) and machine learning approaches. The results highlight a set of models and variables that may be taken into account by the stakeholders.

**Acknowledgments:** This work is funded by National Funds through the FCT - Foundation for Science and Technology, I.P., within the scope of the project Ref<sup>a</sup> UIDB/00681/2020 (<https://doi.org/10.54499/UIDP/00681/2020>). This research is also funded by the Enovo company. This study was carried out under the international project “Agriculture 4.0: Current reality, potentialities and policy proposals” (CERNAS-IPV/2022/008). Furthermore we would like to thank the CERNAS Research Centre and the Polytechnic Institute of Viseu for their support. This work is too co-financed by the PRR - Plano de Recuperação e Resiliência (República Portuguesa) and the European NextGeneration EU Funds (<https://recuperarportugal.gov.pt>) through application PRR-C05-i03-I-000030 - "Carb2Soil – Reforçar a Complementaridade entre agricultura e pecuária para aumentar a fertilidade dos solos e a sua capacidade de sequestro de carbono.".

## Ecological awareness influence on organic products consumption behavior

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❖ [Terceira-G24-O1 Human - Environmental Interactions, S17, August 28, 2024, 11:00 AM - 1:00 PM](#)

This research determines and measures factors affecting the consumption of organic products based on ecological awareness among older adolescents in Lithuania. Previous studies discuss factors were grouped into personal and functional factors according to their impact on the attitude of ecologically conscious older adolescents. Personal factors are explained as the user's personal experience, internal qualities, and personality traits. The study showed that consumers' positive attitude towards organic products is shaped by consumers' personal motivation and available ecological knowledge. Consumers' ecological knowledge is also considered to be one of the essential factors in shaping the positive attitude of ecologically conscious consumers towards organic products. As society faces ecological challenges and searches for solutions to the problem, environmental friendliness and ecologically conscious consumers are increasingly emphasized. Consumers are encouraged to change their attitude towards organic products and to change their purchasing behavior. However, it is noticeable that emphasizing ecological problems and increasing the assortment of organic products does not encourage consumers to change their consumption habits and purchasing behavior, therefore, in order to understand what motivates consumers to use organic products, researchers began to analyze the factors that determine the consumption of organic products. Based on recent literature review in this area, three main factors were identified for detailed analysis in this research, which includes ecological awareness, ecological concern, and social norms of older adolescence in Lithuania. Based on the literature review discussion, this research formulates the following objectives and hypotheses for empirical analysis. Using a survey research methodology, data were collected from adolescence across Lithuania and 421 samples were finalized for analysis upon data cleaning and validation. Data was analysed using SPSS software for descriptive analysis and hypothesis testing. Result reveal that both ecological awareness and ecological concerns of older adolescents in Lithuania are strong predictors of their intention to purchase organic products. The concept of ecologically conscious adolescents consists of the consumer's ecological awareness, whereby the consumer evaluates his/her needs, behaviour and its impact on the environment when purchasing products. Based on this finding it can be stated that there is an influence of the attitudes of ecologically conscious consumers on their intention to buy organic products.

## 40

### Promoting entrepreneurship? From economic autonomy to civic participation through agricultural investment. The case of post-revolution rural Tunisia

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❖ [Terceira-G13-O2 Entrepreneurship and Regional Development, S16, August 29, 2024, 9:00 AM - 10:30 AM](#)

Citizen participation is one of the pillars of sustainable development for rural areas. In this paper, we examine the impact of an initiative led by a non-governmental organization. Through the economic empowerment of citizens, it aims to foster their political empowerment and encourage their civic engagement. It is based on training programs for citizen participation, complemented by the provision of entrepreneurial resources (management and agricultural training, partnership with Islamic microfinance institutions). The results, obtained using a mixed-method approach combining econometric analysis and focus groups, reveal a positive perception of the agricultural entrepreneurial initiative by participants. However, despite this positive reception, the inherent complexity of creating and sustaining an agricultural project hinders their engagement in civic participation activities. These findings suggest that longer-term support for project leaders could significantly improve their chances of becoming involved in civic participation.

## 41

### One for all, all for one? Territorial Circularization of Agri-food Chains. The case of the Gers microbreweries.

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❖ [Terceira-G12-O1 Economic development in rural places, S15, August 28, 2024, 11:00 AM - 1:00 PM](#)

In face of increasing territorial inequalities, and in a political context characterized by regional development policies centered on metropolitan areas, we advocate for territorialized development dynamics based on rural empowerment. In rural areas, supporting the viability of the agricultural sector is an opportunity for the circularization of local economies. Despite the constraints resulting from low population densities and long distances to urban centers, food processing often requires close geographic and social proximity to agricultural production areas. This article focuses on the circularization opportunities offered by an emerging microbrewery sector in order to identify the resources likely to facilitate the circularization processes. We mobilize a conceptual framework structured by the community capitals framework to identify specific territorial resources, the concept of capacitating environments to identify specific territorial resources triggering empowerment dynamics, and the 7 C's concept which focuses specifically on the elements facilitating circularization dynamics. A thematic analysis of semi-directive interviews conducted with Gers microbreweries analyzed their experiences and perceptions of the obstacles and opportunities for structuring a circular microbrewery sector in the Gers department. The results show that while many resources are available in the Gers department to support the microbrewery sector, their activation by consular and public bodies such as the Chamber of Agriculture and local higher education institutions is an asset. They also demonstrate that the available capital in the area constitutes a potential for the development of a circularized entrepreneurial ecosystem centered around beer production. The development of this microbrewery sector represents a means of generating and anchoring value in the territory, thereby contributing to its empowerment.

## 42

### Can the Periphery Survive Innovation-Led Growth?

Dr. Liran Maymoni<sup>1</sup>, Professor Raphael Bar-El<sup>1</sup>, Dr. Sharon Hadad<sup>2</sup>, Dr. Ran Ben-Malka<sup>2</sup>, Dr. Reut Megidish<sup>2</sup>

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❖ [Terceira-G03-O5 Innovation and Regional Development, S11, August 30, 2024, 9:00 AM - 10:30 AM](#)

This study investigates the impact of innovation-led growth on the economic structure of Israel's periphery, analyzing data from 2000 to 2020 on knowledge-based occupations. The findings reveal a notable but insufficient adaptation of the peripheral labour force to the increasing demand for advanced skills, resulting in escalating centre-periphery imbalances and a trend of economic degradation in peripheral areas.

The periphery is shifting towards blue-collar activities, mainly manufacturing, while its participation in innovation diminishes, increasing the centre-periphery gap. Highly skilled workers from the periphery are either commuting or migrating to the centre due to a lack of suitable local opportunities, while unskilled workers fill gaps in the central labour market. This migration pattern threatens to intensify the economic decline of the periphery.

Current policy measures have proven inadequate for integrating the periphery into the national innovation trend. Future policies should focus on improving educational and technological infrastructure, fostering collaborations between firms in different regions, and tailoring innovation to suit the periphery's strengths in land-intensive sectors. These strategies should aim to balance the supply and demand of the labour force while ensuring that innovation is accessible and beneficial to peripheral areas.

The study highlights the need for a multifaceted policy approach that includes strengthening local educational institutions, promoting joint ventures, and supporting innovation in sectors like manufacturing and tourism. Government interventions should be evaluated for their potential economic and social gains, requiring extensive research to identify effective measures. This approach aims to mitigate economic disparities and foster a more inclusive national growth.



## 43

### Entrepreneurial orientation as a catalyst for innovation in specialized regions

Dr. Eduardo Sánchez-García<sup>1</sup>, Dr. Javier Martínez-Falcó<sup>1</sup>, Dr. Bartolomé Marco-Lajara<sup>1</sup>, Dr. Luis Antonio Millán-Tudela<sup>1</sup>

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- ❖ [Terceira-S31 Entrepreneurship and Sustainable Development: Uncovering the Sources and Effects of Innovative Entrepreneurship for Sustainable Value Creation, SF4, August 29, 2024, 9:00 AM - 10:30 AM](#)

The current rapid technological advances and highly dynamic markets make it necessary to understand the factors that drive the innovative performance of companies, as this is a crucial factor in boosting their competitiveness. This study investigates the influence of regional agglomeration on the innovative performance of firms, and the mediating effect of entrepreneurial orientation and inter-firm collaboration. The PLS-SEM technique is used to analyze data from the energy supply industry in Spain. The findings reveal a significant positive impact of regional agglomeration on firms' innovative performance and underscore the importance of entrepreneurial orientation as a management approach that benefits from firm location in specialized regions and is crucial for maximizing the advantages of such environments, as well as the value of cooperative relationships in enhancing the exploitation of regional benefits, pooling resources and capabilities to achieve common goals. This research contributes to the understanding of how regional specialization and firm-level characteristics such as entrepreneurial orientation and cooperation with external agents drive innovation performance in a rapidly evolving and technology-driven business context.

## 44

### Value creation in the wine industry. A Bibliometric Analysis

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❖ [Terceira-S29 Savoring Sustainability: The Intersection of Wine Tourism, Heritage, and Eco-Friendly Growth in Wine Regions, S07, August 29, 2024, 9:00 AM - 10:30 AM](#)

The main aim of this study is to analyze the literature pertaining to value creation in the wine industry developed in the last two decades, identifying the main contributors such as leading institutions, authors, and countries, and uncovering the main subfields developed by researchers in this area. Bibliometric methods have been used to carry out this research, particularly the R package Bibliometrix®. The results unveil, besides the most relevant contributors, the main subtopics developed in the field of study. It is concluded that value creation is a key factor of success in the wine industry, playing academic research a leading role in revealing consumer trends, health benefits of wine, grape biodiversity, technological developments applicable to production processes, quality improvements of grapes and wines, sustainable practices, brand positioning and other sources of competitive advantage. This research can be of great significance to researchers, policymakers, and managers in the wine industry.

## 46

### Your Room is Ready: Tourism and Urban Revival\*

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- ❖ [Terceira-S32 On the Dynamics and Consequences of Short-term Rentals, SF3, August 28, 2024, 2:30 PM - 4:15 PM](#)

Tourism is an essential sector of the global economy, contributing significantly to GDP and employment. Despite its importance, our understanding of its impact on urban economic activity remains limited. This paper aims to fill this gap by examining the impact of tourism on urban transformation using a dataset of hotel openings in Madrid from 2001-2010. I show that hotel openings positively impact the number of establishments and employment by using the number of protected buildings as an instrumental variable to account for the non-random distribution of hotel openings. Interestingly, hotel openings contribute to changes in the composition of the economic activities and the business structures, enhancing tourist-oriented corporate-owned businesses over other individual-owned companies. Finally, economic effects extend to the real estate market, increasing rental prices and residential investment.

48

## 404 Not Found: The Internet and International Trade

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❖ [Terceira-G11-O2 Transport and Accessibility, S15, August 29, 2024, 9:00 AM - 10:30 AM](#)

The internet is widely believed to make cross-border business easier, thereby increasing the volume of international trade. This paper aims to provide evidence in support of this stylized fact which is typically difficult to identify empirically. Specifically, I use the country-wide internet blackout in Tonga in January 2019 as a natural experiment to examine the effect of the internet on trade. Analyzing monthly trade data for Tonga over the period from 2014 to 2019, I find an economically and statistically sizable, temporary decline in trade when the country's internet connectivity was lost. Consequently, the damage of sudden disruptions in the existing technological infrastructure in terms of foregone trade may be indeed sizable.

## 49

### Retaining population with water? Irrigation policies and depopulation in Spain over the long term

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❖ [Online-G02-O2 Demographic Change, Population and Migration, August 26, 2024, 2:30 PM - 4:15 PM](#)

Depopulation, especially, but not only, rural, has become a major concern across many advanced and developing economies. This is particularly relevant in Spain, a country also characterized by severe environmental constraints on agricultural growth. As one type of place-based policy, irrigation programs in rural and urban areas have been claimed to contribute to the resettling of populations and reducing outward migration, by increasing agricultural output, productivity, competitiveness and, consequently, employment and the standard of living. However, no evaluation of the causal effect of irrigation, a heavily used policy both historically and currently, on population has been conducted to date. This article aims to elucidate on this relationship, using municipal-level data over the period 1910-2011 and exploiting a staggered difference-in-differences design. We engage with a recent literature that has turned to the use of historical data to analyze spatial aspects of economic activity, as long-term databases can offer better insights than modern data alone, especially in policy evaluation. Overall, we find a positive and significant effect on population only for irrigation developments that started in the relatively distant past. Principally, in the first peak in irrigation during the third quarter of the twentieth century. The effect is even negative for the most recent irrigation developments. At the same time, we find stronger effects in the smallest municipalities and municipalities farther away from cities, the latter less influenced by urban agglomeration externalities. In any case, effects are temporary or tend to level off. The results also show that one way of overcoming diminishing returns of irrigation over time is to greatly increase its intensity. However, there are trade-offs. We discuss the policy implications of the findings in light of current policies (for the 2022-2027 period), and in terms of environmental and economic costs of increasing the intensity of irrigation.

## 50

### Does proximity matter for innovation? Evidence from an ICT cluster.

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❖ [Terceira-G03-04 Innovation and Regional Development, S11, August 29, 2024, 9:00 AM - 10:30 AM](#)

Much has been written on the impact of different dimensions of proximity on interaction, interactive learning, knowledge creation/diffusion and finally, innovation. Proximities reduce uncertainty and facilitate innovation. Nevertheless, the role of geographical proximity is no longer treated as a predetermined assumption and is subject to empirical testing. Geographical proximity may complement other forms of proximity such as cognitive, social, institutional and organizational proximity. However, excessive proximity is unlikely to foster innovation.

The aim of the paper is to investigate the role of different forms of proximity in interactions and knowledge creation/diffusion in the ICT cluster. An attempt has been made to answer the question of which of the forms of proximity has the greatest impact on cooperation within innovative projects and whether they are interdependent to some extent. The results were developed based on semi-structured interviews conducted among representatives of ICT companies within the ICT cluster located in Gdańsk Science and Technology Park, Poland. Representatives of companies were asked about their experiences related to partnerships, factors influencing their success or failure, and the types of proximity that were crucial in a given context. The interviews allowed not only for the straightforward collection of information but also for requesting immediate feedback and sharing of experiences.

The findings indicate that geographical proximity alone is neither necessary nor sufficient for innovation. Interpersonal factors emerge as crucial for knowledge transfer and innovation, suggesting that both processes not solely dependent on location. At most, geographical proximity may enhance other forms of proximity, playing a complementary role.

## 51

### Floods & Urban Density

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❖ [Terceira-S01-S1 Building Sustainable Cities, S01, August 28, 2024, 2:30 PM - 4:15 PM](#)

This paper examines the effects of floods on urban development dynamics using geolocalized data on the universe of buildings in Spain from 1996 to 2021. We provide empirical evidence that floods foster local urban development and yield taller, more compact urban layouts, attracting populations, increasing property values, and shifting land use towards office and residential sectors. We argue that adaptive responses to natural disasters may trigger positive local spillovers strong enough to overcompensate for the catastrophe's destructive nature.

52

## Identification of the Core Area Boundary of Xiangjiang Ancient Town Cluster

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❖ [Terceira-G17-O2 Cooperation and Local / Regional Development, S15, August 28, 2024, 4:45 PM - 6:30 PM](#)

Identifying the core area boundary of an ancient town cluster provides fundamental data references for the spatial zoning and layout of the cluster. This study focuses on the spatial abrupt change characteristics of the core area of the ancient town cluster, which utilizes the weighted kernel density analysis method and Densi-Graph method with POI data. By calculating the global inflection points to determine the optimal threshold, the boundary of the Xiangjiang Ancient Town Cluster's core area is identified and validated. The research findings are as follows: (1) The Xiangjiang Ancient Town Cluster exhibits a "multi-core, clustered" structure composed of 9 core area patches. (2) High-density areas are significantly related to the distribution of ancient buildings and are influenced by factors such as river systems and transportation corridors. (3) The morphology of the core area can be classified into three types, "subspace" "fish-eye" and "single center" with a high degree of irregularity in the shape of the core area boundary. (4) This method is applicable for identifying the boundary of the core area of an ancient town cluster and has been validated in terms of spatial overlap and landscape features, avoiding the subjective impacts of qualitative analysis. The evaluation results have strong credibility and feasibility.



## 53

### Institutional Quality & Ph.D. holders' migration

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- ❖ [Terceira-S33 Drivers and Impacts of Migration: New Insights on the Role of Labour Markets, Demographic Change, Human Capital, and Networks, S02, August 30, 2024, 11:00 AM - 1:00 PM](#)

High-skilled migration has always attracted the attention of scholars, particularly due to the recognized relevance of human capital in the current knowledge-based society. In the extant literature two gaps emerge. First, most studies focus on graduates, neglecting PhD holders who represent migrants with the highest level of education and, potentially, able to generate important knowledge spillover. Second, concerning the attractiveness of destinations, literature focuses mainly on economic factors, while other social and institutional factors have been neglected yet. This research focuses on the mobility behaviour of PhD holders in Italy, taking an emerging perspective, that of Institutional Quality which, in turn, is fundamental to ensure quality of services and effective governance. Two research questions are addressed: i) does IQ represent a pull factor for PhD holders' mobility? ii) which specific IQ factors affect their migration behaviour? The research setting is Italy, which is an interesting case for migration studies given the historical divide between the North and the South increased by the (selective) migration of human capital. Two data sources are used: the most recent available survey on the employability of PhD holders carried out by ISTAT in 2018 and referring to PhD who hold degree in 2012 and 2014 and the Italian IQ index at the provincial level. Concerning the econometric strategy, a probit Model to overcome possible self-selection problems is applied. We also control for individual characteristics (gender, age, faculty, degree grade, family income, parents' education), and for macroeconomic variables both in origin and destination provinces.

## 54

### Revisiting the Geography of Discontinuities in Clusters or How Leading Incumbents Can Eat the Cake and Have it Too

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❖ [Terceira-G46 Circular Economy and Technological Change, S14, August 28, 2024, 11:00 AM - 1:00 PM](#)

Considering that discontinuities in clusters and industrial districts (IDs) are only competence destroying and the local value system is usually dismantled constrain the perspective on the phenomenon and impede advancing it. I argue that discontinuities can: i) impact and destroy only specific capabilities without changing the entire value system, ii) drive simultaneously both competence-destroying and competence-enhancing and, iii) stimulate different responses by local incumbents, i.e. firm heterogeneity. Inducting from a longitudinal case study on an ID discontinuity by using mixed methods, results suggest that discontinuities can destroy local capabilities (competence-destroying) while preserving others in the value system (competence-enhancing), socially-thick networks as specialized complementary assets protect leading incumbents that show heterogeneously different responses, orchestrate local networks and drive them in different directions, even change. Collating different constructs (the local value system, local leading incumbents' responses and the value of networks) radical changes in IDs can be better re-elaborated and understood.

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## Migration and earnings among university graduates: heterogeneity in effects by origin-destination population size and ability

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- ❖ [Terceira-S33 Drivers and Impacts of Migration: New Insights on the Role of Labour Markets, Demographic Change, Human Capital, and Networks, S02, August 30, 2024, 11:00 AM - 1:00 PM](#)

We estimate the effects of migration on earnings among university graduates moving up and down within the regional population size hierarchy using Swedish longitudinal population register data. We analyse moves by origin-destination sizes of regional populations and by individual ability. Our findings indicate consistent positive self-selection on ability-related variables in upward migration in the urban hierarchy (from smaller to larger labour markets), and negative or insignificant self-selection in downward migration. The results show positive initial earnings gains for all origin-destination flows of upward migration. The effects of upward migration increase with ability but are positive for both low- and high-ability graduates. Downward migration is generally associated with negative effects on earnings but the effects are smaller in magnitude. Our findings are generally consistent with theories of agglomeration economies and higher productivity of labour in larger and densely populated regional labour markets.

## 56

### Space in business failure. Causal or casual relationship? Proposal of a spatial differences-in-differences model with interaction effects

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❖ [Terceira-G25 Spatial Econometrics, S10, August 30, 2024, 9:00 AM - 10:30 AM](#)

In the contemporary landscape of heightened business competition, the identification of strategic determinants of business success assumes paramount importance. Notably, spatial factors and their potential interaction effects among proximate businesses have garnered substantial attention. However, existing research has yielded inconclusive findings. Some scholars posit that the observed spatial associations among neighboring businesses may stem from endogeneity issues tied to regional economic characteristics. This study delves into the influence of spatial factors on business failure. To this end, we introduce a methodological framework proposing a Spatial Differences-in-Differences (SDID) model with interaction effects. This specification enables us to ascertain whether the spatial configuration of businesses exerts a causal impact on their risk of failure, while also mitigating potential confounding factors that might engender spurious relationships. We empirically apply our approach to a sample of small and medium-sized enterprises operating in the industrial sector within the municipality of Madrid. Our model's results reveal a compelling causal relationship between the spatial distribution of these businesses and their likelihood of failure: businesses facing financial risks and situated in areas with a high business density exhibit a reduced probability of failure. Additionally, we uncover a positive contagion effect among nearby enterprises. We conclude that spatial factors wield a dual influence on the likelihood of business failure. This study underscores the imperative of incorporating spatial considerations into the analysis of business financial behavior and furnishes empirical evidence supporting the causal impact of space on business failure.

## 58

### Energising EU Cohesion: Powering up lagging regions in the renewable energy transition

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❖ [Terceira-S81 Spatial Effects of the Green Deal, S08, August 28, 2024, 2:30 PM - 4:15 PM](#)

The European Green Deal mandates a substantial transformation of the energy sector, responsible for more than 80 % of total greenhouse gas emissions. This study investigates the economic implications of achieving climate neutrality in the European energy sector in light of the EU's core goal of economic cohesion, i.e. harmonious economic development across European regions. Employing a novel multi-regional input-output model, our analysis reveals how the renewable energy transition affects European regions. Under complete decarbonisation, changes in value added per capita range from -2,450 Euro to +1,570 Euro, and employment levels fluctuate between -2.1 % and +4.9 %. On average, most regions experience positive effects, characterised by an average increase in value added per capita of 10 Euro and a 0.3 % rise in employment in 2050. Overall, rural regions with substantial renewable energy potential derive the greatest benefits, while urban regions heavily reliant on carbon-intensive industries are more likely to experience adverse effects. This dynamic fosters economic cohesion by providing opportunities for lagging regions to catch up, yet also poses fresh challenges to achieving this goal. Therefore, cohesion policy must expand its scope to counter the adverse effects as well as leveraging opportunities created by the renewable energy transition in all European regions.

## Amenity index at the subnational level in Ecuador

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❖ [Terceira-G04-03 Segregation, Social and Spatial Inequalities, S01, August 30, 2024, 2:30 PM - 4:15 PM](#)

Spatial disparity across regions might induce migration from left behind regions to more developed ones, which in turn, leads to further spatial disparities in terms of amenities, among other aspects. This study, looking at the Ecuadorian case, aims to construct an amenity index for provinces and for cantons, including eleven dimensions: 1. art, 2. food services, 3. education, 4. entertainment-sports, 5. childcare and eldercare institutions, 6. health, 7. utilities, 8. transport activity, 9. social capital, 10. environment quality and 11. security. Data was collected from two types of data sources, administrative data and surveys, at two geographical levels: provincial and cantonal from 2009 to 2020. To construct the amenity index, principal component analysis (PCA) is conducted in two stages. First, partial indexes for each dimension are obtained and second, using those partial indexes, the global index is constructed. Based on this, we construct 4 amenity indexes: i. provincial amenity index, ii. cantonal amenity index, iii. temporal amenity index of provinces, and iv. temporal amenity index of cantons.

The results of the synthetic indexes vary according to the data analyzed. Thus, the cantonal and the provincial indexes do not reflect the same aspects. At the provincial level, the first component reflects market amenities and environment care whereas at the cantonal level, the first component reflects aspects related to services and quality of life, the soul of cities such as higher education access, selfcare, entertainment and sports, among others. Both first principal components at the provincial and cantonal level are negatively related to public social services, implying that provinces ranked high in the synthetic indexes have a low provision of public social services. The second principal component of the provincial amenity index reflects the infrastructure in health, private higher education, housing and art, whereas the second component at the cantonal level reflect the private health and higher education.

The results of rankings at the provincial and cantonal levels reveal that provinces/cantons record varied positions across dimensions. Thus, in each dimension, different provinces/cantons stand out. However, Galapagos, Pichincha and Pastaza consistently maintained the top places in the ranking of amenities at the provincial level. While these provinces perform well in most of dimensions, they also have shortcomings in other dimensions. When analyzing the temporal evolution of the general index, only 8 provinces out of 24 record position increases across periods and 108 cantons out of 220 record position increases across periods.

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### Challenges and Opportunities of Artificial Intelligence and Machine Learning in Circular Economy

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❖ [Terceira-S04 The Spatial, Regional and Urban Dimensions of Circular Economy, S01, August 28, 2024, 11:00 AM - 1:00 PM](#)

Cities and regions play a key role as promoters, facilitators and, above all, enablers of the circular economy in terms of innovation, data and assessment, capacity building, financing and regulation as part of the overall transition process to optimize the current linear system, use green and clean techniques for production and change the relationships between value chains, as well as identify synergies and optimize processes across sectors. The inherent "take - make - waste" nature of the present linear economy is a major contributor to resource limits being overshoot. The transition to a circular economy and the associated challenges and opportunities have been controversially discussed and defined. Artificial intelligence and machine learning can significantly drive the transition to a circular economy paradigm and help to overcome current challenges and create a much more environmentally sustainable future. This article aims to provide a comprehensive understanding of the challenges and opportunities associated with the use of machine learning models and artificial intelligence in the transformation to a circular economy. The article addresses the application of AI and Machine Learning from several essential perspectives, such as fostering circular business by upgrading the required recycling infrastructure, helping with the infrastructural challenges required to ensure that the resources serving the circular economy are, in turn, sustainable, providing AI-based dynamic pricing, but also in regard to implications and risks of AI deployment in a circular economy, privacy breach or algorithmic presetting. Overall, AI and ML provide valuable tools and techniques that promote the development of a circular economy. Algorithm-based business models that utilize AI for automated dynamic pricing and adjustment are widely advocated in the literature, but there have also been cases where these practices have led to inequitable outcomes. Awareness of these challenges is crucial to ensure that AI-enabled circular economy practices maintain fairness.

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## Inward Foreign Direct Investment, Superstar Firms and Wage Inequality Between Firms: Evidence from European Regions

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❖ [Online-G04-O1 Segregation, Social and Spatial Inequalities, August 26, 2024, 11:00 AM - 1:00 PM](#)

Theoretical models and international evidence have established that foreign direct investment is associated with new technologies, productivity gains, higher wages, and wage inequality in the host countries. While most existing studies on foreign direct investment and wage inequality have examined relative wages across skills, occupations and sectors, recent contributions to the theoretical and empirical literature highlight the role of wage dispersion between firms as an important driver of overall income inequality. Against this background, this paper examines wage dispersion between firms across European regions and the role played by multinational firms with dominant market shares, the so-called “superstar firms”. Firstly, we document the evolution of wage dispersion between firms and the regional presence of foreign affiliates across European regions. Second, we empirically investigate the role of inward foreign direct investment as a driver of wage dispersion between firms across European regions. The analysis uses firm-level data from the ORBIS Europe data set over 2012-2021 combined with a range of economic and social data at the regional level. Using a shift-share instrumental variables approach, we find that foreign direct investment, particularly international superstar firms, contributed to increased wage inequality between firms across European regions.



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### Environmental protection and national strategy for inland areas: the “Alta Irpinia” Pilot Area

Dr. Antonio Capasso

- ❖ [Online-S70-S1 The role of young people in building up sustainable development practices for inner and rural areas, August 26, 2024, 9:00 AM - 10:30 AM](#)

The expression inland areas refers to those territorial portions, smaller small towns, which characterize a large part of the Italian territory. These areas, which make up about 60% of the national territory, are home to a quarter of the Italian population. To redevelop these small towns in the inland area, the National Strategy for Inland Areas (SNAI), coordinated by the Agency for Territorial Cohesion, has been developed for several years. The intervention sees the convergence of the synergistic action of all levels of government. The protagonist of the strategic interventions is the territory. In continuity with what was experienced in the 2014-2020 cycle, the SNAI 2021-2027, also following the constitutional amendments in favour of the environment and biodiversity, will continue to strengthen citizenship services and promote initiatives for the economic development and employment of the selected inland areas. The interventions will be supported by the European Structural Funds of the 2021-2027 programming, but also by national resources mainly linked to the Development and Cohesion Fund. Among the 72 inland areas selected, the territory of “Alta Irpinia”, with its so-called "Territory". Pilot area represents the model in which direct action is promoted in support of territorial competitiveness through a sustainable development program, as a tool to counter demographic decline and the abandonment of local practices. It is part of the SNAI, launched in 2014 with the 2014-2020 European Programming, based on the EAFRD, ERDF and ESF funds, to which are added the national resources allocated by the 2014, 2015, 2016 Stability Laws and the Budget Laws for 2018 and 2020, in addition to the 2021 PNRR (Next Generation EU) which, through an agreement between Regions and Local Authorities, finances 15 billion euros for the maintenance of secondary roads, for interventions aimed at making the extra-urban road network resilient and to improve the safety of bridges and viaducts. In this framework, an economic agreement between Coastal and Inland Areas will allow the latter to be included in the industrial development system through the development of the logistics sector.

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## Multitasking Modeling for Attractiveness Assessment of Austrian Landscapes Using Complementary and Social Media Data

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❖ [Terceira-G39-O2 Big Data and Regional Science, S07, August 30, 2024, 2:30 PM - 4:15 PM](#)

The assessment of ecosystems is becoming increasingly important in science, driven by the discourse on their intrinsic value, aesthetics and characteristics contained in landscape value typologies, from which recreational values and intangible benefits of such systems can be derived. The underlying problem is to methodically quantify such aesthetic values and determine the associated proxies, as the aesthetic values of landscapes and the recreational value in the natural environment can be influenced by various landscape characteristics, but also by socio-economic or cultural characteristics. A promising and increasingly popular alternative to quantifying landscape aesthetics is the application of geocoded data from social media. We investigate the potential of geographically located social media content for the spatial quantification of aesthetic values of Austrian landscapes posted on social media platforms by leisure- and sports-active users. To this end, we regress different types of aesthetic values in a multi-task deep learning model using landscape, socio-economic and contextual variables. In contrast to previous studies, we use aggregated small-scale data (base grid of 100 m<sup>2</sup>) for the socio-economic variables and a multi-output setup with cross-validation of the data for the modeling. This enables the aesthetics values to be inferred for the entire study area. Furthermore, we use the small-scale data to investigate the extent to which a separation of local versus foreign visitors can be inferred (e.g. through sports activity or whether there is an effect through local sports enthusiasts). The research shows promising results as well as indications of local influencing factors and areas with potential. We believe that this study provides new insights into the use of alternative data and analytical techniques to quantify landscape values and provides a promising basis for further research in this area.

## 66

### Globalization of intellectual property rights

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❖ [Terceira-G03-O6 Innovation and Regional Development, S10, August 30, 2024, 11:00 AM - 1:00 PM](#)

Recent decades have witnessed a strong globalization process. This has been so for international trade and international capital markets, but also in the field of Intellectual Property Rights (IPRs). IPRs were formerly in the domains of nation states. International treaties have dictated convergence in IPR institutions across the world. This paper gives a short overview of these developments. Incentives for IPRs are stronger for more innovative countries. Therefore, innovative countries traditionally had stronger IPR than less innovative countries. The TRIPS agreement was a compromise between innovative and less innovative countries. The agreement dictates more protection of IPRs than some countries wanted and less than other countries wanted. But the negotiated treatment may have strengthened innovative countries negotiation power vis-à-vis other countries in the post-TRIPs world. A simple model of international IPR protection shed light on some mechanisms. I show that in the TRIPS world, negotiations about stronger IPRs in new preferential trade agreements may well result in excessive IPR relative to a global optimum.

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### Public Policies for Science Parks Creation in Central Europe – Success or Failure?

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❖ [Terceira-G03-O4 Innovation and Regional Development, S11, August 29, 2024, 9:00 AM - 10:30 AM](#)

The innovation performance of Central European countries has been very low for a long time. However, the accession of these countries to the European Union enabled them to access the financial resources of the cohesion policy, which represented a significant shift in the availability of financial resources for innovative activities. When forming public policies, countries faced a choice of where to invest these funds. One of the main tools used by the countries was the support for building university science and technology parks (STP). The aim of this article is to examine how successful public support for the introduction of this instrument was in selected Central European countries. For the investigation, a questionnaire survey was carried out among established science parks supplemented by interviews in selected parks as well as other relevant institutions. The results showed great differences in the functioning of these institutions in individual countries as well as within them. Continuous government support, the involvement of local actors in the construction of STPs and a high degree of independence of STPs when deciding on their activities can be identified as factors that positively influenced the success of STPs.

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### What are the winners of local tax reforms? An assessment of the abolition of the firm value-added contribution in France

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❖ [Terceira-G06-O4 Regional and Urban Policy and Governance, S12, August 30, 2024, 9:00 AM - 10:30 AM](#)

Since the mid-1990s, the priority of public spending cuts and supply-side policies based on wage control and production cost reduction have taken hold, accentuating criticism of taxation. The result of this movement is evident for firms. After having experienced a continuous rise of taxes during the 2009-2013 period, they have since undergone a significant and rapid reduction that contrasts with the uninterrupted and marked rise in household rates. Despite this situation, the various French business organizations, more so than those in other OECD countries, have helped to reinforce this trend by arguing that the burden of corporate taxation is among the highest in Europe.

In response to these criticisms, the 2023 French Finance Act has adopted the cancellation of one of these taxes, a local one in particular: the Cotisation sur la Valeur Ajoutée des Entreprises (CVAE) by 2024. This measure represents a loss of revenue of 10 billion euros a year and will mainly weigh on local governments. While the production of an impact study in support of each bill has been mandatory since the constitutional revision of July 23, 2008, this cancellation has not been the subject of any prior impact study, and the distributive effects have not been assessed. This research aims to shed light on this subject by proposing an analysis of the impact of the cancellation of the CVAE. It consists in identifying the companies benefiting from the measure and the territories where they are located, in order to highlight the expected effects of the reform. Existing literature on the subject is still relatively limited, except Chtioui (2021), Chtioui & Levratto (2021), Urvoy (2019), and very recently Rexecode (September 2023). By mobilizing various databases that provide detailed information, this article goes further focussing on the CVAE only. It proposes a precise snapshot that identifies the characteristics (size, age, form of capital control) and location of the main contributors.

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## Assessing the causal impact of Chicago's elevated Bloomingdale Trail on nearby retail activity, construction, and emissions using spatial machine learning

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❖ [Terceira-S05-S1 Machine Learning in Regional Science: Perspectives, Methods, and Applications, S02, August 28, 2024, 4:45 PM - 6:30 PM](#)

Recently, a growing body of research has emerged to estimate the impact of public transport systems on nearby housing values and new business creation (Credit, 2018; Schmidt et al. 2022; Champagne and Dubé, 2023). However, there is much less work on the local economic impact of new pedestrian and cycling trails, and almost none on the impact of these trails on greenhouse gas emissions reduction, which is an important potential benefit of these investments to environmental sustainability. In addition, the recent development of causal machine learning methods such as the causal forest (Wager and Athey, 2018) provides new opportunities to assess the spatially-heterogenous nature of these causal impacts and generate more useful insights for researchers and policy-makers (Credit and Lehnert, 2023). The goal of this paper is to assess the causal impact of the construction of a new elevated pedestrian and cycling trail in Chicago – called the ‘606’ or Bloomingdale Trail – on nearby retail business activity, building permits, and on-road CO<sub>2</sub> emissions. The Bloomingdale Trail presents a useful test case reminiscent of other high-profile rail-trail renovations (such as the BeltLine in Atlanta and the High Line in New York City) that have attracted substantial secondary investment and are touted as ‘sustainable’ engines of local economic development. The paper applies a spatially-specified causal forest on a unique combination of data sources to provide a novel, nuanced, and holistic analysis of the trail’s heterogenous impact on surrounding economic and environmental conditions.

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### The regional dimension of sea level rise effects of European GDP: A century of data

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❖ [Terceira-S15-S2 Flood Risk and Natural Hazard in the Built Environment - From Economic Impact to Regional Resilience, S01, August 30, 2024, 11:00 AM - 1:00 PM](#)

This study explores the long-term economic consequences of sea-level rise (SLR) on coastal areas in Europe, emphasizing its impact on Gross Domestic Product (GDP). By analyzing a unique dataset that tracks regional SLR and economic growth from 1900 to 2020, we examine the correlation between SLR and GDP per capita across 79 coastal regions of the EU and UK. Our findings indicate that the current levels of SLR have already adversely affected the GDP of these regions, culminating in a total GDP reduction of 4.7% at a 39 cm rise in sea levels. Over the past 120 years, the influence of SLR on annual GDP growth has ranged from a decrease of 0.02% to an increase of 0.04%.

Further analysis of historical data for EU and UK NUTS2 regions from 1900 to 2020 demonstrates the impact of SLR on European regional economies, particularly after 1980. For every additional meter of sea level, the immediate GDP impact is estimated at -13.8%, while the long-term effect is -9.6%. This variance is attributed to adaptive measures as outlined by Merel (2021) and Dell (2009). Initially, investments in protection redirect capital away from more productive activities, leading to a short-term economic downturn. However, over a 10-year period, the overall effect of these investments reduces to nearly half (-7.2%) due to the dynamic redistribution of resources.

Extrapolating these insights to future climate and socio-economic scenarios, we predict that without further adaptation measures, GDP losses by 2100 could range between -6.3% and -20.8% under the most severe SLR scenario (SSP5-RCP8.5 High-end Ice) or -4.0% to -14.1% in a less severe scenario (SSP5-RCP8.5 High Ice). These empirically grounded projections suggest that GDP losses in 2100 could range between -4.6% and -14.1% across coastal EU and UK regions under the extreme SLR scenario (SSP5-RCP8.5 High Ice), assuming current adaptation levels.

This century-long statistical analysis provides a vital empirical basis for developing regional climate adaptation strategies aimed at reducing economic damages due to SLR. Our evidence advocates for strategic asset relocation and the establishment of coastal setback zones where economically and socially viable. This approach is supported by the observed economic impact of protection investments. The study underscores the importance of dynamic, region-specific responses to climate-induced economic challenges.

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### Who Contributes More on Productivity Improvement? A Cross-country and Cross-industry Analysis

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❖ [Terceira-G10 Trade and Global Value Chains, SF3, August 29, 2024, 9:00 AM - 10:30 AM](#)

In this paper, we assess productivity changes at the country level and investigate the factors contributing to a significant proportion of these changes. Using data covering OECD countries, we then categorize them into three groups. We find that in high- and low-income countries, productivity changes are primarily driven by country-specific technology, while in middle-income countries, capital is the most significant factor, contributing up to 43.0% of the changes. We then examine whether the productivity changes are strong enough to account for structural transformation, which manifests as the evolution of the dominance of output share in a specific industry. We find that in industries where high-, middle-, or low-income countries can maintain their dominance in output share, comparative advantages in productivity changes are driven by all factors (mainly country-specific technology and capital) excluding tariffs. The comparative edges in the changes in capital and unskilled labor shares serve as complementary explanations for the continuity of dominance. For most industries where one group of countries overtakes another, the primary cause is the changes in the shares of capital and skilled labor, rather than factor-induced productivity changes.



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## Dynamics of knowledge spillover and the mechanisms of regional brokers in smart healthcare innovation

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❖ Terceira-G09-O2 Regional Competitiveness, Innovation and Productivity, SF2, August 28, 2024, 4:45 PM - 6:30 PM

Smart healthcare innovation improves the state of disparity in medical resource distribution and preserves public well-being with personalized care on time by actively adopting digital technologies. Understanding the knowledge spillover process of smart healthcare and the roles of each region during the process may provide critical information to facilitate smart healthcare innovation in regions. However, knowledge diffusion mechanisms in the regional aspect have been understudied in the smart healthcare sector. How does smart healthcare knowledge spillover within and between regions? Do the regions with specialized knowledge of smart healthcare only act as knowledge creators or also as brokers? Based on the smart healthcare-related triadic patent families applied at the European Patent Office, we investigate the knowledge spillover process at a local cluster, national, and continent level over time. We identify dynamic brokerage patterns of regions changing over time via citation network analysis, especially from the perspectives of gatekeeper, representative, and liaison. We compare the brokering capacity of the regions with specialized knowledge in both digital and healthcare sectors compared to that of other regions. The findings of this study may provide an understanding of the smart healthcare technology evolution process and strategic insight into the future direction of research and development for each region.

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### Identifying the factors that influence RE100 participation and its impact on technological innovation

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❖ [Terceira-G19-O1 Energy and Ecological Transitions, S17, August 29, 2024, 2:30 PM - 4:15 PM](#)

In an era marked by an escalating urgency for environmental preservation and climate protection, the accelerated adoption of renewable energy sources and the significance of energy transition have never been more pronounced. Among a multitude of initiatives, the RE100 campaign stands as a symbol of global transformation towards climate protection. Its participation is considered to promote technological innovation, especially in perspective of environmental protection. However, despite the importance of RE100 participation in climate protection, related analyses to the factors that can influence the RE100 participation are scarce. Although renewable electricity availability as well as the financial and industrial characteristics of companies has a pivotal role in RE100 participation rates, spatial analyses regarding these factors on a regional level are limited. In addition, equally underexplored are the analyses and measurement of the impact of RE100 participation on technological innovation. In this study, we incorporate geospatial and operational data from various databases to analyze the spatial autocorrelation of and spatial relationship between the regional availability of renewable electricity and regional RE100 participation rate on a global scale. We also analyze the relative significance and impact of other diverse influencing factors on RE100 participation rate. Finally, we assess the actual effect of the RE100 participation on the technological innovation using the propensity score matching that can eliminate selection bias from the data. It is expected that this research can provide better and more realistic perspectives in promoting companies to follow the climate protection initiative and stimulating their technological innovation.

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### Unveiling Temporal Rentals Trends: A Deep Dive into Medium-Term Rentals via Short-Term Platforms

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❖ [Terceira-G21 Urban Challenges and technological transformations, S06, August 30, 2024, 2:30 PM - 4:15 PM](#)

In the city of Barcelona, rentals between 1 and 11 months have been steadily growing since 2017. These so-called medium-term rentals (MTRs) combine higher prices as long-term rentals (LTRs), with lower management costs as short-term rentals (STRs) and have the flexibility to absorb renters coming from the STR market, as well as from the LTR market. Using fixed effects and web-scraped Airbnb data, this study delves for the first time into the resilience and characteristics of MTRs. Our findings suggest that during the pandemic, MTRs increased their daily fee by 9.1%, or approximately €8, reaching a peak of a 37.2% rise during the second state of emergency in Spain. In addition, we find that the negative impact on occupancy was much stronger for STRs than for MTRs, experiencing a drop on average of 37.1 p.p. and 25.7 p.p., respectively. In terms of supply, our findings indicate an average increase per neighbourhood of 27.4% in MTRs. Finally, we find that relative to STRs, MTRs and accommodations that switched at least one time between markets during the pandemic offer dwellings with fewer bedrooms at a lower fee and are more likely to be offered by a super host.

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## Policies against "left-behindness" and counter-marginalization: the Italian case of SNAI in Lake Como area

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❖ [Online-G47 The role of public policies in local development, August 26, 2024, 2:30 PM - 4:15 PM](#)

SNAI (National Strategy for Inner Areas) is an Italian policy that aims to counteract peripheralization processes and demographic negative trends in the most far and rural areas of Italy. Some areas are selected among others after an application from the local communities to national authorities; the former need to establish some sort of union between municipalities. As a result, the selected areas eligible for funding show more institutional capacity than others, among the more fragile parts of the country. Particular attention had been given to participatory processes in the policy design: local actors and stakeholders are entitled to build a shared strategy, and funded projects need just a confirmation from national and regional authorities. The selected case study (Alto Lago di Como e Valli del Lario) is located in Lombardy region, on the northern side of Lake Como, far from tourism hotspots. The area is characterized by high slopes that host numerous villages and agricultural activities (both in decline), while other small towns are localized within the narrow strip of the lake shore. The area is fragile mostly because of the mountain municipalities, who are losing population and whose citizens need more time to reach out for basic services and are more car dependent. On the other side, municipalities on the lake shores are demographically stable and attract families from the mountain villages. Furthermore, the area is split in two sides by the lake: the east side is connected with a relatively fast railway to Milan, while the west side relies only on the main coastal road. Given the purposes of SNAI and its local approach against peripheralization, one might think that projects and funds are directed towards the more fragile parts of the area. In this work, part of my ongoing PhD thesis, two approaches were pursued: on one side an extensive research and mapping of all the investments funded by SNAI and location of public meeting for the writing of the Strategy, on the other side interviews to regional and local authorities. As a result, the policy tends to invest more funds on stronger areas and on topics that are not strictly related to territorial fragilities.

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## Multidimensional Well-Being and Sustainability: Combining Measurement with Theory

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❖ [Terceira-S13 Regional Development and Sustainable Peace, SF2, August 29, 2024, 9:00 AM - 10:30 AM](#)

This article discusses the multidimensional perspective to measuring well-being, poverty and inequality that emerged within the capability approach to human development, focusing on: (i) its implications for the conceptualisation of sustainable human development; and (ii) the need of an adequate theoretical framework for conceptualising the connections between the various dimensions of sustainable human development taking into account geographical heterogeneity.

The capability approach to human development contributed to the international prominence of multidimensional indicators with the emergence of the Human Development Index (HDI), adopted by the United Nations Development Programme (UNDP). When advancing the HDI, there was a dynamic view of its key dimensions, in the sense that each was seen not only as a final goal of development, but also as a means for further development. But those theoretical aspects remain unelaborated. This state of affairs regarding socio-economic analysis stands in contrast to ecological analysis, where indicators connected to planetary boundaries recently adopted are advanced while explaining natural mechanisms and associated dynamics. Thus, while natural scientists seem to have reached a consensus on the ecological problems posed by modern economies, socio-economic strategies for addressing those problems remain elusive, and uninformed by a proper theoretical investigation of the multidimensional nature of the various structures at play, and their spatial dimension.

This article addresses this problem, through an explanation of theoretical frameworks that can most fruitfully contribute to develop the capability approach to human development, towards the elaboration of a theory that can provide a basis for discussions of articulated strategies for achieving social goals within planetary boundaries. This is an innovative and original perspective given its neglect in debates on the capability approach, and is quite central to recent discussions that have addressed the role of the capability approach to human development in sustainability analysis.

Furthermore, given the expansion of the multidimensional methodology informed by the capability approach to human development to various international organisations (such as the UN, World Bank or OECD, amongst others), the topic is hopefully of much interest well beyond the researchers that have focused more specifically on the capability approach to human development. In fact, the paper also discusses other influential contributions to poverty and inequality, so as to take into account their articulation with those of the capability approach to human development in the multidimensional study of well-being and sustainability.

## Territorial Inequalities and Place-Based Policies. Implications for Local Development in Peripheral Areas

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❖ Terceira-G06-O5 Regional and Urban Policy and Governance, S12, August 30, 2024, 11:00 AM - 1:00 PM

This paper proposes a review of the recent literature on territorial inequalities and place-based policies with a particular focus on the challenges for local development in peripheral areas. In order to produce a well-founded report, an automatic search engine (Publish-or-Perish) has been employed, so as to extract from the Google Scholar database the most relevant references in terms of keywords and number of citations between 2015-2023. In addition, several other papers of interest have been explored, the whole collection being subsequently triangulated with key publications from international organisations covering essential topics under investigation. The paper showcases issues pertaining to theory, modelling and datasets, current and future challenges and policy implications. The undertaken inquiries reveal a variety of approaches, from those which bring into the spotlight the ‘left-behind places’, the ‘places that don’t matter’ (and their revenge), the ‘geography of discontent’, etc. to those proposing an entire typology for the lagging regions, revealing the interest of both academic community and policy-makers in this subject. The policies gravitate around place-based solutions, which, without neglecting the strongest European regions, aim to support the weaker regions as well. In order to zooming-in on territorial specificities, an important message conveyed is that ‘granularity matters’, supporting the need of more emphasis on studies at local administrative unit level and, as a consequence, on local development, creating the basis for more accurate decisions and policy measures, with the involvement of individuals and local communities. In the described context and in line with the current debates on peripheries (e.g. Storti et al., 2023; Barbero&Rodriguez-Crespo, 2022), our paper does not address the peripheral areas as simply ‘natural’, according to simple geographical features; on the contrary, distinction is made between economic, technological, social, institutional and geographical peripheries and their interrelations are discussed so as to identify the determinants for effective place-based policies and the ‘de-marginalization’ mechanisms. A special attention is paid to the institutional capacity and the role of local collaborative networks in peripheral regions (Torre, 2022) and, further on, to the transnational collaborative networks at the EU’s periphery, using the evidence of the Romania-Moldova neighbourhood, given the strong developmental aid cooperation between the two countries (PEPER, 2023).

## Intangible heritage and agri-food economies in a festive perspective. The 'sagre' and food fairs in inner areas of Sicily

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❖ [Online-G46-O2 Sustainability of local policies, August 27, 2024, 2:30 PM - 4:15 PM](#)

Over the last decade, cultural festivals have garnered increasing interest from local governments as part of a strategy to restructure and revitalize the economy of the inner and rural areas in southern Europe. These areas have been significantly affected by depopulation and disintegration of traditional agricultural and food economies. Agro-food fairs, known as "sagre" are significant cultural events in the small villages of the rural areas in the Mezzogiorno (southern Italy regions). These events play a crucial role in highlighting the cultural heritage of the territory by promoting the local products. The "sagre" encompass more than just the exhibition and sampling of these products; they also include artistic, recreational, cultural, and rural tourism activities, providing a chance for both local community interactions and visitor attractiveness.

Despite the potential of "sagre" and agro-food fairs in the valorisation of local intangible heritage, through the dissemination of techniques and products historically rooted in the territory, it is relevant to critically analyse these events within the discussion on the quest for authenticity, and evaluate their effectiveness in strategies for the development of rural areas undergoing depopulation processes. From this perspective, this paper aims to analyse the significant "sagre" of the internal Sicani area in southern Sicily, based on the testimonies of local actors involved in the associative and productive sphere. Specifically the cases of "Sagra della Pesca di Bivona", "Sagra del Formaggio di Santo Stefano Quisquina", "Festa dell'Agustu di Alessandria della Rocca", "Sagra della Guastedda di San Biagio Platani" and "Festa dell'Olio di Lucca Sicula" will be reviewed

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### The Regional Passenger Rail Fare System and Its Characteristics in Japan

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❖ [Online-G11 Transport and Accessibility, August 26, 2024, 9:00 AM - 10:30 AM](#)

Railway services are generally regulated by the government. Due to the inherent nature of railways as natural monopolies, policies have been implemented to maximize social welfare by keeping the market under government regulation rather than introducing competition into the market. However, under these circumstances, problems have been noted, such as inefficiency in railway organizations. One method of avoiding such problems is to implement unbundling policies such as horizontal separation, vertical separation of rail operation from infrastructure management, and functional separation of passenger and freight services. In addition, privatization, which shifts the provider of railway services from the public to the private sector, and liberalization policies such as the liberalization of market entry, as well as deregulation and the introduction of competition, are also included in these policies.

Various reforms are underway in the railway business worldwide. In Japan, many among the more than 150 railway operators as of 2023 are privately owned, and most provide passenger services. Unlike their European counterparts, many of these operators provide rail services through vertically integrated rail organizations, though some do provide their services through vertically separated rail organizations, as in Europe.

Rail fares are basically regulated by the government. In practice, there are various fare structures such as fares based on km, fares based on block-km, zone fares and flat fares. Furthermore, with regard to fare regulation policies, there are some characteristics such as ceiling fare (price capping) which regulates maximum fares, imposing yardstick regulations for several groups or assessing fares for each individual company. Furthermore, although fares are regulated, special rail charges for providing express service are not strictly regulated but are required to be reported to the government. Furthermore, commuter and school discount rates are applied to regular users who pay regular fares. Fares are set under these various circumstances.

This study analyzes the structure of passenger rail fare of railway operators in Japan. Specifically, this study will analyze (i) what kinds of fare systems actually exist, (ii) whether there is any relationship between the fare system and the demand structure and costs of railway operators, (iii) whether the average fare of railway operators is close to the marginal cost or the average cost, (iv) whether there are any rules for the discount rate of regular fares, and (v) whether there is any relationship between the types of railway industry (e.g. ownership, vertical structure, regulatory policy) and the aforementioned items.



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## Twin Transition Technologies in the UK through Attributed Spatial Networks

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- ❖ [Terceira-S44 Networks: An Empirical and Conceptual Toolset to Understand and Model Cities, Regions and Their Interactions, S18, August 30, 2024, 2:30 PM - 4:15 PM](#)

When individuals and companies struggle to keep up with new technologies, there can be a wide range of barriers stifling their access, and in turn, many consequences from failing to keep up with the cutting edge. As we find ourselves in the midst of the fourth industrial revolution, we look to firms involved in green and digital technologies in the UK to better understand how and where twin transition technologies are developing. Where there are developments in technologies to digitise and green the economy, this twin transition (TT) leads to sustainable economic growth and multiple environmental benefits.

Traditionally researchers have relied on surveys, patent data, and place attribute-based data to investigate such problems. Instead we utilise the “digital breadcrumbs” created simply from the use and adoption of the Web. From vast quantities of web crawl data, we construct directed, weighted networks of hyperlink connections at various levels of granularity, in addition to utilising the webtext to inform if a website has an interest in green and/or digital technologies. We do this by exploiting existing Large Language Model (LLM) semantics information to apply term frequency–inverse document frequency (tf-idf) in order to explore if firms are involved with twin transition technologies.

Such data can reveal the spatial structure of those involved with TT technologies, and importantly allow these relationships to be contextualised. We use these web data to create meaningful geographic knowledge at the postcode level, and highlight where and why there is big growth for twin transition technologies, as well as where there is a struggle. Our empirical findings have the potential to support and inform city and regional policies.

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## Green Urban Futures: Analysing Land Use Dynamics for Sustainable Development in Europe

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❖ [Terceira-G01-O1 Peace, Regional and Urban Sustainable Development, S09, August 28, 2024, 11:00 AM - 1:00 PM](#)

As urbanisation accelerates across Europe, understanding the dynamics of land use in post-socialist cities, particularly in the context of sustainable and resilient urban development is important. Therefore, this study aims to provide a comprehensive analysis of land-use changes in cities of different sizes across CEE, focusing on the patterns and dynamics of urban land-use transformation for the period 2006 – 2018 and with a particular focus on the patterns and dynamics of green spaces within urban environments. Using the Urban Atlas database and employing quantitative analysis, the goal is to uncover the evolving nature of land use within these urban environments, taking into account the unique socio-economic and political context of post-socialist cities. Furthermore, the research will explore policy implications and urban planning strategies that enhance the integration of green areas within cities of different sizes. The findings could inform urban planning strategies and policies that address the challenges and opportunities of land-use change in post-socialist cities, promoting balanced and inclusive urban development.

## Investment and productivity of the agri-food industry in Northern Portugal

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❖ Online-G09 Regional Competitiveness, Innovation and Productivity, August 26, 2024, 9:00 AM - 10:30 AM

The productivity of a sector, which is an important precondition for competitiveness, depends, among other factors, on the investment made.

This relationship between investment, understood as an increase in capital, and productivity has been the subject of numerous studies, varying in particular according to the type of investment: from investment in physical capital, such as improvements in infrastructure and technology, to investment in human capital through the promotion of employee training and qualification, to a more intangible investment, such as investment in Innovation and Development (R&D), in improving production and management processes.

Similarly, these studies vary according to the sector and location of the production activity, as well as the methodology used to analyse the effects and the correlation between the investment made, productivity and growth.

In this context, the main aim of this work is to investigate the amounts of investment made in the agri-food industry in the north of Portugal (NUT II region), as well as the asymmetries at sub-regional level, during the last two EU support frameworks, namely QREN (2007-13) and Portugal 2020 (2014-2020) and to relate this investment to the evolution of productivity.

In methodological terms and after a theoretical review, the empirical work will begin by collecting information from the various entities that manage EU funds, followed by classifying this data according to the various subsectors of the food and beverage industries, as well as their distribution across the NUT III regions of the North, calculating the relative accesses.

Subsequently, the evolution of productivity in these sectors and the relationship between the two variables, investment and productivity, will be analysed using statistical methods.

The results will make it possible to evaluate the effectiveness of public policies to support investment and thus optimise the use of public resources.

In particular, to identify which sectors have the greatest dynamism in promoting fund raising and which show the greatest impact in terms of productivity; in other words, an assessment of the return on private investment supported with public funds, stimulating competitiveness, as well as identifying strategic sectors and promoting transparency and accountability in the management of public resources.

EN: This work is supported by national funds, through the FCT – Portuguese Foundation for Science and Technology under project UIDB/04007/2020 and project UIDB/04011/2020 (<https://doi.org/10.54499/UIDB/04011/2020>).

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## Multi-Scale Adaptation Strategies for Tourism Resilience Against Terrorism: An Analysis of Nice and Sousse

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❖ [Online-S56 Regional Transitions: Adaptation and Transformations in the Tourism Sector, August 26, 2024, 2:30 PM - 4:15 PM](#)

Tourism is frequently targeted by terrorism, yet few studies adopt a multi-scalar view of destination adaptation. This research addresses that gap by examining the interplay between macro-economic and socio-urban adaptation following the 2016 Nice and 2015 Sousse attacks. Using mixed methods, it first conducts a comparative analysis of macroeconomic impacts on tourism combined with a visual deep learning study of French and Tunisian tourism board social media profiles. It then ethnographically investigates urban tourist areas through visual content analysis, supplemented by semi-structured interviews with local stakeholders on recovery strategies. Findings contextualize tourism's "panarchic adaptation" to terrorism via affected cities enabling national-level rebound. The granular local level shapes national outcomes, underlining a panarchic approach where multi-scalar coordination and strengthened urban features reinforce tourism's adaptation to terrorism.

## Unlocking the future of Coworking: A Comparative Analysis of Urban and Rural Knowledge Hubs

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❖ [Terceira-S80-S2 New Work Horizons: Geographical, Social, and Economic Dimensions of Collaborative Working Spaces, S09, August 30, 2024, 11:00 AM - 1:00 PM](#)

This paper conducts a comparative analysis of urban and rural coworking space placement in Bavaria, Germany, with a specific focus on their proximity to knowledge-intensive business services (KIBS) in the post-COVID era. Leveraging post-COVID economic activity data and spatial distribution information of coworking spaces, we employ K-density functions to unveil distinct patterns of coworking space placement and identify concentrations in both urban and rural areas. The Bavarian region serves as a unique backdrop for this study, characterized by diverse economic activities and a thriving entrepreneurial ecosystem. The aftermath of the COVID-19 pandemic has reshaped the working landscape, elevating the significance of coworking spaces, particularly for KIBS enterprises. Our findings highlight that urban areas exhibit denser clustering of coworking spaces, closely aligned with KIBS entities, while rural regions display a more scattered distribution. These results provide valuable insights into the evolving nature of workspace utilization and its implications for regions with a high concentration of KIBS firms in the post-COVID context. This research contributes to the understanding of the spatial dynamics of coworking spaces in urban and rural settings, offering valuable information for policymakers, entrepreneurs, and urban planners aiming to facilitate innovation and entrepreneurship in the KIBS-intensive regions of Bavaria, Germany.

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### Using sequence analysis to uncover the spatio-temporal emergence of bioeconomy innovations

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❖ [Terceira-S04 The Spatial, Regional and Urban Dimensions of Circular Economy, S01, August 28, 2024, 11:00 AM - 1:00 PM](#)

The transition from a fossil-based economy to a circular bioeconomy, underscored by the need for sustainable production and consumption, is increasingly reliant on novel biobased technologies (Aguilar et al., 2018; Befort, 2023; Bugge et al., 2016). However, the geographical distribution of these bio-innovations is anticipated to be uneven, presenting new challenges for regional development and necessitating nuanced policy actions (Abbasiharofteh & Broekel, 2020; Fischer et al., 2024). However, the existing literature on the geography of bio-innovation is currently limited, especially in empirical evidence regarding the spatial distribution of novel biobased technologies and how these geographical patterns might have changed over time. This limitation is largely due to the inadequacy of traditional patent classifications in tracking biobased technologies (Losacker et al., 2023; Wydra, 2020). Against this background, our paper sets out to achieve two main objectives. First, we develop a novel methodology for identifying biobased technologies in global patent data. That is to say, we utilize modern natural language processing techniques for the identification of biobased technologies from patent abstracts, which offers a more refined approach than conventional methods based on keywords or simplified classifications (Kriesch, 2023). Second, using this novel data, we analyze the geography of bio-innovation over time. In more detail, we utilize geocoded patent data sourced from De Rassenfosse (2019), apply our identification approach to these data, and aggregate the data at the level of more than one thousand functional urban areas, in accordance with the definitions provided by the OECD (following e.g., Broekel et al., 2023; Fritsch & Wyrwich, 2021). For these specified regions, we subsequently examine the temporal evolution of innovation activities in the bioeconomy for a time span of more than twenty years. To do this, we apply sequence analysis methods, an empirical tool that has been rarely used in the fields of economic geography and regional science so far (for exceptions see Hansmeier & Losacker, 2023; Kuebart, 2022). Sequence analysis enables us to examine regional trajectories in biobased innovation. Additionally, it facilitates the comparison of these trajectories across different regions. This approach ultimately allows for the clustering of diverse regional paths towards a bioeconomy, enhancing our understanding of their unique characteristics and developments. The findings of this paper contribute significantly to the understanding of the global geography of bio-innovation. Our research is particularly relevant for policymakers, given the increasing implementation of bioeconomy strategies by countries and regions worldwide (Proestou et al., 2023).

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## Addressing Regional Economic Resilience via Machine Learning Techniques

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❖ [Online-G03-O1 Innovation and Regional Development, August 26, 2024, 11:00 AM - 1:00 PM](#)

In this study, we use machine learning techniques to estimate and predict the resilience of local governments to shocks. Resilience has been tackled from both the resistance and recoverability dimension for approximately 8,000 Italian municipalities with reference to the 2008 economic crisis, testing several explanatory variables. Then, using machine-learning techniques, we identify the contribution of each of them to the model (SHAP values) and estimate the resilience capacity of the Italian municipalities. Finally, the trained model will be applied to predict their resilience to the COVID-19 pandemic crisis.

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## Voter turnout in Portuguese local elections: a fuzzy-set Qualitative Comparative Analysis of the impact of corruption and other socio-economic factors

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❖ [Online-G07 The geography of corruption, August 26, 2024, 2:30 PM - 4:15 PM](#)

Voter turnout has been studied in detail since the emergence of the rational choice question - why do people vote at all? In fact, the chance of one person changing the outcome of an election is practically zero. In the cost-benefit calculus of citizens, therefore, no one should vote no matter how much he or she cares. Given the difficulties of the rational model in explaining voter turnout, many social arguments have emerged in recent decades to understand the determinants of turnout. Drawing on this literature, this study examines the influence of corruption prevention, education, inequality and government efficacy on voter turnout in Portuguese municipal elections. Specifically, fuzzy-set Qualitative Comparative Analysis is used to determine whether these factors (individually or in combination) are necessary or sufficient conditions for high or low voter turnout in the elections of Portuguese municipal governments. Overall, the results indicate that in local elections, corruption mobilizes voters and inequality keeps voters away from the polls. It also shows that higher levels of education are not associated with higher voter turnout in populous and urban municipalities and that citizens respond to bad governance by voting.



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## Cities as multipliers of wage inequalities from digitalisation

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- ❖ [Terceira-S45 AI and Other Digital Technologies: Old Wine in New Bottles or Transformative Tools for Urban and Regional Economies?](#), S05, August 28, 2024, 11:00 AM - 1:00 PM

This paper studies the redistributive consequences of digitalisation and highlights the role of urbanization economies as multipliers of wage inequalities. Elaborating on the difference between the new digital technologies and the past waves of computerisation and robotisation in terms of labour market outcomes, the paper argues that digitalisation is expected to generate both a productivity and a reinstatement effect for both high- and low-skilled occupations. The balance between the productivity and the reinstatement effects, however, varies across occupations. For low-skilled workers the reinstatement effect prevails over the productivity effect, while the opposite occurs for high-skilled workers, thus amplifying wage inequalities further. These unbalanced effects are especially prominent in urban areas, which therefore experience a sharper increase of wage inequalities because of the significant diffusion of new digital technologies in highly diversified labour markets. These expectations are tested in an analysis on Italian cities (i.e., NUTS3 regions) in the period 2012-2019.

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### Sharing hospitality: The relationship between Airbnb, the accommodation industry and new touristic flows.

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❖ [Online-S34 Opportunities, Risks and Challenges of the Digital Transformation in Tourism, August 26, 2024, 11:00 AM - 1:00 PM](#)

The purpose of this work is, firstly, to provide a determination of the magnitude of the tourism sharing economy phenomenon and its various components for an Italian tourism destination. The second goal is to evaluate the relationship between the tourist sharing economy (or sharing hospitality) and the hospitality managed professionally in terms of direct / indirect competition. Furthermore, the analysis of the turnover associated with different types of accommodations that can be booked on portals will lead to the evaluation of the percentage of "core sharing" in the business of the portals and to an esteem of new tourist flows generated by these tools. The updating of these issues was framed in the situation experienced by the tourism sector following the outbreak of the CoVid-19 and the second year of pandemic. The work therefore also questions the - contrasting - effects of the CoVid-19 on sharing hospitality. An in-depth analysis was carried out on Airbnb which, although not the only active portal in the area analyzed, is generally considered to be the one capable of developing the greatest traffic for the tourist facilities present therein. The analysis shows that, typically, only 20% of the turnover recorded by Airbnb in the metropolitan area of Bologna can be associated with the "pure" sharing economy, while the remaining 80% has different degrees of professional management which, in many cases, undermine the peer-to-peer relationship of the transaction established between the parties involved. Of this 80% of turnover, while 44% is associated with facilities that can be considered in direct competition with hotels, 36% is made up of tourist accommodations which, to varying degrees, play an indirect competition with hotels, thus activating new tourist flows to the destination's area. While this abstract is being presented, the analysis is being updated and expanded using the most recent data. The work also investigates the various consequences of the spread of tourist sharing in urban and extra-urban areas, highlighting the risk of displacement of habitual inhabitants from the most touristic parts of the cities and the permanent destination of the latter at the service of mass tourism, resulting in adverse social reactions.

In the moment this abstract is presented, a complete revisiting of the work is undergoing to integrate new data-set.

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## Sustainable Urban Planning for Bidadi and its neighbourhood- A Regional Approach on Bengaluru Urban Area, Karnataka, India

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❖ [Online-G01-O1 Peace, Regional and Urban Sustainable Development, August 26, 2024, 9:00 AM - 10:30 AM](#)

### Abstract

An urban fringe area known for its excellent growth of crops like cow peas, snake gourds and brinjal, Bidadi has been marked significantly in the industrial map of Karnataka in recent times. The project of Bidadi Smart City Local Planning Area faces quite a challenge to accommodate the growing population of Bengaluru city. As the years passed, there have been growing concerns of the future of the agricultural lands which are most likely to be taken up for urbanization process. The paper studies such situation of a rural fringe of Bidadi which holds the promise of sustainable urbanization and the urge of conserving the renewable resources available there. The disparities at demography, the concerns of pollution, the vanishing agricultural lands are all the kaleidoscope of any growing urban area that may be drawn and re-drawn a number of times. It has been attempted to do so in this paper with much dilemmas highlighted. Thankfully, recent urban-planning efforts in Bidadi have been much more sustainable promoting integrated crop cultivation methods, regular cleaning of the river, regulating zones exclusive for forest activities and promoting energy generation from solar panels and effective rainwater harvesting for industrial needs. Such analysis may be exemplary for further researches in the field of urban planning and development in Asian cities.

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## Cultural Distance and Discrimination in Access to Financial Services: A Case Study for Bank Loans in Rural India

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❖ [Online-S02 Culture Based Development: Cultural Narratives for Polarization versus Peace, August 26, 2024, 2:30 PM - 4:15 PM](#)

Caste is a cultural marker that is often a source for discrimination and social tension in India. This paper aims to document the presence of cultural narratives that create discrimination in the provision of bank loans in rural India in order to synthesize the cultural economic mechanism behind perceived discrimination. We focus on the grey financial market of middlemen for bank loans in rural areas. We study the effect of cultural distance between the middleman and the loan applicant in terms of the social rank of their caste. We collect primary data from the rural area of Telangana State in India in the year 2023. We find that higher cultural distance between the middleman and the loan applicant is associated with a higher cultural discrimination effect. This effect reveals in the form of the time for waiting for the loan and the size of the loan finally granted. We compare the caste-based taste for discrimination to the religion and gender-based taste for discrimination in the same case study and find that the caste-based taste dominates the effect. Finally, we provide insight into the spread between objectively experienced and perceived discrimination in loan provision. We examine the impact from awareness of legal rights to report grey market activities on the discrimination level differences by cultural group. This allows us to shed some light on the degree of internalisation of culture-based stigma among the poor in India. We use the results from this case study to propose a general model of cultural filtering of emotions as a basis for the taste for discrimination in financial decision-making.

## 101

### Cultural Narratives, Religiosity and Cooperation for Peace across Space - A Game Theoretical Model

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❖ [Terceira-S02 Culture Based Development: Cultural Narratives for Polarization versus Peace, S01, August 28, 2024, 4:45 PM - 6:30 PM](#)

It is known in game theory that a prisoner's dilemma can have a chance for cooperation if the game is played as an infinite repeated game with full information. Following the modelling of reciprocity by Rabin (1993), I show that the Culture based Development (CBD) distinction between culturally close and culturally distant agents can show when two religious people, believing in infinite life from two culturally different groups, will manage to play the prisoner's dilemma by reaching to cooperation and when they will defect and not cooperate. An application for the case for Israel and Palestine cultural proximity is used in this study. The findings clarify how a cultural narrative decreasing the cultural distance can serve to switch the noncooperation between the two groups into cooperation mode based on their faith in life after death.

## 102

### Heritage, Cultural Entropy and the Balassa-Samuelson Effect in Tourism

Dr. Annie Tubadji<sup>1</sup>

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- ❖ [Terceira-S60 Towards Local Development Through a Sustainable Valorization of Cultural Heritage: the Role of Tourism, S05, August 30, 2024, 11:00 AM - 1:00 PM](#)

Cultural heritage is clearly a massive element of economics of tourism and clearly one of the main contributors to tourism led growth. The case of Italy or France or the areas in proximity of the Great China Wall are examples that need little explanation or defense as case studies. However, we all know about the role of carrying capacity in overpopulated touristic areas. Culture Based Development has devised and employs the notion of cultural entropy, that demonstrates how the impact from tourism on economic growth depends on a balanced use of cultural heritage. The paper uses regional data for China for the period 2013 - 2019. The results demonstrate the power of cultural entropy to modify the overall cultural bias on regional development across the Chinese regions.

## Spatial analysis of crime in Ecuador

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❖ [Terceira-S11-S2 Left Behind Areas: Past, Present and Future, S03, August 30, 2024, 9:00 AM - 10:30 AM](#)

According to the United Nations (2021), the Latin American and the Caribbean region has become the most violent region in the world. Within this context, Ecuador has experienced an increase in violence due to the presence of street gangs, added to the presence of criminal groups from Colombia, Mexico and Europe for being a strategic point for cocaine trafficking. By 2022 the rate of violent deaths was 25.32 violent deaths per 100 thousand inhabitants, making it one of the most dangerous countries in Latin America. Within the country, the cantons that register the highest violent death rate are located in the coastal area, specifically in the provinces of Los Ríos, Guayas, Esmeraldas, El Oro and Manabí, one in the Sierra region, in the province of Cañar, suggesting that there is a spatial pattern of crime. Based on this, the objective of this study is to determine the level of spatial dependence of crime, measured through violent murders, in Ecuador and its determining factors, emphasizing on the effect of the judicial system. To carry out the study, different data sources are used: the Ministry of the Interior, the Ministry of Education, the National Employment and Unemployment Survey (ENEMDU), the State Attorney General's Office, the Ombudsman's Office, the National Service for Attention to Adults Deprived of Liberty and Adolescent Offenders (SNAI) and the Ecuadorian Observatory of Organized Crime (OECE). Our database accounts for information of 218 cantons from 2011 to 2021. An Exploratory Spatial Data Analysis and a spatial econometric models are used. Based on the LISA indicator, different types of clusters were identified: clusters of crime, clusters of non-crime, crime islands, non-crime islands and changing cantons. Crime clusters prevail over time, showing greater presence in the areas of the Coast region, while the non-crime cluster locates in the highland region. Regarding the spatial econometric results, our variables of interest related to the judicial system are significant. The judicial congestion rate and the unsentenced prison index are associated with higher violent murder rates. This evidences the inefficiency of the judicial system, which constitutes a driver of crime. Other factors such as basic needs poverty rate and the level of drug seizures are associated with high crime levels. The employment rate and the level of serious complaints decrease the level of murders. Other variables such as the police efficiency, the school dropout, the population density were not significant to explain the crime rate.

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## Smart Tourism and Cultural Destination: A Comprehensive Analysis of Tourist Behavior In The Destination of Padova- Italy

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❖ [Terceira-S77-S1 Collective Smartness to Foster Sustainability Transitions of Places: Smart Cities, Regions, and Energy Communities, S07, August 28, 2024, 11:00 AM - 1:00 PM](#)

This study conducts a thorough analysis of tourist behavior in Padova, Italy, focusing on the synergy between smart tourism and social media. Examining the influence of digital tools on decision-making and satisfaction, the research explores the dynamic interplay between smart tourism practices and the pervasive use of social media in the cultural destination. By emphasizing the intricate relationship between technology and tourism, the findings aim to provide valuable insights into the nuanced connections shaping tourist experiences. The study's outcomes offer practical guidance for optimizing cultural tourism experiences in Padova and hold broader implications for destinations seeking to leverage smart tourism and social media for enhanced visitor engagement and satisfaction.



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## Growth and market introduction of new technology: start-ups in contrasting entrepreneurial ecosystems

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❖ [Terceira-G03-R Innovation and Regional Development, S11, August 30, 2024, 11:00 AM - 1:00 PM](#)

### Growth and market introduction of new technology: startups in contrasting entrepreneurial ecosystems

This paper responds to an increased need for attention to growth of high-tech start-ups and role of entrepreneurial ecosystems. The focus is on a specific type of start-ups, namely, university spin-offs (USOs). Such firms primarily aim to bring new technology or services developed at university to the market and to upscaled production. The paper investigates the performance of USOs in Northwest Europe under influence of founding teams and initial networks in contrasting entrepreneurial ecosystems, using a longitudinal approach. In theory, team and network diversity is associated with contradictory trends, namely, benefits from rich capabilities and information, however, also risks of fragmentation and fault-lines. In addition, it is explored whether rich and varied ecosystems in metropolitan area merely reinforce positive start-up development, or can also reverse negative development rooted in poor founding teams or networks.

The first part of the paper, as quantitative groundwork, briefly explores influence of diversity in founding teams and early networks on business performance, in a metropolitan and non-metropolitan ecosystems. A survey of about 100 USOs is used to assess a regression model including these factors. The trends suggest that founding team diversity has a negative relationship with business performance, while diversity in networks has a positive influence, which is also reflected in positive influence of a metropolitan ecosystem.

In the next part, using selected case studies covering 10-20 years of USOs' life including age-related events, the perspective on USOs performance is broadened with innovation radicalness and market introduction of the invention. Accordingly, the interplay of team and network diversity with innovation suggests several 'life trajectories', including closure. For example, persistent weakness in team and/or network diversity tends to lead to firm closure without market introduction, or to failure later-on in upscaling of production. Such negative developments seem not to be affected by the character of the ecosystems.

By contrast, balancing of weak teams through co-creation networks and/or related product diversification, tends to enhance market introduction and scaling up, which can be reinforced by metropolitan ecosystems. The first tend to be more varied in relationships with customers (co-creation), whereas non-metropolitan ecosystems tend to be more specialized, however, with an inherent danger of tight relationships between partners in financial consortia. Subject matter for informing local/regional policy-makers and for future research conclude the paper.

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## Living labs coming of age: reaching urban sustainability goals through extended knowledge advancing

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❖ [Terceira-S40 Fostering Sustainable Regional Development: The Central Role of Entrepreneurship and Policy, S14, August 28, 2024, 2:30 PM - 4:15 PM](#)

Living labs coming of age: reaching urban sustainability goals through extended knowledge advancing

Participative approaches in policy-making by citizens have reached high popularity over the past decade. Though different in aims and structure, living labs and citizen science are good examples of the new participative models. Living labs can be seen as R&D methodology focusing on co-creative experimentation and design of solutions by citizens, while citizen science originally merely focused on data collection serving academic needs, but has now also turned to identifying solutions. Since first applications about 20 years ago, living labs have been used in solving a variety of urban sustainability matter in multi-stakeholder situations, like in sustainable energy and water management. This article reflects on four recently forwarded challenges in urban living labs' practice, namely, 1) anticipative learning, 2) participation by representative citizens in learning and design of solutions, 3) using real-life experimentation places, and 4) evaluation of living labs' results, particularly outcomes that can be generalized.

Next, the paper explores knowledge advancing to respond to these challenges. Part of the challenge is to perform a deeper ex-ante problem-analysis, including using system frameworks and dynamic stakeholder study, eventually applied in simulation and gaming in anticipative learning. With regard to contribution to literature, this article fits the general reflection on living labs today, and is novel in two respects. First, it presents and structures recently forwarded tension and challenges in application of the methodology. Secondly, it explores learning matter and approaches that deserve more attention in living labs' practice. The findings support beliefs that many-sided learning activity, including citizen science, will strengthen living labs and increase its policy relevance in urban sustainability and transition.

Urban Living labs; anticipative learning; evaluation; collaborative learning and design; site-specificity, socio-technical transition; citizen science.

## 108

### Urbanisation and digital transformation of small and medium-sized enterprises in Spain

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❖ [Terceira-G16-O2 Cities, Regions and Digital Transformations, SF1, August 29, 2024, 9:00 AM - 10:30 AM](#)

Digital technologies are transforming most sectors around the world, and many small and medium enterprises (SMEs) will have to adapt to these changes in order to survive and grow. Therefore, adoption and implementation of digital technologies will be major issues for many SMEs and territories in the decades ahead (OECD, 2020; Reuschke, Mason, and Syrett, 2021). Advances in the digitalisation process may be affected by spatial conditions, and, in this respect, contribute to the emergence of a spatial digital divide between urban and rural areas, as has often been suggested (Labrianidis and Kalogeressis, 2006; Prieger, 2013; Gerli and Whalley, 2021). From this perspective, the current paper particularly analyses the impact of the level of urbanisation on the digital transformation process of SMEs in Spain. Our empirical study uses a data set of 841 SMEs obtained from a 2021 representative survey of SMEs in Spain. Our investigation shows the positive effect of the urbanisation level on the digital transformation process, the latter proxied by digital product innovation introduced by the SMEs. The study also explores some of the channels through which this positive effect operates. The results obtained have direct policy implications. Government policy should be directed to compensate for the disadvantages that SMEs experience in rural areas and act as catalysts for the building and development of digital ecosystems in which SMEs can participate successfully in their specific environments.

## 109

### What's the impact of technological projects? A proposed framework for a metaverse case study

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- ❖ [Terceira-S09 'What's the Impact?': the State of Social and Economic Impact Modeling, and its Role in a Transitioning World, S02, August 30, 2024, 9:00 AM - 10:30 AM](#)

This study explores the adoption and impact of the Metaverse in public sector organisations, focusing on the case of the Piedmont Region's (Italy) initiative against cyberbullying. It addresses the challenges and opportunities of integrating the Metaverse into public services and measures its social and economic impact. Employing a qualitative methodology, this research utilises a hybrid topic and content survey, including semi-structured interviews with experts involved in the Metaverse project in the Piedmont Region. The study is grounded in the stakeholder engagement theory and employs the Gioia methodology for data analysis. Our study reveals that while the Metaverse offers significant opportunities for innovation in public services and citizen engagement, its integration into public institutions faces technical, ethical, and governance challenges. These include the need for robust digital infrastructure, data privacy concerns, and the necessity of interdisciplinary approaches for effective technology accountability. The case study demonstrates the potential of the Metaverse in addressing social issues like cyberbullying and highlights the importance of measuring both quantitative and qualitative impacts. This research contributes original insights into applying emerging technologies like the Metaverse in the public sector. It provides a comprehensive analysis of the challenges and potential of the Metaverse in public institutions, particularly in the context of social issues, and proposes a framework for assessing its social and economic impact.

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## Architecture of Resilience: Entropy, Connectivity, and Institutional Market Structures

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❖ [Terceira-S49-S1 Networks in Resilience and Vulnerability, SF3, August 28, 2024, 11:00 AM - 1:00 PM](#)

The objective of this work is to build a theoretical model that relates the connectivity architecture of a network with the type of output it provides and the related market institutional arrangement that derives from it. To this end, the relationships between information, know-how and entropy will be considered; in fact, these three elements will determine the degree of complexity of the output produced by the system which, in turn, will impact the consequent organizational form of the market. The market structure is an expression of the connectivity architecture of a complex system, such as to guarantee stability over time in the production of the same output. The work moves from the framework theorized by Hidalgo (2015) that focuses attention on the information and know-how that individuals and networks can store and use. Each node of the network and each network has a limited capacity to collect information. Comparing different networks with each other, the result is an unequal spatial accumulation of knowledge and know-how between the networks depending on their organization and extension. To be able to produce highly complex products, larger and more organized networks are needed. They can contain a lot of knowledge and at the same time exhibit high computation capacity. Therefore, the connectivity architecture with which a system is structured to produce complex products will be decisive. In this sense, central to the network and its hierarchy is the ability to organize a "Smithian" division of labor between the different nodes. The division of labor is also accompanied by the division of knowledge and know-how. Computing and information capacities are thus distributed in the network. The fragmentation of know-how leads to the emergence of a difficulty, introducing a combinatorial problem, that of connecting the nodes in a structure that allows us to reconstruct what was fragmented. This is where the vulnerability of a network arises. For complex products, it is necessary to fragment tasks, knowledge, and calculation capacity. By distributing these quantities along the network in a hierarchical manner, the risk that a shock could interrupt fundamental connections to produce output exposes the network to idiosyncratic vulnerabilities. The work aims to generalize and identify the relationships between knowledge, know-how, production complexity, entropy, and connectivity architecture with the different market forms. These different architectures imply fundamental features in terms of redundancy, efficiency, vulnerability, and resilience of the systems.

## 111

### Liveable Urban Spaces in Polycentric Territories: A Case Study for Central Italy

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❖ [Terceira-S06-S2 RSPP Special Issue: A New Toolbox for Novel Research in Regional, Urban and Spatial Studies, S01, August 30, 2024, 9:00 AM - 10:30 AM](#)

In recent years, major cities have increasingly promoted urban policies to achieve a more sustainable environment, especially after the COVID-19 pandemic. Indeed, during lockdowns, with the forced restrictions on people's mobility, spending more time at home has highlighted the centrality of the provision of neighborhood services. In this manner, COVID-19 reopened and boosted the debate on how to radically rethink urban spaces, in metropolitan areas but also in middle cities and polycentric territories. After Paris, with its mayor Hidalgo that launched the slogan of "city 15 minutes away", redefining urban strategies for resilience was also taken up by several Italian cities, including Milan, Rome and Bologna.

The notion of Carlos Moreno's 15-minute city (Moreno et al., 2021) refers to an area where citizens can easily reach essential services through a 15 minutes' walk. The 15-minute city is an urban planning concept focused on groups of people who have historically been excluded from planning, such as women, children, people with disabilities, and the elderly. Access to schools, green spaces, basic social infrastructures, and complementary activities for residents are considered essential to improve the well-being of local communities.

The ongoing structural funds programming and the National Recovery and Resilience Plan represent a unique opportunity for a sustainable redefinition of the urban development model. However, to be successful, public policies and regional planning need to be accompanied by result-oriented monitoring, reporting and evaluation processes. Transparent and spatially detailed information is extremely important to support collective decision-making and to develop evidence-based policies. In this respect, open digital navigation platforms, such as Google Maps and OpenStreetMap (OSM), are becoming increasingly popular among academics and practitioners as a precious source of knowledge, especially when official statistics are difficult or expensive to produce at a detailed spatial granularity. Against this backdrop, this work aims to construct metrics able to evaluate progress in terms of accessibility to services related to basic needs and amenities, with a focus on mobility. Our case study focuses on the Marche region in Central Italy which is an emblematic example of the polycentric system of towns, rural areas and municipalities characterizing most of the Italian territory. Based on our results, implications for policy and planning will be discussed. Moreover, we will provide possible avenues for future research and explain how the approach for a proximity metric based on OSM input categories is scalable, i.e., transferable across spatial scales without any significant adjustment.

## 112

### Cultural Narratives of Fear, Precarious Driving Patterns and Insurance Prices across Space

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❖ [Online-S02 Culture Based Development: Cultural Narratives for Polarization versus Peace, August 26, 2024, 2:30 PM - 4:15 PM](#)

Research on migration has demonstrated that migrants arrive in the destination country carrying sticky cultural attitudes from the place where they come from, which at times withholds their local performance and other times benefits the local milieu with alternative problem-solving rationales. This study aims to focus its attention to the cultural stickiness of the cultural attitudes in specific with regard to other-regarding preferences and risky behaviour in the recipient country. We use data from the database provided by the Saudi Insurance Company Altawunyia. We approximate the other-regarding preferences with the propensity to drive safely on the road. We use the place of origin of a driver as an approximation of her or his distance from the cultural attitudes to risk in driving among the incumbent population. Put differently, if someone is from a different country, we expect them to have a different average propensity to behave riskily on the road. The database contains information about the country of origin of the insured person as well as data on the degree of precarious driving that the individual has registered according to the telematics of their car. We employ Oaxaca-Blinder decomposition analysis to establish the degree of other-regarding preferences (approximated by the average degree of propensity to take risk during driving) characteristic for each cultural group. Our findings demonstrate that there is cultural distance and cultural stickiness in the degree of other-regarding preferences in driving among people from different countries who hold a car insurance and live in Saudi Arabia.

## 113

CP or CAP? Which policies are more effective in order to promote regional development and reduce socio-economic disparities in Poland.

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- ❖ [Terceira-S21-S6 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, SF2, August 30, 2024, 11:00 AM - 1:00 PM](#)

There is a very broad spectrum of research on various aspects of the impact of Cohesion Policy on socio-spatial disparities in the European Union. Similarly, many studies address the impact of the Common Agricultural Policy on rural development. In contrast, there are relatively fewer attempts to show the interaction of these policies on regional development. Against this background, the new EU Member States represent an interesting field of research, as with few exceptions their entire territories are covered by the convergence objective of the Cohesion Policy, and in some of them the low level of urbanisation combined with high agricultural employment make them important beneficiaries of the Common Agricultural Policy. Poland may be a particularly interesting case, where the volume of outlays of both these policies is among the highest in the EU, and their significance is particularly evident in the relatively modest resources allocated to other national policies. The study was focused on the contribution of European Funds to regional development and reducing socio-economic disparities at the level of sub-regions in Poland. The study did not confirm the opposing effects of the two main European Union policies on the socio-economic development of sub-regions in Poland, but neither did it confirm their complementarity. At the same time, the pro-development character of the Cohesion Policy turned out to be more pronounced, which was particularly evident in relation to the increase in the number of employed and the development of entrepreneurship, with a side effect, however, of a slight increase in disparities between subregions in this respect. Expenditures considered to be pro-development, related to support for enterprises, the development of human capital resources, as well as the development of the information society and support for research and development, were of particular importance for the dynamics of regional development processes. It turned out that investments aimed at improving the quality of life, as well as the common agricultural policy, had no impact on the dynamics of reducing relative and absolute poverty. The pro-modernisation nature of the latter policy may have had an impact on the increase in disparities in terms of the registered unemployment rate, but determining the mechanisms of this relationship requires further research, including qualitative research.



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### Youth-centred rural transformation towards sustainable development

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❖ [Online-S70-S1 The role of young people in building up sustainable development practices for inner and rural areas, August 26, 2024, 9:00 AM - 10:30 AM](#)

Nowadays we are living two strong dichotomies: old generations versus new generations and urban areas versus rural areas; it is important to underline that while urban areas are more resilient and have basically experienced socio-economic growth, rural areas that are far away from the borders of metropolitan regions are suffering from intrinsic problems such as substantial unemployment rate, the lack of basic services and infrastructures and all these combined factors led young people to leave. Moreover, the current crises, such as climate change, biodiversity loss, the recent pandemic and the ongoing wars have exposed the fragility of our current system and the urgent need for a paradigm shift towards the sustainable economy we need (the principle of leaving no territory and no individual behind must finally become a reality). In this context, young people themselves, can represent the keystone to promote sustainable development in these disadvantaged areas: the process needs to be bilateral namely that young people have to deploy all their qualities and innovative thoughts but at the same time they have to be put in the conditions to unleash their transformative potential. Young people can be definitely seen as the future of their communities, and their involvement in rural community development initiatives is crucial in ensuring sustainable development in these areas remembering that these areas play a vital role in economic and social cohesion, including sustainable food production. In this extended abstract are emphasized the ways in which young people can assure sustainable development in rural areas, in which ways institutions can help them and which are the possible consequences of this transition.

## 116

### An analysis of Latin American tourism: An approach to efficiency and sustainability

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❖ [Online-G35-O2 Tourism and Overtourism Issues, August 26, 2024, 2:30 PM - 4:15 PM](#)

This study seeks to calculate the tourism efficiency index for different countries using data envelopment analysis from the relationship between inputs (level of employment in the tourism industry and number of hotel-type establishments) and outputs (tourism expenditure in other countries and public social expenditure in recreation and culture per capita) from 2010-2021; additionally, this study seeks to determine countries that have achieved greater development in this sector and the factors that could influence this development through a production function using a stochastic frontier to determine the strategies or actions that must be developed for policy-makers to promote sustainable tourism. The results indicate that countries with higher numbers of arrivals and departures, shares of tourism in Gross Domestic Product (GDP), natural resources and literacy rates have more efficient tourism industries, whereas countries with higher pollution levels have less efficient tourism industries. The findings of this study allow us to determine adequate public policies to promote sustainable tourism.

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## Financial inclusion and regional growth in China: panel data analysis

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❖ [Online-G09 Regional Competitiveness, Innovation and Productivity, August 26, 2024, 9:00 AM - 10:30 AM](#)

China recently declared the readiness to launch the digital currency and started to prepare the financial infrastructure to reach the best results in the shortest time. Actually during the Olympic Games the pilot projects with digital yuan (e-CNY) was already launched and some lessons learned.

Government do understand that it would give the great competitive advantage in the whole world in terms of transactions' conditions and facilities. The main goal is to make the economic agents use e-CNY in daily transaction, to increase the financial inclusion. It is too complicated to evaluate the role of e-CNY for the economic growth and we made the attempt to evaluate its role in the indirect way - to estimate the role of financial inclusion's indicator on the Gross regional product, demonstrates its significant role for Chinese Provinces.

We made the assumption that e-CNY will be interesting to use first of all for those who are already involved in the financial market - who have already had WeChat or Alipay apps and accounts.

Unfortunately there is no possibility to find the exact data, so we try to use one that reflects the same tendency for us. So ss for indicators of financial inclusion we use data from World Bank, such as - account ownership at the financial institutions or with a mobile-phone service provider for young adults and for older adults (25+). There is data only for 2011, 2014, 2017 and 2021 yy., so we decided to make the panel data analysis only for these years.

We decided to use the basic economic growth model (Solow and Romer's ones) and included the indicators of financial inclusion. To understand the role of financial inclusion for the economic growth we used data from National Bureau of Statistics of China, such as - growth regional product, population, investment (investment in fixed assets , excluding Rural Households), expenditure on RD. As a result we will provide the empirical evidence about the role of financial inclusion for economic growth in Chinese provinces.

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## Green Skills for a ‘green and just agenda’ of sustainability transformations

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❖ [Online-S46 Building Just Futures for Regions in Green Industrial Transitions, August 27, 2024, 9:00 AM - 10:30 AM](#)

Green Skills enable workers for sustainability transformations. Green Skills are related to a bundle of ecological goals and measures. They shall contribute to achieve climate goals, decrease emissions, save natural resources, protect biodiversity and revitalize ecosystems. Frequently, Green Skills have to be aligned with ‘just transformations’, particularly aiming at the reduction of social inequality and poverty and at the improvement of living and working conditions, including participation, co-determination and empowerment. Green Skills are relevant for production and service creation and they shall be introduced in various curricula and teaching-learning practices of vocational schools and universities of applied sciences, as well as in various kinds of further training. Until now, there is a lack of systematic analysis of how implementation of such vocational and training measures actually takes place. The paper aims to investigate the place-specific contextual preconditions including enabling and constraining factors, by using the example of Green Skills’ implementation in German regions. It seizes on desktop research and preliminary insights from pilot studies of ongoing investigation in selected industrialized metropolitan regions.

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## Political Instability, Corruption and Foreign Direct Investment: A Comparative Analysis of Transition and Latin American Countries

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❖ [Online-G07 The geography of corruption, August 26, 2024, 2:30 PM - 4:15 PM](#)

The positive link between foreign investment and economic growth have been consistently examined and documented along the relevant literature. What mainly remains at stake is a clear assessment on the impact of institutional development on attracting international capitals, especially with regard to the linkages between political stability or corruption levels and FDI attraction. In the European transition countries, the collapse of the central planning system and the immediate adoption of the market economy model gradually led to increasing corruption, while at the same time the strengthening of nationalism came along with internal political instability. Predominantly, South American states experienced intense conflicts, between authoritarian and democratic regimes, which reduced social cohesion, such as currently being the case for Argentina and Colombia. In addition, the adoption of the Washington Consensus, aiming at liberalizing the national economies, hampered the ability of the state apparatus to cope with the high levels of corruption, while the endemic problem of organized crime persistently undermined the political stability of the region. The aim of the present study is to employ the Knowledge Capital (KK) model, in order to capture the differentiated effect of corruption and political stability on FDI attraction for two country samples from the European transition countries and Latin American geographical group during the period 2009-2021. The Ordinary Least Squares (OLS) and Poisson Pseudo-Maximum Likelihood (PPML) estimators are employed in order to carry out robustness checks. The FDI stock data derives from the Coordinated Direct Investment Survey (CDIS) of the IMF database. The corresponding data related to the variables of interests are provided by the World Governance Indicators (WGI) database, namely those of a) political stability and absence of violence/terrorism and b) control of corruption. Furthermore, the additional control variables which will be incorporated into the analysis, mainly represent the degree of trade liberalization, technological readiness and human capital levels, the corresponding data derived from the Heritage Foundation and the UNCTAD.

## Total Factor Productivity Surplus and Constant Input-Output Multipliers

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❖ [Terceira-G09-O3 Regional Competitiveness, Innovation and Productivity, S13, August 30, 2024, 11:00 AM - 1:00 PM](#)

Input-output multipliers study the interdependencies between sectors, countries, and regions. The key to interpreting I-O multipliers is understanding that they represent the proportion by which a shock in a certain input or output component of the supply or demand triggers changes in the total output of a region. Traditionally, academia focused on nominal I-O multipliers. However, recent decades have witnessed a shift towards the adoption of physical or constant I-O tables for a better understanding of structural and technological change and to avoid price-biased results. Multiple applications of constant price I-O exist; however, the commonly accepted technique to obtain constant tables is the double deflation approach. While academia acknowledges the flaws of double deflation and already provides valid alternatives, all substitutes are grounded on what we consider inaccurate theoretical premises: the notion of balanced I-O tables. We believe that any method based on this assumption does not appropriately meet the requisites of constant impact analysis as it would challenge the definition of structural change, according to which a constant price system of accounts is unbalanced by nature. This disequilibrium is the source of productivity gains.

The present paper addresses the issue of constant impact analysis by proposing the single deflation method in which productivity gains (total factor productivity surplus, TFPS) play a fundamental role in determining the effect of any shock in the economy. In this sense, we apply single and double deflation to the Spanish 2016 I-O tables for 2010-2016. We then analyze variations between our proposed alternative and the standard method, observing that the differences between approaches appear quite significant depending on the sector. These results refute previous literature that tends to consider the differences between nominal and constant applications negligible. Moreover, we suggest the use of a new I-O multiplier, the TFPS multiplier, that will compute the effect of a shock in demand in the distribution of total factor productivity among sectors, countries, and regions. Finally, we provide a reinterpretation and extension of the standard TFPS identification methodology, expanding and detailing its study from 9 to 64 economic sectors.

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## Long-term organization of urban growth in France (1800-2015)

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❖ [Terceira-G02-01 Demographic change, Population and Migration, S10, August 28, 2024, 11:00 AM - 1:00 PM](#)

This article explores the distribution of population between French municipalities and urban areas between 1800 and 2015, and explores the different rationales underlying the growth of these spatial units. The theoretical background of this article assumes that long-term urban growth is a random process, as Gabaix (1999) posits. In other words, this means that the long-term growth rate of cities is the same and does not depend on the size of urban areas. This article also assumes that it is important to reason in time-periods to improve our knowledge of growth processes. As Gonzales-Val (2016, p. 13) posits, “random growth (or Gibrat’s law) correspond to the steady state (a long-run average), but to reach that situation temporal episodes of different growth patterns across some cities are possible”. The time-period is crucial since different growth processes can be observed. The objective of this article is double :

First, this article questions the importance of random urban growth depending the size of spatial units, the nature of spatial units (communes and urban areas) and historical periods. The aim is to test Krugman's intuitions according to which random growth is increasingly important in recent periods with globalization, and that random growth differs according to the size of spatial units. For this purpose, we apply the two flagship methods of the standard literature (kernel regressions or locally estimated scatterplot smoothing (LOESS), and unit-root tests) to the censuses data of France (1800-2015). This paper presents an original unit-root test protocol allow detecting not one, but three types of random growth, each determining the way in which exogenous shocks are absorbed by cities. Another innovation in this paper is the use of the cointegration test (as a logical extension of the unit root test in time-serie econometrics) to capture parallel growth phenomena and thus the possibility that, despite random growth, the urban growth of certain spatial units may be linked. The existence of cointegrated random growth has a major implication because it calls into question Gabaix's model (1999) and the convergence to a stationary state.

Secondly, this article attempts to compare the presence of random growth with an alternative to random growth, namely locational fundamentals theory (Davis and Weinstein, 2008). The aim here is to develop an econometric model to explain the growth or intra-distributional mobility of spatial units as a function of natural amenities (sunshine, rainy days, distance from a coastline, etc.).

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### Renewable Energy Communities and the ecological transition: A game theoretic bargaining approach

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❖ [Terceira-S77-S1 Collective Smartness to Foster Sustainability Transitions of Places: Smart Cities, Regions, and Energy Communities, S07, August 28, 2024, 11:00 AM - 1:00 PM](#)

We outline mechanisms by which renewable energy communities (RECs) can make cooperation for the ecological transition easier. We show conditions under which the combination of surplus energy sale, self-production and self-consumption benefits create conditions for a stag-hunt game, or an original cooperative REC game that overcomes the limits of the multiplayer prisoner dilemmas typical of many ecological transition choices. We also outline a theoretical framework illustrating factors affecting profit bargaining between the two types of actors (prosumers and passive consumers) participating to the REC. We finally draw policy implications from our model identifying choices that can make RECs a driver of an accelerated ecological transition.



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## Cultural Narratives and the Empowerment of Women on the Saudi Arabian Labour Market

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❖ [Terceira-S02 Culture Based Development: Cultural Narratives for Polarization versus Peace, S01, August 28, 2024, 4:45 PM - 6:30 PM](#)

Recent entrepreneurship literature has delved into the barriers and motivations of European female entrepreneurs. The current study aims to compare what is the effect of cultural narratives on the barriers and motivations for female entrepreneurs in Saudi Arabia in comparison to these for female entrepreneurs in the UK. The presence of cultural distance or cultural proximity in the barriers and their cultural narrative motivations across Saudi Arabia and the UK is the empirical question. To address this question, we do two types of data collection. Firstly, we replicate a survey conducted among British female entrepreneurs by asking the translated version of the same questionnaire for Saudi Arabian female entrepreneurs. Thus, we obtain a perfectly comparable set of observations for both countries. We collected all in all over 200 responses from Saudi Arabia and we compare them with the secondary data obtained from the UK survey (114 observations). Secondly, we obtain cultural variables to quantify the local cultural narratives. For the UK we use the Understanding Society Survey data on cultural participation. We collected comparable cultural participation indicators for the case of Saudi Arabia. Thus, we ultimately conduct regression analysis using a recursive model, where the female engagement in entrepreneurship is explained with certain barriers and motivations which are on their side explained by local cultural contextualization in the level of cultural heritage and living culture consumed in the locality where the person lives.

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### Value of the human capital in future economic growth and competitiveness. Inference based on the PISA results from OECD countries

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❖ Terceira-G09-O3 Regional Competitiveness, Innovation and Productivity, S13, August 30, 2024, 11:00 AM - 1:00 PM

The Programme for International Student Assessment (PISA) is a set of standardised tests administered by the Organisation for Economic Co-operation and Development (OECD) to evaluate the academic performance of 15-year-old students in various countries worldwide. The test is performed every three-year cycle and primarily focuses on student excellence in reading, mathematics, and science.

Today, two such studies, PISA and TIMSS (Trends in International Mathematics and Science Study), dominate the field. These two projects, however, differ in several important ways. Unlike TIMSS, which is descriptive and analytical, PISA is explicitly and intentionally normative. Both studies measure trends in test scores over time (Sjøberg & Jenkins, 2022). Overall, PISA has been a remarkable phenomenon. Moreover, the PISA was not merely an educational event. It involved the public rehearsal of reasons for failure or success; in some cases, public, political and academic explanations about why 'failure' was not that and why 'success' was not that either (Pereyra et al., 2011).

The paper aims to critically assess the PISA results of the involved countries (OECD member states) at the spatial-temporal level. The sample in the study incorporates the OECD group, which currently contains 38 member states, mainly developed countries (i.e., high-income economies with a high rank of HDI) analysed in the eight periods over 2000-2022. The paper's structure is organised as follows:

1. First, the theoretical part of the paper covers the fundamentals of the PISA testing, its main achievements and the implications of PISA results within the framework of international literature
2. Second, the basic inference of the statistical sample is provided
3. Methodological framework and research methods are outlined.
4. Research results are presented, especially the model fit and subsequent statistics.
5. Discussion and conclusions of the study are provided.

The basic data format for statistical analysis involves longitudinal (short panel) data on two levels with occasions nested in subjects, in which subjects become clusters. The data panel is submitted to various statistical analyses, including the variance-components model, probability distribution and agglomerated hierarchical clustering. The results' variability is expected to lay the ground for spatial and temporal conditioning factors linked to the studied countries' economic growth and competitiveness.

The paper provides a comprehensive structure covering various aspects of the analysis of PISA results. The paper aims to highlight potential differences among the countries in spatial-temporal dimensions with a profound impact on gaining their competitive edge in the global economy architecture.

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## Stakeholder Support for Sustainable Venture Creation in Entrepreneurial Ecosystems

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❖ [Terceira-S74 Entrepreneurial Ecosystems and Regional Development: Dynamics, Evolution, and Implications, S08, August 30, 2024, 2:30 PM - 4:15 PM](#)

While there has been a plethora of entrepreneurial ecosystem research on its elements and distinctive characteristics, the support processes within entrepreneurial ecosystems are still underdeveloped. We theorize about entrepreneurial ecosystems as ongoing processes by examining the distinct practices of ecosystem stakeholders for (i) providing resources such as innovation capabilities and entrepreneurial know-how to sustainable entrepreneurs and (ii) creating and developing the sustainable entrepreneurial ecosystem. Using a qualitative research approach, we conduct 35 semi-structured interviews with various stakeholders of ecosystems in Germany, Austria, and Switzerland. Our results suggest four distinct process dimensions that describe how ecosystem stakeholders foster sustainable venture creation: Enabling, Networking, Transforming, and Orchestrating. We show that those ecosystem processes run counterclockwise for direct startup support and ecosystem development. Our research contributes to the scarcely researched field of sustainable venture creation in entrepreneurial ecosystems. We conclude with a future research agenda.

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## Role of UAEU (Thematic) Partnership on Food in Supporting Cities as Catalysts for Local Food Systems Transformation

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❖ [Online-S76-S2 Places for Sustainable Food: What's Behind and Beyond the Relocation of Food Systems?](#),  
August 27, 2024, 2:30 PM - 4:15 PM

In the evolving landscape of European Union (EU) food systems policy, cities and regions are increasingly pivotal in driving innovation. They are achieving this through collaborative partnerships among public authorities, local businesses, and community groups. The Thematic Food Partnership, integral to the Urban Agenda for the EU, plays a crucial role in supporting and enhancing these initiatives. However, a notable gap persists between high-level EU and national policies and grassroots innovations in food systems. This paper advocates for a paradigm shift in EU policies to better appreciate and support the diversity of local food systems and the potential of relocalization and reterritorialization for more equitable and sustainable models.

The paper highlights the necessity of a robust multilevel governance framework within the EU, emphasizing the Thematic Food Partnership's potential to aid cities in developing comprehensive food policies. This partnership, distinct from the EU Food System Framework and the EU Food Policy Council (programmed for 2023 but still not started), fills a crucial gap with its focus on local initiatives and collaboration. Starting in January 2024, it comprises 19 diverse partners, including 10 cities, 3 metropolitan regions, 2 academic institutions, and other relevant actors coordinated by the City of Milan and the Lisbon Metropolitan Area.

The initiative aims to address knowledge, policy, and funding gaps at the EU level, facilitating multilevel policy coherence and empowering cities as catalysts for transformative change in food systems. The partnership underscores the importance of local municipalities and the city-region scale in developing tailored, integrated local policies. These policies aim to bridge the rural-urban divide, focusing on bioregional interactions and the role of local actor ecosystems.

As we anticipate the contributions of champion cities like Mouans-Sartoux, Vitoria-Gasteiz, and Ghent, known for their advanced local food policies, this partnership promises to provide a roadmap for sustainable, resilient, and equitable food systems across Europe. By aligning local innovations with broader EU objectives and leveraging the strengths of various stakeholders, the Food Thematic Partnership under the Urban Agenda is set to forge a path towards a more cohesive, resilient, and sustainable food landscape across Europe.

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## Convergence or divergence? Addressing regional inequalities in the age of nearshoring

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❖ [Terceira-S73 Global Value Chains Restructuring, Regional Dynamics and Inequalities, S06, August 28, 2024, 11:00 AM - 1:00 PM](#)

Global Value Chains (GVCs), since their inception, have constituted a significant factor in the growth and development of territories. The increase in the volume of trade between countries has led to unprecedented opportunities for growth, even in areas that have traditionally been on the margins of the global economy becoming the target of offshoring activities of world leading firms. However, after years of expansion and growth, crises over the past two decades, such as financial crises, debt crises, the COVID-19 pandemic, and conflicts, have contributed to a reassessment of the benefits derived from international trade. This highlights the existence of a dark side of trade, related to both an increase in inequalities and growing geopolitical instabilities.

In this context, the strategies for reconfiguring GVCs (e.g., the European Union's Open Strategic Autonomy) aim to make production chains more secure and efficient. Nearshoring, understood as the relocation of inputs for production in a geographically closer area, is one such practice. The economic reasons behind this choice can be diverse, but what is often underestimated is that behind these various reasons there are different territories where these production chains are re-established.

This paper follows three main steps. First, it maps the areas where nearshoring lands in European regions, categorising them into areas with high automation intensity, low labour costs, and areas where quality is higher — all factors contributing to increased production efficiency. Second, through econometric analysis, the paper discusses how the host regions of nearshoring exhibit heterogeneous economic growth rates depending on the underlying reasons for the phenomenon. Finally, through a simulation on the Theil Indexes (both between regions and within countries), the paper explores how regional inequalities vary with changes in nearshoring practices.

Preliminary results suggest to rethink global trade carefully, highlighting that the impact for regions may be fuzzy.

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### Informality, solidarity and support: exploring the tradition of Okinawan Moai (模合) in post-pandemic Japan

Prof. Abel Polese<sup>1</sup>

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❖ [Terceira-S62 Urban and Territorial Resilience: From Measuring to Building Planning Solutions, S07, August 30, 2024, 11:00 AM - 1:00 PM](#)

Footing on Gudeman (2002) distinction between market and society, a number of studies have tended to emphasise the market or societal angle of informality. In many respects, the boundary between these two aspects is only theoretical, given that most transactions use money to build social bonding or, vice versa. In practice, every informal transaction is embedded both in social and economic motives that differ depending on the context and the geographical settings.

The present contribution is intended to explore, and theorise upon, the institution of moai (模合, small group of friends meeting regularly and creating a common pool of money that can be used by any of them in need), an old Okinawan tradition of social support that is also embedded in a culture of indebtedness and sharing.

Interestingly enough, moai has been the object of a two-standard approach. Whilst in mainland Japan, rules have been introduced to formally strangle the practice the Okinawan prefecture, in the south, has introduced a law to preserve and regulate it. This can be ascribed to the fact that the benefits of a moai are not expected to be necessarily economic but social. By joining a moai, Okinawans gain social support and create emotional dependency upon other people from the same area. Moai has been regarded in the frame of the blue zone projects, investigating social practices and life habits enhancing longevity of a particular population. By force of this, although it is embedded in a formal commitment to honour your financial obligations, its ultimate function is not necessarily economic and a study of moai could help progressing research on alternative and the community economies projects as envisaged by Gibson-Graham.

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## Post-pandemic-communities: the informal economy as a reservoir for the next generation of digitalized and green businesses in the Global South

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❖ Terceira-G06-O4 Regional and Urban Policy and Governance, S12, August 30, 2024, 9:00 AM - 10:30 AM

In addition to the almost 2bln workers already active in the informal sector, World Bank and ILO estimate that the pandemic might have put at risk of precarious employment 500mln-1.5bln more. These losses, and related consequences, are not evenly distributed given that Africa, Asia and Latin America is where 93% of the world's informal employment is located and where post-pandemic crisis is likely to hit harder (especially women, migrants and young people). Yet, the concern is global. Indeed, besides vulnerability and precariousness at individual and community levels, informality also eventually reduces state capacity and the ability of institutions to design and implement policies that properly address social, economic and environmental issues (i.e. SDGs) in a long term perspective. Accordingly, informality-related challenges have been devoted a great deal of attention and political statements. But seldom have these statements been followed by concrete instructions, guidelines or evidence-based policies to tackle informality across the world.

Starting from this gap, our presentation uses case studies from Africa, Asia and Latin America to explore the extent to which the informal sector can be redirected into formal business and therefore invite informal business actors out of the shadow. The paper will offer an overview of the preliminary results of the MSCA-DN project: PRESILIENT (<https://www.presilient-dn.eu/>) with evidence from 15 countries on the state of the informal economy in Africa, Asia and Latin America as well as an interpretative framework to tackle informality at a global level.

This will be used as a starting point for a discussion on the function of informality in governance and to argue that informality is not always obnoxious or harmful but can be used to foster cooperation between local realities and national and international actors.

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## Garrisoned Landscapes: Mapping Social Attitudes and Regional Development Challenges Associated with Foreign Military Presence in Poland

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❖ [Terceira-G48 Mapping conflicts and exclusion, S14, August 28, 2024, 4:45 PM - 6:30 PM](#)

This research embarks on a comprehensive exploration of the intricate relationship between social attitudes and the challenges posed to regional development arising from the presence of foreign military forces in Poland. Set against the backdrop of evolving geopolitical tensions, the study delves into the multifaceted factors shaping the specific nature of Foreign Military Bases (FMBs) and their substantial impact on both negative (NIMBY) and positive (YIMBY) social attitudes within local communities.

Utilizing a methodological synthesis of both quantitative and qualitative approaches, the research meticulously identifies specific regions and sectors within the domain of regional development that experience pronounced influences from the presence of foreign military forces. These influences are systematically categorized into three distinct domains: social, economic, and environmental. The study goes further to unravel hitherto unexplored factors that play a pivotal role in shaping the localized impact of foreign military bases, shedding light on novel dynamics in economic development and societal transformations at both local and supra-local scales.

The findings of this research not only contribute valuable insights into local community attitudes towards armed forces participating in international military alliances but also underscore emerging challenges in collaborative efforts between local and national entities. The study aims to bridge existing gaps in the fields of regional sciences and civil-military relations, offering a nuanced understanding of the multifaceted implications of foreign military presence on social attitudes and the complex landscape of regional development challenges in Poland.

Given the global scale of the phenomenon of Foreign Military Bases (FMBs), the research strives to offer a comprehensive mapping of its implications, taking into account the interconnectedness of local, national, and international dynamics. By elucidating the intricate interplay between social perceptions and regional development challenges, this research endeavors to contribute to a more nuanced understanding of the impact of foreign military presence on socio-economic and environmental issues.



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### Local land policy interventions and the elasticity of housing supply: Empirical evidence

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❖ Terceira-G06-O5 Regional and Urban Policy and Governance, S12, August 30, 2024, 11:00 AM - 1:00 PM

The responsiveness of housing supply, measured as the price elasticity of housing supply, has important influences on housing price and quantity developments across locations. Despite its importance, there is still a lack of understanding on the variation in the supply elasticity across regions and on which factors contribute to this variation particularly in countries where public authorities are actively involved in both spatial planning and the land development process. We address this gap by using a two-step analysis in the context of Finland. Using time series data from 1988 to 2020, we first estimate the long-run housing supply elasticities for 22 Finnish cities. We then use a unique dataset on city-level differences in land policy interventions, such as land use regulations, to demonstrate how the variation in local supply elasticity relates to different land policy and non-policy factors. Our findings show that the price elasticity varies substantially across cities. Moreover, cities with more restrictive land policy, especially in terms of interventions that increase the indirect costs of housing development, exhibit a lower elasticity. These findings imply that local public authorities can support a more responsive housing supply particularly by mitigating bottlenecks in the development process.

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## Geographically targeted subsidies and local tourism development: A policy evaluation of the Italian inner areas strategy

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❖ [Online-S72 Consequences of Place-Based Policies: Perspectives and Challenges, August 26, 2024, 11:00 AM - 1:00 PM](#)

The National Strategy for the Inner Areas is an Italian place-based program aimed at revitalizing the economic and social vibrancy of lagging municipalities facing remoteness, leveraging on tourism as a key instrument for local development. This paper evaluates the effects of such program on tourism outcomes over the period 2014-2022. Difference-in-differences method is used to estimate the average treatment effect at the municipal level. Overall nights spent have been positively affected by 6% since the subsidies' disbursement begun. Results are largely driven by geographical heterogeneity, with prevailing effects on foreign tourism in northern regions, and predominant effects on domestic tourism in southern regions and islands. The program has also played a part in keeping afloat tourism during the Covid-19 pandemic.

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## Many names, many gains? How regional diversity in Germany affects innovation

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❖ [Online-YSS1 New methods in Regional Science - EPAINOS, August 27, 2024, 11:00 AM - 1:00 PM](#)

Meeting others with different backgrounds brings up new ideas. In this paper I show that this is relevant not only with respect to heterogeneous industries or nationalities but that regional differences matter too. Regions in a country vary in their traditions and culture. Cultural homogeneity within regions is mixed up by internal migration, that, like international migration, increases diversity of a place. In a novel approach I look at diversity in German municipality associations measured by different family names and investigate the effect it has on the number of generated patents. I use a unique data set from a phone book in 1996 and casualty lists from WWI. I find a significant positive relationship between diversity and generated patents and establish causality by using an instrumental variables estimation with historic postal routes. I show that diversity and openness of a place affect its economic performance positively in terms of innovation when referring to intra-country differences at the local level.

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## Investing against Fear: Changing Cultural Narratives and Polarizing Financial Behaviours

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❖ [Online-S02 Culture Based Development: Cultural Narratives for Polarization versus Peace, August 26, 2024, 2:30 PM - 4:15 PM](#)

Adopting certain retirement investment strategy is a financial behaviour that can be thought of as exhibiting certain insurance preference against the fear of being exposed to uncertainty in elderly age. Culture Based Development is a research paradigm that suggests that people's preferences are shaped by the cultural context (Tubadji 2013, 2023). Meanwhile, the stream of literature on psychological types has shown that a big part of human preferences is based on the psychological type (Borghans et al. 2008; Fritsch and Storey 2017; Fritsch, Obschonka and Wyrwich 2019). Our study aims to identify how the changing cultural context affects the preference for investment in one's retirement plan, controlling for the psychological type and ethnicity of the individual. To achieve methodologically a clear identification we use data from the Health Retirement Study (HRS) by the University of Michigan, for the years 1992 – 2020. Firstly, we compare the propensity to invest in retirement among people from Hindu background born in the USA and the rest of the USA-born population, controlling for the ethnic heterogeneity and employing a detailed Oaxaca-Blinder decomposition analysis. Thus, we learn how the individuals from Hindu identity differ on cultural basis in their preferences as compared to other ethnicities. We control in the detailed decomposition for the individual psychological type. Secondly, we compare the propensity of the Hindu background born in the USA with the Hindu background arriving as immigrants to the USA. Using both psychological type and economic status controls, we can now study how the higher-risk profile of an immigrant and the changing cultural context of the migrant (swapping India with the USA) seem to associate with the preferences of the individual for investment in their retirement. We use Oaxaca-Blinder decomposition to obtain comparable findings with the first part of our analysis. Next, we employ a novel difference in differences and treatment effects procedure to establish clear causal inference for the impact of the changing cultural narrative on the financial behaviour of the individual. The paper offers the main value added of clarifying the link between local culture and individual psychological propensity.

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## Regional Income Distributional Effects of GVC participation

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❖ [Terceira-S73 Global Value Chains Restructuring, Regional Dynamics and Inequalities, S06, August 28, 2024, 11:00 AM - 1:00 PM](#)

While the literature on the distributional effects of GVC participation is quite abundant, the nexus between the regional income distributional effects generated by GVC participation remains instead largely unexplored, despite its paramount importance in Europe, where much of the GVC trade occurs among European countries, all affected by profound and increasing intra-country disparities. With an approach at the cross-yard of international and regional economics, the paper aims to fill such a gap, by presenting a theoretical model able to apportion the effects predicted by the Grossman and Rossi-Hansberg model at the regional level, and by proving the obtained expectations for intra-country regional income inequalities in Europe. Results show that a heterogeneous functional specialization of regions within a country amplifies the effect of GVCs on inequalities.

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## Dissecting Coastal and Inland Tourism in Sardinia: A Study Based on Online Reviews and Geographic Dichotomy Through Natural Language Processing

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❖ [Terceira-G35-O2 Tourism and Overtourism Issues, SF3, August 29, 2024, 2:30 PM - 4:15 PM](#)

Positive results in terms of tourism satisfaction influence the development of a destination and the profitability of private businesses, stimulating tourist expenditure, repeat visits, positive recommendations, and reputation enhancement. Consequently, measuring tourism satisfaction and its determinants becomes crucial for policymakers and managers. Several empirical studies focus on these issues following both qualitative and quantitative approaches.

Among these, recently, increasing interest has emerged in measuring customer satisfaction directly or indirectly from online reviews with various scopes and methods

Our purpose is to understand if there are differences in topics used by customer reviewers in their online review, and how these differences impact customer satisfaction between coastal and inland geographical areas.

We apply a new method recently proposed by Ortu et al.

(2022). This method, called T<sub>Opic</sub> modeling Based Index Assessment through Sentiment (TOBIAS), allows modeling the effects of the topics, moods, and sentiments of the customers' comments describing a phenomenon, such as the perception of the quality of a service, over the level of satisfaction expressed by customers. This method's novelty relies on the combination of natural language processing and causal inference to explain customers' assessment of a phenomenon. TOBIAS is built by combining different techniques and methodologies. Firstly, Sentiment Analysis identifies sentiments, emotions, and moods, and Topic Modeling finds the main relevant topics inside comments. Then, Partial Least Square Path Modeling estimates how they affect an overall rating that summarizes the performance of the analyzed phenomenon.

Our contribution is threefold: first, we contribute to tourism literature on customer satisfaction; second, we contribute at the statistical level proposing a new model for analyzing consumer satisfaction; finally, we contribute at the level of policymakers through the interpretation of results by offering strategies to be adopted for the tourism destination.

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## Analyzing the tourism behavior patterns in Sardinia. A Markov chain approach to investigate the tourist movements inside the Island.

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❖ [Terceira-G35-O3 Tourism and Overtourism Issues, S18, August 30, 2024, 11:00 AM - 1:00 PM](#)

Studying the movement of tourists inside a destination can be useful to comprehend the spatial-temporal behavior of tourists, and to investigate the existence of specific paths followed by the tourists. Moreover, comprehending which elements can impact on the movement can support the government to identify the existence of a specific target and, consequently, create adequate services to support the tourist during the time spend in a destination.

This paper aims to investigate the movement of tourists inside Sardinian Island using the data of tourist information points. The Sardinian tourism office managed by the regional government has introduced a new system to record information related to the tourists that visit the tourist information points.

The recorded information allows knowing destination visited before to come in Tourist information point and the next destination.

We use this information to identify firstly the main paths chosen by the tourists in Sardinia, secondly to estimate the probability that a tourist chooses a specific tourist destination given he/she has been to another destination before; thirdly to comprehend which elements can impact on the choice of the next destination.

Two different methodologies have been used. The first is the complex network approach useful to investigate the path between the destinations and to identify the cities most visited inside the Island.

The second is the Markov chain approach to investigate the probability that a tourist chooses a specific destination after he/she has been at another destination.

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### Developing sustainable business models (SBMs) for carbon farming in Norway—an analysis of national environmental laws and European carbon certification standards

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❖ [Terceira-G14-O2 Institutions, Political and Decisional Processes, S13, August 29, 2024, 2:30 PM - 4:15 PM](#)

Healthy soils are the basis of our food production. However, in recent years soil quality has been declining due to various reasons such as increased use of synthetic fertilizers and overproduction. In Norway only 3% of the country is arable land, which means that a comprehensive soil protection strategy is needed to ensure local food production.

Sequestering more carbon in soils appears to be a highly promising soil management practice (SMP) to address these challenges. Carbon sequestration in soils has been shown to have multiple ‘win-win’ benefits on soil productivity leading to increased crop yields combined with a high potential of GHG emission reduction.

Previous research has shown that policy uncertainty and regulations can lead to lower acceptance of carbon sequestering SMPs among farmers. Furthermore, there is a need for long-term policies with a more holistic focus than just emission reduction. However, governments often follow different environmental targets and design environmental policies in isolation which can lead to contradictions. Hence, it is necessary to pursue a more holistic approach to policy design that considers various environmental targets and conflicting impacts and can support the development of local carbon sequestration schemes.

This study presents the first stage of a larger research project on developing Sustainable Business Models (SBMs) for carbon sequestering SMPs in Norway. It analyses Norwegian environmental policies relevant to carbon sequestration in soils and conducts a desk study of international carbon farming policy documents to investigate their relevance for Norway. As a result, this study identifies key principles for a prospective policy and legislative framework for carbon farming which will serve as part of value creation in the SBM.



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## Developing a local Arctic project fund for enabling sustainable tourism in Greenland

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❖ [Terceira-G35-O3 Tourism and Overtourism Issues, S18, August 30, 2024, 11:00 AM - 1:00 PM](#)

The Arctic Region is a popular place for tourism. Arctic tourism is increasing and a driver for development of these regions. However, at the same time many of these regions are severely influenced by climate and environmental change.

Greenland - one of the countries in the Arctic Region - has been a global symbol of climate change and is at the same time a popular place for adventure tourism. It is a paradox that Arctic tourism often involves the release of substantial Greenhouse Gas (GHG) emissions threatening the natural resources, tourists are coming for.

Greenland has shown continuous growth in tourists over the last 30 years. The Greenlandic government follows an ambitious strategy to increase tourism further and has implemented several measures to foster growth in tourism. Visit Greenland, a key entity for tourism owned by the government, follows an ambitious marketing structure. They are planning to transform Greenland to an attractive meetings, incentives, convention, and exhibition (MICE) -destination. This will open up for a new market segment of tourism. MICE related tourism is considered to be one of the most unsustainable tourism practices. Furthermore, previous research has shown that the sustainability potential of tourism in Greenland has not been properly addressed and contextualized.

This paper is part of a research project that explores the possibility of a local sustainable tourism fund for Greenland applied by the MICE industry. This type of fund could enable participants of international events to contribute to local sustainable development in Greenland and in this way compensate for some of their negative impacts.

The paper is based on semi-structured interviews with Greenlandic tourism stakeholders to investigate the potential and design of such a fund. In addition, based on a set of criteria, we identified three case studies addressing social and environmental sustainability in Southern Greenland that could be financed by the MICE industry. We carried out semi-structured interviews with these three projects to identify their willingness and potential to take part in a local sustainable tourism fund for the MICE industry.

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## Adding web data of local governance authorities to the toolbox of regional studies

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❖ [Terceira-S06-S1 RSPP Special Issue: A New Toolbox for Novel Research in Regional, Urban and Spatial Studies, S01, August 29, 2024, 2:30 PM - 4:15 PM](#)

Due to the increasing availability of web data, as well as the development of new methods for extracting information from this data, the last decade saw a rise of web mining approaches for empirical research in the social sciences. This has provided novel ways of analyzing regional economic activities with varying applications. The aim of our study is the conceptualization of a comprehensive approach for using web content and web structure data of local government institutions. By creating a novel database, we are the first study to propose an approach for the creation of indicators that depict local governance institutions based on web content data. With this, we contribute to progress in empirical research by providing a new way of quantifying and analyzing the role of local governance institutions as facilitators for regional (economic) development. Our approach involves creating an extensive html-database by scraping data from websites of German municipalities and counties. This process resulted in a comprehensive collection of text data, amounting to around 4 million paragraphs from municipal websites and half a million from county websites. The core aim of this research is to delineate regional policy priorities and narratives through this data. We employ ‘GoogleBERT’ for topic modeling and Few-Shot Learning for text classification. The application of GoogleBERT to municipal website data facilitated the identification of approximately 150 topics, distinguishing between general information and specific policy priorities. Additionally, we utilized Few-Shot Learning to classify sustainability-related content on both municipal and county websites. Focusing on the content of the text we find that it is possible to not only identify differing sustainability narratives, but also to identify policy strategies that are implemented to tackle the topic of sustainability. Future applications of this novel data source are expansive and varied, ranging for example from the assessment of the cohesiveness of regional policy narratives to the creation of novel databases for qualitative research. Even though this research is highly explorative, we believe that the combination of web mining and topic modeling with regional policy data from local governance institutions has the potential to be a valuable tool for understanding regional policy priorities and narratives and thereby providing a new way of analyzing the role these actors play in regional development. We hope that the opportunities arising from this unique blend of data and methodology will encourage other researchers to use web mining to explore this area.

## Fallacies in estimating tourism induced impacts based on TSA data

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❖ [Terceira-S48 Tourism in Times of Crises: Current and Future Challenges, SF4, August 28, 2024, 2:30 PM - 4:15 PM](#)

The economic contribution of tourism is of great interest to policy makers. For this reason, tourism satellite accounts (TSA) have been established in many countries. These accounts extract the tourism relevant part of all industries to measure tourism induced direct valued added and employment. Even though indirect effects through linkages to upstream industries are not part of TSA's based on the World Tourism Organization (UNWTO) recommendations, many researchers apply those data to model such effects, using input-output tables.

Such tables, usually published by national statistical offices, are based on the system of national accounts (e.g. ESA, the European system of national accounts) which deviate from the TSA conventions with respect to tourism in several ways. Business travel expenditures by domestic firms, for example, are included in the domestic use matrix (as part of the whole make-use system) while they are part of the total tourism expenditures of the TSA. If those expenditures are used as input to estimate direct and indirect effects via an input-output model, an estimation bias arises.

In this paper, the tourism related differences between the European system of national accounts and the TSA are described and the estimation bias resulting from combining TSA expenditure data and input-output tables is quantified based on Austrian data. Furthermore, suggestions on how to avoid this bias are made. For this purpose, the make-use tables need to be adapted.

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between the agglomeration shadow and borrow size effects of the cultural powers concerning the metropolitan function geography at cross-border regions

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❖ [Online-G40 Local identity, August 27, 2024, 9:00 AM - 10:30 AM](#)

Cross-border regions (CBRs) have gained much attention recently; however, the relationship between the four factors of the national borders, existing common ethnicity and languages across the border, the cultural powers in such contexts, and the metropolitan functions and its process of agglomeration shadow or borrow size effects are still being problematic and underrepresented. This paper tried to deconstruct these relationships and complexities that existed in the CBRs. It measures only the cultural powers from the newer territorial and network perspectives using the TaN model for the cross-border cities in three CBRs in West Europe of the Basque, the Flemish, and the Upper Rhine regions. Each region represents a particular typology concerning a common or non-common language or ethnic background across the borders. The study offers a projection and comparison of the deduced cultural powers of the cross-border cities to the urban population sizes and the existing metropolitan function index developed by BBSR 2011. Through this projection, each city outside or inside the metropolitan regions at the CBRs can have a clear view of their agglomeration shadow or borrow size effects that may take place for the cultural activities. It can be found that both common language and ethnic backgrounds play a significant role in the cultural dynamics of the CBRs. Moreover, the cities outside the geography of the metropolitan region share a borrow size effect for the cultural activities, especially in the ethnic CBRs.

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## Examining the Influence of Digital dimension and Physical Design on Pedestrian's perception of safety.

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❖ [Terceira-G18-O1 Climate Adaptive and Resilient Regions and Cities, S16, August 28, 2024, 4:45 PM - 6:30 PM](#)

Public spaces such as parks, retail centers, bus stops, and street corners are fundamental to urban life, providing crucial venues for social and recreational activities. However, these spaces can sometimes foster feelings of alienation, fear, and perceived danger, affecting residents' sense of safety. This perception is vital as it influences mobility, impacting community life, travel patterns, transportation choices, and broader aspects like the economy, sustainability, and public health.

Literature has recognized physical environmental elements as predictors of perceived safety. The role of virtual elements, particularly in the realm of Information Communication Technologies (ICT), is also crucial. Despite advancements in understanding safety perceptions, few studies have comprehensively addressed both physical and virtual dimensions. This study aims to analyze the reciprocal effects of ICT and environmental design on pedestrian safety perceptions. Notably, it examines the differing perceptions of fear among women and men pedestrians in public spaces. The sense of fear and the actual risk of assault are believed to impact women and men differently across various life stages.

The current research conducted a survey involving 750 participants from three key cities in Israel's metropolitan areas. This survey seeks to understand nuances in pedestrian safety perceptions. By assessing how these perceptions differ between men and women at different points in their life journey and across various urban contexts, the study provides valuable insights. These findings are aimed at aiding urban planners and decision-makers in enhancing safety and inclusivity in urban environments.

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## Remotely sensed spatial inequality: Luminosity evidence from Chinese cities and counties

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❖ [Online-YSS2 Inequality and Regional Investment - EPAINOS, August 27, 2024, 11:00 AM - 1:00 PM](#)

This paper examines regional income and inequality in China from 2001 to 2020 through a remote sensing approach. We employ an extended and refined series of VIIRS (Visible Infrared Imaging Radiometer Suite)-like nighttime light (NTL) data as a proxy for time-series gross domestic product (GDP). This novel dataset with higher resolution and temporal consistency improves the accuracy over the previously used DMSP (Defense Meteorological Satellite Program) dataset in terms of the underestimation of regional inequality. Our study contributes to the existing literature by constructing a new dataset of regional income and inequality for 332 Chinese cities, based on luminosity measurements. Covering 332 cities and 2813 counties, our analysis reveals three key facts in China: (1) The higher-quality nighttime light data is a reliable predictor of regional income, explaining approximately 90% of its variations. (2) Spatial factors significantly influence economic disparities, with a marked negative correlation between spatial dependence and inequality. (3) An inverse spatial distribution is observed between regions with high income and those with high inequality. These insights indicate the potential of spatial connectivity and development decentralisation to promote economic growth and reduce inequality. Furthermore, this study underscores the utility of nighttime light data in remote sensing applications for socioeconomic analysis.

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### The economic impact of European regional policy using a multisectoral dynamic modelling framework.

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❖ [Terceira-S25-S2 Counterfactual Methods for Regional Policy Evaluation, S14, August 30, 2024, 9:00 AM - 10:30 AM](#)

EU cohesion policy is implemented within a multi-annual financial framework where resources are allocated to each region with different purposes. Furthermore, the cohesion policy is by nature temporary, as programmes have a clear start and end date. Therefore, assumptions about agent's expectations play an important role for the sign and magnitude of the policy impact. The use of an intertemporal model that accommodates rational expectations seems well suited to the analysis of such a policy package. In this paper, we therefore develop a spatial intertemporal dynamic general equilibrium model covering 89 NUTS 1 regions of the EU and the UK to analyse the macroeconomic impact of investments financed by the ERDF and the CF over the period 2014-2020. To shed light on the role of agent's expectations, we compare the results obtained under the assumption of forward-looking agents with perfect foresight with an alternative version in which agents form expectations based only on the current and past state of the economy, therefore making economic agents myopic. The influence of expectations on outcomes is a priori unknown. On the one hand, myopic agents react to the policy only when it is actually implemented, while on the other hand, forward-looking agents anticipate future interventions. This would lead to the impact of the policy being front-loaded in the response function of the forward-looking agents compared to that of the myopic agents. The difference between the two settings is therefore likely to depend on the parameters influencing expectations, the size and nature of the policy shock, and the time at which the impact of the policy is analysed. The model includes sector-to-sector input-output linkages both within and across regions. We calibrate the model to data on bilateral final and intermediate goods trade flows for 89 regions and a composite exogenous rest of the world region and simulate model responses to cohesion investments, assessing the short-run and long-run effects.

We show the importance of agents' expectations when assessing the impact of the interventions supported by the funds. A model with perfect foresight tends to predict smaller impacts than a model with myopic agents would imply. The regional distribution of the differences in GDP impact between the two variants of the model suggests that, the largest deviations are recorded for net beneficiary regions, with interesting implications for perceived policy persistence, the nature of interventions, and their long-term effects.

## Energy efficiency under alternative demographic structures

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❖ [Terceira-G19-O2 Energy and Ecological Transitions, S15, August 30, 2024, 11:00 AM - 1:00 PM](#)

Much of the current debate regarding the impact of demographic change focuses on the negative supply-side effects of an aging population (e.g., Attanasio et al. (2007) and Ludwig et al. (2012)). However, a significantly aging society also directly affects consumption patterns. For example, we would expect elderly households to allocate a larger share of their resources to healthcare services and a smaller portion to transportation and education. There are however environmental implications associated with population aging. Current literature highlights that the connections between CO<sub>2</sub> emissions (or energy usage) and an aging population primarily occur through two main channels. The first channel considers that changes in the age structure may lead to alterations in consumption patterns, potentially favoring more energy-intensive consumption profiles (see for instance Bardazzi and Paziienza (2017)). The second channel focuses on the fact that a decline in labour force participation may result in increased labour costs, leading to decreased output and energy utilization (Rasmussen (2003)). Extreme aging can lead to a reduction in the overall population, which may naturally lead to decreased energy consumption (Dalton et al. (2008)).

The purpose of this paper is twofold. Firstly, we assess the aging and cohort effects of aging population in relation to energy use. Secondly, we investigate the effects of energy efficiency policies within alternative demographic structures. The results are derived from a calibrated overlapping generations general equilibrium model for Italy.

Overall, our findings align with previous research on energy efficiency based on the ILA models. The decline in energy consumption is primarily driven by a decrease in intermediate energy use, which is partially compensated by an increase in household energy consumption. Additionally, we observe that the older cohort tends to consume a relatively greater amount of energy in response to energy efficiency improvements.

Furthermore, our counterfactual analysis indicates that energy rebound effects and the proportion of energy use are lower in the case of a more pronounced aging society.

Besides, the proportion of energy used by households increases when the population experiences a more significant aging trend. The older cohort expands its share of energy consumption, while the younger cohort reduces energy usage.



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## The effect of regional factors on energy poverty

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❖ [Terceira-G19-O3 Energy and Ecological Transitions, S10, August 30, 2024, 2:30 PM - 4:15 PM](#)

Within the framework of EU policies and measures to develop a just and fair green energy transition model, this paper offers valuable insights into a paramount concern not so well debated in the literature, i.e. the spatial variation of energy poverty. This empirical analysis investigates the regional variation of energy poverty in a sample of more than 300,000 Spanish households. Our results confirm that energy poverty is a phenomenon that is asymmetrically distributed across Spain, and mainly occurs in un-densely populated regions. In addition, our findings demonstrate that the incidence of energy poverty drivers is highly heterogeneous across regions. The paper ends with some recommendations for policymakers suggesting that countries need to design an energy poverty policy for the households that jointly pursues both a correct identification of vulnerable groups and a match with the type of measure to the characteristics of each region.

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## Regional Economic Resilience in the Face of Crises: A Systematic Literature Review

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❖ [Terceira-S62 Urban and Territorial Resilience: From Measuring to Building Planning Solutions, S07, August 30, 2024, 11:00 AM - 1:00 PM](#)

This paper conducts a systematic literature review to address the current state of regional economic resilience, a topic regaining significance amid recent global crises. Utilizing three search methods across Scopus and Web of Science databases, approximately 550 papers were identified. After deduplication and initial screening, 210 articles were selected for full eligibility review. Five eligibility criteria ensured that the papers' content focused on regional economic resilience and was sufficient in scope. Fifteen data variables were defined and extracted for papers that met the eligibility criteria. Some of the variables included for extraction: the type of the paper (discussion or empirical), regions and periods under research, shock origins, types and attributes of regional economic resilience. The correctness of the values of the extracted data variables was cross-checked with the help of large language models. Preliminary results showed that most papers are empirical and often covered either The Great Recession or COVID-19. Adaptiveness and bounce-back were the most mentioned aspects of regional economic resilience, and the attributes most often used to represent it were employment, GDP, and innovation. Many empirical studies used statistical modeling or created new regional economic resilience indexes. By research count, Europe and Central Asia are the leading geographical regions. Most of the world's research for regional economic resilience is focused on high-income and upper-middle-income countries, while lower-income countries are lagging behind.

## Research on financial exclusion: A bibliometric analysis

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❖ [Terceira-G48 Mapping conflicts and exclusion, S14, August 28, 2024, 4:45 PM - 6:30 PM](#)

Financial exclusion is the phenomenon that affects people who do not have access to basic financial services, such as a bank account, credit card, loan, or insurance. For example, according to the World Bank, 25% of adults in the United States are financially excluded or underbanked. Recently, many bibliometrics have addressed financial inclusion (e.g., Chhatoi et al., 2021; Galvez-Sanchez et al., 2021; Mushtaq et al., 2023; Priyan et al., 2023). However, only one bibliometric analyzes financial exclusion in journals publishing on the Islamic financial economy (Devi, 2023). To fill this gap, our study aims to determine the evolution of research trends on financial exclusion published between 1994 and 2023. From the Web of Science library, we analyze 405 research publications, including 341 articles. The data is then processed and analyzed using the VoSviewer application to determine the bibliometric map of the research development on financial exclusion. Co-occurrences, co-authorships, citations, co-citations, and bibliographic coupling are analyzed. The main keyword groups highlight technology, financial inclusion, microfinance, banking, credit, poverty, and services. Our findings can interest academics in economic, social, and human sciences, public institutions, consumer defense associations, financial organizations, and the social and solidarity economy.

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## Occupation barometer and the EU Talent Pool as tools for examining and eliminating shortages on the labour markets.

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❖ [Terceira-G27-O2 Regional and Urban Labour Markets and Entrepreneurship, S17, August 30, 2024, 11:00 AM - 1:00 PM](#)

The aim of the introduction is to present the problem of structural shortages on the Polish and European labour market, a tool for their assessment and identified problems and limitations in employee detection. Counteracting employee shortages in the labour market requires the implementation of comprehensive actions in the short, medium and long term. Their effective coordination is crucial. Two tools presented: the first and the second pan-European one. Among the ad hoc actions to prevent shortages in the labour market are the identification of treatments that may occur and forecasting the demand for employees in the years to come. In Poland, we provide very effective drugs to conduct short-term forecasts for the benefit - Occupational Barometer. We also take care of attractive presentation of data on the website. Each year, the Occupations Barometer identifies treatment and surplus occupations for the following year.

The productivity barometer is a short-term (one-year) forecast of the demand for employees in selected professions, which is available in Poland. The preparation forecast is at the level of poviats, voivodeships and the country. The study is qualitative in nature - available on a panel of experts. They are created separately for each district in Poland. They are based on the opinions of experts who meet at the turn of the third and fourth quarters and analyze individual results.

The European Union has prepared a Regulation of the European Parliament and of the Council establishing an EU talent pool. The aim of the draft regulation establishing the EU Talent Pool is to contribute to filling structural shortages of workers on the EU labour market. An IT platform will be created to facilitate the recruitment of people from third countries to work in Member States. The creation of an IT platform is intended to facilitate the recruitment of people from third countries to work in Member States that will participate in the EU Talent Pool, in professions where there is a shortage of workers. Labour market shortages both in Poland and in all European Union countries are a permanent element of the economic reality for the coming years.

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### Preferences and information: The role of distance in the propensity to pay for wine quality

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❖ [Terceira-S29 Savoring Sustainability: The Intersection of Wine Tourism, Heritage, and Eco-Friendly Growth in Wine Regions, S07, August 29, 2024, 9:00 AM - 10:30 AM](#)

The quantity and quality of information about the product both to make the purchase decision and to assess its quality are of great relevance and will determine the propensity to pay at least for the quality or for other attributes. In fact, the elements of quality and reputation are information, and this is lost with distance, understood here as a broad concept and not restricted to spatial or physical distance. It is evident that the loss of information with physical distance can be moderated if there are other elements of connection between the places of origin of the wine, where the maximum information is usually found, and the sale market: cultural relation or connection or same tradition in wine consumption, in general or a certain type of wine.

This paper aims to establish a relationship between the estimated propensities to pay for a broad set of Spanish wine attributes in 26 international markets and various distance measures. For this, previous estimates of hedonic price functions are used from the authors.

From these values, internal meta-analyses are carried out for each of the attributes where these elasticities are regressed against different distance indicators and characteristics of the markets - in addition to the traditional variables of the internal meta-analyses following the methodology proposed by De la Peña et al. (2016)-.

Regarding distance indicators, five different ones are used: physical, transportation cost, genetic, cultural and related to the tradition of wine consumption.

The results found show that the quality elements of greater amplitude - amplified - are those that seem to increase their influence in determining the propensity to pay for wine. Thus, the magnitude of this influence ranges from the quality of the vintage, brand, winery and denomination. This seems to allude to the need to concentrate quality elements in the most distant markets and concentrate sales on a small number of products. This strategy can be relaxed with greater closeness. Among the five distances considered, the one that works best is the one related to wine tastes and clearly the ones that seem to show the most erratic behavior are those related to physics and genetics. On the other hand, varied results are obtained in terms of the remaining objective attributes.

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## How Can the Basic Income Truly Act as a Trigger for Self-Organisation of a New System of Food Community Resilience?

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❖ [Online-G14 Institutions, Political and Decisional Processes, August 26, 2024, 9:00 AM - 10:30 AM](#)

With the growing concerns on socio-economic inequalities-poverty deepening in capitalism, we are now facing challenging times: an economic crisis and food crisis. To tackle such inequalities, major ‘adaptations’ (‘self-organising changes’) are necessary. The fundamental challenge in those ‘adaptations’ must be institutional: existing institutions are improper, and a greater period of experimentation such as ‘basic income’ is necessary. This is why we must look at the basics of institutional economics, particularly in radical traditions such as Karl Polanyi in the context of basic income, outside of the ruling neoliberal consensus. Although the Polanyian literature seems not to be a stranger in the ‘basic income’ context; however, it has weakly connected to the issue, how a basic income can truly act as a ‘trigger’ for the self-organisation of a new resilient systems of food community resilience. This question in turn leads to sub-questions: (1) how capitalist system of food gets to organisation-structuration in real-world (objectivity); (2) what its origin-of-disorder is; (3) in the crisis, how the basic income acts as a trigger for the self-organising; (4) whether or not it truly acts as a ‘trigger’ for the self-organisation of a new systems of food community resilience in philosophical value-history; (5) if untruly, what the normative solution is, addressing in political literature the duality of reformism-versus-radicalism. This paper, which defines self-organisation as an ‘institutional process of recovery’ through reorganising and reconstituting order out of disorder (i.e. order as structure), seeks to answer such foundational question, together with the institutional matrix of self-organisation full of institutional variants structured by market versus non-market; on the other, pro-capital versus anti-capital, through the application of a deeper understanding of Polanyi to an empirical case study (with quantitative-data analysis) on the food system in Korea. By doing so, this paper argues: beyond superficial issues such as private-versus-public, market-versus-state, Keynesianism-versus-neoliberalism, institutional economics in Polanyian literature addresses the deeper and ‘real-world’ issue of structuration in capitalistic systems of food in Korea which act as the roots, substances of long-term crisis in food system. In the crisis, the basic income in turn can act as a trigger for self-organisation in a short-term, but only valid when it is truly connected to the Polanyian long-term ‘radical’ vision with an essential telos such as ‘Universal Basic Income (UBI),’ which in turn helps us to look for a transition towards a new system of food justice and resilience, beyond such a capitalistic system.

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## Industrial structure, employment structure and coordinated regional development: research from Qinghai Province, China

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❖ [Online-S13 Regional Development and Sustainable Peace, August 26, 2024, 9:00 AM - 10:30 AM](#)

Coordinated regional development requires coordination between the corresponding industrial structure and employment structure. In the relationship between industrial structure and employment structure, the changes and development of industrial structure will have an impact on the change and development of employment structure. In turn, the changes and development of employment structure will also have an impact on industrial structure. Therefore, studying the coordination problem of industrial structure and employment structure is an important driving force to solve regional development problems, promote coordinated regional development, and achieve sustainable development. This study selects the data on the industrial structure and employment structure of Qinghai Province in China from 1990 to 2022 as the key research object, and systematically and in-depth analyzes the coordination of the industrial structure and employment structure in Qinghai Province. Based on Aitchison geometry and log ratio transformation of component data theory, the existing coordination coefficient index that measures the coordination relationship between industrial structure and employment structure is improved. In addition, the rationality of the coordination coefficient is further verified through the improved coordination coefficient index. In order to further measure the degree of coordination between the industrial structure and the employment structure in Qinghai Province, the Moore structure value was used as the basic data and the gray correlation analysis method was used to calculate the lag time of the employment structure. Research shows that: (1) Compared with the existing coordination coefficient, the improved coordination coefficient has advantages in theory and practical application; the improved coordination coefficient can measure whether the evolution directions of industrial structure and employment structure are in the same direction, and at the same time, it can reasonably Explain the changes in the coordination relationship between industrial structure and employment structure. (2) The evolution trend of Qinghai Province's industrial structure and employment structure is basically in line with the development laws of modern economy, but there is still a certain gap between the development of the ideal industrial structure and employment structure.

## Community membership and network embeddedness in innovation clusters- Network analysis of BioQuébec Pharmaceutical cluster

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❖ [Terceira-G03-O6 Innovation and Regional Development, S10, August 30, 2024, 11:00 AM - 1:00 PM](#)

The formation of innovation cluster embodies a region's innovation capabilities and industrial competitiveness. Connecting the diverse key stakeholders in the regional innovation ecosystem through intermediary agencies, communities serve as the middle ground of the innovation clusters by orchestrating places, spaces, projects and events. However, limited empirical research is conducted on how innovation intermediaries in the middleground facilitate the community building and network configurations. Specifically, it is not clear how affiliation to local communities contribute the network-based competitive advantages among the cluster members.

In this study, we analyze how affiliation to local communities contribute to the network embeddedness of stakeholders in innovation clusters. First, we introduce the driving forces of network formation in innovation cluster, as well as how the intermediaries create the community middleground that facilitate this process. Then, we discuss the network-based competitive advantages that embedded stakeholders can achieve, including relational embeddedness from direct contact and structural embeddedness from the stakeholder's position in the whole network. We propose that, in terms of relational embeddedness, cluster community members tend to frequently participate in more network events and build up more linkages with diverse stakeholders. Also, in terms of structural embeddedness, they tend to have higher degree of brokerage power, be more efficient in deploying social capital and become more likely to anchor the network core. Furthermore, there is moderation effect of community membership for foreign stakeholder in enhancing there relational and structural embeddedness the local innovation cluster.

To support our arguments, we conduct social network analysis on the 2-mode event-stakeholder network of BioQuébec, one of the largest biopharmaceutical innovation cluster communities in Canada. Based on the co-participation tendency among registered community members and non-members in the social events and projects organized by BioQuébec, we distinguish the clear advantages among community members building direct linkages, acquiring brokerage power, and effectively deploying social capital. Moreover, we also find the foreign cluster community members have higher relational and structural embeddedness than local members. Nonetheless, we do not find significant evidence in network core affiliation, as some members face the challenges of "lock-in". Without the brokerage of intermediaries, members can still remain isolate or build peripheral components without connection to the network core. Hence, local policymakers need to act as the boundary spanners that fill the structural holes in the network, thereafter, balance the relationship between local competition and cooperation.



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## Social Norms Shaping Environmental Engagement

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❖ [Terceira-S75-S1 Collective Action and Territorial Transitions, SF2, August 28, 2024, 11:00 AM - 1:00 PM](#)

Social norms can play a role in mitigating environmental externalities by promoting virtuous behaviour (Kollmuss & Agyeman, 2002; Perry et al., 2021). Empirical evidence demonstrates that different cultures vary in their level of environmental concern and behaviour (Eisler, Eisler, & Yoshida, 2003; Zheng & Yoshino, 2003; Oreg & Katz-Gerro, 2006; Gifford & Nilson, 2014; van der Linden, 2015). *Ceteris paribus* the economic situation, in societies with high social norms, a complementarity between government intervention and individuals' engagement is expected. Environmental consciousness (i.e., concern) and actions (i.e., behaviour) are likely to be closely intertwined in these societies and concern for the environment and consistent behaviour may be indistinguishable (Czajkowski et al., 2020). Individuals in such societies are aware of environmental risks and adapt their consumption and daily choices accordingly. Conversely, in societies with low social norms, an expectation exists for a substitution between government intervention and individuals' engagement. In these societies, individuals may anticipate public intervention in favour of the environment. Therefore, environmental consciousness and actions are likely not to be closely intertwined, hence, a gap between individual concern and behaviour is likely to be observed in societies with weak or poorly established social norms.

On the bases of this premises, this study aims to analyse the environmental concern and behaviour within a sample of developed EU countries different in their social norms using data from the PEW Research Center's "Spring 2021 Global Attitudes Survey." The survey examines individual responses from for nine European countries, focusing on environmental concern and willingness to change behavior. Social norms are proxied by social capital indicators, and government interventions are measured by environmental policies adopted since the '50s (OECD).

The statistical method employed is the Combination of a Uniform and a Shifted Binomial distribution model (CUB), allowing for the analysis of ordinal data. The empirical results partially confirm the hypotheses, shedding light on the intricate interplay between social norms, government interventions, and individual behavior.

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Should gains from trade be redistributed at the national or regional level?

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❖ [Terceira-G04-O2 Segregation, Social and Spatial Inequalities, S11, August 29, 2024, 2:30 PM - 4:15 PM](#)

This paper assesses the spatial and distributional impacts of trade liberalisations and explores the capacity of different levels of government to redistribute the gains from trade. While existing research has examined these impacts in isolation, few have considered the role of government levels in addressing the combined effects. Using a computable general equilibrium of the UK regions subdivided into five quintiles of household income, we simulate a positive trade shock and compare the effectiveness of income-neutral redistributions at both the national and regional levels.

Our findings demonstrate that trade liberalisations have expansionary effects in all regions. The gains are distributed unevenly, increasing regional and national Gini coefficients and worsening interregional inequalities. These findings are consistent with existing literature on spatial and distributional impacts of trade liberalisation in developed countries.

Redistributing the gains from trade at national and regional levels to achieve the pre-liberalisation income distribution is relatively inexpensive although it erodes a small proportion of the initial gains from trade. The size of the erosion is quantitatively similar for both national and regional redistributions. National redistributions regain the national pre-liberalisation Gini coefficient. The regional Gini coefficients remain above the pre-liberalisation levels in some regions. Regional redistributions ensure that pre-liberalisation Gini coefficients are regained whilst nearly reducing the national Gini coefficient to its pre-liberalisation value.

This research demonstrates that national policies may not be suited to achieve regional objectives. Regional policies should supplement national ones to ensure that both national and regional distribution objectives are met following trade liberalisations.

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## The Role of Participatory Budgeting in the Development of Outermost Regions: the Case of Azores Archipelago

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❖ Terceira-G03-04 Innovation and Regional Development, S11, August 29, 2024, 9:00 AM - 10:30 AM

Participatory budgeting is a new form of public funding that aims to involve citizens in the political decision-making process. In this decentralized process, the population proposes and votes for the most useful projects in a given location with the aim of obtaining public resources to implement them for the benefit of their own community.

Taking the case of the Azores, one of the Portugal's outermost regions, the objective is to evaluate how the participatory budgeting has been implemented in that region between 2018 and 2022. The Azores archipelago is an autonomous region of Portugal located in the North Atlantic Ocean. The archipelago comprises nine islands and several islets belonging to three groups: i) the Western Group (with two islands: Flores and Corvo); ii) the Central Group (with five islands: Faial, Pico, São Jorge, Graciosa and Terceira); and iii) the Eastern Group (with two islands: São Miguel and Santa Maria, and the Formigas islets).

São Miguel (with six municipalities) is the largest island in the Azores archipelago, accounting for 56% of the archipelago's population and 58.2% of its GDP. It is followed by Terceira, with 2 municipalities and a population of 23% and a GDP of 21.5% of Azores. The other seven islands account for the rest.

To examine the distribution of the participatory budgeting in the Azores a statistical analysis of the projects approved between 2018 and 2022 is carried out in order to identify the areas and contents of the projects, their regional distribution, and their financial relevance. Further, the contribution of participatory budgeting to the cohesion of the region as a whole is evaluated not only from the point of view of each island (inter island comparison) but also at the level of municipalities (intra island comparison).

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## The role of virtualization and the digital twin in smart city

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❖ [Online-G21 Urban Challenges and technological transformations, August 26, 2024, 9:00 AM - 10:30 AM](#)

Cities have been playing an increasingly important economic, administrative, cultural and social role, and the growing interest in the smart city concept is primarily related to the rapid growth rate of urbanization. More than half of the Earth's population resides in cities, while interest in settling in an urban unit is growing steadily. Growing urban populations result in increasing challenges connected with safety, healthcare, education, housing, transport, environmental protection and public services. Dynamically developing cities are characterized by chaotic, disorderly, sprawling buildings, traffic paralysis, and environmental degradation, which results in lower living standards for residents and a decrease in the city's prestige in terms of economics and tourism.

Due to intensifying development processes, modern cities are forced to seek new tools to manage their structure. Considering the rapid transformation of the urban structure, it becomes important to implement appropriate techniques and solutions in the urban planning process. For this reason, the smart city concept, which introduces thoughtful, modern ways of urban management, is necessary in the development of urban areas.

Innovative solutions such as Virtual Reality, Augmented Reality, and Digital Twins can come to the assistance. These technologies, combining the real and virtual worlds, influence the improved management and planning of urban structures, which significantly affects the safety and quality of life of residents. In addition, these solutions create the possibility to analyse projects already at the design stage, which allows errors to be eliminated and corrections made without costly interventions on the real object. For this reason, the technologies in discussion are crucial for cities of the future.

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### Temperature variability, risks and implications for electricity consumption and economic development: evidence from Mexican states

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❖ [Terceira-S84 Navigating Climate Transitions: Main Challenges to Communities Towards Sustainability, S08, August 28, 2024, 11:00 AM - 1:00 PM](#)

Temperatures, electricity consumption and economic development are increasingly linked today. Temperatures and electricity consumption are associated since the demand for electricity increases in extreme climates (winter and summer), accentuating cyclical fluctuations, and it has substantial implications for regional development. The X-13 ARIMA technique is modeled to obtain the cycle and trend components and analyze the properties of co-movement, volatility, and persistence in the Mexican states during 2003.1-2019.4. Findings show that electricity consumption and temperature are procyclical, an anticipated result, but the co-movement is not clear with economic development: it is procyclical in regions with extreme temperatures and countercyclical in temperate regions. In addition, minimum temperatures are more volatile than maximum temperatures, so the cold climates are a factor of higher risk and uncertainty for the electricity demand than hot climates.

## Downscaling 2024 SSP scenario's to NUTS2 regions of Europe using global SCGE model EU-EMS

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❖ [Terceira-S21-S2 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S03, August 28, 2024, 2:30 PM - 4:15 PM](#)

European policy makers are increasingly interested in higher spatial representations of future long-term scenarios that are relevant for both climate mitigation and climate adaptation. The most important global long-term scenarios are the five SSP scenarios of IPCC that come with the new update in 2024. At the present moment, EU-wide quantitative sub-national level SSP scenarios are missing in the literature. In this paper, we make use of the global Spatial Computable General Equilibrium model EU-EMS that includes explicit representation of all 242 NUTS2 regions of Europe in order to regionalize the new SSP scenarios. We start by combining global SSP demographic scenarios (in particular for EU countries) with the regional demographic trends Eurostat. We continue by combining macro-economic productivity developments from SSP scenarios with econometric analysis using latest EU-KLEMS data in order to be able to project the developments of sector-specific productivity in different SSP scenarios. Finally we combine demography, productivity and assumptions about future developments of globalization and trade under the structure of EU-EMS model. We further analyze the impacts of different SSP scenarios on regional economic growth and disparities in Europe on the basis of maps as well as using the calculated Theil index.

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## EU Cohesion Policy and Regional Economic Development: A Regression Discontinuity Analysis

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❖ [Terceira-S21-S6 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, SF2, August 30, 2024, 11:00 AM - 1:00 PM](#)

The EU Cohesion Policy (CP) is a key initiative of the Union's strategy to promote harmonious development across its member states.

Scholars have widely analyzed the cohesion policy and its impact on regional economic performance, employing various methodological frameworks. However, most recently, economic literature has focused on properly assessing the causal impact of funds allocated through CP on regional development, mainly employing the Regression Discontinuity Design (RDD). RDD is particularly suitable for evaluating the policy since its structure allows for a quasi-experimental design approach. Most funds are allocated to less developed regions, defined as “Objective 1” regions, with per capita GDP below 75% of the EU average.

Some recent contributions, including the analyses by Percocco (2017) and Bachtrögler et al. (2020), have highlighted the important role of regional contextual factors in the efficacy of the policy. Despite these important findings, there remains a gap in the literature: previous analyses on the topic have largely neglected the role of other sources of regional capital accumulation. This oversight is particularly noteworthy considering that the total CP funds account for a minimal part of total regional investments.

Across more recent contributions, Cerqua and Pellegrini (2018) have analyzed policy's impacts for the period 1994-2006, extending the RDD methodology to properly take into account the intensity of the treatment, which in this context refers to the amount of financing received. This methodological extension is particularly useful for the evaluation of the policy since the allocation of financing is highly heterogeneous even among Objective 1 regions.

In our research, we aim to assess the CP's economic impact using the innovative methodological framework developed by Cerqua and Pellegrini (2018) while accounting for other sources of regional investment. Employing data provided by DG Regional and Urban Policy of the European Commission (EC 2017), in which CP's payments are annualized and regionalized, we conduct a comprehensive analysis that includes the programming periods 2007-2013 and 2014-2020. Moreover, the dataset distinguishes payments for each fund within the policy, enabling us to delve deeper into CP implementation nuances. By exploring these varied effects, our study seeks to understand how each fund's diverse aims contribute to the Cohesion Policy's overall effectiveness.

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## Enhancing Real Estate Advertisements: Exploring the Impact of AI-Ordered Images on Commercial Attractiveness

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❖ [Terceira-G46 Circular Economy and Technological Change, S14, August 28, 2024, 11:00 AM - 1:00 PM](#)

This study investigates the impact of incorporating Artificial Intelligence (AI) in real estate advertising by examining the influence of an AI system on the arrangement of advertisement images. The research collaborates with real estate brokerage institutions, comparing ads with images organized by human brokerage professionals to the same ads ordered by an AI predicting commercial attractiveness. The study evaluates metrics such as click-through rates, and phone inquiries, revealing that AI-ordered images have the potential to significantly enhance the effectiveness of real estate advertisements. The findings provide valuable insights into the practical applications of AI for optimizing visual content and improving user engagement in the real estate industry.



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## Towards A Double Bell Theory of Regional Income Inequalities

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❖ [Terceira-S21-S5 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S03, August 29, 2024, 2:30 PM - 4:15 PM](#)

Despite the large attention given to regional inequalities, a theoretical approach simultaneously linking the inter and intra- regional development processes over time is still missing. A vast set of empirical analyses on inter-regional income inequalities indeed exists. In most cases it witnesses the existence of the famous Williamson's inverted U-shaped relation between GDP per capita and inter-regional income inequalities. A much more limited literature has studied the same relationship at the intra-regional level. Our claim in this paper is that a double bell theory must be formulated in which the two processes are interlinked, and the influence that one exerts over the other highlighted to better understand the concurrent evolution of inter and intra-regional income inequalities. Empirical evidence is provided for such an approach for what concerns European regions.

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## Do European and global cooperation lead to superior economic performance? An assessment through the MASST5 model

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- ❖ [Terceira-S09 'What's the Impact?': the State of Social and Economic Impact Modeling, and its Role in a Transitioning World, S02, August 30, 2024, 9:00 AM - 10:30 AM](#)

Recent geopolitical tensions have drawn the attention of both academics and policymakers on the role of a cooperative attitude both within Europe as well as at the global level in driving economic performance. However, the complex and entangled nature of these tensions have prevented from a full-fledged forecasting exercise showing likely outcomes of alternative behaviors. In this paper, we provide a quantitative measurement of the medium/long run effects of four alternative scenarios, combining two alternative future developments of within-Europe and global attitudes towards cooperation, viz. European cooperation, Eu competition, global cooperation, and global fragmentation. Qualitative assumptions are quantified and included into the MACroeconometric, Social, Sectoral, Territorial model 5 (MASST5), a regional macro-econometric forecasting model, with which simulations of GDP growth at regional (NUTS2) level are obtained.

Our results suggest that a scenario comprising a more cooperative attitude both within the EU as well as at the global level would be associated with superior economic performance. Results also suggest that in all four scenarios, regional GDP growth would be faster than in a baseline scenario, assuming no solution to the present geopolitical tensions; in fact, all four scenarios would imply a solution to the geopolitical conditions, irrespective of the way in which this would occur. Lastly, results also suggest that faster GDP growth in the two scenarios characterized by EU cooperation would also be associated with a slowdown in convergence, due to the overall faster economic growth, causing faster growth in richer portions of the EU with respect to lagging regions.

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## Aging, entrepreneurship and the decline of economic dynamism in Germany – a regional-economic perspective

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❖ [Terceira-G13-O2 Entrepreneurship and Regional Development, S16, August 29, 2024, 9:00 AM - 10:30 AM](#)

The aim of this paper is to examine how population aging is affecting entrepreneurship and labor productivity growth in Germany. Using Nuts3-level panel data from different sources observed over the period 2000 – 2019, we find that the economic effects of aging in urban regions and in rural regions differ substantially. While rural regions are on average older and age faster than urban regions, urban regions are nevertheless more affected by aging in terms of lower productivity growth. One potential mechanism behind this finding is entrepreneurship. There is ample evidence in the empirical literature that population aging depresses new firm formation, but studies investigating how these effects differ between different types of regions are rare. The current paper intends to fill this gap. We hypothesize that the effects of aging are region-biased, as start-ups in cities are on average more innovative and more knowledge-based than start-ups in rural areas, and knowledge-intensive start-ups depend more heavily on a sufficient supply of young, innovative and highly qualified people within the region. Hypotheses are tested using state-of-the-art econometric techniques. The paper contributes to a better understanding of the differing regional economic effects of population aging and has important implications for regional and national policy making.

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## Does environmental quality influence income growth? The evidence of the Spanish Mediterranean coast

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❖ [Terceira-G02-O4 Demographic change, Population and Migration, S16, August 30, 2024, 11:00 AM - 1:00 PM](#)

This study investigates the role of environmental quality in the Spanish Mediterranean area, on the path of growth of the gross income per capita in a seven-year period, from 2015 to 2021. Starting from a baseline model based on the well-known formulation of beta convergence of Barro and Sala-i-Martin (1992) we state that the environmental quality of one territory influence the income growth of its inhabitants. Our paper analyses environmental quality through two opposed indicators: the presence of Natural Protected Areas (NPAs) and the nitrates concentration of underground waters (NC). This article is the first econometric analysis of income convergence for a European country from an environmental quality perspective, exploiting the political context of Spain to which ecological transition has become a national priority. The results indicate a significant negative sign of the initial level of income per capita confirming the existence of the beta convergence. Secondly, the degree of conservation, measured with two different and opposed indicators (NPA and NC) is significantly accelerating and slowing respectively the income growth in the examined territories. The sign and significance of the impact of socio-economic and demographic related indicators such as unemployment or the mean age of population are also aligned with previous literature. These findings highlight the relevant role of environmental quality in the development of economic and social conditions in small geographical areas.

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## Peace and Sustainable Development\*

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❖ [Online-S13 Regional Development and Sustainable Peace, August 26, 2024, 9:00 AM - 10:30 AM](#)

Peace is a key constituent of sustainable development. A well business setting is significant for expansion, besides in conflict-ridden societies; commercial processes are disturbed due to the untrustworthy social amenities and the occurrence of social glitches for example privation, starvation and disparity. In order to seepage straight, physical and/or national ferocity, trades may be involuntary to end and change to benign sites, smooth as the persons residual in these conflict-ridden parts knowledge privation, starvation besides reduced chances. The old-style idea of peace—the nonappearance of battle—is not sufficient to transport around sustainable development. Doubt an administration trimmings equipped conflicts by delivering a truce deprived of speaking its fundamental issues, battle may recommence additional troublesome commercial processes and worsening deficiency, starvation and disparity. Johan Galtung contended that here are two types of concord: negative peace and positive peace. He distinct negative peace by way of “the nonappearance of ferocity, nonappearance of conflict,” and recognized three main groups of ferocity: straight, physical and social. Physical violence mentions to the unfair schemes that relegate sure clusters. Cultural violence relates to communal averages that defend straight and physical ferocity. Direct ferocity, such as war besides corruption, is a consequence of structural and national violence. Galtung labelled optimistic concord as the “adding of humanoid civilization.” Positive peace includes stopping or finish straight ferocity as well as physical and national ferocity. Unfair social constructions besides communal standards are modified to stop the incidence of straight ferocity. Positive peace recognizes that finish battle is not sufficient and that factual concord needs an additional all-inclusive method. The Eight Pillars of Positive Peace reinforces a civilization after inside by making a setting that cultivates groups and chains initiative. A civilization that can provision trades is a civilization talented to deliver rudimentary communal facilities and living chances, subsequent in concord in addition to sustainable development

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## Residential location and the educational outcome of Swedish-born children whose parents obtained refugee status in Sweden

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❖ [Terceira-G41-O1 Migration and Integration in a Global World, S18, August 29, 2024, 9:00 AM - 10:30 AM](#)

Sweden has a long history of receiving refugees. Scholars have found that refugees experience disparities in socioeconomic outcomes relative to the native-born population. However, there is limited knowledge regarding the socioeconomic prospects of native-born children of refugees (the second generation, G2). While the extent of adaptive patterns existing among the G2 in general has been researched, little is known about the G2 children of refugees, despite the additional obstacles faced by their parents. In addition to increased risks of poorer health, one of these obstacles is the fact that refugees typically have fewer opportunities to determine where they live.

Using longitudinal register data of the Swedish population, we apply advanced regression techniques to compare outcomes of persons born between 1990 and 2005. We investigate whether the educational outcomes of the G2 children of refugees in Sweden are influenced by their residential location. We also examine the impact of the area-level education (general educational level of residents in an area), as well as the migrant/refugee student compositions on educational outcomes. Comparisons are made between the G2 children of refugees and the Swedish-born children of Swedish-born parents, as well as with foreign-born children of refugees. Country of origin differentials are also explored.

The study provides insights that can inform the under-researched patterns of adaptation for the G2 children of refugees. It adds to the research on systematic inequality and linkages between inequality and segregation. Our results demonstrate how patterns of inequality vary. We suggest possible consequences and propose suggestions for further research.

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## The impacts of ICT growth and financial development on carbon emissions

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❖ [Terceira-G01-O2 Peace, Regional and Urban Sustainable Development, SF4, August 28, 2024, 4:45 PM - 6:30 PM](#)

This aim of this paper is to explore the impact of ICT growth and financial development on carbon emissions. The sample data covers 77 countries from 2000 to 2018. The measurement method adopts autoregression distributed lag bounding test (ARDL) model for empirical estimation. The empirical results of this paper are summarized as follows: First, no matter in the advanced or developing economies, financial market development can significantly decrease carbon dioxide emissions. Second, the effect of financial institution development on carbon dioxide emissions is positive in the developing economies, but the effect is insignificant in the advanced economies. Third, overall financial development causes negative effect on carbon dioxide emission in the advanced economies, but there is insignificant effect in the developing economies. Finally, no matter in the advanced or developing countries, high penetration rate of mobile phone significantly decreases carbon dioxide emissions, but high penetration rate of internet raises carbon dioxide emissions.

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## The impact of school organization on educational gender inequalities

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❖ [Terceira-S21-S3 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S03, August 28, 2024, 4:45 PM - 6:30 PM](#)

Among the possible determinants of the observed gender gaps in education, a vast literature examines the role played by gender-biased teacher evaluations. Moreover, a recent and growing literature stresses the positive effect of good school management on different educational outcomes. This study investigates whether the observed systematic differences in teacher evaluations between boys and girls in Italy are affected by the quality of the school leadership and by specific managerial practices implemented in schools. The empirical analysis will exploit the change in school principal as exogenous shock and evaluate whether a school leader with better managerial practices reduces gender-related grading bias and, through this, gender educational inequalities.



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## Socio-economic factors of the rural women exodus: insights from a Spanish region

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❖ [Terceira-G02-O4 Demographic change, Population and Migration, S16, August 30, 2024, 11:00 AM - 1:00 PM](#)

Sustainable rural development faces the lack of job opportunities and the lack of facilities that can potentially fix the population to the territory, what can be accentuated for women depopulation.

This study aims to advance in the identification of the main socioeconomic factors of rural women exodus in the rural Aragón (a northern Spanish region). The objective is to better understand the main patterns and causes for why women abandon rural areas and migrate to urban cities. These findings could be a reference in the design of strategies to promote women rural development and also to reduce rural women exodus, in order to strengthen their social position in rural areas through the improvement of their living conditions and the reduction of gender inequalities that still persist. Using a sample of 627 women, we apply a multinomial logit model to assess diverse factors affecting rural women exodus. As a groundbreaking contribution, we evaluate whether women's personal assessment of intangible aspects inherent to the territory such as landscape, gastronomy or liveliness in the area, among others, have an impact on their decision to remain in the area. We also include variables that measure women time use as potential explanatory factors of female rural exodus.

Results highlight the importance of mobility and its problems in rural areas, pointing out that the availability and use of vehicles is a relevant factor for settling in rural areas. In the same way, the incorporation of social capital variables has proven to be successful in explaining the female exodus, underlining the high explanatory power of the degree of penetration of women in participatory and decision-making bodies. The degree of development of public services available in each municipality is also a key factor in the decision to migrate. Economic level also affects decision making process, with women with lower incomes being more likely to remain in the municipality. In terms of territorial factors, municipalities with between 2,000 and 5,000 inhabitants are those with the lowest female exodus, as this allows them to combine work opportunities in a nearby area with an attractive range of services and activities, allows them a future in the territory.

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## Winning from second? The political weight of second-tier cities

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❖ [Terceira-S39-S2 From Neglect to Nuance: Exploring the Diversity of Second-Tier Cities, S06, August 29, 2024, 2:30 PM - 4:15 PM](#)

Governmental investments are far from equally distributed (Jones, 1997; Omstedt, 2016; Meijers, 2022). In recent decades, larger metropolitan regions in particular have benefited from their privileged status as perceived national trump cards in the global economy (Crouch and LeGalès, 2012; Cardoso and Meijers, 2016), at the expense of increasingly neglected cities and regions (Brenner, 2004; Dijkstra, 2013; Parkinson et al., 2015). The consequence of persistent spatial bias in government spending towards larger metropolitan regions is that inhabitants of peripheral regions feel neglected; they take ‘revenge through the ballot box’ (Rodríguez-Pose, 2018). While voting patterns have been used to proxy ‘left-behindness’, this paper exploits a novel database in which the attention given to all Dutch places and regions in Dutch parliament is accounted for in an objective way. By analysing over 10,000 questions posed by Members of Parliament in parliamentary debates between the 2017 and 2021 elections, an exact measure of left-behindness is obtained. Primary interest is in analysing the spatial orientation of Dutch political parties and their Members of Parliament in detail. It allows to precisely answer the question which places and regions are overlooked indeed and which ones get relatively more attention. This will be linked to voting patterns. Particular attention will be paid to second-tier cities, and we compare them to the primary, or ‘first’ Dutch cities. In doing so, we consider not just how large a potential gap in attention is between second- and first-tier cities, but also whether there is a gap in how well represented these cities are. Interestingly, in response to the fear of being neglected, especially second-tier cities have tried in many ways to gain political weight and attention, e.g. through better political representation, by building alliances, forming city-regions, etc. We will examine whether these are successful. Finally, we end with a thorough reflection on proxying ‘left-behindness’ through the frequency of being mentioned in parliamentary debates, and list pros and cons of such an approach, leading to recommendations for further research.

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## Spatially Blind but Regionally Progressive? Effects of a Universal Basic Income on Regional Welfare Inequality in Brazil

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❖ [Terceira-G06-O5 Regional and Urban Policy and Governance, S12, August 30, 2024, 11:00 AM - 1:00 PM](#)

In addition to being persistent, Brazilian regional income inequality is associated with significant regional differences in poverty and well-being. This situation renders spatially blind income transfer policies potentially progressive from a regional perspective, favoring the country's poorest federation units over the richest ones. The dysfunctionality of the Brazilian welfare system is particularly evident, being reflected in the fact that, despite the high level of social spending, Brazil remains one of the most unequal countries in the world where poverty is widespread (World Bank, 2022).

We, thus, employ a microsimulation model to investigate and compare the effects of the current Brazilian tax-benefit system and a policy that combines a Universal Basic Income (UBI) with a flat-rate income tax on Brazilian regional per capita income inequality. In this context, a UBI appears particularly appealing. Our results indicate that, despite its progressive effect on regional per capita disposable income inequality, the current tax-benefit system does not substantively change the high level of regional income inequality among Brazilian federation units. In contrast, the introduction of a UBI combined with a flat-rate income tax that partially replaces current taxes and transfers results in a significant reduction of per capita disposable income inequality among Brazilian federation units. Measured by the Gini and Theil indicators, for example, this inequality decreases by 30% and 49%, respectively. The reason for this significant regional effect is linked to the spatial distribution of poor and economically vulnerable individuals in Brazil: the poorest federation units also have an overrepresentation of individuals in poverty. Remarkably, the reduction of Brazilian regional income inequality with the introduction of the UBI is achieved with significant reductions in per capita disposable income inequality within federation units, implying an effective contribution from the local economic elites. This primary outcome indicates significant progressive regional impacts of introducing a UBI in Brazil and contrasts with the country's experience with traditional territorial policies.

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## Spatial Interaction Model with Land and Water Use to understand the regional economic effects of water management in the Guadiana River

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❖ Terceira-G01-O1 Peace, Regional and Urban Sustainable Development, S09, August 28, 2024, 11:00 AM - 1:00 PM

### Characterization

The Guadiana is a Mediterranean river with severe droughts and floods related to strong seasonal variations of flow: 200–600 m<sup>3</sup>/s in winter, and 0.1–20 m<sup>3</sup>/s in summer. The average water flow is 6700 Hm<sup>3</sup> per year, 4900 Hm<sup>3</sup> coming from Spain and 1800 Hm<sup>3</sup> from Portugal. From the 571mm of precipitation in Portugal 157 mm flows into the river. From the 540 mm of precipitation in Spain 89 mm flows into the river. Nevertheless, the flow from Spain is now only 2680 Hm<sup>3</sup> (55%) and in 2012 it is expected to be 2135 Hm<sup>3</sup> (44%). The river flows along 810 km from its sources in Spain to its mouth in Portugal. The Spanish part has 550 Km, 150Km is part of Portugal and 110 km is part of the border between the two countries.

In the Guadiana basin the irrigated area is increasing since the seventies. Most of the irrigated area from ground water is located in the Upper Guadiana – 160000 ha of 195000 in total, consuming 785 Hm<sup>3</sup> per year. Most of the irrigated area from dams is located in the Middle Guadiana -140000 ha, consuming 1059 Hm<sup>3</sup> per year. There are plans to increase the irrigation capacity of dams in Spain, reaching 200000 ha based on dams and keeping the 195000 ha irrigated by ground water. The plans for Portugal are to increase the irrigated area from 45000 ha to 110000 ha with the water from the Alqueva dam which will also supply more 30000 ha in the Spanish part of Lower Guadiana. Agriculture represents 90% of the water consumption.

The Guadiana basin has 1680000 inhabitants in Spain: 580000 in the Upper Basin, 670000 in the medium basin and 430000 in the Lower Basin. The main cities are such as Ciudad Real, Mérida and Badajoz are located close to the river. Agriculture is the driving force of the regional economy. In Portugal the Guadiana Basin has 220000 inhabitants. The main cities such as Elvas, Évora and Beja are located far away from the river. Agriculture and public administration are the driving forces of the regional economy.

In Spain regulation is made by the public administration of water and hydrological planning, taking care of the management of quantity and quality of water associated to the Hydrological Plan of the Spanish Basin of the Upper and Medium Guadiana River and to the Hydrological Plan of the Spanish Basin of the Lower Guadiana River and Huelva Basin. Regional Governments and Municipalities do land use planning, provide water supply and control sewage. In Portugal the National Institute for Water manages the quantity and quality of Water of the Guadiana, the company EDIA promotes the sustainable development of Alqueva area and municipalities promote land use planning and manage water for non-agricultural use and sewage. There is a bilateral agreement between Spain and Portugal for the shared use of the Guadiana water that states a minimum flow of 2m<sup>3</sup>/s, entering in Portugal in Caia and flowing to Spain in Pomarão, representing 68hm<sup>3</sup> per year.

In the Upper Guadiana Basin there are good wetlands classified as a Biosphere Reserve. Furthermore, the hydraulic connection between surface and groundwater is high. The irrigated surface grew from 200-300 Km<sup>2</sup> to 1,300-1,400 km<sup>2</sup> in the early nineties, with 60000 wells. This new irrigated agriculture has been a driving force for the region economic development. Nevertheless, it has induced dramatic changes in the catchment hydrology and has caused serious impacts on some wetlands. For pumping rate above 2/3 of the maximum historical rate (400 Hm<sup>3</sup>/year) most of the wetlands will disappear. There is a need to grow vines under semi-arid crops instead of water consumption crops. The Common Agricultural Policy will have to adapt to new realities and challenges.

### Problems / Objectives

With the construction of the large irrigation areas in the Spanish higher and medium Guadiana the average flow of the river in Caia decreased from 4900 Hm<sup>3</sup>/y in the seventies to 2700 Hm<sup>3</sup>/y nowadays. The construction of the Alqueva dam, considered the largest artificial lake in Europe, changed dramatically the environment, the land use, the economy and the regulatory conditions in Guadiana River. Flows varying 0,1-600m<sup>3</sup>/s are becoming constant flows of 2-4 m<sup>3</sup>/s. Large areas are flooded. Irrigated agriculture can be the driving force in Portugal as was in Spain. Spanish need for water downstream depends on the Spanish supply upstream.

The reduction of river inflow to the estuary will provoke an increase of salinity with consequences for the irrigation in the lower basin and strong impacts on the environment. As a result of trapping of sediment behind the Alqueva dam, a decrease of the sediment load to coastal areas is predicted, and this in turn will exacerbate coastal erosion.

The main conflicts in the Spanish Part of the Guadiana Basin are between water supply on the one hand and nature, tourism and agriculture, on the other hand. Also, between agriculture and nature. The main conflicts in the Portuguese Part of the Guadiana Basin are between agriculture and nature, and between hydropower and tourism. Both countries seem to have similar tools of integrated water management. Spain presents much better conflict management, water assessment and demand management tools than Portugal.

The Guadiana River is no more a Mediterranean River. There will be effects in the coastal erosion. The negotiations between Portugal and Spain changed to a minimum flow of 2m<sup>3</sup>/s = 63hm<sup>3</sup>/year, much less than 2700 hm<sup>3</sup>/year (the average without Alqueva) or 4600 hm<sup>3</sup>/year (the natural average without Spanish dams) Integrated problems are not solved necessarily by integrate plans. In the Guadiana Basin there are three plans and the only connection between them is the quantity and quality of water. Ecological solutions upstream can improve ecological and economic problems downstream.

All have the solutions have regional and social economic implications that is important to evaluate.

### Research Issue

The purpose of this paper is to develop a methodology that explains the influence of human interaction within space subject to land aptitudes, accessibility networks and water availability. This allows understanding the impact of political, technological and environmental factors on land and water use and based on the adjustment of the bid-rents /prices on land and water availability, to assess the costs and benefits of those political, technological and environmental impacts.

To achieve this the paper presents an expansion of the Spatial Interaction Model with Land Use (Silveira and Dentinho, 2014) to include the use of available water, calibrate it for the regions of the

Guadiana Bassin in Spain and Portugal and evaluate the economic impact of changes in the water flow and use along the river. The paper concludes that the reduction of the water extraction in the Upper Guadiana (Ciudad Real) will increase the use of water in the Lower Guadiana (Huelva) increasing the sustainability of the river but shifting economic value and population from the Upper Guadiana region into the Lower Guadiana region.

**Key words:** Water Management, Sustainable Development, River Basin Water Management.

Silveira, P. and Dentinho, TP (2024) - Spatial Interaction Models with Land Use. A Tool for Interdisciplinary Analysis and Integrated Territorial Policy

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## Economic Growth in the ‘Republican regions’ during the Franco Dictatorship in Spain

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❖ [Terceira-G01-O1 Peace, Regional and Urban Sustainable Development, S09, August 28, 2024, 11:00 AM - 1:00 PM](#)

This paper analyses whether the Franco Dictatorship in Spain was vengeful with the losing regions of the previous Spanish Civil War (1936-1939). Utilising historical data at the provincial level (NUTS III regions) from 1930 to 2000, we aim to examine whether the growth of those regions that aligned themselves with the losing side of the war was significantly different during the dictatorship period (1939-1975) in the aftermath of the Civil War. We use different econometric techniques (panel data models with fixed effects and dynamic panel data models), considering different outcome variables to measure regional growth: (1) real GDP per capita growth, (2) employment growth, and (3) industrial employment growth. Although the distinction between treated and non-treated, by war, regions is not possible, since the Civil War affected the whole country, we consider the regions that aligned themselves with the Nationalist camp from the very beginning of the war (year 1936) as the control group, and the rest as the ‘republican’ regions (the treatment group).

Our model includes controls for post-war policy interventions (the Devastated Regions and Growth Poles programs) and the so-called first and second nature causes of growth using, respectively, variables measuring temperature and a market potential indicator based on the distance-weighted sum of populations. We find that, during this period of overall strong convergence in economic growth, the ‘republican’ regions exhibit significant higher economic growth in GDP per capita and industrial employment, which provides evidence of catching up with the Nationalist regions. These results are robust to heterogeneity in the effect of the war shock, measured as war severity (excess male mortality) and duration (years of conflict). Placebo regressions validate our results.

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## Decoding the Micro-Economic Impact of Carbon Reduction Policy: A Counterfactual Identification via Machine Learning

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❖ [Terceira-S05-S1 Machine Learning in Regional Science: Perspectives, Methods, and Applications, S02, August 28, 2024, 4:45 PM - 6:30 PM](#)

This paper critically examines the effectiveness of contemporary EU environmental and carbon reduction policies, focus of the recent shift towards technology-led initiatives that encourage SMEs to optimize the use or reuse of water, energy, and materials. The complexity of these policies is highlighted, as their success hinges on the active participation of economic actors, transforming a global, public problem into a series of solutions mediated by local, private, economic actors. The paper investigates whether implementing these publicly financed Circular Economy (CE) and green practices and technologies have an economic impact on adopters, a topic that current literature does not conclusively address. The authors aim to contribute to this discussion by investigating the microeconomic impact of varying levels of public support on firms implementing CE and green technologies for carbon reduction. To answer the research question, the authors propose a novel design for counterfactual identification that leverages Machine Learning methods and algorithms. The policy impact over different levels of treatment (public financial support/total tangible assets of the firm) is measured via a Multiple Treatment Matching Difference in Difference model. This model allows for the estimation of the causal impact of a differentiated treatment by comparing the difference in output with untreated units for each level of treatment. The novelty of our contribution lies in the identification of counterfactuals, which is achieved through the use of Machine Learning algorithms. This study, therefore, not only contributes to the understanding of EU environmental policies but also introduces a novel methodological approach to policy impact analysis. The study finds that the impact produced by different levels of treatment forms an inverted 'U' shape. Overall, the produced results have both environmental and microeconomic implication where is shown that the implementation of these technologies can improve the efficiency of production systems with varying intensity.



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## Latin America facing the historic challenge of building a economic and social integration

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❖ [Online-G01-02 Peace, Regional and Urban Sustainable Development, August 26, 2024, 2:30 PM - 4:15 PM](#)

In the Latin American region, according to a study by ECLAC-Economic Commission for Latin America and the Caribbean, a large part of the resources destined to social expenses are allocated in the social security matter, with the main beneficiaries being high-income groups. In some Latin American countries, such as Brazil, some sectors of society benefit from the so-called aristocratic welfare state, these are civil service retirees with privileges, to the detriment of the social security system of the other workers, ensuing a high degree of intergenerational and distributive conflict, with an impact on the future social security system. On the other hand, in many countries of the region, such as Mexico, half of the population over 65 years of age is excluded from the retirement system, explaining the very high poverty rate among the elderly. With the exception of Uruguay, all Latin American countries are characterized by an extreme pattern of inequality in access to education, health, water, basic sanitation and social security. This article seeks to better understand the effects of social expenditures and the distribution pattern of resource allocation among different social classes, indicating how these groups have appropriated each of the strategic sectors throughout history (health, education and social security), creating barriers for the poorest to enter. On the other hand, the model presented by economic neoliberalism, implemented in Latin American countries, shows strong signs of exhaustion and rupture due to the high structural, economic and social heterogeneity of these economies. The great challenge for national governments in developing countries is to create a set of active social intervention policies to manage employment and fight poverty because of market breakdowns and labor market deregulations (in Latin America 50% of the workers are informal) as well as social security systems. The article points to possible alternatives for building a development agenda for the future with social and fiscal responsibility.

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## Hotspots under revision: mapping asylum seekers sites across Europe

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❖ [Terceira-G02-O2 Demographic change, Population and Migration, S10, August 28, 2024, 2:30 PM - 4:15 PM](#)

The aim of the collection of data on the capacities, facility types and coordinates of asylum seekers' sites across Europe was to reconcile various sources on asylum seekers sites and provide compelling evidence on the unequal distribution of asylum seekers sites across Europe generated by various country asylum regimes. Furthermore, we compare European countries using the inequality index of these asylum seekers site showing that the unequal distribution is welfare regime compliant. The data was compiled with the help of national authorities (immigration offices, ministries) of EU member states and is published online using Datawrapper. The maps are not without data inconsistencies, mainly due to unavailability of the data or reluctance of the authorities to share as well as the rapid changes in location as well as capacity of sites. Moreover, the categorisation of the centres varies by country what challenges the cross-country comparability of facilities.

## Regional typologies of demographic change based on Complex Systems of Demographic Reproduction (CSDR). A cross-country comparison.

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❖ [Terceira-G02-O1 Demographic change, Population and Migration, S10, August 28, 2024, 11:00 AM - 1:00 PM](#)

Europe is at a turning point in demographic development. Since 2020 the European population has turned negative. Natural population change (the difference between the number of births and deaths) has reduced in almost all countries in the last decades, and has turned negative for the Europe since 1993, with some flare-ups around 2010. This was compensated by increasing net migration numbers ever since the fifties of the 20th century. As a consequence, some countries are still growing in population size, whereas other countries are shrinking. This stage of population decline is sometimes called the fifth stage of the demographic transition. At the regional level the variation in population change is even much larger, due to the additional impact of internal migration, including urbanization, suburbanization, and counter-urbanization.

In this paper we explore the impact of the various components of population change on population and societal renewal of spatial areas of different territorial aggregation. We also study the impact of international migration on internal migration, and on natural growth. This entails new typological considerations based on demography, and taking into account the time dimension as well: are these historically immigrant or emigrant regions, or can this be considered a relatively recent phenomenon? In assessing the role of mobility in regional development, we will distinguish between Complex Systems of Demographic Reproduction (CSDR) based on immigration (when population growth depends on immigration), and Complex Systems of Demographic Reproduction based on emigration (when emigration takes diasporic forms so that the reproduction of the group and the driving force of the region depends predominantly on emigration). Using the mix of dimensions of mobility for all regions, and using standard clustering techniques we arrive at a regional mobility typology in four countries: Austria, Denmark, Spain, Sweden and the Netherlands. We look at similarities and discrepancies between the resulting typologies and evaluate the outcomes. We also explore typologies based on different measures of population dynamics: (1) a multidimensional profile based on the components natural growth, internal and external migration; (2) taking into account country of origin; (3) a typology based on the population turnover rate and the migration share of turnover.

This study is part of the Horizon Europe project PREMIUM\_EU (Policy REcommendations to Maximise the beneficial Impact of Unexplored Mobilities in and beyond the European Union, grant agreement 101094345 - AMD-101094345-3).

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## Left-behind areas and territorial inequalities

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❖ Terceira-S11-S1 Left Behind Areas: Past, Present and Future, SF2, August 28, 2024, 2:30 PM - 4:15 PM

Territorial inequalities are barely studied at a local level in Europe in a comprehensive way mainly due to the lack of comparative data or proxies of economic activity. Without local data it is impossible to proof the agglomeration of economic activity (in the cities) and therefore the growing gap between rural and urban areas, between the centre and the periphery of the country or between the core and the fringe of the large metropolitan areas. This is one of the reason why, when studying the areas that have been left-behind, instead of focusing on areas researchers have to either focus on regions (if trying to cover a country or the whole EU) or focusing on case study (and therefore just having a partial image of the issue).

In the European Project EXIT we try to combine both qualitative and quantitative research on areas (as opposed to regions) that indeed have been left-behind the paths of economic growth of prosperity. The aim would be answering some of the following questions: What is the meaning of the left-behindness concept? How can we identify the left-behind areas? Where are those areas? What are their characteristics? What quantitative data are available to study left-behindness? Are there any common past characteristics that might explain their present situation? What can be done at the different levels of governance (European, national and local) to improve their situation? What has been done in different areas of Europe? And what about regional or local stakeholders? Are citizens mobilizing somehow to either protest or react in order to reverse their localities' situation?

In order to answer all those questions, data at local level is needed, and the first essential variable is some proxy of well-being or income. However, in the European databases and due to confidentiality reasons, in the best of the cases only information on the NUTS2 region of residence is provided. Following Fernandez et al (2022), average household income and AROPE at local level can be estimated by disaggregation of regional data from EU-SILC.

These income and AROPE estimates, combined with data collected at local level on several socioeconomic indicators such us employed population, aged population, population structure, accesibility to public services etc., will offer a multidimensional approach of the areas being left behind in some European countries where local information is available.

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## Economic restructuring and FDI as drivers of labour productivity growth in CEECs

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- ❖ [Online-S52 Sustainability Challenges in GVC-Dependent FDI Development Path: Assessing Regional Development within Global Production Networks, August 26, 2024, 2:30 PM - 4:15 PM](#)

New economic challenges were brought in the 2020s by the pandemic crisis, and the subsequent geopolitical and energy crisis which highlighted the vulnerability of the growth model of national and regional economies in CEE countries. The early-2020's crises marked the end of an economic era and some basic economic conditions have permanently changed, including the monetary environment (higher inflation and interest rates) and governmental indebtedness. Demographic challenges, including population ageing and skilled labour migration from East to West makes labour markets tight, especially in CEE countries. As a consequence, the extensive increase of labour supply can no longer be a source of economic growth. Both labour and raw materials have become scarce and expensive, but, unfortunately, the growth model followed by CEE countries has led to specialisation in economic sectors that are highly dependent on these resources. In order to bring these economies onto a sustainable growth path, more emphasis should be placed on the intensive growth, i.e., the increase of labour productivity, together with increasing domestic value added of production. CEE countries feature a dual economic structure with a large gap between the performance of domestic and multinational, SME and large firms. In order for FDI-dominated sectors to make a lasting contribution to economic catching-up, it is necessary to increase the share of domestic suppliers, to move up the value chains and to attract higher value-added activities.

The aim of the research is twofold: first, we investigate the changes of economic structure in CEE countries in a comparative manner at the sub-national (NUTS3) level over the period after 2010 with the help of exploratory statistics. Second, we investigate the relationship between FDI and labour productivity change in a regional disaggregation. Labour productivity changes are decomposed with the help of the shift-share method to a structural change effect and a within-sector growth effect. Our results indicate that the within-sector effect was considerably larger than the structural change effect which highlights the fact that there is a need to rethink the economic specialisation of the regions and the national economies. This will help these countries move away from the low road of development.

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### Earthquake strikes twice: electoral (dis)advantage in municipalities without economic recovery aid.

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❖ [Terceira-S07 Navigating the Storm: Exploring the Socio-Economic and Behavioural Impacts of Natural Disasters on Communities, S04, August 29, 2024, 9:00 AM - 10:30 AM](#)

In a historical context of incumbency advantage: Is there an electoral punishment for mayors who perform poorly during emergencies? Do poor results during an emergency mobilise new voters? What about the voter turnout of lagging territories with high vulnerability or low social capital? To determine the relationship between inefficient performance and electoral outcomes, we analyse the electoral behaviour of those municipalities that were affected by a high-intensity earthquake and did not obtain economic aid for recovery, focusing on municipalities that were excluded from the official declaration of earthquake-affected municipalities. The methodological approach is difference in differences with propensity score matching, analysing four major earthquakes and electoral data over three decades. Our estimates indicate that mayors of municipalities severely affected by earthquakes who did not get financial support in the next election decrease their vote. The mayor's poor performance during the emergency generates a mobilisation of new voters. Voter turnout increases even more in lagging territories, municipalities with lower levels of social capital and higher levels of social vulnerability. These results have implications for electoral accountability theory, because in a political scenario of high re-election rates, voters are able to critically evaluate politicians who mismanage an exogenous shock such as an earthquake.

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## Nature-based Solutions as a new scientific field integrating geography

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❖ [Terceira-G24-O1 Human - Environmental Interactions, S17, August 28, 2024, 11:00 AM - 1:00 PM](#)

The paper is theoretical in nature and aims to present key assumptions of the Nature-based Solutions (NbS) concept and identify their links with the research scope of geography. One of the most popular definitions states that NbS are inspired and supported by nature. This means that they are cost-effective, provide simultaneously environmental, social and economic benefits, and help build resilience. Such solutions bring more and more diverse and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions. The idea of NbS became more widely used in the late 2010s to reframe policy debates on biodiversity conservation, climate change adaptation and mitigation strategies, and the sustainable use of natural resources. The NbS appears to be a new concept of key importance for shaping the interactions in the human-environment system in the age of global ecological crisis but there is still a need to better explain this term. NbS may be treated at the same time as one of the emerging research fields integrating two main branches of geography, physical and human, which both have the potential to identify environmental and social benefits provided by NbS and to determine the requirements for NbS resulting from the local context in which these solutions are implemented. It is also possible to find common ground between geography and NbS, reflected in numerous aspects, which, on the one hand, are part of geographical research interests and, on the other, are of crucial importance for the NbS concept. These aspects include, e.g., interactions in the human-environment system, sustainable development, climate change adaptation, the significance of a local context, public participation, political ecology, and land-use management. The paper presents the results of a review of scientific literature, reports and policy documents aimed at developing a set of criteria that should be met by NbS and at justifying the inclusion of NbS in the set of key research geography fields.

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## Equal Justice Under Law? Local Justice Quality and Crimes

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❖ [Terceira-G42 Crime, Corruptions, Institutions, and Local Economic Policies, S18, August 28, 2024, 11:00 AM - 1:00 PM](#)

Being strongly related to certainty of punishment, efficient justice is expected to matter more than the severity of punishment in deterring crimes. However, the evidence supporting this perspective is scarce. This paper estimates the effect of a reform of the criminal justice system that took place in Italy in 2012, evaluating its impact on justice efficiency and crime deterrence. Event study and difference-in-difference estimates reveal that the reform significantly improved the efficiency of criminal courts and deterred property crimes and organised crimes, while violent crimes were not affected. These results support the idea that the deterrence effect of justice efficiency applies particularly to “rational” crimes, while criminals acting under impulsive and less-rational circumstances do not internalise information about justice in their decision-making.



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## Causes and consequences of urban form

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❖ [Terceira-S01-S1 Building Sustainable Cities, S01, August 28, 2024, 2:30 PM - 4:15 PM](#)

This paper investigates the causes and consequences of urban form in US metropolitan areas. Using data at the tract level for the years 1990, 2000 and 2010, we first investigate the spatial pattern of decentralized jobs by identifying employment subcenters using McMillen (2001)'s nonparametric method and characterizing and cataloging cities according to their urban spatial structure (monocentric, polycentric). Then we study why subcenters form and emerge focusing on the role of agglomeration forces (population) and dispersion forces (congestion). Finally, we analyze the effects of density on economic, social and environmental city outcomes and explore the role of urban form.

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## EU Cohesion Policies and Interregional Inequalities in Disruptive Times

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❖ [Terceira-S21-S6 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, SF2, August 30, 2024, 11:00 AM - 1:00 PM](#)

Despite the numerous contributions assessing the efficiency and effectiveness of Cohesion Policies, their role in stimulating growth in different macroeconomic settings and in different business cycle periods, as well as their real capacity to act on interregional disparities, remain poorly understood. The aim of the paper is to shed some light on these gaps. By employing a beta-convergence framework covering all EU27 + UK NUTS2 regions in the period 2008-2019, we investigate the link between Cohesion Policy, economic growth and interregional inequalities and unpack its variation over periods of crisis and recovery, by investment axes considered and across regions with different degrees of vulnerability to the crisis. The results confirm the multifaceted nexus between Cohesion Policy and interregional inequalities and raise warnings about the potential conflicts between its overarching goals and its multiple and expanding strategic objectives.

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## Happiness effects of success and failure: 2022 FIFA World Cup

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❖ [Online-G04-O1 Segregation, Social and Spatial Inequalities, August 26, 2024, 11:00 AM - 1:00 PM](#)

Positive emotions have a spillover effect and are contagious, creating more positivity in a society. We know that happier societies are healthier, more productive and more likely to comply with rules. However, can these positive emotions be elicited by World Cup sports events and contribute to national well-being?

The paper has two primary aims. First, to determine whether the success of a nation's soccer team produces an increase in reported happiness among citizens of that nation. Secondly, to determine whether failures have the opposite effect and if the effect size is similar. To this end, we analyse the temporal evolution of well-being and emotions regarding the recent 2022 FIFA World Cup and use topic modelling (Latent Dirichlet Allocation-unsupervised machine learning) and narrative analysis to understand the public perceptions that led to the observed changes in happiness or sadness. To achieve these aims, we use unique time series datasets derived from extracting tweets in real-time, filtering on specific keywords related to the World Cup for 16 countries. Applying Natural Language Processing, we derive each tweet's underlying sentiment and use the sentiment score to construct daily time-series data to measure happiness (Gross National Happiness (GNH)) and eight different emotions.

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## Does Cohesion Policy influence urban/rural inequalities?

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❖ [Online-S72 Consequences of Place-Based Policies: Perspectives and Challenges, August 26, 2024, 11:00 AM - 1:00 PM](#)

This paper analyzes the impact of European Cohesion Policy on both regional growth and within regional inequalities. The European Cohesion Policy has been in place for more than thirty years. It has evolved significantly and is now the European main investment policy. Most papers focus on the average effect(s) of the cohesion policy, while this policy is implemented differently across European regions and under very different economic conditions.

To fill these gaps, we extend the literature by considering how the cohesion policy affects both within regional disparities and regional development. Moreover, we introduce to the literature of Cohesion Policy effectiveness two novel indicators respectively related to the issue of rural-urban divide (rural-urban income gap decomposition) and the regional development (composite index to regional development).

By using a sample of 205 NUTS2 EU-25 regions from 2000 to 2014, we combine a regression discontinuity approach with panel data to estimate a causal effect of the Cohesion Policy. We focus our analysis on the Objective 1 (O1) program for several reasons. First, the eligibility of regions to this scheme is underpinned by a rule that remained unchanged since the first design of the policy; a region is assigned to the O1 program if its GDP per capita in purchasing power parity terms is less than 75% of the EU average. Second, the O1 expenditures represent the largest part of the regional policy budget, more than two thirds for any programming period. Last, but not least, the O1 program is designed for the poorest regions and the subsidy rates it proposes is so high that the projects it finances would be very unlikely to exist without the European funds; as such, counterfactual regions are very unlikely to have implemented projects of such magnitude, which allows reliable estimates.

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## The Causal Effect of Adverse Temperature Shocks on Schooling Outcomes in India

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❖ [Terceira-S23 Tropical Deforestation – Measurement, Economic Drivers, and Human Consequences, S04, August 28, 2024, 4:45 PM - 6:30 PM](#)

Do extreme weather events adversely affect educational outcomes of kids in India? To address this question, we link school records across India with information on local weather conditions with a special focus on extreme heat. Both, cumulative heat exposure and exposure to higher temperatures during examinations adversely affect education and students' performance. Such effects are likely amplified for kids attending school with low-quality infrastructure.

By making use of the address of schools in combination with fine-scaled weather information over four schools years, we thus can track the success of students over several years keeping variation other than weather-impacts constant.

Preliminary results find that a constant increase in temperature by merely 0.5°C means a drop in the number of students passing the exam by 1% and a drop in the number of highest grades ("distinctions") of almost 4%. The effect on the probability of passing the exam is increasingly negative for higher temperature brackets, and the effect is largest for days with maximum temperature above 40°C. Moreover, we exploit canopy-height and deforestation data to provide preliminary evidence that vegetation in the proximity of the schools has a mitigating effect that increases with canopy height and forest cover density.

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## Property management in the airport proximate areas under conditions of restricted use – comparative case studies

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❖ [Terceira-G15-O2 Spatial Sustainable Development, S15, August 29, 2024, 2:30 PM - 4:15 PM](#)

The airport may be an opportunity for the development of airport-proximate areas, as well as a source of conflicts and nuisances for property owners. This article aims to analyze spatial management in areas proximate to Gdansk and Katowice Airport. It aims to answer the question of whether the municipality imposes additional restrictions by local law, apart from the applicable nationwide regulations resulting from, among others, environmental protection regulations.

The research is based on the analysis of literature, documents, and reports, as well as other information and data obtained directly in the course of the research. In particular, the research is based on the analysis of the local development plans and related documents in the areas covered by the restricted use areas (RUAs) due to the operation of airports, especially in the context of the expected functions for these areas.

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## Unpredictable shock and subsequent predictable industrial behavior

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❖ [Terceira-S67 A World of Shocks: Multi-Layers Multi-Shocks Resilience, S06, August 28, 2024, 2:30 PM - 4:15 PM](#)

The aim of this article is to analyze the evolution of local economic activities in the province of L'Aquila before and after an earthquake rated 5.8 on the Richter scale hit the region in April 2009, causing the death of 308 people while around 65'000 people lost their houses. In particular, this study analyzes the evolution of the number of active firms in different sectors and located in the province of L'Aquila before and after the earthquake of 2009 in order to understand how the various economic sectors of the local industrial structure reacted to this external and unpredictable shock.

To identify how one of the considered earthquakes (and the subsequent policies put in place) affects the evolution of the birth, death and activity rates of firms in Italian provinces, we use the synthetic control approach to compare actual developments in these variables with a hypothetical situation, which would probably have arisen if these earthquakes did not hit these provinces. The analysis compares the evolution of the birth, death and activity rates of companies in Italian provinces from the 2000 until 2018.

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## Firms dynamics during the Covid-19: the Italian case

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❖ [Terceira-G13-O2 Entrepreneurship and Regional Development, S16, August 29, 2024, 9:00 AM - 10:30 AM](#)

Entrepreneurship is considered a relevant factor of economic growth as it stimulates employment, intensify competition for existing businesses and introduce innovations. It also appears to be an important vehicle for economic recovery when the economy is hit by an external shock, such as the COVID-19 pandemic. The main aim of this paper is to empirically investigate how firms dynamic changed following the COVID-19 pandemic in Italy. Data shows that firm registration decreased during the pandemic, however its impact has been geographically and sectorally uneven. Results shows a statistically not significant impact of the pandemic on firms registration and a statistically significant impact of the structural characteristics of the economy at the local level.



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## Geographies of Just Transitions

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❖ [Online-S46 Building Just Futures for Regions in Green Industrial Transitions, August 27, 2024, 9:00 AM - 10:30 AM](#)

Multiple crises of our time demand rapid sustainability transformations. These require not only innovation but also the destabilisation and phasing out of non-sustainable structures and practices. Such transformations can come with significant negative repercussions and brings to the forefront the question of how transitions can be designed in a just and fair manner. However, just transitions can take many different forms. Drawing on a wide literature review, we identify dimensions of the notion of just transition that allow for a nuanced view on the geography of just transitions. We argue that just transitions depend on regional context and propose an analytical framework to grasp how regions can cope with the challenges of the green transition and ensure that the transitions unfold in a just way. Based on this framework, we call for further research on just transitions in regions.

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## Financialization of Real Estate: Towards a Meso Scale of Urban Segregation? The Case of Private Mixed-Use Complexes in Mexico

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❖ [Terceira-G04-O3 Segregation, Social and Spatial Inequalities, S01, August 30, 2024, 2:30 PM - 4:15 PM](#)

The financing system for real estate production and property is evolving. In addition to public funds (state aid for the construction or acquisition of property) and private funds (investors), securitization of real estate involves a new type of financing that participates in several phases, from land transactions to construction and property management.

In the first decade of the 21st century, Mexico underwent institutional reforms that led to the creation of financial entities aimed at raising institutional funds for the real estate market, a rapidly growing sector.

These economic changes are accompanied by spatial changes, which sometimes directly influence them. Many authors have highlighted the growing importance of financial vehicles in the proliferation of large-scale urban projects in Mexico. One of the most representative is the production of a new type of urban project, private mixed-use complexes. These projects go beyond the scale of the neighborhood, concentrating residential and commercial buildings, offices and leisure activities, all within a delimited and secure perimeter aimed at the affluent classes. private mixed-use complexes are not just enclosed residential areas, but spatial entities in their own right. These urban projects represent a significant shift in the logic of the enclosure of the city, now at the meso level, accentuating the spatial inequalities of the territories.

In order to understand the relationships between the actors, the resources mobilized and the resulting urban forms, this thesis is based on a qualitative and quantitative methodology. The study of a database of 77 mixed-use complexes reveals a continuity in the production logic of gated communities, but a break in the scale and urban form they imply and in their location. Built in the most affluent areas of Mexico's cities, these financial investments benefit the economic centers of the country's metropolises. The study also focuses on the level of individuals who are involved in major projects on a daily basis: managers of investment funds and large companies, elected representatives and local residents. Mixed-use complexes are emerging as a tool and support for financial development, reinforcing the socio-spatial polarity of metropolises.

The results show the changing production of Mexico's cities and how it affects its socio-spatial organization. The mixed-use complexes, used as a legal tool to privatize the management of the city and to select the users, illustrates the evolution of segregation at the meso-level, which also crystallizes the challenges of producing the city of the future.

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## Urban Greenery as an Element of Management of the Local Government Unit

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❖ [Terceira-S01-S1 Building Sustainable Cities, S01, August 28, 2024, 2:30 PM - 4:15 PM](#)

Urban greenery is an element of the municipal economy that is extremely important for citizens. It affects both the well-being of people providing recreational space, but also affects the "condition" of the city, for example, by supporting thermal regulation or air purification. Therefore, municipalities must carry out a considerate policy of greenery management and support the development of green areas. The purpose of the study is to analyze elements related to greenery management in municipal areas. The analysis will be based on data obtained directly from the surveyed municipalities or available in publicly available statistics such as the local data bank (BDL).

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## Urban policy outcomes in deprived neighbourhoods - evidence from Germany

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❖ [Terceira-G06-O3 Regional and Urban Policy and Governance, S12, August 29, 2024, 2:30 PM - 4:15 PM](#)

Urban regeneration initiatives in many countries have been inspired by the expectation that residential segregation may increase in line with rising inequality on job markets. One example of a comprehensive policy approach is represented by the German "Social City" programme, which was introduced in 1999. While urban regeneration had focussed on the renewal and reconstruction of city centres and inner city neighbourhoods in the previous decades, the "Social City" combined urban regeneration with the support of local communities in deprived neighbourhoods. The study explores to what extent this policy has affected household income and housing markets in programme areas. It uses microdata on house-holds characteristics from the German Socio-Economic Panel (SOEP) and microdata on housing prices to examine the effects on local housing markets in the designated areas. Using propensity score matching and difference in differences methods the study demonstrates that neighbourhood-oriented policy has found it difficult so far to improve income opportunities among the inhabitants of deprived neighbourhoods. At the same time it needs to be pointed out that an increase in segregation may have made it even more difficult for urban policy to improve living conditions in programme areas. Hedonic pricing models for North Rhine-Westphalia find significant effects attributable to policy in programme areas particularly for rents. Given a persistent overall desire to reside close to urban centres, an upgrading of urban housing environments thus carries the danger of gentrification and displacement of poor households.

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## Explaining economic performances in the French employment zones: industrial relatedness and spatial externalities

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❖ [Online-G03-O3 Innovation and Regional Development, August 26, 2024, 4:45 PM - 6:30 PM](#)

Understanding France's current competitive base structure and its impact on economic performance of its employment zones is crucial for the implementation of appropriate industrial policies, particularly in objective of reindustrializing the French territory. In this paper we test whether a relationship between local economic performance and related variety exists within the industrial sector in mainland French EZ over the period 2016-2021 using a spatial econometric model. To do so, we mobilise Theil's notion of entropy as translated by Frenken et al. (2007) in the construction of related and unrelated varieties. We first test this relationship, while controlling for the effect of urbanisation externalities and specialisation. Secondly, we investigate whether there is any heterogeneity in this relationship, by grouping EZ according to their level of relatedness and employment using a hierarchical ascendant classification. The results provide no evidence of a positive effect of total related variety on local economic performance while employment seems to be more sensitive to changes in unrelated variety. However, if we restrict our measure to the industrial sector, we find a positive relationship between industrial related variety and the employment growth rate, as well as evidence of spatial and urbanisation externalities. Finally, the effect of industrial relatedness on local economic performance appears to be driven by a sub-group of EZ.

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## EEQI: An ecological dietary quality index for developed countries

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❖ [Terceira-S28 The Geography of Public Health, S05, August 29, 2024, 2:30 PM - 4:15 PM](#)

This article presents a novel ecological dietary index, the Ecological Eating Quality Index (EEQI). This index measures a country's dietary quality in a yearly frequency. It comprises of ten food items for which weighted scores are assigned. Associations between the EEQI and health outcomes for a panel of developed countries were studied to further validate the instrument. Applications and limitations are discussed.

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## The joint determination of morbidity and vaccination in the spatiotemporal analysis of Covid-19

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❖ [Online-G42 Quantitative spatial analysis, August 27, 2024, 2:30 PM - 4:15 PM](#)

This paper examines the mutual dependence between Covid-19 morbidity and vaccination rollout. A theory of endogenous immunization is proposed in which the decision to become vaccinated varies directly with the risks of contagion, and the public self-selects into self-protection. Hence, Covid-19 morbidity varies inversely with vaccination rollout, and vaccination rollout varies directly with Covid-19 morbidity. The paper leverages the natural sequencing between morbidity and immunization to identify the causal order in the dynamics of this relationship. A modified SIR model is estimated using spatial econometric methods for weekly panel data for Israel at a high level of spatial granularity. Connectivity between spatial units is measured using physical proximity and a unique mobility-based measure. Spatiotemporal models for morbidity and vaccination rollout show that not only does morbidity vary inversely with vaccination rollout, vaccination rollout varies directly with morbidity. The utility of the model for public health policy targeting, is highlighted.

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## Beyond Yelp – predicting restaurant closures based on Google Maps data

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❖ [Terceira-G39-O1 Big Data and Regional Science, SF1, August 29, 2024, 2:30 PM - 4:15 PM](#)

The restaurant sector is pivotal to firm exit research, influencing economic policy and managerial strategy recommendations. Recent studies using online data are based on geographically limited datasets and have largely omitted temporal dynamics in user interactions. Additionally, these studies rely on manual labeling for text analysis, a resource-intensive approach. Our study introduces the first comprehensive, nationwide analysis of restaurant survival using Google Maps data. We analyze a unique dataset collected by us between September 2022 and June 2023 that includes all Polish restaurants that are listed on Google Maps and have at least one review. The sample includes almost 41 thousand companies and characteristics related to individual characteristics of companies, macroeconomic and regional conditions, local surroundings. In addition, we enhance the predictive performance of model by incorporating time-sensitive user interactions. Our model controls for established determinants of business exit and proves robust to data quality issues associated with user-provided business directories. We apply an efficient, label-free method for extracting semantic content from almost 6.5 million reviews, creating useful features for firm exit prediction. We also use a state-of-the-art xgboost algorithm and present an efficient feature selection strategy using hierarchical agglomerative clustering that retains predictive power while reducing model complexity. Our model has broad applications ranging from credit scoring to early-warning systems for business closures, making regional and local comparisons, and presents a viable alternative to geographically constrained Yelp data.



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How can we solve the problems caused by over-tourism?

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❖ [Terceira-G35-O1 Tourism and Overtourism Issues, S17, August 28, 2024, 4:45 PM - 6:30 PM](#)

In this study, applying the general equilibrium model, we consider two negative aspects of over-tourism. The first one is serious congestion and traffic jams which make local residents' ordinary use of public transport impossible. The second one is litter and environmental pollution which reduce the productivity of the environmentally sensitive local agriculture industry. We investigate the effects of solving policies on the economic welfare of local residents. We find that under certain conditions, total regulation of tourists may reduce welfare. Moreover, relaxing congestion policies also may not always contribute to enhancing welfare.

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## Nighttime Lights and Local Economic Activity: Evidence from Developed and Developing Countries

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❖ [Online-G42 Quantitative spatial analysis, August 27, 2024, 2:30 PM - 4:15 PM](#)

Satellite nighttime lights (NTL) are commonly used for evaluating and validating the economic performance of national and subnational economies. However, many studies in the economics literature rely on outdated and imprecise Defense Meteorological Satellite Program (DMSP) data. This study employs newly released and higher-resolution nightlight images from the Visible Infrared Imaging Radiometer Suite (VIIRS). Our objective is to evaluate and validate the performance of 1726 subnational economies across developed and developing countries. Consistent with the emerging evidence from single-country analyses, our results from multi-country analyses are threefold. First, when compared to (simulated) DMSP data, VIIRS data provide a more accurate prediction of economic activity across both developed and developing countries. Second, nighttime light data are more useful for predicting differences across economies than changes over time within economies. Third, DMSP data understates spatial inequality across both developed and developing countries. Overall, these results point out that as geospatial measurement technologies advance, so too will our understanding of economic activity.

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## Exploring Economic Activity from Outer Space: A Python Notebook for Processing and Analyzing Satellite Nighttime Lights

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❖ [Online-G41 Modelling spatial analysis, August 27, 2024, 9:00 AM - 10:30 AM](#)

Nighttime lights (NTL) data are widely recognized as a useful proxy for monitoring national, subnational, and supranational economic activity. These data offer advantages over traditional economic indicators such as GDP, including greater spatial granularity, timeliness, lower cost, and comparability between regions regardless of statistical capacity or political interference. However, despite these benefits, the use of NTL data in regional science has been limited. This is in part due to the lack of accessible methods for processing and analyzing satellite images. To address this issue, this paper presents a user-friendly geocomputational notebook that illustrates how to process and analyze satellite NTL images. The evolution of regional disparities in India is presented as an illustrative example. The notebook first introduces a cloud-based Python environment for visualizing, analyzing, and transforming raster satellite images into tabular data. Next, it presents interactive tools to explore the space-time patterns of the tabulated data. Finally, it describes methods for evaluating the usefulness of NTL data in terms of their cross-sectional predictions, time-series predictions, and regional inequality dynamics.

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## Economic Impact of COVID-19 and Natural Disasters on Tourism-related Establishments: Case Studies on Hot Spring Areas-Hitoyoshi City and Atami City

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❖ [Online-G48 The role of tourism in regional development, August 27, 2024, 2:30 PM - 4:15 PM](#)

The widespread of COVID-19 has significantly impacted the tourism industry. In tourism-related establishments, the decrease in tourist demand has led to a substantial reduction in revenue, resulting in challenging business conditions. Particularly, hot spring tourist destinations, where accommodation facilities are concentrated in specific regions, exhibit a high dependence on tourism, making them vulnerable to external factors such as infectious diseases and natural disasters.

In July 2020, Hitoyoshi City, Kumamoto Prefecture, a hot spring tourist resort, suffered extensive damage due to flooding of the Kuma River caused by heavy rains. The crucial transportation routes, including trains, remain suspended. Additionally, on July 3, 2021, a debris flow disaster occurred in the Izu-yama region of Atami City, Shizuoka Prefecture, a historically hot spring region in Japan, leading to the displacement of numerous houses. Although the scale of the damage is smaller than that in Hitoyoshi City, the Atami City Tourism Division reported that the opportunity loss due to cancellations by lodging guests exceeded 15 billion yen. The compounded impact of infectious diseases and natural disasters intensifies the repercussions on the regional economy. Therefore, investigating the actual economic effects and recovery status is deemed crucial for considering support measures in future similar disasters.

This study aims to conduct a questionnaire survey targeting tourism-related establishments in Hitoyoshi City and Atami City, both affected by the combined impact of the COVID-19 pandemic and natural disasters. The research aims to examine the impacts of COVID-19 and natural disasters on the economic activities of these establishments, and through multivariate analysis, assess the effectiveness and challenges of various support measures. The ultimate goal is to obtain fundamental insights for tourism support measures.

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## Agglomeration externalities or network externalities? Explaining productivity in Chinese urban regions

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❖ [Terceira-G09-O2 Regional Competitiveness, Innovation and Productivity, SF2, August 28, 2024, 4:45 PM - 6:30 PM](#)

In the regional science literature, the concepts of agglomeration externalities and network externalities are both used to make sense of the economic performance of cities and city-regions. When it comes to explaining regional productivity, the debate on the relative importance of both types of externalities is ongoing. This paper contributes to this debate, focusing on externalities in urban regions through the lens of a polycentric development framework that is specific to China. Drawing on enterprise investment data, we apply a spatial econometric model and adopt an instrument variables strategy to test several hypotheses linking both types of externalities to regional spatial structure and regional productivity.

Our analysis adds to the existing literature in three main ways. First, we consolidate the concept of network and agglomeration externalities in one framework. Second, we use spatial-econometric methods to investigate whether network relations provide spatial spillover effects. Third, we adopt an instrumental variable strategy, which allows to collect robust evidence to verify the hypothesized causal effects.

Our results suggest that both are important drivers of regional productivity, but that agglomeration externalities contribute relatively more. At the same time, our findings suggest that network externalities in Chinese URs are becoming increasingly important. We find no interaction effects between agglomeration and network externalities, with the latter not being contingent upon geographical proximity and more prominent in urban regions with higher levels of polycentricity. Compared to agglomeration externalities, which are geographically confined, network externalities can generate spatial spillovers. We reflect on our results in the possible research agenda and policy implications on regional economic development.

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## Do atmospheric conditions and environmental hazards affect human well-being in Italy?

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❖ [Online-G18-O1 Climate Adaptive and Resilient Regions and Cities, August 26, 2024, 4:45 PM - 6:30 PM](#)

Understanding how atmospheric conditions and environmental hazards affect human well-being can inform effective mitigation and adaptation strategies. Much focus has been on the psychological effects of extreme events, but little is known about the daily impacts of environmental factors on Citizens' well-being (CWB) (Wang et al., 2020). One of the main factors limiting citizens' well-being in many European cities (but also worldwide) is the intensification of heat stress episodes (Baylis et al., 2018) and pollution (Zheng et al., 2019). Summer 2023 in Italy has registered a temperature peak expected to rise further in the following years (Sabelli, 2023). This excess heat can cause cardiovascular stress, heart stroke, and other major health issues. Researchers and policymakers have increasingly used indicators as measures of life satisfaction to complement traditional objective development and economic metrics (Chai et al., 2023). Literature on citizens' well-being evaluations mainly considers survey data for a specific territory and period (i.e., Patrick et al., 2020). However, daily and specific territorial heterogeneities are not much considered. This paper uses Twitter data (Chai et al., 2023) for the period 2012-2023 to explain how the sentiment score, defined as the probability of a post being classified as a post with a positive mood at a daily level for all the Italian provinces, is affected by urban and daily atmospheric and environmental variables (temperature, precipitation, pollution, humidity, etc.). Italy is an interesting case study because of the heterogeneous territory and the natural disasters that cross the country daily (landslides, floods, earthquakes, and droughts). To explain how citizens from different provinces react to atmospheric and environmental variables, given the nature of the dependent variable (sentiment score), the methodology used is the beta regression model fixed effects. This approach can estimate nonlinear sentiment responses to atmospheric conditions and environmental hazards considering unobserved variation across space and time and spatial and seasonal differences. We used the variable "score" as a dependent variable and PM10, humidity, precipitation, and maximum temperature as independent variables. Results will be used to develop specific territorial policies necessary for local and national policymakers to improve both territorial sustainability and CWB.

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## Aggregation bias in regional impact analysis of trade policy

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- ❖ [Terceira-S09 'What's the Impact?': the State of Social and Economic Impact Modeling, and its Role in a Transitioning World, S02, August 30, 2024, 9:00 AM - 10:30 AM](#)

The aim of this paper is to demonstrate the importance of regional detail for impact analyses of changes in trading agreements using computable general equilibrium models (CGE). Taking the UK as a case study we compare the results from a UK national CGE model regionalised using simple regional Gross Value Added (GVA) shares with the results of models of the UK nations and regions. We begin by developing and applying a method to disaggregate the UK Input Output (IO) accounts into a set of consistent multi regional IO tables (MRIO). Using these accounts, we calibrate a set of CGE models that differ only from the regional disaggregation. In each model, we simulate an increase in openness to trade and calculate a series of bias measures reflecting spatial and temporal aspects. Results from simulations show that aggregated bias is relatively small and increases with the number of regions. The bias is larger for short-run results where constraints in supply drive a higher variation in prices. The aggregation bias is larger and more heterogeneous at the regional level. Regions which are less similar to the average (e.g. the East of England, Scotland and Northern Ireland) record larger regional aggregation bias measures than regions that are more similar to the average in the UK. The results support the development and use of region specific accounts for impact analysis of trade policy.

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## Slow tourism as a driver for tourism development: the case of Italian walking routes

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❖ [Terceira-S60 Towards Local Development Through a Sustainable Valorization of Cultural Heritage: the Role of Tourism, S05, August 30, 2024, 11:00 AM - 1:00 PM](#)

In recent years tourism is evolving and tourists' preferences are changing. According to the UNWTO (2023) after COVID-19 tourists prefer open-air activities, nature-based products, and rural tourism more than in the past. However, the pandemic event exacerbated a trend that was already in act. Indeed, slow tourism and every form of sustainable tourism started to evolve during the 1990s. In this context, growing attention is given to the walking routes, a niche of slow tourism. This specific kind of tourism is particularly relevant in Italy, where the Cultural Ministry proclaimed the 2016 as "Year of the Cammini" intending to enhance the rich heritage composed of the network of Cammini – historical, naturalistic, cultural and religious – that, from north to south, cross the country representing a slice, perhaps little known but fundamental in the Italian slow tourism offer. The aim of the present paper, based in Italy, is to analyse for the first time if these walking routes are a driver for the socio-economic development of the destinations in which these "cammini" pass through, by mapping their presence at the provincial level. Our main hypothesis to be tested is that the presence of a walking route in a province could generate a positive impact both in terms of tourism increase (for the demand and the supply side) and, at a more general level, for the economic development of these provinces. To achieve this research objective multiple data are used: specific data on the Italian "cammini" (geographical routes, year of start, whether it is spiritual or not), ISTAT official data concerning the number of tourist arrivals and accommodation, and GDP at the provincial level.



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## How regional policy can harness migration to promote development in vulnerable regions

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❖ [Terceira-G17-O2 Cooperation and Local / Regional Development, S15, August 28, 2024, 4:45 PM - 6:30 PM](#)

The Regional Development Characteristics Database is presented. This database, compiled as part of the Horizon Europe project PREMIUM EU, collates 53 regional development indicators spanning from GDP per capita, to air pollution, to crime rates. These indicators are divided into economic, social, living environment, political, and geographic dimensions, and are collected at the NUTS 3 level for European countries between 2010 and 2021.

The database is analysed, and its potential for examining a variety of questions relating to regional development is demonstrated. The distribution of region's development in different dimensions is examined, and a strong linear correlation is found, e.g. a region that is underdeveloped in terms of living environment is typically underdeveloped in the economic and social dimensions too. From this a typology of regions is developed, dividing regions in vulnerable, underdeveloped, developed, and leading categories. The geographical distribution of regions as a function of their regional development is examined. On the macro scale a significant gradient is observed both from west to east and north to south, with more developed regions typically lying in the north and west. This is in line with expectations. Despite these macro trends, significant variation is observed at subnational scales. A surprisingly weak positive correlation between region's development and urbanisation is observed.

For each region the evolution of development score over time is then examined. There is a positive correlation between regional development and time in 768 regions, which we call improving regions. There is no significant correlation in 641 regions, referred to as stagnant regions. There is a negative correlation in 57 regions, termed declining regions. Inspection of the geographical distribution of these three groups shows that stagnant and declining regions are most commonly located in central Europe, parts of Scandinavia, Ireland, and in eastern Turkey. It is observed that improving regions are disproportionately likely to be highly developed, and in contrast declining regions are disproportionately those that are already vulnerable or underdeveloped. This is concerning, as it forecasts escalating inequality.

The implications of these results for regional development policy at the European and national scales is then discussed, and the diversity of vulnerable and underdeveloped regions is highlighted. This diverse nature makes it likely that a wide range of policies will be necessary to confront each type of region's particular challenge

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## Application of machine learning algorithms to quality-of-life decision-making problems

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❖ [Online-G42 Quantitative spatial analysis, August 27, 2024, 2:30 PM - 4:15 PM](#)

This paper identifies the main drivers contributing to increasing territorial gaps and does not guarantee homogeneous quality standards between Italian provinces (NUTS-3) using machine learning (ML) models. The provincial quality of life indicators (LQI) developed by Il Sole 24 Ore is the variable of interest in this paper. LQI aims to provide researchers and policymakers with a guideline to understand how perceived quality differs within a country and across provinces over time. This paper, using a homogeneous mix of data certified by institutional sources and web scraping techniques, aims to improve the classification or prediction problems but also wants to use several ML techniques to provide an interpretable tool for decision-makers through decision-making tree representation. Results will explain the main factors that improve the perceived quality of life in countering youth migration from inner areas, addressing gender disparities, and understanding the relationships with climate change. For these reasons, results will provide planners and decision-makers with easily interpretable results and useful econometric tools.

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## International (In)security and the Role of the Navy: possible limits for deterrence in the context of the Red Sea

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❖ [Online-S53 Maritime Regions: Europe Hot Spots, August 26, 2024, 9:00 AM - 10:30 AM](#)

In the current context, insecurity and instability in maritime routes that are fundamental to global trade and prosperity are growing. The serious events in the Red Sea deserve particular attention, with the disruption of the safety of commercial maritime traffic in this crucial axis for merchant marine navigation. Thus, recalling the words of geostrategist Klaus Peter Saalbach, the concept of "Great Game" involves guaranteeing safe routes for supplying raw materials and energy sources and accessing strategic markets, even against adversaries or enemies. Thus, and in the face of the insecurity that is progressively being installed in the context of commercial navigation, there is an appeal to the capabilities of navies in being able to guarantee that the seas and oceans remain safe spaces and open to communication between continents and nations. The fundamental objectives of this communication are, on the one hand, to read the most recent contributions relating to the role of navies in this context of growing insecurity and, on the other hand, to propose a reflection on the effective deterrence capabilities of Western navies in the context of responding to some specific security challenges, like the one that we currently seeing in the Red Sea. We believe that at the present time, and in view of the growing insecurity in the field of maritime transport (already having an impact on tariffs, which could have undesirable implications in the sphere of price stability) it is necessary to reflect on the deterrent capacity of Western States. Authors such as Michael Mazarr or James Andrew Lewis have been drawing attention to the need to determine the extent to which non-state entities are effectively sensitive to deterrence exercised by Western military/political means. This point is particularly relevant if we think that the Red Sea corresponds to a fundamental axis of connection and access to highly relevant spaces for the international economy. This way, and in the context of the communication, we will refer to authors (such as Robert Harkavy or Geoffrey Kemp) who have produced analyzes within the framework of so-called "Strategic Geography" (a branch of Geography dedicated to the study of access to areas vital for the security and prosperity of nations) since, in the context of our communication, the territories encompassed in what is generally called the "Middle East" correspond to crucial spaces for the security and enrichment of a very large number of countries.

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## Spatial patterns of creative and cultural industries (CCI) in Croatia

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❖ [Terceira-G20 Creative Industries and Regional Development, S16, August 28, 2024, 11:00 AM - 1:00 PM](#)

The main objective of the paper is to describe and explain current spatial patterns of creative and cultural industries (CCI) in Croatia. The first objective is to discern whether patterns in concentration and relative specialization of CCIs in 21 Croatian counties exist by constructing location quotient and concentration measures. Dataset comprises firms observed in 2022 with focus on firms in CCIs in Croatia in 2022. The data are obtained from official firm level database the Financial Agency (FINA) and includes employment data and selected financial indicators of the company. The second objective of the paper is to determine factors which are related to specialization of CCIs across Croatian counties. Therefore the cluster analysis has been applied to define groups of counties with similar features in selected categories - specialization in CCIs, specialization in primary, secondary and tertiary sector, level of GDP per capita and quality of human capital. The main contribution of this paper is that provides robust evidence that CCIs are related to more developed regions with larger urban centres, more developed services sector, tourism and higher quality of human capital. The analysis indicates a strong asymmetric spatial distribution of CCIs between economically developed areas with larger cities, with developed tourism and better-quality human capital and those less developed, rural and periphery regions.

Note: This work was made as part of the project "Challenges Facing Local and Regional Development in Croatia" at the Institute of Economics, Zagreb and funded/co- funded within the National Recovery and Resilience Plan 2021-2026 - NextGenerationEU

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## Do Retail Property Markets in Singapore Ignore Flood Risk as a Natural Hazard?

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❖ [Terceira-S15-S1 Flood Risk and Natural Hazard in the Built Environment - From Economic Impact to Regional Resilience, S02, August 29, 2024, 2:30 PM - 4:15 PM](#)

Natural hazards pose significant risks for buildings and, as such, investors and their property portfolios. Aside of rising sea levels as one consequence of climate change, one of the most significant sources in this context are extreme weather events, especially flood events from heavy rain and related externalities such as landslides. This study aims to analyze whether retail property markets in Singapore consider flood risk in inherent pricing mechanisms. We identify properties within distinct flood-prone areas and include several control variables from property price models to account for hedonic pricing characteristics. Based on 6,322 address-level observations of transaction prices in Singapore, we estimate an OLS as well as a Generalized Additive Model with geospatial components to account for the pricing mechanisms. We identify a statistically significant price discount of 13.5% c.p. on average from flood risk within the defined flood-prone area. Furthermore, the model delivers insights into market dynamics and the impact of low or high energy efficiency on pricing in retail properties. We conclude that, while Singapore has implemented several measures in terms of flood risk management, the retail property market still accounts for potential damages or inconveniences from flood events with a measurable discount on transaction prices.

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## On the Gender Wage Gap in Germany

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❖ [Terceira-G04-O2 Segregation, Social and Spatial Inequalities, S11, August 29, 2024, 2:30 PM - 4:15 PM](#)

Card, Heining, and Cline (2013) [CHK] have constructed a method to measure the unobserved individual and firm heterogeneity in a mincer type wage regression. We consider these effects and analyze their contribution to the gender wage gap in Germany using an Oaxaca-Blinder decomposition. Since the gender wage gap analysis is based on cross-section data due to time-invariant covariates, the consideration of unobserved heterogeneity is an important improvement in the determination of endowment and coefficient effects to explain the wage gap. We use the Integrated Employment Biography Sample provided by the Institute for Employment Research. The data includes detailed information on employment histories and provides a rich set of covariates at the regional level. Overall, we have about 2.2 million observations. First results show that the CHK effects enhance the explained part of the wage gap by increasing the endowment effect. This means that the male-female wage differences can partly be explained by differences in individual characteristics that are not observable but approximated by the CHK effects. In addition, females consider more often than male employers that pay, on average, lower wages. These results hold even if we consider the complete set of covariates, including individual occupational, task, and industry information. We also provide a discussion of potential endogeneity of the CHK effects. Overall, they do not increase but reduce endogeneity problems. Since the effects have a robust empirical impact, it follows that former studies not considering these effects do potentially suffer more from endogeneity bias.

## Local labour market push

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❖ [Terceira-S43-S2 Skills on Local Labour Markets, S14, August 30, 2024, 11:00 AM - 1:00 PM](#)

Already in the theories championed by Alfred Marshall, a quintessential argument was that established local industry specializations facilitated recruitment of skilled labour in particular fields, providing local clusters with new generations of specialized workers to constantly re-invent local specializations. On the other hand, in the spirit of Jane Jacobs, one could argue that a more diverse local recruitment behaviour signals openness to new local divisions of work and innovative combinations, and local diversification. However, the ambition of local actors to push local labour market in certain directions, is not the same as realizing these ambitions. Until now, it has been very difficult to study such local ambitions to change local labour market portfolios. However, as information about local job postings across time becomes increasingly available, it allows for the investigation of how actors on local labour markets aspire to expand their human capital portfolios in relation to existing specializations, which strategies and experiments are more successful, and where. The purpose of this investigation is therefore to analyse how such “local labour market push strategies”, as revealed by the structures of local job postings, are related to already established local job portfolios and to local economic outcomes. We derive information about this in a Swedish setting and for 290 Swedish local economies, by combining information from Swedish job postings published by the Swedish public employment service’s Jobtech initiative with information from the databases of Statistics Sweden. We first map the geographical structures of job ads and study which local economies pursue more diversified versus more specialized recruitment ambitions. We make use of a job skill-relatedness matrix, computed from text analyses from job postings. Second, we relate the structures of local job ads to already existing local portfolios of jobs. This allows us to identify the local economies that have the largest push towards new skill domains, as well as those that mainly push in line with existing specializations. Third, taking advantage of our time series, we measure which local economies that are more successful with their push, and if this matters for regional economic development. Very preliminary evidence suggests that given their level of diversity, local economies that pursuit more skill-focussed skill recruitment strategies are more successful than other local economies. This is an indication of the value of concerted efforts, or local agency, that collectively build knowledge resources on labour markets.

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## Which path do you choose, and does it matter? Industry trajectories and subsequent earnings of forced migrants

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❖ [Terceira-S06-S2 RSPS Special Issue: A New Toolbox for Novel Research in Regional, Urban and Spatial Studies, S01, August 30, 2024, 9:00 AM - 10:30 AM](#)

This paper uses a novel two-step approach to identify long-term consequences of earlier industry experience on later income. First, using sequence analysis, we identify typical industry trajectories that individuals follow during 1992-2011. Second, we estimate wage regressions for 2012-2021, where the assigned trajectory is the variable of interest, controlling for observed and unobserved individual characteristics as well as location. Our identification draws on a refugee placement policy of the early 1990s when our study population, forced migrants from the former Yugoslavian Republic, arrived in Sweden. The findings show that industry trajectories exhibit considerable stability over time and the only industry identified as a steppingstone into other industries is manufacturing. Migrants with inactive paths face long-term consequences in terms of receiving a lower income in future employment. Individuals entering knowledge-intensive services on the other hand reap higher incomes even if transferring to lower-wage industries. Overall, the results show strong persistence from earlier industry experiences.



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## Rockability: a social and inner being regeneration project involving young people leaving care

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❖ [Online-S70-S1 The role of young people in building up sustainable development practices for inner and rural areas, August 26, 2024, 9:00 AM - 10:30 AM](#)

Since 2019, in the Italian village of Roccaporena, in the territory of Cascia in Umbria Region (Central Italy), a regeneration and participation project has been active, named Rockability. It involves mainly young people who come out of protection paths as minors. The project aims at reinterpreting the identity elements of the place, its historical-cultural and naturalistic features including one of the deepest vocation of this village represented by the caring of young people in difficulty. The contribution will briefly present the condition of the careleavers, according to current Italian legislation and the bottom-up experience that has arisen. It will then go on to illustrate how project Rockability started and what actions and results have been obtained to date in terms both of development of a widespread community as well as the creation of a model for the social integration, wellbeing and training of the young people leaving care as co-activator of community.

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## Promotion of Community Resilience through Citizen Science Approaches

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❖ [Terceira-S62 Urban and Territorial Resilience: From Measuring to Building Planning Solutions, S07, August 30, 2024, 11:00 AM - 1:00 PM](#)

The promotion of community resilience is a complex and understudied process. This article aims to contribute to this literature stream by assessing the role of citizen science (CS) approaches in the development of community resilience since CS is considered a promising approach for generating new knowledge by fostering the participation of citizens (non-professional scientists) in research activities. The results show that CS approaches can contribute to community resilience at the institutional level, improving emergency and recovery planning capacity; at the infrastructural level, by contributing to land use planning and urban design; and at the social level, through the creation of community ties and social capital. This contribution is made by facilitating data gathering from new sources or remote places; enhancing community awareness and knowledge about hazard protection; increasing human and social capital; and promoting the cooperation between a community, government, and academia (professional scientists), which is relevant for the development of public policies that are more shaped to local contexts and aligned with communities' needs and expectations.

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## Chinese secondary cities as the pathfinder towards mega-regional economic upgrading\*

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❖ [Terceira-S39-S1 From Neglect to Nuance: Exploring the Diversity of Second-Tier Cities, S06, August 28, 2024, 4:45 PM - 6:30 PM](#)

The Chinese regional development pattern, prioritizing growth poles, brought great wealth in the 1990s during the wave of globalization, marketization, and decentralization of the national economy, but at the cost of massive inter-regional unevenness. Such unevenness has been perceived as a threat by authorities over the past three decades. Therefore, the cultivation of new "growth poles" in underdeveloped regions has been recognized as a competitive way to address the problem. With the rise of an increasing number of regional core cities under policy preferences and prioritized development plans, another issue has begun to emerge as a bottleneck to sustainable regional growth: intra-regional unevenness. Namely, there is a growing development gap between the regional core cities and the smaller neighboring secondary cities. This not only puts overwhelming economic, social, and environmental pressure on the core cities, but also exposes these smaller players to urban shrinkage and industrial decline. Faced with such challenges, mega-regions have been promoted by the authorities as a panacea for rebalancing the regional development system. It is an emerging spatial concept for strengthening regional connections and fostering inter-city cooperation through re-centralized governance. Over the past decade, the central government has approved plans for 19 mega-regions. By interpreting the planning documents and the history of mega-regionalization, this paper aims to understand the position and expectations of secondary cities, which have not been thoroughly noticed and studied, in mega-regionalization. We find that economic upgrading is a requirement for secondary cities in the emerging mega-regional system and a gateway of opportunity for these cities to better integrate and benefit from the mega-regional system. The planning expectations for economic upgrading of secondary cities have three levels, including the optimization of traditional heavy industries, the introduction of emerging high-end economic clusters, and the development of locally specific economic sectors. This is aimed at enhancing the quality of the overall industry and economy of the region on one hand, and the formation of virtuous partnerships between the cities within the region towards a diversified and complementary economic structure on the other hand. However, we also observe that underlying this planning vision, the winding path to economic upgrading brings more challenges to most of secondary cities.

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## Determining and identifying the impact of local human and social capital on the quality of institutions.

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❖ Terceira-G42 Crime, Corruptions, Institutions, and Local Economic Policies, S18, August 28, 2024, 11:00 AM - 1:00 PM

Corruption within institutions often serves as a harbinger of criminal organisations, posing substantial impediments to global economic growth and development. The purpose of this paper is to delve into the intricate relationship between corruption, particularly mafia infiltration, and the impact that human capital of politicians has on it. Existing literature underscores the adverse effects of corruption on resource allocation, societal trust, stability, income inequality, poverty rates and overall economic growth.

While previous studies have explored crime's influence on human capital and the infiltration of institutions by organized crime, a gap remains in understanding the nuanced dynamics involving mayors, councillors, and aldermen. This research aims to fill this void by investigating the causal relationship between the likelihood of mafia infiltration and the level of human capital within Italian local administrations.

Building on the premise that education can mitigate crime incidence, we posit that higher educational attainment among politicians correlates with a decreased likelihood of connections to organized crime. Hence, this research investigates the determinants of vulnerability to mafia infiltration in Italian local administrations to the aim of understanding why municipalities in mafia-affected regions show different levels of vulnerability to infiltration by criminal organisations. In contrast to prior research that focused solely on mayors, we extend our analysis to include councillors and aldermen, examining the determinants of vulnerability to mafia infiltration in Italian municipalities.

Italy, with its historical backdrop marked by enduring criminal organizations, serves as an ideal case study. The analysis covers the period from 2007 to 2018, focusing on 125 municipalities that experienced dissolution due to mafia infiltration under Law 164/1991. Data sources include the Italian Institute of Statistics (ISTAT), the Association Avviso Pubblico for mafia-infiltrated governments, and the Italian Ministry of the Interior for information on local elected politicians.

Using binary regression models, our study investigates how the educational background of local politicians influences the likelihood of mafia infiltration. The dependent variable indicates whether a municipality experienced mafia infiltration, with the key explanatory variable being the educational level of local elected politicians. The analysis controls for various local characteristics, shedding light on the intricate interplay between human capital and organised crime.

This research not only expands upon prior studies but also contributes to the understanding of the causal relationship between human capital and mafia infiltration in Italian local administrations, offering insights that could inform policies aimed at mitigating the influence of criminal organizations in local politics.

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## Decoding skill-relatedness: noise and signals in labour mobility

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❖ [Terceira-S43-S1 Skills on Local Labour Markets, S17, August 30, 2024, 9:00 AM - 10:30 AM](#)

Labour mobility has become a central focus of economics in recent times. This is partly due to the recognition that labour mobility is no longer seen as merely a random feature of social stratification but increasingly as a complex system. Essentially, labour mobility is a transition matrix illustrating how workers move between different occupations. Labour mobility has also given rise to the concept of skill-relatedness providing a good approximation of the distribution and relation of skills and capabilities found in countries and regions. Yet little is known about the formation and evolution of these networks and the economic, social, and geographical phenomena driving the development of different capability structures. In our paper two main research questions are tackled: first, identifying the factors driving labour mobility, and second, assessing how much skill-relatedness explains occupational changes. Preliminary results, combining JobTech data with an administrative database, highlight the significance of skill similarity in understanding labour mobility. Using a machine learning technique, we discovered that skill overlap outweighs other known factors. A classification model, incorporating both skill similarity and social factors, improves predictive accuracy to nearly 85%. Despite skill similarity's dominance, a 15% residual "noise" remains, showcasing the intricate nature of labour market movements.

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## Regional business cycles synchronicity and regional inequality in the EU

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❖ [Terceira-S21-S1 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S03, August 28, 2024, 11:00 AM - 1:00 PM](#)

Against the backdrop of the EU economic integration process, the paper brings together a couple of distinct strands of literature, thus adding a salient perspective to the economic integration literature, studying a couple of distinct – though highly related – issues: (a) the patterns of regional business cycles synchronicity; (b) the impact of business cycles on regional inequalities. Business cycles are defined as “a type of fluctuation found in the aggregate economic activity of nations that organize their work mainly in business enterprises”. Ergo, business cycles refer to the concerted cyclical upswings and downswings that characterize a span of macroeconomic variables - the most notable one is real GDP – and aggregate economic activity, in general. Typically, business cycles consist of a quartet of recurrent, but not periodic, stages: (a) expansion; (b) crisis; (c) recession; (d) recovery. Apparently, the notion of business cycles is not compatible with the neoclassical understanding of the (spatial) economy, which operates always in equilibrium and the only variations from a steady-state growth path may be arising from random or external shocks. Utilizing EUROSTAT data that refer to 276 EU regions (NUTS II level) and covering the period 1990-2020, the paper presents clear-cut empirical evidence, gained using sound and rigorous methods of empirical analysis, and provides a novel contribution to an area of research that has been (re-)gaining increasing interest. This is so as macroeconomic shocks – that influence regional inequalities – are considered to be the main driving forces behind business cycles.

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## Using and interpreting Hägerstrand's diffusion model - lessons from analysing the spread of Coronavirus and pandemic-related information

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❖ [Terceira-G08-O1 Covid-19 and regional and urban resilience, S12, August 28, 2024, 2:30 PM - 4:15 PM](#)

The spatial diffusion model associated with Torsten Hägerstrand is still an important tool in regional science for interpreting the spatio-temporal spread of phenomena. However, in recent decades there have been significant changes which have had an impact on spatial diffusion processes and provide new perspectives for interpreting the model: the acceleration of mobility, the emergence and distribution of new information transfer technologies (in particular the Internet), or changes in some of the social factors that hinder diffusion. The aim of this presentation is to highlight the usefulness and limitations of the diffusion model in the 2020s by analysing empirical examples.

The presentation will show the spatiotemporal patterns of the COVID-19 pandemic diffusion and the information diffusion related to it in Europe. It will analyse the characteristics of these processes and will examine the interactions between them. To do this, regional-level, weekly pandemic data (number of reported cases, number of reported COVID-19 deaths, excess mortality), weekly GoogleTrends statistics and socio-economic and infrastructural indicators from European countries have been collected and analysed. Based on this analysis, it will draw conclusions on the interaction between pandemic and information diffusion, and it will present the applicability of the spatial diffusion model to the 2020s and highlight a possible modification of the model.

As a result, I got that the diffusion processes have accelerated dramatically: within a few months of its outbreak in Wuhan, China, the Coronavirus pandemic had appeared in Europe and caused a significant and rapid pandemic wave. However, news of the COVID-19 has spread faster than the pandemic itself: in our globalised, interconnected world, information spreads across the world in hours or days. Furthermore, the relation between the two phenomena was also observable: the spread of information supported the control of the COVID-19, and thus hindered the spread of the pandemic. This implies that when using diffusion model for analysing the spread of a phenomenon, it is worth taking into account the diffusion of the related information as well, as it may modify the spatio-temporal pattern of the former diffusion process. This sheds light on an under-researched aspect of the Hägerstrand's spatial diffusion model and reinterprets the role of information spread in the model.

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## Evaluating the Economic Damages caused by Single and Combined Floods Targeting Multiple River Basins in the Tokai region of Japan

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❖ [Terceira-S15-S1 Flood Risk and Natural Hazard in the Built Environment - From Economic Impact to Regional Resilience, S02, August 29, 2024, 2:30 PM - 4:15 PM](#)

In recent years, typhoons and other extreme weather events have caused flood damage, which has become increasingly severe. In addition to direct damage, floods also cause indirect damage. The damage is caused indirectly through the supply chain. This study examines a method to evaluate the economic damage that spills over into the affected areas as they recover. A simulation analysis is conducted for the three Tokai prefectures and other regions in Japan to clarify the impact of economic damage and the recovery process. Using a dynamic inter-regional input-output model, we perform simulation analysis for cases in which a single basin is affected by a disaster and cases in which multiple basins are affected simultaneously. The analysis reveals that the rate of change in output value was the largest in Gifu Prefecture, and in terms of damage by sector, the mining and manufacturing industries suffered the greatest damage. In terms of direct damage, Aichi Prefecture showed the same level of damage as Gifu Prefecture. In terms of indirect damage, there was a ripple effect even in areas such as Tokyo that were not directly affected by the earthquake. The scale of damage was larger in the combined case than in the single case, and recovery tended to be prolonged. The results of this research will provide useful information for regional resilience policies.

Keywords: Flood Risk, Economic Damage, Spillover, Resilience, Input-Output Analysis

JEL Classification: Q54, R15



## Analysis of Visitor Fluctuations at Major Stations in Tokyo, Nagoya, and Osaka during the COVID-19 pandemic

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❖ [Terceira-G08-O2 Covid-19 and regional and urban resilience, S13, August 29, 2024, 9:00 AM - 10:30 AM](#)

COVID-19 has had a major impact on tourism and business travel. During the COVID-19 pandemic, transportation and tourism have shrunk, and regional economies have suffered greatly. Among transportation modes, the use of public transportation such as trains and buses was avoided, and private transportation such as private cars, motorcycles, and bicycles were more preferred. In this study, we clarify how the number of visitors has changed during the COVID-19 pandemic, targeting Tokyo Station, Nagoya Station, and Shin-Osaka Station in major metropolitan areas of Japan. Using a gravity model, we estimate the visitor number function and analyze changes in the number of visitors during the COVID-19 pandemic.

In this paper, the destination area is set as the three station areas of Tokyo Station, Nagoya Station, and Shin-Osaka Station, and the departure area is the prefecture of residence. The observation period was set for six years from 2018 to 2023. The number of visitors at the three stations is calculated using an analysis tool (KDDI Location Analyzer) by providing certain conditions.

A gravity model is applied to the human flow data between three stations and prefectures. In the gravity model, it is assumed that the amount of population flow from one region (prefecture of origin) to another region (station of destination) depends on the attractiveness of each region and the distance between regions. A statistical analysis will be conducted on how the number of visitors to the three stations has changed during the COVID-19 pandemic. Then, by comparing the changes in each coefficient from the results of the estimation formula of the gravity model, we will clarify the characteristics of visitors to stations during the COVID-19 pandemic. These results provide useful information for the resilience of station traffic in situations where infectious diseases are widespread.

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## Population exodus from Venezuela. Coping strategies of Venezuelan migrants and xenophobia towards Venezuelans in Peru

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❖ [Terceira-G41-O2 Migration and Integration in a Global World, S18, August 30, 2024, 9:00 AM - 10:30 AM](#)

This study focuses on the unprecedented exodus of Venezuelans in recent years, prompted by economic deterioration, a collapsing health system, and political instability (Mazuera-Arias et al., 2020). By August 2023, the global population of Venezuelan migrants and refugees had reached 7.71 million, with 6.56 million settling in Latin America and the Caribbean (R4V, 2023). The aim of this paper is to explore coping strategies among Venezuelan migrants in Peru - one of the top destinations for the population exodus from Venezuela, with a migrant population of 1.5 million people. By analyzing coping in this context, we aim to contribute to the evaluation of the possibility of a global migration crisis, caused by the outflow from Venezuela, destabilizing the entire migration system in Latin America in the case that positive adaptation strategies cannot be implemented in this region.

In the analysis, we use data from our own survey conducted among Venezuelans and their Peruvian neighbors in Peru in 2023. The results provide evidence on the coping strategies of Venezuelan migrants. Venezuelans residing in Peru predominantly choose engagement strategies over disengagement solutions in dealing with both problem- and emotion-based challenges. We also find that among Peruvian neighbors of Venezuelan migrants, there is a moderate level of xenophobia, with much higher levels in the economic dimension. This is mostly related to competition in the labor market between migrant and native populations.

Understanding the interplay between the coping strategies of migrants and the attitudes of the native population is crucial for developing successful migration policies that reduce the possibility of the next global migration crisis. Our article contributes to this area.

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## New wine in old bottles? How 21st century transport innovations reproduce 20th century growth infrastructure and travel mobility

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- ❖ [Terceira-S82 The Technological Turmoil of the XXI Century: Spatial Dynamics and the “No Person and No Place Behind” Approaches, S10, August 29, 2024, 2:30 PM - 4:15 PM](#)

This work investigates the limitations of recent advances in transport technology and innovation to the development of a more sustainable and a more equitable urban mobility system. We consider the transport innovations referring to alternative fuels (e.g., electric vehicles, EV); the arrival of automated driving (AV), and vehicle sharing systems such as Mobility as Service (MaaS). Focusing on the case of the Lisbon Metropolitan Area, the work explores why these transport innovations may not break the dominant “growth infrastructure” paradigm inherited from the 20th century. The analysis gives a brief, and selective, overview of how 20th century urban infrastructures featuring in strategic spatial planning and transport investment self-reinforced each other, leading to the dominance of the (fossil-fuelled) car-based mobility system. The dominance of this technology, in turn, created several ‘lock-in’ effects (e.g., institutions, infrastructure, production structure, markets, culture), which obstacle the emergence of a new, post-growth, travel mobility system. The analysis ends by applying the political-economy model proposed by Feitelson and Salomon (2004) to the adoption of post-growth urban transport policies.

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## Lessons from the triple crisis on the resilience of the food system of Central Asian countries

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❖ Online-G47 The role of public policies in local development, August 26, 2024, 2:30 PM - 4:15 PM

In recent times, lockdowns, food supply chain and trade disruptions, resilience, sharp increase in agricultural, food and input prices, food inflation, energy dependency – all countries seem to have experienced many these global shocks during the recent years. We are currently experiencing times of triple crises, food, energy and finance (UN, 2022), exacerbated by the intensification of natural disasters, the consequences of a global pandemic and the conflict between Russia and Ukraine (FAO, 2023c).

In low-income countries such as Central Asian countries, a significant part of the population belongs to a vulnerable group. In these countries, different types of shocks (natural disasters, seasonal shocks, war conflicts, the effects of climate change, etc.) seriously negatively impact poor people's income and food security.

That is why it has become of utmost importance worldwide to reduce the effects of these crises on the food supply and food security of people (especially people belonging to vulnerable groups). In other words, the primary goal is to increase the resilience of food systems that form the basis of food security. To do this, it is necessary to understand the situation of the food system in different regions and the dependencies that permeate its operation.

The research seeks to answer whether the triple crises (food-energy-finance) resulted in new problems in the food security of Central Asian countries. If so, in which areas? What are the problems that have only gotten stronger? Which ones are newly released? What could be done to increase the resilience of the food systems of these countries?

When examining food security problems at different geographical scales (global, regional and local), sooner or later we come across anomalies related to the functioning of the food systems at the given territorial level. The policy recommendations formulated for the problems also serve to improve the functioning of certain aspects of the food systems. The proper functioning of the various subsystems of food systems guarantees food safety. That is why we believe that food systems provide a good theoretical framework for examining the food security challenges of Central Asian countries and formulating policy recommendations.

The research on which the presentation is based was supported by FAO (TCP/RER/3902).

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## Forced Labour and the Shadow Economy in Italy

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❖ [Terceira-S21-S4 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S05, August 29, 2024, 9:00 AM - 10:30 AM](#)

Do spatial socioeconomic features influence firms' demand for forced labour also in places where it is illegal and socially unacceptable? We aim at providing an answer to this question through a quantitative estimation of the community-level socioeconomic risk factors associated to forced-labour episodes in Italy. We exploit a novel database of geo-tagged episodes of forced labour across Italian local labour market areas between 2016 and 2021, which we merge with administrative data on the socioeconomic outlook of places and historical data on the geography of Italian firms. We find that firm-side local features are strong predictors of forced labour, while the local availability of migrants and social capital characteristics are not. Instrumental variable estimation supports the validity of findings. The paper provides for the demand-side as related to forced labour rather than the supply-side in the Italian case.

## Towards sustainable development of agri-food value chains in Romania - territorial perspectives -

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❖ Terceira-G15-O2 Spatial Sustainable Development, S15, August 29, 2024, 2:30 PM - 4:15 PM

Compared to urban areas, the primary sector, specifically agriculture and the agri-food system, remains vital to rural economies in the EU and Romania, in particular. Therefore, policies aimed at facilitating transitions towards sustainable value chains within these sectors will disproportionately affect rural areas.

Many businesses in rural areas, particularly farms, are small businesses embedded in agri-food supply chains that are often large multinational companies up and downstream of primary production. Therefore, rural areas are disproportionately affected by the changing power dynamics in agri-food supply chains. The growth of global agri-food value chains has coincided with the process of merger and acquisitions in the European retail sector. This process has shaped perceptions that the structure of agri-food supply chains has become oligopolistic, with the retail sector increasing its influence over producers, whose bargaining power in supply chains has weakened in comparison. With a weakened bargaining position, it is assumed that redistribution of added value will negatively impact producers in rural areas who will receive a smaller proportion.

The current paper presents the contribution of the Romanian think tanks set up within the Horizon 2020 SHERPA project (<https://rural-interfaces.eu/>) to shape the vision of rural stakeholders regarding sustainability of agri-food chains in Romania and deepen the possible approaches for supporting value chains integration of local farmers, in territorial profile. The multi-actor discussion platforms were set up in 2020 in Transylvania (west of the country) and expanded in 2022 in two other regions in Romania (south and east of the country) for the best possible territorial coverage.

The interactions within the multi-actor platforms (representatives of business, academia, policy, civil society) were conducted using the Delphi method and was supported by external experts with the role of facilitating / mediating and monitoring the activity of the platforms.

Following the Delphi exercises within the Romanian platforms, we found out that Romanian stakeholders focus more on the economic aspects (sharing of value among actors along the food chain) than on social or ecological component of sustainability. Furthermore, there are important territorial disparities regarding the needs and solutions for improving sustainability of agri-food chains. So, more flexible, territorial specific and place-based policy and programs, could smooth the way towards the sustainable integration of local agri-food actors in value chains.

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## Financial instability, technological innovation and environmental quality

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❖ [Terceira-G01-O2 Peace, Regional and Urban Sustainable Development, SF4, August 28, 2024, 4:45 PM - 6:30 PM](#)

The aim of this study is to examine the impact of financial instability and technological innovation on environmental quality. The empirical model is based on the model of Nasreen et al.(2017) with technological innovation and economic policy uncertainty. The data sample covers annual data of 42 countries from 2001 to 2018. The methodology includes the Autoregression Distributed Lag Bounding Test , Granger causality analysis, and shock response analysis. The empirical results are as follows: First, higher financial instability in the developing countries will reduce carbon emissions, but it will increase carbon emissions in the developed countries. Second, no matter in developing or developed countries, increasing the number of patents will decrease carbon emissions. Third, higher per capita GDP in the developing countries will rise carbon emissions but the rising speed is decreasing, while higher per capita GDP in the developed countries will reduce carbon emissions but the reducing speed is increasing. Fourth, higher energy consumption will significantly cause higher carbon emissions in both the developing and developed countries. Finally, increasing economic policy uncertainty in the developing countries will lead to higher carbon emissions, but it will bring about lower carbon emissions in the developed countries.

## The role of the state in global value chains upgrade in emerging markets countries (cases of India and China)

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❖ [Online-G10 Trade and Global Value Chains, August 26, 2024, 11:00 AM - 1:00 PM](#)

For three decades the world has witnessed the active development of international fragmentation of production processes in the format of global value chains (GVCs). GVCs are a key element of economic activity both at the global and national levels. This paper examines the role of the state in the creation and transformation of GVCs in the extractive industries. GVC is understood as the sequence of all stages of activity in the chain of production of the final product. GVC includes the following elements: technological chain, organizational structure and management system, amount of added value at each stage of production and external supporting environment.

Up-to-date studies recognize the fact that states play an important role in GVC creation and maintaining stability despite their global nature. This is especially evident in the countries with emerging markets. The role of the state as a regulator of GVCs in manufacturing industries is the most studied in the scientific literature. Researchers recognize that although GVCs are understood as a set of connections between various firms involved in the production of goods and services, they do not operate in an institutional vacuum.

The purpose of the paper is to identify current trends in the transformation of GVCs in the extractive industries, and to identify the role of states in increasing their resilience. The GVCs that have developed in the extractive industries of India and China are selected as the object of analysis.

The paper has the following structure. The first part provides an overview of up-to-day approaches to studying the role of the state in the creation and management of GVCs. The second part highlights typical GVCs that have developed in the extractive industries, it shows their features, sources of instability and risks. Specific forms of state participation in the management of GVCs are presented separately. The third part of the paper is devoted to the case analysis. The paper presents four cases highlighting the transformation of GVCs with the participation of Chinese and Indian mining companies (Coal India Ltd., NTPC Limited, China Shenhua Energy, Shaanxi Coal and Chemical Industry Group Co., Ltd). The cases reveal the directions and possible consequences of state participation in the modification of GVCs using the example of the mining industry of these countries.



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## GVC Dependent FDI Development Path: Theoretical Perspectives and Regional Implications in Central and Eastern Europe

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❖ [Terceira-S52 Sustainability Challenges in GVC-Dependent FDI Development Path: Assessing Regional Development within Global Production Networks, S03, August 30, 2024, 11:00 AM - 1:00 PM](#)

In the rapidly evolving economic landscape, the concept of sustainability has expanded to encompass environmental, social, economic, and governance dimensions. This presentation explores the intricate dynamics of Global Value Chains (GVCs) dependent Foreign Direct Investment (FDI) development in Central and Eastern Europe (CEE), historically integrated through vertical FDI and specializing mainly in lower value-added activities along the smile curve, particularly in production and assembly segments (Nölke and Vliġenhardt, 2009; Rodrik, D., 2018; Mańkowska, M., & Knaggård, Å., 2019; Szalavetz, A., 2018; Pavlinek, 2022; Gáspár-Sass, 2023).

Drawing on theoretical perspectives, analysis of the current literature and meta-analytical methodologies, this paper investigates the transformative impact of GVC-dependent FDI on the development of countries and regions embedded within Global Production Networks (GPNs) (Gołębiowski, T., & Jarašūnienė, A., 2018; Gáspár, T., Sass, M., Vlčková, J., Koppány, K., 2023). The meta-analysis synthesizes existing theoretical frameworks, providing a comprehensive understanding of the complex factors influencing GVC dynamics and their diverse consequences for the development of CEE regions, including the sustainability dimension.

The empirical component leverages data from the Atlas of Economic Complexity to measure economic complexities within GVC integrated regions, utilizing indicators such as supply chain resilience, innovation networks, and trade dependencies (Gál-Lux, 2022; Éltető, Sass, Götz, 2023).

The Economic Complexity Database offers detailed insights into the economic capabilities and structures of the integrated regions.

Recent disruptive events, including the 2008 financial crisis, the Covid-19 pandemic, geopolitical conflicts and deglobalization trends challenge the integration of CEE regions into GVCs. Furthermore, their GVC-based integration and development path, partly due to these external developments, seem to reach their limits in providing growth engines for the CEE economies. The presentation highlights domestic economic policies responding to these disruptions, aiming to reduce external dependence and promote domestic growth. Despite efforts, enduring center-periphery dynamics, trade-offs, and limitations within the GVC-dependent FDI model are identified, potentially hindering long-term convergence goals and leading to a middle-income trap.

This paper proposes alternative models to mitigate risks associated with the GVC-dependent FDI development path, emphasizing the need for sustainable strategies (Gál-Lux, 2022). By addressing challenges arising from over-reliance on FDI and subordinate positions within GVCs, the presentation contributes to the development of more resilient strategies for emerging regions in the global economic landscape, offering valuable insights for policymakers, businesses, and researchers alike (Éltető, Sass, Götz, 2023).

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## Impact of scientific projects on public value - experiences of University of Lodz

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❖ [Terceira-G03-O1 Innovation and Regional Development, S11, August 28, 2024, 11:00 AM - 1:00 PM](#)

The aim of this paper is to understand how participants and stakeholders of research processes within universities recognize the possibility of creating impact on the economy, society and the environment. In order to complete the paper, several steps have been taken. First, the desk method was implied. Based on literature, a comprehensive view of the university, economic theories on the relationship between human activity and the environment, the concept of public value and the concept of responsible research and innovation (RRI) were discussed. The empirical part was a workshop organized to collect information about the potential impact of scientific projects. The workshop proved that such impact is carried out and that appropriate activities to disseminate the results of research have the opportunity to achieve sustainable positive economic, social or environmental changes. The workshop was conducted on a relatively small sample and participants had already participated in social/economic/environmental accountability activities. However, it was possible to obtain the main ideas of how the scientific and innovation processes developed at universities can create public value by positively influencing the economy, society and the environment.

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## A Spatial Analysis of Online and Offline Competition in Regulatory Markets

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❖ Terceira-G16-01 Cities, Regions and Digital Transformations, S16, August 29, 2024, 2:30 PM - 4:15 PM

This study aims to establish a spatial oligopoly model to analyze the competition between online and offline economies in price-regulated markets, particularly focusing on the impact on quality competition and social welfare. Motivated by the increasing competition that traditional regulated markets like healthcare, television media, education, and finance face against emerging online services such as telemedicine, online streaming, online education, and internet banking, the research investigates how this rivalry, fostered by digital transformation, not only creates regulatory discrepancies but also raises numerous policy issues. The study explores how quality competition in these regulated markets evolves in response to online competition, examining whether market quality competition can achieve societal goals and the effect on socially optimal regulated prices. Initially, the research will analyze the quality competition faced by two price-regulated physical firms against an unregulated online firm, providing insights into the equilibrium of quality competition, the determination of socially optimal regulated prices, and the impact on social welfare. This research contributes to existing literature by advancing theoretical development in spatial oligopoly models and incorporating online-offline competition considerations in the context of digital transformation. It also aims to discuss theoretical predictions of the model, their empirical verification, and implications for competition policy, while extending its scope to include mixed oligopoly models, network effects, elastic demand, and other spatial models.

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## The effect of Creative and Cultural Industries on Social Cohesion and Crime

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❖ [Terceira-G42 Crime, Corruptions, Institutions, and Local Economic Policies, S18, August 28, 2024, 11:00 AM - 1:00 PM](#)

While Creative and Cultural Industries (CCIs hereafter) are recognised as a key feature for local development, evidence on their contribution to social cohesion is limited.

This evidence gap matters for policy, given the prominent role assigned to CCIs by the European policy addressing social cohesion.

This paper addressed this gap by empirically investigating the effect of the Italian geography of CCIs on several measures of social cohesion (propensity to law abiding, openness and hate).

A Two-Stage Least Square model with a Bartik-type instruments is used to address endogeneity, drawing on the geography of CCIs which resulted after the destruction of the WWII to design the instrument.

Estimates suggest that higher presence of CCIs makes places more law abiding and inclusive towards minorities, providing novel evidence supporting the rationale of culture and creativity as determinants of social cohesion.

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## Unleashing the Potential of Social Entrepreneurship for Sustainability: Best Practices from Georgia

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❖ [Online-G46-O1 Sustainable development, August 27, 2024, 9:00 AM - 10:30 AM](#)

Social and ecological entrepreneurship has the power to foster sustainable development encouraging sustainable entrepreneurship. In this regard, innovativeness plays an essential role in leading to sustainable entrepreneurship. This paper aspires to discuss how sustainable development can be achieved through entrepreneurship and explores best practices of sustainable value creation. A path towards sustainability requires complex approaches and innovative solutions. To accomplish its aims, the paper seeks to investigate the challenges faced in implementing social, economic, and ecological goals simultaneously in order to achieve sustainability. For this reason, the main goal of this research is to unveil practical approaches of social entrepreneurs to contribute to sustainable development goals. It identifies best practices and drivers of social entrepreneurship in Georgia (country). The paper illustrates examples and cases of social enterprises promoting sustainability through their activities. The research contributes to understanding the key factors and elements of social entrepreneurship through which it creates sustainable values and builds a sustainable future. Although we have identified the potential of social entrepreneurship for sustainability, there is a need for future studies to define the methods and tools for measuring the contribution of social entrepreneurship to sustainable development. In particular, the performance measurement system should be in place to measure enterprises' accomplishments. Future research should describe performance measurement tools for various sustainable enterprises and explore the most relevant approaches for this end.

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## Assessing institutional framework changes in spatial planning for tourism in Greece

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❖ [Online-G35-O1 Tourism and Overtourism Issues, August 26, 2024, 11:00 AM - 1:00 PM](#)

The tourism sector is an essential part of the Greek economy and a major vehicle for advancing culture because it contributes to economic growth on a local, regional, and national level.

An outline of the country's tourism strategy for the current programming period, 2021–2025, may be found in the Ministry of Tourism's Sectoral Development Program, which has been integrated into the National Development Program. It is a strategy paper on priorities and complementarity of touring with other sectors and policies of the EU, aimed at the eligibility of expenditure and related initiatives. However, the Ministry of Environment and Energy has changed the way it arranges tourism in terms of space on multiple occasions over the years.

In 2009, the first Special Spatial Plan (SSP) for tourism was created, marking the beginning of the geographical planning and spatial organization of tourism in Greece. In addition to outlining various types of tourism (conference, urban, marine, cultural, religious, sports, etc.), this plan also included criteria and rules for spatial organization.

Subsequently, new classification criteria for the national territory were added to the SSP in 2013: (a) the level of tourism development, (b) geomorphological aspects, and (c) the sensitivity of natural and cultural resources. However, because the tactics were illegal, the Council of State overturned this.

Until recently, tourism operations were organized according to the new Regional Spatial Plans (RSP). Nevertheless, even these were found to be insufficient and lacking in many cases. The updated SSP for tourism, which was released today, identifies five categories of locations based on load level and sets new development directions.

The purpose of this proposal is to institutionally review the changes made to the guidelines and standards for classifying the country's PES tourism industry. The goal is to evaluate the SSP's regulations and specifications critically by using the SWOT Analysis method.

The Urban Reform Program, funded by the Recovery and Sustainability Fund (RFF), requires island space, coastal area management, and tourist destination capacities to be considered crucial factors in completing urban planning. This article offers a comprehensive and historical summary of the modifications and standards for Greece's tourism industry's spatial structure.

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## Navigating the Crossroads: Analysing the Interplay between International Tourism Activities and Agricultural Production in Greece

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❖ [Terceira-G14-O1 Institutions, Political and Decisional Processes, S17, August 29, 2024, 9:00 AM - 10:30 AM](#)

This research delves into the complex dynamics between touristic activity and agriculture in Greece, focusing on the competition for arable land. The escalating trend of farmers abandoning their land in favour of selling it for hotel construction, driven by the allure of the higher profitability offered by the tourism sector, has raised critical concerns about the sustainability of agricultural practices in Greece. Moreover, the attractiveness of higher earnings in the tourism industry exacerbates the challenge of retaining skilled agricultural workers. This study employs a Computable General Equilibrium (CGE) model to dissect the intricate dynamics governing the competition between touristic activity and agriculture for arable land in Greece. At the national scale, the CGE model enables a holistic examination of the macroeconomic impact on Greece, unravelling shifts in GDP, employment dynamics, and land use patterns resulting from this competition. As a step forward, the study aspires to employ the CGE framework to conduct regional analyses, investigating variations in the intensity of competition and its localized implications.

By leveraging the CGE model, this research seeks to provide a comprehensive understanding of the multifaceted factors influencing the interaction between touristic activity and agriculture, at the same time “navigating” between over-tourism and food security issues. The findings aim to offer evidence-based insights crucial for informing sustainable land-use policies in Greece. Our approach recognizes the importance of integrating economic, social, and environmental considerations, facilitating the development of strategies that balance the economic benefits of tourism with the preservation of essential agricultural resources. This research contributes to advancing the discourse on land-use conflicts within the tourism-agriculture nexus, showcasing the utility of the CGE model in capturing the intricacies of such complex interactions. The outcomes hold practical implications for policymakers and stakeholders, guiding them towards informed decision-making and strategic interventions tailored to Greece's unique economic and natural landscape.

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### The Relationship Between Perception of Social Services Quality and well-being (or vice versa?)

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❖ [Terceira-G14-O2 Institutions, Political and Decisional Processes, S13, August 29, 2024, 2:30 PM - 4:15 PM](#)

The primary question addressed in the current study is how perceptions of the quality of social services affect people's well-being. Since a central goal of social services is to enhance people's well-being, exploring the connection between the two is an intriguing question that has not been sufficiently discussed. However, drawing inspiration from the policy feedback literature and new insights from other disciplines that challenge one-way causality, we explored whether there is an effect in the opposite direction. Thus, the second question is: Does people's well-being affect their perceptions regarding the quality of services? To investigate these questions, we employed a quantitative method based on a multi-level analysis of the 2016 European Quality of Life Survey, which includes 33 European countries and approximately 37,000 respondents aged 18 and over.

Preliminary findings indicate that while the connection is relevant in both directions, the influence of the perception of service quality on well-being is more prominent. Furthermore, welfare regimes and the type of services impact the relationship between perceptions of service quality and well-being. The study offers both empirical and theoretical contributions to the policy feedback literature. Moreover, it has practical implications for policymakers, enabling them to prioritize the most influential social services.



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## Modelling human movement and access to greenspace in x-minute cities requires holistic, interdisciplinary approaches

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❖ [Terceira-S44 Networks: An Empirical and Conceptual Toolset to Understand and Model Cities, Regions and Their Interactions, S18, August 30, 2024, 2:30 PM - 4:15 PM](#)

The ‘x-minute city’ concept has been widely used in regional studies and urban geography with the term driving recent urban planning policy across cities and regions. This concept is grounded in four key dimensions: proximity, ensuring the availability of nearby amenities; density, serving a significant population; diversity, fostering mixed-use neighborhoods and cultural integration; and digitalization, incorporating advanced technologies such as sensors and green infrastructure. Existing modelling techniques for the x-minute city often struggle to capture the complexities of accessibility, diversity, and individual mobility patterns. This paper seeks to integrate various theoretical frameworks to analyse urban movement within the x-minute city, with a particular focus on greenspace accessibility as a critical component. Proximity-based spatial interaction approaches, essential in spatial analysis, lay the groundwork for conceptualizing the x-minute city. However, these methods sometimes fall short in addressing the nuances of individual accessibility and the diversity of urban life. Behavioral ecology frameworks, like movement ecology, provide social perspectives on human movement motivations but lack specificity in accounting for individual daily routines. Network-based human mobility models are adept at simulating personal routines but need integration with broader frameworks to be effective. We propose Multi-context Inclusive City (MIC) models which combine elements from spatial interaction models, human mobility networks, and movement ecology to provide a comprehensive understanding of human movement within the x-minute city. By integrating these different perspectives, MIC models offer a more holistic and nuanced approach for urban planners, public health officials, and other stakeholders to address complex urban movement dynamics in solving real-world problems.

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## Business cycles and income inequality in the EU

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❖ [Terceira-S21-S1 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S03, August 28, 2024, 11:00 AM - 1:00 PM](#)

There is a long theoretical and empirical discussion in the literature connecting income inequalities and business cycles that is mostly centred around two distinct, but interrelated, research questions. The first question is related to the impact of growth on inequality. If the process of economic growth in mixed market economies leads to increasing income inequalities, it is implied that growth has a social cost that cannot be ignored for long time. In contrast, if the process of economic growth tends to make the pie not only bigger, but also more equally shared, then it is more inclusive and perhaps more sustainable. A new set of questions, of course, arises about the role of market dynamics or public policy options in reducing inequality across the different varieties of capitalism and the conditional factors that facilitate or impede their impact. The second question reverses the way of the causality and is related to the impact of income inequality on economic growth. This is an important question with a simple logic: if inequality impedes growth, then it is not just a social issue or an issue of income distribution that can be discussed separately, but a central issue of economic development, as it reduces the size of the pie and is a matter that affects the entire economy, not just the poor people. On the other hand, if inequality is augmenting growth, the discussion is very different, as it involves a growth-inequality trade-off and more questions about the level of inequality that can be tolerated as a sacrifice for higher growth. Of course, income inequalities and economic growth are linked by a causality relationship as the former might affect the latter and vice versa. The paper intends to address these two extremely important research questions in a comprehensive way that provides policy relevant results with the use of recent data sets that allow for a better depiction of income inequality over time and across countries. The analysis covers the period 1995-2020 and focuses on the EU countries (i.e., 27 countries). The outbreak of the recent crises incited the interest of researchers and policymakers about the behaviour of income disparities in relation to business cycles. Including a number of novelties and providing clear-cut empirical evidence, the paper contributes to a better understanding of the dynamics of the growth - inequality dipole and provides recommendations that can be translated into policy action.

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## The impact of Transition 4.0 on youth unemployment rate: the case study of the Industrial Area of 'Aversa Nord'

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❖ [Online-S70-S2 The role of young people in building up sustainable development practices for inner and rural areas, August 26, 2024, 11:00 AM - 1:00 PM](#)

This research inserts in the studies dedicated to interpreting the causes and consequences of the economic and social gaps existing between the different European regions. The theoretical framework conjugates both the literature on regional development, Deindustrialization Studies, and Transition 4.0.

According to the estimates of the European Cohesion reports (2019, 2020, 2021) the less developed regions such as Italy have regressed: in 2019 the GDP per capita of the "South" returned to the level of the first years after the Second World War. Several authors attribute this failure to the inefficiency of the Cohesion Policies, attributable to both endogenous and exogenous causes: the first (endogenous) consists of the lack of skills at the administrative level and ineffective coordination in the institutional supply chain which does not allow the PECs to be implemented effectively. In addition, it occurs the demographic decline, youth migration, and conditions of abandonment and neglect especially in the most marginal areas of less developed territories. The second (exogenous) are due to the effects of hyper-globalization, premature deindustrialization, exacerbated by the succession of crises: financial (2007), pandemic (2019), environmental and energy later to the Russian-Ukrainian conflict (2021).

In this context, the inner areas of the less developed regions of the EU have suffered the phenomenon of young migration (within and outside national borders) which is strictly related to the lack of job opportunities. The process of 'deindustrialization has transformed European economies leaving the disadvantaged areas in a 'premature deindustrialization' whose effects have impacted on the reduction of the employment rate, in the main industrial sectors, such as manufacturing.

In this line, some authors emphasize the phenomenon of back-shoring, according to which several European companies in the manufacturing sector choose to return or reinvest in their home country. According to the authors, among the most determining factors, is the influence and incentive of the new European industrial policies in pursuing Transition 4.0, which is also defined as the Fourth Industrial Revolution.

For these reasons, the scientific hypothesis suggests that the process of Transition 4.0 could affect the youth employment rate in disadvantaged areas. Through the analysis of a Case Study, this research investigates such potential impact on the recovery of the loss of jobs and know-how in the domestic sector. The expected result is to clarify this correlation and which are the determining factors of the potential return.

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## From Deindustrialization to Transition 4.0: a Case Study on the reindustrialization of former 'Indesit' plants

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❖ [Online-G38 Industrial dynamics and spatial development, August 27, 2024, 9:00 AM - 10:30 AM](#)

This work is part of a wider research project - PRIN2017 "Regional Policies, Institutions and Cohesion in Southern Italy" - which inserts into the studies dedicated to interpreting the causes and consequences of the socioeconomic gaps existing among the European regions. In a perspective that combines micro, meso, and macro dimensions, the theoretical framework considers both the literature on the Regional Development of 'Mezzogiorno', and the implications of Deindustrialization and Transition 4.0.

Within this frame, the 'industrial question' returned centrally. Indeed, this contribution is going to focus on 'industry' and the determining factors of industrial transformations on development. The core analysis is a Case Study regarding the evolution of the former factories of 'Indesit Company' in the Developmental Industrial Area of Aversa Nord, a disadvantaged territory of the region Campania of 'Mezzogiorno'.

Through qualitative research and the use of semi-structured interviews, this Case offers the analysis of three different companies involved in the re-industrialization process, corresponding to the three industrial phases identified during the research: (1) Industrialization [1970-90] (2) Deindustrialization [1990-2017] and Transition 4.0 (3) [2017-2022]. Particular attention is on the passage between the second and third phases. In this line, the scientific hypothesis suggests that despite the phenomenon of deindustrialization, even in the disadvantaged industrial areas of the less developed regions, the manufacturing sector is resistant, and, with the new phase of Transition 4.0, a reconfiguration is underway in the structure of the industrial ecosystem which could reinvigorate market mechanisms.

To verify this hypothesis, the research questions investigate the interplay among the determining factors and how the industry has reacted to the change among phases: what are the underlying factors that motivate change in response to industrial transformation? How do the actors involved behave and what interests do they have? Furthermore, how do these factors and behaviors combine to the adoption of targeted policy instruments, such as regulations and incentives, in response to the different phases of industrial transformation?

The results will stress the empirical evidence on the influence of the entrepreneurial actors and the factors determining the development in a less developed context.

## Renewable energy communities, digitalization and information

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❖ [Online-G37 Ecological Transition, August 26, 2024, 4:45 PM - 6:30 PM](#)

In this work we study the case of agents willing to engage in a Renewable Energy Community (REC). The municipality - being the promoter of the REC - burdens all the investment costs (RE plants, storage, local grid interventions) and entrusts an aggregator of its operation paying a fixed tariff. The latter, acting as a monopolist, is also the sole supplier of energy for the REC's members. The management of the REC requires the collection of energy data from the members to assure its efficient operation on the side of the self-consumption and exchange of energy within it. Such data allow also the identification of the agents' preferences across energy devices and are an additional source of revenues for the aggregator thanks to their sell to third parts. This behaviour translates into a dis-utility the agents, which we call privacy cost. In such a framework, we consider also uncertainty on the side of the investment cost. On the basis of the outcomes of our model, we are able to study the effect of data collection policy performed by the aggregator on the size of the REC, while also accounting for agents' valuation and the role of uncertainty on the investment cost side.

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## The Participation of Citizens in E-Government and their Degree of Satisfaction

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❖ [Terceira-S03 Digital Geographies: Spacelessness, or New Mode of Space-Making and Space Relations, S02, August 29, 2024, 9:00 AM - 10:30 AM](#)

In recent years more countries have gradually started to provide digital services to their citizens. The digitization of public services, due to the COVID-19 pandemic, has become an essential necessity for many governments around the world. An improved government through digitization will not only have an increasing effect on business but will also intensify citizen participation and contribute to economic growth. The initial acceptance is apparently that the first stage for the success of e-Government services is citizen interaction which then enables governments to enhance e-Government services. The digital transformation of Greece since 2019 with the creation of the e-Gov platform has become a role model due to its dynamics with more than two billion transactions, that have been processed with speed and transparency through the digital state these past years. The empirical research of this study presents analysis of information received from Greek citizens and studies citizens' satisfaction from e-government services resulting from the usefulness of e-government services, service quality, the fulfillment of their expectations from the use, as well as the intention to interact with e-government services. The purpose of the research is to propose targeted ways that will help the use of electronic services by citizens and to capture the existing citizens' participation and satisfaction.

## Regional subjective well-being in Morocco through a media sentiment index

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❖ [Terceira-G39-O1 Big Data and Regional Science, SF1, August 29, 2024, 2:30 PM - 4:15 PM](#)

Sentiment analysis of newspaper has been used to assess the overall subjective well-being of countries (Carlquist et al., 2017; Hills et al., 2019). However, few works have covered the territorial aspect. (Boumahdi & Zaoujal, 2023) is one of them, except that it only covered one of the twelve regions of Morocco, making it difficult to make a spatial comparison of the evolution of subjective well-being in Morocco. Also, in this article we propose to extend the evaluation of daily and monthly regional subjective well-being (RSWB) to all regions of Morocco through the analysis of the sentiments of their media coverage.

We scraped nearly 174,000 newspaper articles published online from October 1991 to September 2020. This was followed by the construction of a lexicon of localities, for each of the twelve regions of Morocco, in order to detect articles that cover these regions. Finally, we analysed the textual data of these articles by detecting the sentimental polarity of the words using the French-speaking lexicon FEEL (Abdaoui et al., 2017). Finally, we constructed the RSWB in each region as a relative balance of feelings.

Thus, at the regional average level over the period, the highest RSWB concerns Fès-Meknes (16.7%) slightly above that of the administrative capital Rabat-Salé-Kénitra (16.6%) and the economic capital Casablanca-Settat (16.6%) against a regional average of 16.5% and the lowest index in Guelmim-Oued Noun (15.6%).

The index is relatively homogeneous at the national level with an average coefficient of variation of 4% while its variability differs at the regional level, notably in Guelmim-Oued Noun which records an average coefficient of variation of 21%. Furthermore, 107 early warnings of RSWB were triggered at the regional level between October 1992 and September 2020, the highest number of which was triggered in the Béni Mellal-Khénifra region (17).

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## The implementation speed of public interventions: evidence from EU Cohesion policy projects

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❖ [Terceira-G06-O1 Regional and Urban Policy and Governance, S12, August 28, 2024, 11:00 AM - 1:00 PM](#)

This work aims at tracking down the main determinants of the implementation speed of the European Cohesion interventions.

The implementation time of the same project typology could be heterogeneous depending on the features of the territory where the project is performed.

The paper explores the potential heterogeneities among EU countries in the timing of project completion and identifies their determinants. It implements a project-level investigation by extracting the relevant information from Kohesio database.

To take into account the natural differences in the execution time between the sectors and typology, we classify the cohesion projects by thematic areas and spending categories.

For each EU country, we group the cohesion projects by provinces and apply a logistic regression. The dependent variable is the average execution time of the projects in the province vis-à-vis the national average. The explanatory set is composed of some variables which could cause the speed of projects' implementation (i.e., absorption capacity, development level, competitiveness, innovative behavior, institutional quality, administrative efficiency, proxies of decision-making speed and political strategies and so on).

The model estimates the relative role of each explanatory variable in influencing, on average, the probability that the provinces are outperforming in project execution. The identification of the causes of projects' implementation speed for each country allows the European policymaker to apply differentiated measures by country to overcome inefficiencies.



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## Indigenous Cultural Burns in Canadian Fire Management – Time and Place

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❖ [Terceira-G24-O2 Human - Environmental Interactions, S16, August 30, 2024, 2:30 PM - 4:15 PM](#)

Wildfires pose a threat across Canada as fire and resulting smoke impact tourism, natural resources, rural communities, and downwind urbanites. Due to budget cuts, scarce equipment/infrastructure, and reactive systems, Canada is poorly positioned to withstand wildfires. Indigenous communities looking to support fire management are reintroducing cultural burning, an age-old practice to clear forest/brushlands of potential fuel and stimulate regrowth. To appreciate how Indigenous theory and praxis maintains, even improves ecological resilience, the public is challenged to accept fire as part of the solution, not just the problem.

Canada's pre-colonial peoples recognize that fire suppression by the Canadian government was not always the best course of action. The impact of wildfires on Indigenous communities is disproportionate. Current fire management processes use prescribed burning, highly regulated and supported by western science, yet there is an appetite to listen and learn. This paper describes challenges of decision makers and considers the perspectives of Canadian federal/provincial/territorial governments and Indigenous communities.

For the Tsilhqot'in, the word fire means "lightening the load off the land." Amy Cardinal Christianson, from Treaty 8 Metis territory in Alberta:

Settlers brought a vision of removing fire from the landscape to Canada. Indigenous people have been removed from conversations about fire management. We want to be able to steward the land and use fire on our territories. Canada has faced some bad fire seasons, so the public is looking for new solutions. But if we, as a society, have decided that we want fire back on the land, it just makes sense, and it's a matter of justice, for Indigenous people to be leading that process.

Cultural burns are often of low intensity, known to First Nations Fire Keepers as "fires we can walk beside." BC Wildfire Service works with Nlaka'pamux Nation and Skeetchestn Indian Band Fire Keepers on burning methods rooted in deep cultural meaning to people and place. History and connection to land on which they reside impact perspective on fire management. Indigenous leaders' voices reflect the regions they are from. The milieu of hereditary knowledge, cultural connection to land, history, interrupted and continuous, shape stewardship of natural resources.

This paper recounts the historical evidence and regional narratives for an array of constituents as well as the present and evolving approaches across Canada's provinces and territories. The paper layers in evidence from other regions of the world, primarily in-land and northern Australia as well as the western U.S.

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## Exploring the (mis)match between universities strategies and the local economy. An Italian case study

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❖ [Terceira-S08-S1 University Impacts on the Local and Regional Economy, S02, August 28, 2024, 11:00 AM - 1:00 PM](#)

This paper investigates the relationship between graduates, higher education institutions (HEIs), and Social Planners (SPs), examining their objectives and impact on HEIs' attractiveness and graduate retention. A theoretical framework is introduced, with a similarity index to gauge alignment between educational offerings and the local economy. Findings show that HEIs in disadvantaged regions often provide educational portfolios that are not optimally aligned with the local context. Analyzing 75 Italian universities, empirical evidence confirms that proximity between educational offerings and the local job market influences university attractiveness, student quality, and graduate retention. The research underscores the misalignment between HEIs and SPs' objectives.

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## Sustainable and strategic approach of relationships concerning Quadruple Helix Innovation Model towards regional socioeconomic development.

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❖ Terceira-S08-S2 University Impacts on the Local and Regional Economy, SF3, August 28, 2024, 4:45 PM - 6:30 PM

The improvement of national innovative capacity has been a challenging issue for worldwide policymakers and has revealed to be a relevant topic in the higher education governance field and in the agenda of Public bodies, national governments, and representative organizations mainly because of its socioeconomic benefits at institutional, regional and national contexts. At the same time, worldwide literature has increasingly recognised the relationships and interconnections between all organizations of the innovation ecosystem as a relevant engine to boost this improvement since their socio-economic benefits. The economic benefits regard the activities related to ‘generation, use, application and exploitation of knowledge and other university capabilities outside the academic environment’ that may be undertaken with the scope of financial vantage at institutional level and the improvement of economic performance at a macro perspective. On the other hand, the social benefits regard a set of services that generate no economic revenue, or at most, has only a partial cost for the end users. Organizational and societal rationales are driving this collaboration, for instance, decreasing levels of funding for HEIs (Higher Education Institutions), low levels of innovation in most business, high rates of unemployment (specially youth unemployment) and lack of competitiveness of many regions and need to create regional innovation ecosystems (Galan-Muros & Davey, 2017). In turn, the Sustainable university concept – SUC - has been recognized by numerous contributions at scientific and doctrinal levels (e.g Thessaloniki Declaration, Cortese, 2003; Marshall et al., 2010) as the guiding principle for Higher education development, taking into consideration its economic, environmental and social roles. Hence, HEIs everywhere have been forced to rethink their role in society and to evaluate the relationships with their stakeholders taking into consideration their expectations towards these benefits (Jongbloed, Enders & Salerno, 2008). This paper aims at contributing to the discussion on the relevance of synergy of the relationships of Higher Education Institutions (HEIs) and other organizations of innovation ecosystem by proposing an analysis of these relationships in the perspective of Quadruple Helix Innovation Model and taking into consideration the assumptions of Sustainable University concept and the Stakeholders Theory premises. For this scope, these premises are briefly presented and linked. For this scope, these premises are briefly presented and linked. Since this is an insufficiently explored perspective in the specialized literature, this paper modestly tries to contribute to the discussion without intending to end it.

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## Economic and financial evaluation of a floating wind project in the Northwest of the Iberian Peninsula

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❖ [Terceira-S53-S1 Maritime Regions: Europe Hot Spots, S09, August 29, 2024, 9:00 AM - 10:30 AM](#)

The acceleration of energy consumption has been subject of special attention from both the political class and the scientific community. There is a need to take measures aiming to reduce the use, or even non-use, of fossil fuels. On the one hand, to combat climate change, and on the other, to ensure countries' energy independence. In this context, targets have been set for the incorporation of renewable energies into gross final consumption, especially with the use of floating offshore wind energy, due to the maturity of the technology. In addition, floating wind energy will contribute to achieving the Sustainable Development Goals (SDGs) set out in the United Nations 2030 Agenda. Portugal is no exception. In fact, its geographical location gives it a significant advantage when it comes to utilising this renewable resource. Mainland Portugal's maritime space, under national sovereignty or jurisdiction, extends over 591502 km<sup>2</sup>. If, on one hand, the ocean's tri-dimensionality poses challenges in terms of governance and maritime spatial planning, on the other hand, it allows for various human activities and use. This work presents a case study, the implementation of two offshore floating wind farms in two areas in the Northwest of the Iberian Peninsula (Viana do Castelo), with a capacity of 1.98GW. The exclusion criteria, among other things, for geo-referencing the areas were analysed. Different scenarios were created using the OffshorePlan platform and the economic and financial viability of the project was assessed by analysing the sensitivity of the Net Present Value, Internal Rate of Return and the Payback Period indicators. The variations between the probable values imposed by potential shareholders - NPV (2.5 M€), IRR (10%) and Payback Period (10 years) and those obtained - NPV (3 M€), IRR (13.18%) and Payback Period (9.3 years) - were exceeded by 22%, 31.8% and 7.5%, respectively. These results support the decision to approve investment in the hypothetical economic operator's project. The values obtained for the Levelised Cost of Electricity are also considered acceptable.

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### Small regional railways in rural and remote Canada - End of the line or new beginning?

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❖ [Terceira-G12-O3 Economic development in rural places, SF2, August 29, 2024, 2:30 PM - 4:15 PM](#)

What if communities in Canada's sparsely populated areas were no longer served by shortline railways?

Prior to 1990 Canadian National (CN) Canadian Pacific (CP) railways owned and operated thousands of short distance branch lines across Canada that provided rural areas with freight transport to and from the mainlines. Changes in policy permitted the two mainline operators (CN and CP) to abandon or sell off unprofitable branch lines with no guarantee of continued service.

Although this change would benefit the mainlines (eliminating the cost of serving low density areas that required federal subsidies) it would create economic hardship for the rural areas served by the secondary lines. The very sustainability of communities was in peril with economic and social prosperity expected to decline.

Primarily motivated by survival, local communities, shipper cooperatives, and entrepreneurs formed new railways. These short line enterprises of all ilk developed business models that focused on serving low-density, rural areas with lower operating costs and greater flexibility.

This paper explores 18 of western Canada's small independent railways – often operating on tracks with weight/speed restrictions. Such railways are often neglected in thinking about climate change solutions. “Rural communities care about highway damage from trucking. Federal grant funding programs are concerned with climate change resilience and emissions reduction in the transportation sector. In terms of short line railway infrastructure investment, we really would like to see environmental and sustainability considerations included.”

The president of the Railway Association of Canada stated “Prairie short line railways need better government support to remain viable, to provide critical first-mile, last-mile services that connect customers to Class 1 railways and global markets ... Greater short line infrastructure would contribute to regional economic development, improve supply chain fluidity, lower costs for businesses, and enhance safety while lowering emissions and reducing the strain on public infrastructure.”

This paper argues that the significance of shortline railways should not be underestimated. Shortlines connect rural areas with regional, national, and international markets through linkages with mainline CN and CP railways. Each year shortline railways transport over a million carloads of natural resources, agricultural commodities and industrial products valued at CA\$35 billion to market. Their footprint indicates the impact and importance they have for all of Canada and nine provinces in particular. More importantly, is the role of shortline railways in the survival of industries and rural communities at the end of the line so as not be left behind.

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## Detecting non-politically driven location probability of large-scale inland transport networks

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❖ [Online-G31 Methods in Regional Science or Urban Analysis, August 26, 2024, 4:45 PM - 6:30 PM](#)

This paper builds an exogenous probability for a location to attract large-scale inland transport networks such as railways. Our probability measure reflects the complex non-linearities between the underlying cost morphology, topological centrality, and network structure. Such a measure can prove useful to detect local deviations of a railway network from an exogenous scenario (i.e., a hypothetical network with cities having equal political influence to gain direct access to the railway network). After laying out the construction and features of the probability measure by mean of toy examples, the paper presents either simulations and a real data application to the case of the construction of early railways to show how our measure can be employed as an instrumental variable to deal with the endogeneity of actual railway paths and, hence, complement the well-known and classical least cost paths (LCPs) approach.

## The evaluation of new business model support in social and environmental keys using a social network analysis

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❖ [Online-S70-S2 The role of young people in building up sustainable development practices for inner and rural areas, August 26, 2024, 11:00 AM - 1:00 PM](#)

Current issues, such as climate change and social and economic disparities, are complex and context-dependent, influencing several economic and social actors. In rural areas populated by micro-small and medium enterprises that, while having a lower risk than other companies, have less innovation and financial resources and capabilities, a local convenor could help support them to drive their social, environmental, and economic behaviours to safeguard natural resources, to answer for social community needs while fulfilling their economic goals. The Community-Led Local Development European Programme defined Local Action Groups as actors that help develop and grow local areas in social and economic fields. Authors analyse this role, highlighting that the convenor, focused on social and environmental issues, can stimulate the changing of the traditional business model in the social business model characterised by the business ambidexterity involved in producing economic value that is also relevant to answering community needs. The authors have studied the effectiveness of a Local Action Group in its convenor role for local actors' behaviours on economic, social, and environmental themes. The research uses social network analysis to extract the network's backbone linking 150 local area entrepreneurs according to their perception of the local area's main weaknesses. The results are twofold; on the one hand, they highlight that the Local Action Group can be seen as an effective convenor and, on the other hand, its activities are instrumental in improving local area stakeholders' performance.

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## Financing Sustainable Blue Economy and Integration of Policies and Development - East Timor Maritime Cluster

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❖ [Online-S53 Maritime Regions: Europe Hot Spots, August 26, 2024, 9:00 AM - 10:30 AM](#)

Maritime Clusters are important tools for supporting sustainable growth and jobs. They offer opportunities to promote and uptake innovation, knowledge, and skills as well as give access to better finances by ensuring that the support provided is effective and well-placed. Education and the instruction on how important the sea really is opens thousands of doors for the population, both locally as internationally. The existence of new maritime clusters will also help Timor to develop a better blue economy initiative and future projects by being able to reach carbon neutrality and a sustainability. And with a newer, cleaner and bluer economy, thanks to the formation of clusters, East Timor could well be the example most countries need to inspire themselves to develop and change for a Blue Economy. For the island of East Timor, the most precious resources may well be the crystalline waters that surround it, as well as the resources and potential projects one can imagine. Its favourable geography and limited development have fostered for many years a uniquely diverse maritime ecosystem and with a blank and open-minded nation the big question facing the country is: “what role will these waters will play, and what legacy can they provide?”.



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## Relationships Between Factors of Regional Competitiveness in Central and Eastern Europe

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❖ [Terceira-G09-O3 Regional Competitiveness, Innovation and Productivity, S13, August 30, 2024, 11:00 AM - 1:00 PM](#)

The divide between the eastern and western parts of the European Union has been widely discussed. However, significant territorial differences are undoubtedly present even within the narrower eastern region of the EU. This study focuses on the competitiveness of regions in Central and Eastern Europe (CEE). The analysis relies on the pyramid model, the theoretical background of which provides the basis for investigating the factors affecting the competitiveness of the 51 NUTS 2 regions across six CEE countries. Partial least squares structural equation modelling (PLS-SEM) is applied to examine the relationships and effect mechanisms between the model's factors (more specifically, between the latent variables representing the factors). We have adapted our general model to the so-called overperforming and underperforming regions described by Iammarino et al. (2019), exploring the connections of their competitiveness factors in this context. Research results reveal that the effect mechanisms observed between the above-mentioned regions are completely different. Various factors can be considered as either important or less decisive in terms of competitiveness development, which could have implications for regional policy moving forward.

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## Firm Investment and Regional Population Decline

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❖ [Online-G02-O1 Demographic Change, Population and Migration, August 26, 2024, 9:00 AM - 10:30 AM](#)

In many countries, national population shrinkage is impending, which is mirrored by increasing attention in public and academic debates. The economic literature has recently started to focus on the effects of population decline, but many questions remain unanswered. This also applies to the effects of population decline on the capital stock, determined by investment decisions of firms. The question whether the looming shrinkage of one production factor, labor, may already be a drag on the other, is of crucial importance, given that the transition to a green and digital economy requires substantial investment. However, addressing this question with data at the national level is difficult due to the absence of a sufficient number of observations. By contrast, on the regional level, there is substantial variation, both in experiencing population decline in the past and in expecting the same for the future. Yet, inferring the effects of shrinkage on investments from this regional variation is demanding, and goes beyond the descriptive comparison of indicators in growing and declining regions. Bias can occur from the moderating roles of business cycle effects and labor market tightness but also from the absence of an appropriate spatial perspective that accounts for functional interactions, such as commuting. Addressing these issues, we link data from a representative survey of more than 15,000 establishments across Germany in the period from 1993 to 2021 with fine-grained statistics at the municipal level on population, unemployment, vacancies, and driving times. Using this panel dataset, we estimate the effects of experienced and expected regional working-age population decline on firm investments, thereby not only carving out the role of demographically induced shortages vice versa those driven by tight or booming labor markets, but providing insight how region-specific demographic developments interact with the national and global challenge of a green and digital transition.

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## The Relationship of Companies Local Embeddedness and Culture: A New Perspective of Conceptualization

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❖ Terceira-G17-O1 Cooperation and Local / Regional Development, S16, August 28, 2024, 2:30 PM - 4:15 PM

The criticism of the neoclassical theory of economic behavior, the changing relationship between the company and the space, the impact of globalization on the economic, political and social fields, as well as the cultural turn have stimulated new trends in the field of social sciences. In recent decades, the concept of embeddedness, which has undergone significant conceptual transformation, has now consolidated its place in the field of regional economics and economic geography, however, interdisciplinary studies of the phenomenon are still common. The research deals with the interaction between corporate embeddedness and culture. The purpose of the literature synthesis is to demonstrate how previous analyzes have interpreted the role of culture in the literature on embeddedness. The main question of the research is how corporate practices and cultural norms develop in a specific socio-cultural context. Through a comprehensive analysis of the existing literature, the study also addresses the importance of regional and local identity. The novelty of the concept lies in the fact that the research approaches the role of culture in embeddedness from two different aspects. On the one hand, it explores the value and norm system of embeddedness and embedding itself, focusing on the role of culture in limiting social practices, based on Polányi's original approach, and on the other hand, the role of culture in the interactions of the embedding process is discussed at all levels of embeddedness and culture. Based on the literature, it can be concluded that the culture of both the company and the receiving space, i.e. the level of trust, the openness, the willingness to settle in and the receptiveness determine the success of the embeddedness.

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## Flood risk in the Como Lake district (Italy): economic and social impacts for the communities.

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❖ [Terceira-S15-S1 Flood Risk and Natural Hazard in the Built Environment - From Economic Impact to Regional Resilience, S02, August 29, 2024, 2:30 PM - 4:15 PM](#)

Floods, and the so often associated landslides, are natural hazards; deaths and damages resulting from the interaction with human being, goods, and human activities are unnatural disasters. The agglomeration of people, assets and economic activity make urban settlements particularly vulnerable to natural hazards and, therefore, disasters.

The research will present some case studies to highlight how the territory's features and the built environment can amplify the economic impact and the overall cost, reducing, at the same time, the communities' resilience, and cancel the ability to absorb even low intensity flood events.

The examples concern small towns in the Province of Como (northern Italy), located along the banks of the Como Lake: in July 2021, in the small city of Laglio (about 900 inhabitants on the west side of Como Lake), ten days of bad weather caused damages amounting to 67 million euros; during the same period, in Blevio, a town with just over 1,000 inhabitants on the east side of the Como Lake, the amount of damage was quantified at 16 million euros.

As defined with the Disaster Risk Management Cycle, there are different phases associated with the triggering of a possible disastrous event. We can summarize in 1) preparedness, prevention, and mitigation phase; 2) emergency management and response phase; 3) rehabilitation and recovery phase. The research focuses on an investment analysis associated with flood events management.

After an introduction on the main relevant topic related to flood risk management, the paper will highlight, through the in-depth analysis of the examples cited above, the need for public administrations and communities to invest in territorial resilience and prevention strategies and actions, underling that the main aim for public administration should be a precise and careful plan towards a progressive shift of investments from post-event to pre-event.

## Internal peripheries in Poland -why cohesion policy does not always work

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❖ [Terceira-S20 Central and East European Regions on the Common Path - 20 Years of Integration With European Union, S02, August 28, 2024, 2:30 PM - 4:15 PM](#)

Poland's inner periphery, despite the significant intervention of the European Union's cohesion policy, constantly struggles with socio-economic disparities, which constitutes a challenge that, to a large extent, cannot be alleviated even in the presence of cohesion policies. These regions, characterized by structural economic problems, geographical disadvantages, demographic changes, inadequate local governance, limited private sector involvement and deep-seated cultural and social problems, show why a one-size-fits-all approach to development is insufficient.

The importance of a place-based policy, which considers the unique characteristics and local spatial connections of each area, is crucial for effective development interventions. The TIPERICO research project (<https://tiperico.web.amu.edu.pl/en/>), conducted within the framework of urban functional areas, has been instrumental in redefining and classifying Poland's inner peripheries. By selecting representative test areas and examining their developmental regularities, the project offers a detailed understanding of the diverse challenges these regions face. This research includes both quantitative analyzes of development trajectories and qualitative insights from residents, entrepreneurs, NGO activists and local authorities. These perspectives shed new light on the multi-faceted conditions and development obstacles occurring in these areas. They allow us to answer why cohesion policy intervention is not always effective in these areas and its effectiveness is limited. The research results lead to the formulation of recommendations tailored to individual needs regarding programming and implementation of development policies in Poland's inner periphery. These recommendations take into account the socio-economic character of regions, their diverse responses to development turmoil and the broader political context characterized by a tendency to centralize the programming of development interventions. The results underscore the need for a differentiated, region-specific approach to policymaking. They show that to effectively tackle the unique challenges of Poland's inner periphery, development policies must be adaptable, informed by local insights, and responsive to the specific needs of each region.

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## Fresh Food Systems in Small Island Economies - the case of the South Pacific

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❖ [Terceira-S30 Small \(Island\) Economies – Approaches and Perspectives, S04, August 28, 2024, 2:30 PM - 4:15 PM](#)

The study analyzes to what extent small island economies of the South Pacific are integrated into food systems. It shows which different fresh fruits and vegetables are sold, which retail formats are offering which specific assortments and which supply chains are established. In the small island economies, distance, transport costs and market volumes are much more important than in larger countries of the Global South. Direct marketing of local products is dominating, fresh products which can be transported using ship-freight-container with lower transport costs are broadly available but the supply of expensive air-freight-imports is very limited. These products are only sold in areas with a sufficient demand of households with high income.

The study is based on field visits in Fiji, Tonga, Samoa and Vanuatu. During the visit a mixed-method approach was used. It covers first a photo documentation of the exterior and interior of the retail units, second a quantitative registration of offered fresh fruits and vegetables (including price and origin) in the visited retail formats (26 stores and 30 food stalls) and third, qualitative interviews with relevant actors (6 managers, 30 persons running food stalls/stores and 4 experts). The results are documenting the available assortment, the supply in different retail formats and the supply-chains.

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## Territorial inequality in resilience to COVID. Evidence from Poland

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❖ [Terceira-S21-S1 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S03, August 28, 2024, 11:00 AM - 1:00 PM](#)

The research is aimed at better understanding the territorial differences in resilience to COVID. We focus on two outcomes of the pandemic: health-related (mortality) and economic (income). More specifically, the health-related outcome is measured by excess mortality, that is mortality above the expected value resulting from the extrapolation of local (pre-pandemic) trends in a given location. In turn, the economic effect is proxied by the change in average personal income achieved by the local taxpayers (2021 as compared to 2019).

The research is divided into two phases. In phase 1 we apply traditional data modelling using standard specification from the analysis of conditional convergence  
In phase 2, the impact of independent variables on local resilience to COVID is examined using machine learning algorithms. This approach involves an extensive testing for nonlinearities and spatial correlations.

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## The contribution of coworking spaces on fostering communication among their members

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❖ [Terceira-S80-S2 New Work Horizons: Geographical, Social, and Economic Dimensions of Collaborative Working Spaces, S09, August 30, 2024, 11:00 AM - 1:00 PM](#)

Coworking spaces represent new concept of "all-inclusive" work environments. They feature aesthetic design, adorned with unique elements to cultivate an open, youthful, and welcoming atmosphere. In addition to physical office areas, coworking spaces offer office services, social amenities, and various other facilities. The demand for coworking spaces surged post the 2008 financial crisis, driven by a rise in freelancers and entrepreneurs. This trend was further propelled by cultural and technological advancements facilitating remote work, irrespective of location or time.

The establishment of a community within a collaborative workspace is a key characteristic of such environments. Recent literature suggests that collaborative workspaces facilitate interactions among diverse colleagues, enhancing productivity, fostering collaborations, and encouraging knowledge exchange. Individuals (coworkers) utilizing these workspaces are keen on establishing connections, promoting collaborations, and sharing knowledge.

This study delves into the phenomenon of co-working spaces in Tel Aviv, aiming to explore the nature and extent of collaborations within these collaborative workspaces. Conducted in Tel Aviv, the economic and cultural hub of Israel, where the highest concentration of such workspaces is located, the research commenced near the onset of the COVID-19 pandemic. In Mapping 44 surviving co-working spaces in the city, a questionnaire was distributed to workers in these spaces. Respondents were queried about the types of collaborations they engage in with businesses or fellow freelancers within the workspace. The study also assessed the workspace's role in facilitating knowledge transfer among colleagues and fostering entrepreneurial activity. Additionally, respondents gauged the impact of both informal (corridor conversations, knowledge sharing, shared meals, etc.) and formal (brainstorming, joint projects, support services, etc.) communication on advancing work or enterprise within the workspace. Analyzing data from 500 collected questionnaires provided insights into employees' perceptions of the workspace's contribution as a conducive work environment.

The research results reveal that a notable percentage (41%) of respondents indicated engaging in diverse forms of formal collaborations with peers within the shared workspace. This finding is pivotal and noteworthy, underscoring the tangible role of coworking spaces in fostering collaborative endeavors.

Roughly half of the coworkers expressed that the coworking space holds a significant or very significant social dimension for them. However, a smaller segment perceives the space as a resource for decision-making or skill acquisition relevant to their professional pursuits. These observations align with responses from approximately half of the participants who indicated that formal communication plays little to no role in advancing their work or venture.



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## Rethinking City Relationships: Moving from Frequency Analysis to Collocation Analysis

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❖ [Terceira-YSS4 Spatial Structure and Delineation - EPAINOS, S02, August 29, 2024, 11:00 AM - 1:00 PM](#)

The range of intercity connections is diverse and can be measured in many ways. Traditional measures of city relationships predominantly hinge on the frequency of various forms of connections, such as transport services, academic collaborations, and joint intellectual property ventures. Similarly, the emergent method of toponym co-occurrence analysis assesses the strength of relationships between places based on the frequency with which their names are mentioned together in texts. These methods, while offering diverse insights, uniformly presuppose that more frequent interactions or co-occurrences between two places signify stronger relationships. However, this study argues that the reliance on interaction frequency as a primary indicator of relationship strength has its limitations. Notably, high frequencies of connection, especially between larger cities, are often a reflection of their size and prominence rather than an indicator of meaningful inter-city relationships. Conversely, the relative frequency approach may overstate the importance of sporadic interactions between smaller cities, interpreting even infrequent connections as significant due to their rarity. In response to these limitations, this paper proposes a shift from traditional frequency analysis to a more refined collocation analysis. This approach is aimed at distinguishing genuine interdependencies between cities from relationships that may arise primarily due to the individual prominence of the cities. An empirical analysis of toponym co-occurrence among 100 European cities is conducted to validate this approach. The study initially demonstrates how perceived relationship strength varies based on different metrics, followed by categorizing city relationships into four distinct groups, indicative of true interdependence. This methodology offers a more accurate insight into the complexities of inter-city relationships. The findings particularly highlight that frequent mentions of major cities like London and Paris in texts are often more indicative of their individual prominence than of strong inter-city relationships. In contrast, the frequent co-mentions of second-tier cities such as Lisbon and Porto suggest a higher degree of interdependence. These observations underscore the necessity for a more nuanced approach in studying city interactions, moving beyond simple frequency analysis to a deeper understanding of city relationship dynamics.

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## O-ring theory, social capital and the optimal size of the government

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❖ [Terceira-G29 Quality of government across space and time, S16, August 30, 2024, 9:00 AM - 10:30 AM](#)

This paper explores the optimal size of government in the context of economic growth, integrating Kremer's O-ring theory with the concept of social capital. The theoretical debate on the relationship between government size and economic development has been diverse, with some studies finding positive effects, while others note negative impacts. The literature often points to an inverted U-shaped relationship, indicating the existence of an optimal government size that maximizes long-run growth. The study employs Kremer's O-ring theory, traditionally used to understand production processes, in the context of government bureaucracy. Kremer's model, which highlights the significance of human capital in determining the probability of successful task completion, is extended to encompass the role of social capital. This approach suggests that the quality of government services and efficiency is significantly influenced by the shared values and beliefs of public servants, encapsulated in the concept of civicness. The high levels of social capital in Nordic countries, which correlate with efficient government services, provide a practical illustration of this theory.

The paper argues that social capital, understood as the set of shared values and beliefs that enhance cooperation within a society, plays a crucial role in determining the productivity of public services. This relationship is formalized by adapting Kremer's O-ring theory to the public sector. The model developed in the paper assumes that the production of public services combines final goods and the labor of public officials, whose effectiveness is influenced by their social capital.

In summary, this paper presents a nuanced view of the optimal government size by positing that social capital is a key determinant in assessing the optimal size of government, especially in terms of maximizing long-run economic growth. The findings have significant implications for understanding the role of government in economic development and provide a theoretical framework for analyzing the efficiency of public services in different socio-cultural contexts.

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## Are linguistic policies a barrier to interregional migrations? A case of study in Catalonia

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❖ [Terceira-G02-O2 Demographic change, Population and Migration, S10, August 28, 2024, 2:30 PM - 4:15 PM](#)

The examination of migration dynamics and the factors that drive them is crucial, as it entails both costs and benefits for the regions involved in sending and receiving migrants.

Little is known about how about the effect of policies aimed to protect local languages or to naturalize linguistic requirements could affect migration flows. Understanding the role of linguistic policies as a potential barrier to interregional migration is vital in order to develop effective strategies for promoting inclusive migration.

This paper addresses the question if language constitutes a barrier to migration by exploiting a quasi-experimental design provided by the introduction of a policy that normalized language. In specific, we analyze the effect of the Linguistic Normalization Act (LNA) introduced in Catalonia in the year 1983 over internal migration from the rest of regions of Spain.

This paper contributes to the literature on the drivers of migration by being the first attempt to study language barriers using a quasi-experimental design analyzing the effect of a linguistic reform. To do so, a synthetic control method using lasso (SCUL) has been applied using data from historical notebooks.

Preliminary findings following the initial phase and a range of robustness checks (in space, in time and falsification tests) show a detrimental impact of the normalization policy on inflows from other regions of Spain to Catalonia, consistent with what has been proposed in the academic literature. The findings offer important insights for policymakers, suggesting that the adverse effects of measures aimed at preserving local languages or cultural identity should be taken into account and addressed through additional policies designed to mitigate these effects.

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## Comparison of wage inequalities in the French Outermost Regions through analyzes of distributional SAM

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❖ [Terceira-S63 The European Outermost Regions: Remote Territories... Forgotten Territories?](#), S09, August 30, 2024, 9:00 AM - 10:30 AM

This article analyzes wage inequalities in some French OR (overseas regions) for the year 2016. We compare the wage distribution between the OR and with mainland France through distributional Social Accounting Matrices (SAM). The construction of our original SAM builds on different data surveys (the Annual Social Data Declarations and regional accounts published by INSEE). It allows to compare wages for three skill levels (less qualified, qualified, very qualified) and two status (public and private) within a coherent and unified accounting framework.

Our work is related to the literature on the French Distributional National Accounts (DNA) (see for instance Accardo, 2020, Accardo et al., 2017 or Amar et al., 2008 and 2021) and on the “International Distributional National Accounts” (DINA) (see for instance Piketty et al. 2018, Bozio et al., 2020 or Alvaredo et al., 2020). The DNA or DINA are based on a method that connects individual data from social statistics to macroeconomic aggregates of national accounts. They provide a description of the distribution of national income and an estimate of the reduction of inequalities achieved thanks to all public transfers received or paid by households. The DNA also enables international comparability of inequalities by providing a unifying and robust framework.

To our knowledge, our article is the first using this approach to make such detailed comparisons on wage inequalities between the ORs and between the French ORs and mainland France. We show that many differences on wage inequalities between territories are explained by the weight of the public sector, which is higher in the ORs than in France, and by the differences in the level of qualifications of workers employed in each sector, reflecting the differences in specialization in each territory: in industry and market services in France vs non-market services in ORs. However, the strong tertiarisation of jobs in all the regions implies similar wage distributions whatever the level of qualification: they are higher in the service sectors (market and non-market) than in the other sectors.

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## Relations between regional development and migration: a search for indicators

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❖ [Terceira-G03-O1 Innovation and Regional Development, S11, August 28, 2024, 11:00 AM - 1:00 PM](#)

Migration; and more precisely international migration; is currently a ‘hot topic’ for especially policymakers and politicians in EU member states. Our Horizon Europe project PREMIUM-EU focuses on relations between migration and regional development. Ultimate aim of the project is to develop a Regional Policy Dashboard (RPD) that could support policymakers in regions to formulate policies that help to enhance regional development by migration.

One of the modules within the RPD, is the regional development effects module (RDEM) that will map the impact of migration on regions. We will reflect on the basic considerations and challenges underlying the development of this RDEM. Starting point of this exploration are the regional development-indicators developed by Andy Pike and others (2016).

The goal of this paper is to formulate an approach for assessing the relation between migration and regional development. As Woods et al. (2016) discuss international migration has a transformational impact on rural regions. Therefore migration could be beneficial for the economic, cultural and social development of rural regions and thus innovation in these regions. To this end, we provided an overview of indicators for this relation and conducted a comparative research for various regions in the European Union, using existing data sources and indices, such as EUROSTAT. Our study highlights various theoretical and methodological challenges for carrying out such comparative research. For example, it is challenging to come to a theoretically sound connection of the various indicators. In addition, the availability of data at the regional level is a concern. Therefore, we recommend using additional and alternative data sources and indices, such as European Innovation Scoreboard, to create more complete data sets and a better understanding of the relations between migration and regional development.

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## Culture, creativity and enterprise towards new sustainable value chains

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❖ [Online-S70-S1 The role of young people in building up sustainable development practices for inner and rural areas, August 26, 2024, 9:00 AM - 10:30 AM](#)

The paper aims to investigate culture and creative, community-driven and enterprise strategies aimed at improving the quality of public spaces and services, harmonizing various social interests, and increasing the quality of life of inhabitants based on the assumption that culture is an engine of sustainable growth. A possible new value chain for the sustainable development starts from the impacts generated for defining the inputs of collaborative decision-making and then monitoring the resources employed in human, economic, social, and cultural terms. In this context, the theory of change, expressed by the impact value chain, is a useful approach for producing and evaluating short-term impacts that are able in leading to long-term changes.

This would allow implementing new skills and hybrid enterprises to benefit the community, and at the same time activate new processes of urban regeneration in a culture-led sustainable development perspective.

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## Assessing the social acceptability of alternative environmental management solutions in wetlands and other ecosystems

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❖ [Terceira-S84 Navigating Climate Transitions: Main Challenges to Communities Towards Sustainability, S08, August 28, 2024, 11:00 AM - 1:00 PM](#)

Climate change represents a global challenge that policymakers urgently need to address by means of integrative frameworks and targeted local solutions that hamper climatic resilience and territorial sustainability. The scientific community can develop inter- and trans-disciplinary approaches that integrate knowledge from different fields and involve stakeholders in co-designing these solutions. In environmental land management, for instance, a growing interest is paid to the effects that land-use change decisions produce on both the processes of carbon sequestration and greenhouse gasses emissions abatement, and other ecosystem and socio-economic services.

In a socio-ecological perspective, social sciences play a crucial role in understanding the relationships that link socio-economic dynamics and land-use patterns in the perspective of climate mitigation and adaptation. Particularly, local stakeholders are fundamental for the successful implementation of nature restoration actions aimed at preserving ecosystem climate services. Their perceptions and preferences can determine both the feasibility and effectiveness of the restoration investments, despite the benefits they can bring. Thus, the analysis of the social acceptability of different management options becomes more and more crucial. However, many restoration projects fail to deal with the aim of social acceptability assessment in a way that integrates socio-economic analyses and bio-geo-physical research structurally.

This paper provides a conceptual framework and a guidance to analyse the social acceptability of environmental restoration alternative management options, particularly in the case of wetlands. In more detail, the paper focuses on several factors that can influence stakeholder preferences and methods for measuring them in the context of wetlands. To the best of our knowledge, no systematic review and guidelines exist for the assessment of social acceptability of this specific type of ecosystem. Therefore, this paper explores the most recent international (academic and grey) literature with the aim to assess the state-of-the-art on social acceptability assessment and to develop an original methodological framework to identify local stakeholders' perceptions and preferences for ecosystem restoration options.

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## Democracy in Crisis: Unveiling Slovak Perspectives and the Transformative Role of Voting Advice Applications

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❖ [Terceira-G14-O1 Institutions, Political and Decisional Processes, S17, August 29, 2024, 9:00 AM - 10:30 AM](#)

In an era marked by diminishing trust in institutions and democratic processes, particularly in post-socialist countries like Slovakia, the necessity for tools to foster informed citizen participation is more crucial than ever. This paper examines the profound impact of the Voting Advice Application (VAA) on democratic engagement in Slovakia, using the 2023 Slovak parliamentary snap elections as a case study. The context is framed by recent findings from a CEDMO survey, which indicates a deep-seated distrust and dissatisfaction among Slovaks with their democratic system. Only 18% of the population expressed satisfaction with democracy's functioning, while a significant 55% displayed dissatisfaction, pointing towards a pervasive skepticism towards liberal democracy and political disengagement. The paper focuses on 'Volebný Kompas', a VAA implemented during these elections, designed to guide citizens in making well-informed electoral decisions. Comprising 39 statements spanning five dimensions of Slovak politics, Volebný Kompas aimed to enhance political knowledge, efficacy, interest, and voter turnout. This study offers a comprehensive analysis of VAA's influence in these areas, highlighting its potential to redefine political landscapes in post-socialist countries.

A significant aspect of this research is its addressal of the gaps in VAA studies, particularly the lack of detailed data on electorates and political party dynamics. The Volebný Kompas project counters this through a dual dataset framework, amalgamating over 134,000 voter responses with 429 policy positions from 11 political parties, providing a nuanced view of political, economic, and societal issues. The project's multidisciplinary nature, involving collaboration among experts in political science, economics, sociology, and international relations, ensured the relevance and diversity of the VAA's content.

Furthermore, the study emphasizes the project's structured approach to data sharing, adhering to FAIR principles and detailed documentation. This method promotes organized, accessible, and replicable data dissemination, ensuring data reliability and usability. The Volebný Kompas project thus provides critical insights into post-socialist countries' dynamics and suggests improvements in VAA data sharing.

In conclusion, the paper highlights the role of VAA and its research in fostering democratic processes and public interest in policymaking. By simplifying political landscapes and matching voter preferences with party positions, VAAs promote voter participation and a more informed electorate. The data generated by VAA usage are invaluable for researchers to analyze voter behavior and policy preferences, thereby contributing to more responsive and representative policymaking. This bridge between citizens and political institutions is pivotal for invigorating democratic societies, making VAAs a crucial tool in contemporary electoral politics.



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## Circular Economy and Sustainable Development Goals: A Holistic Exploration of Interconnected Pathways towards Global Sustainability

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❖ [Online-S50 Territorial Disparities and the Achievement of the SDGs?](#), August 26, 2024, 4:45 PM - 6:30 PM

This study explores the essential shift towards circular economy principles as a fundamental requirement for achieving sustainability goals. Investigating the intricate relationship between Circular Economy (CE) and Sustainable Development Goals (SDGs) emphasizes their interconnected roles within a unified vision for sustainable development. The European Union's circular economy action plan, embedded in the European Green Deal, underscores the urgency to mitigate resource pressure and achieve climate neutrality by 2050. The study delves into the transformative journey of the Circular Economy, establishes direct correlations with SDG indicators, and employs Conceptual Framework Development and Comparative Analysis methodologies. These approaches provide a nuanced understanding and practical insights, offering a roadmap for policymakers and stakeholders to integrate Circular Economy practices for holistic, sustainable development. The discussion section explores implications, challenges, and opportunities, advocating for ongoing research and adaptation of strategies to enhance the global implementation of Circular Economy practices.

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## The impact of proximity on the development of biogas plants

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❖ [Online-G46-O1 Sustainable development, August 27, 2024, 9:00 AM - 10:30 AM](#)

Questions relating to the siting factors for biogas units have become increasingly important in the scientific literature in recent years (Ferrari et al., 2022); certain characteristics seem essential to the emergence of biogas units, such as methanogenic potential or operator characteristics. Due to structural differences between countries (Schumacher and Schultmann, 2017), installation criteria may vary from country to country or even from area to area. We will focus on new biogas units in western France. The aim of the article is to analyze the factors affecting the presence of biogas units in a given area and the impact on neighboring territories. To do this, we use a Spatial Durbin Model (SDM) (Coll-Martínez, 2022) to identify the criteria for installing biogas units in a territory, based on a database containing numerous explanatory variables. Among other things, our paper focuses on the different methanogenic potentials of each municipality as explanatory factors for the presence of units in a territory.

The second objective of the article is to study the impact of the presence of nearby units on the presence of units in a territory. The literature on the subject suggests that the emergence of a new technology - the biogas unit - in a territory can have positive effects on individuals living close to the adoption of this technology (Bollinger and Gillingham, 2012). The location of biogas units over time depends not only on their methanogenic potential, but also on the spatial dispersion of other biogas units. By integrating the results of the first part, we compare and measure how a biogas unit can affect the emergence of new units on a territory. These spatial diffusion effects of biogas units can help us better understand the mechanisms by which biogas units are established, and enable public policies to target territories for the deployment of new biogas units.

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## Free rides to cleaner air? Examining the impact of massive public transport fare discounts on air quality

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❖ [Terceira-S01-S2 Building Sustainable Cities, S01, August 29, 2024, 9:00 AM - 10:30 AM](#)

We quantify the effect of public transportation fare subsidies on air quality by exploiting the sharp discontinuity in the cost of ridership introduced by policy intervention. We identify this effect by taking advantage of four months of massive discounts for transit services introduced in Spain on September 1, 2022, as part of the national plan to tackle the global energy crisis. Across pollutants and specifications, we find no evidence that low-cost or free-of-charge public transportation financing schemes have improved air quality. Our results reveal that measures aimed at reducing transit prices may fail to achieve the claimed environmental benefits through a modal shift from private to collective modes of transport, which suggests that massive fare discounts may not represent an efficient allocation of public funds.

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## Play and technology for social and territorial development in the pedagogical and sociological fields

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❖ [Online-S70-S2 The role of young people in building up sustainable development practices for inner and rural areas, August 26, 2024, 11:00 AM - 1:00 PM](#)

This research aims to explore the role of games and technologies in fostering social and territorial development in the pedagogical and sociological context.

The use of games and technology as teaching tools can be an opportunity to stimulate student learning, collaboration, and active participation. Games can be used as a means of imparting knowledge and skills to young people, making the learning experience more engaging and effective.

In addition, the use of technologies can facilitate access to education and reduce territorial inequalities by allowing students in remote or disadvantaged areas to participate in educational programs through digital platforms or mobile applications.

From a sociological point of view, games and technologies can foster social integration and the inclusion of individuals belonging to different cultural or social groups. Through collaborative play experiences, mutual understanding, cooperation, and respect for differences can be promoted.

In addition, technologies can provide tools for data collection and analysis, allowing for a better understanding of the needs of local communities and designing more effective socio-educational interventions. The use of analytics and algorithms can provide useful information for the design of specific interventions, adapted to the needs of different territorial contexts.

In conclusion, the use of games and technologies in the pedagogical and sociological context can play an important role in social and territorial development. Further research and experimentation is needed to fully understand the potential of these resources and develop innovative and sustainable approaches to improve the quality of education and promote social cohesion in local communities.

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## Subjective well-being inequalities in European cities

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❖ [Terceira-G02-O2 Demographic change, Population and Migration, S10, August 28, 2024, 2:30 PM - 4:15 PM](#)

### Subjective well-being inequalities in European cities

The recently flourishing literature on the geography of well-being has demonstrated that, in most developed countries, city-living is associated to lower levels of subjective well-being (Navarro et al., 2020; Tassinari et al., 2024). Recent studies also documented a declining level of subjective well-being with city size (Lo Schiavo, 2021). Most of the literature on subjective well-being primarily concentrates on the mean levels, often neglecting inequality. While the former provides a measure of the overall level of subjective well-being within a population, the latter delves into the degree of disparities (Veenhoven, 2005). Many studies have shown that, compared to rural areas, income inequalities are starker in cities and tend to grow with city size. However, much less is known on whether inequalities in subjective well-being follow similar spatial patterns. This study will contribute to the economics of happiness literature (Easterlin, 1974) and to the literature on inequality and collective choice (Roemer & Trannoy, 2015).

Our research has a European dimension. We consider all the waves of the Perception Survey on the Quality of Life in European Cities. This survey covers up to 800 observations for each of the 83 European cities in the 2023 release (500 observations for 75 cities in the initial waves back to 2009), including information on individual characteristics (sex, age, household composition, education and working status, and life satisfaction, considering a wide list of domains). We use multilevel methods that account for the hierarchical structure of the data. To address unobserved effects, while acknowledging the ordinal nature of the data, we complement these methods with OLS regressions featuring dyadic country and time fixed effects. Furthermore, we will employ Recentered Influence Function regressions for the part of the analysis delved to the subjective well-being inequality. Finally, to gain a deep understanding of the moderating role of contextual dimensions, we apply the Oaxaca-Blinder decomposition method for a list of urbanization thresholds. This technique allows to test whether observed differences stem from compositional or coefficient–structural effects (Becchetti et al 2014, Yang et al 2019).

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## Innovation through intra and inter-regional interaction in economic geography

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❖ [Terceira-G03-R Innovation and Regional Development, S11, August 30, 2024, 11:00 AM - 1:00 PM](#)

We explore the mechanisms through which knowledge spillovers influence the spatial distribution of economic activities in a two-region economic geography model with vertical innovations. The chance of innovation depends on the related variety, i.e., the importance of interaction between researchers within the same region rather than across different regions. If related variety is high, knowledge spillovers are more localized and a higher economic integration leads to progressive agglomeration. If related variety is low, economic activities may re-disperse after an initial phase of agglomeration as integration gradually increases, because firms relocating to the smaller region leverage the concentrated knowledge base of the larger region to enhance their chance of innovation. The transition between spatial patterns may exhibit very diverse qualitative properties depending on the particular level of related variety. The quality of manufactured varieties produced in each region. The chance of innovation depends on the related variety, i.e. the importance of interaction between researchers within the same region rather than across different regions. As economic integration increases from a low level, a higher related variety is associated with more agglomerated spatial configurations. However, if the interaction with foreign scientists is relatively more important for innovation, economic activities may (completely) re-disperse after an initial phase of agglomeration due to the increase in the relative importance of a higher chance of innovation in the less industrialized region. This non-monotonic relationship between economic integration and spatial imbalances may exhibit very diverse qualitative properties, not yet described in the literature.

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## The rise, fall and location of cities around a central core

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❖ [Terceira-G15-O2 Spatial Sustainable Development, S15, August 29, 2024, 2:30 PM - 4:15 PM](#)

This paper studies agglomeration within an urban corridor characterized by a continuous path connecting a finite number of places where cities may locate. To this aim, we explore the bifurcation mechanism from the state of full agglomeration at the central place of the corridor as economic integration changes from a high level. This allows us to explain how and where cities grow or wither around a central city once integration reaches a critical level, called the sustain point. Above (below) the sustain point, agglomeration in the center is stable (unstable). We prove analytically the existence and uniqueness of both the sustain point and the optimal location of cities around the central core, which depend on the number of places and on the strength of agglomeration forces. However, cities cannot locate neither too far nor too close to the central core. We demonstrate that spatial patterns of twin cities fade into a central core as economic integration reaches the sustain point. The discrete–space version of the bifurcation mechanism at a sustain point is shown to be a good approximation to the continuous–space version, provided that the number of places is large enough. If congestion forces are high in the vicinity of the central core city, agglomeration is followed by a re-dispersion phase.

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## Primary prevention policies for active aging in Piedmont, Italy: Impact evaluation of a physical activity program for the elderly

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❖ [Terceira-S28 The Geography of Public Health, S05, August 29, 2024, 2:30 PM - 4:15 PM](#)

A sedentary lifestyle is very common especially in the elderly population of industrialized countries. Medical studies highlight the relationship between increased sedentary lifestyle and diseases such as diabetes and obesity. Furthermore, they detect the importance of physical activity to prevent vascular and metabolic diseases. Knowledge on the effects of sedentary lifestyle have pushed European healthcare systems to experiment with specific physical activity interventions for elderly people, in order to support active ageing, and to reduce the pressure of this specific population on the national healthcare system. In fact, active healthy ageing becomes a fundamental goal in order both to improve the quality of life and to save health care costs through the promotion of positive experiences, awareness, and empowerment in population.

The study presented here is an experiment conducted in collaboration with the local health authority (LHA) of a specific area of the Piedmont region (Italy), in order to test the effectiveness of a physical activity program to support active ageing. The study evaluates the impact of a protocol of anaerobic exercises to be carried out in groups, specifically designed for elderly subjects suffering from chronic diseases and aimed at modifying their lifestyle for the prevention of disability. The research project has a twofold objective: to analyse the socio-psychological and physical benefits of the protocol, and to develop a cost-benefit analysis. The research focuses on three main indicators connected to states of sedentary lifestyle: the use of pharmacological prescriptions (e.g. anti-inflammatory drugs, gastroprotectors, etc); the use of medical-health services (e.g. psychiatric visits, physiotherapy services, etc.); and psycho-physical wellbeing. The final aim of the study is to provide strategic information for planning activities to promote active ageing in the LHA and to extend the recommendation of the protocol to the regional authority.

Methodologically, the experiment is conducted on 120 sedentary people, aged 64 or more, and with chronic conditions affecting the musculoskeletal system in a non-acute phase. They were randomly divided into a treated and a control group: the treated attend free physical activity for 9 months (a full sports year), the control group is involved in a training on healthy lifestyles. Since the project is still ongoing, the contribution will focus on the research design, the qualitative-quantitative strategy for data collection, and the preliminary results. In the end, we expect to find a significant impact on both the physical and the social well-being of the treated units.



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## Evaluating Regional Innovation Policy program using a dose–response analysis approach: The case of the Brazilian PIPE-FAPESP program

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❖ Terceira-G03-R Innovation and Regional Development, S11, August 30, 2024, 11:00 AM - 1:00 PM

Public policies meant to support private R&D are usually justified by their goal of enabling an increase in private firms' R&D expenditure, with positive effects on innovation outputs. This paper aims to evaluate the main effects on innovation of an R&D grant programme for small and medium-sized enterprises (SMEs) in the Brazilian state of São Paulo. This policy supporting R&D expenditures represents an appropriate tool for evaluating the effectiveness of locally based, SME-oriented R&D policies. We use a rich and unique database that covers all expenditures of the program from 1999 to 2020, which allows us to analyse the main effects of the grant program on innovation over time. Our methodological strategy involves a counterfactual dose–response regression model to evaluate the policy effects on SME innovation. Our findings show that granted firms present better innovative performance since we identified a positive average difference in their patents, evidencing the existence of output additionality among the granted firms. In addition, our estimated dose–response function reveals an inverted U-shape curve, showing that the effect of public support on firms' innovative performance decreases when the grant for individual firms is either too large or too small.

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## Exploring the Impact of VR and AR on Tourist Experiences: The Case of Ulldecona

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❖ [Terceira-G49 Entrepreneurship and Digitalization, S14, August 29, 2024, 9:00 AM - 10:30 AM](#)

Advanced technologies such as VR (virtual reality) and AR (augmented reality) applications are increasingly being implemented in the heritage and cultural tourism sector, providing visitors with immersive and engaging experiences. Taking into account the gaps in the literature concerning the topic, the objective of this study is to compare the impacts of AR and VR applications on the tourism experience in two different cultural sites, both located in Ulldecona, a peripheral city in the region of Catalonia (Spain), characterised by little accessibility and tourism: the cave paintings of the Abrics de la Ermita and the Mediaeval Castle. Utilising a qualitative real-world approach, the study combines a self-report method (post-visit interviews with visitors) and a non-self-report method (participant observation during visits). The study focuses on the cognitive, emotional and sensorial/physical impacts, capturing both positive and negative dimensions of the tourist experience. The findings emerged from the two different methods will then be compared. Notably, visitors' responses during interviews may not consistently match their sensorial and physical behaviours during the experience. The study contributes to a wider understanding of the role of advanced technologies in shaping tourist experiences, particularly in peripheral and less touristic destinations like Ulldecona.

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## Real estate industry sustainable solutions (ESG) significance assessment - AI-powered algorithm implementation

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❖ [Terceira-G31-O3 Methods in Regional Science or Urban Analysis, S13, August 30, 2024, 9:00 AM - 10:30 AM](#)

As the global imperative for sustainable development intensifies, the real estate industry stands at the intersection of environmental responsibility and economic viability. This research presents a comprehensive exploration of the significance of sustainable solutions within the real estate sector, employing advanced artificial intelligence (AI) algorithms to assess their impact. The study focuses on the integration of AI-powered tools in decision-making process analysis. The research methodology involves the development and implementation of AI algorithms capable of analyzing vast datasets related to real estate attributes. By leveraging machine learning techniques, the AI algorithm assesses the significance of energy efficiency solutions along with other intrinsic and extrinsic attributes. The research examines the effectiveness of these solutions in relation to the influence on property prices with a framework based on an AI-driven algorithm. The findings aim to inform real estate professionals and investors about the tangible advantages of integrating AI technologies into sustainable solutions, promoting a more informed and responsible approach to industry practices. This research contributes to the growing interest in the connection of the real estate sector, sustainability, and AI, offering insights that can guide strategic decision-making. By implementing the random forest method in the real estate features significance assessment original methodology it has been shown that AI-powered algorithms can be a useful tool from the perspective of real estate price prediction. The methodology's ability to handle non-linear relationships and provide insights into feature importance proved advantageous in comparison to the multiple regression analysis.

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## Soundscape and Pollution: Assessing the Environmental Effects of Peer-to-Peer Occupancy in Barcelona and Madrid

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❖ [Terceira-S71 Sustainability in Tourist Destinations: A Multidimensional Approach](#), S08, August 28, 2024, 4:45 PM - 6:30 PM

In the current era of heightened environmental consciousness and burgeoning tourism, understanding the intricate relationship between tourism, pollution, and noise emerges as a crucial area of research. The primary objective of this study is to discern the influence of peer-to-peer (P2P) accommodation demand on pollution and noise levels—a novel exploration in the field. Leveraging innovative datasets, our analysis integrates data from satellite imagery (Sentinel-5P and Copernicus missions) to track atmospheric trace gases and municipal noise pollution data sourced from Madrid and Barcelona. Employing advanced geospatial techniques like kriging, we establish correlations between P2P occupancy and noise levels.

We explore the difference in outcomes in areas with high presence of P2P demand compared to those with low presence of P2P density, comparing effects between both cities, Barcelona and Madrid, and across different time periods: during the Covid-19 pandemic and before/after it. Another complexity is added by differentiating the P2P density of short-term and medium-term stays. Initial findings reveal no significant impact of P2P density on overall pollution levels, although nuanced variations across neighborhoods and pollutant types are identified. Conversely, a positive association between P2P density and noise pollution emerges, revealing seasonal and spatial differences.

Further analysis employs regression models and difference-in-differences approaches, considering factors such as listing types, pricing dynamics, and pandemic-related disruptions.

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## Unpacking Inequality in Austria: Understanding Inequalities through the Interplay of Income, Consumption, and Social Infrastructure

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❖ [Terceira-YSS5 Drivers of Inequality - EPAINOS, S03, August 29, 2024, 11:00 AM - 1:00 PM](#)

Livability has become a prominent topic in both academic discourse and policymaking. This paper investigates how societal stratification in livability varies based on residual income and access to social infrastructure and explores the factors that drive these differences. Initially, we calculate the residual income for households across different regions of Austria. Subsequently, we create composite indicators to measure the availability and accessibility of social infrastructure in each municipality. Using a Finite Mixture Model (FMM), we analyze how households cluster based on these factors and employ a Bayesian multinomial logistic model to identify the socioeconomic variables such as household composition, education, and employment status that influence cluster membership. Our findings reveal significant clustering related to residual income and accessibility of social infrastructure, indicating clear societal stratification in livability. Socioeconomic variables and regional context notably influence this clustering. These findings highlight important implications, particularly regarding the potential impact of privatizing public services on household residual income, especially for low-income households that depend on public infrastructure.

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## The impact of short time rentals on house prices: evidence from Milan

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❖ [Terceira-G35-O1 Tourism and Overtourism Issues, S17, August 28, 2024, 4:45 PM - 6:30 PM](#)

The COVID19 pandemic and the rapid and widespread diffusion of remote working stimulated an intense debate on the future of cities. The possibility of having access to the advantages of urban life, in terms for instance of better job opportunities, without the need of neither living in the city nor commuting on a daily basis, led to the development of new scenarios, characterized by a structural decrease in the demand for an urban location. However, the idea of a relative decrease of the importance of urbanization economies on individual wellbeing is at odds with the dynamics of the housing market in major cities after 2020. The increasing trend of house prices did not reverse after the pandemic, although many large European cities experienced a demographic decline.

This work focuses on this apparently paradoxical evidence. More in details, the scope of this research is to test to what extent the increase in urban house prices depends on the change of destination of use of housing units, from a residential to a short-time rental use. Digitalization and the changes in the tourism consumption, in fact, led to a capillary diffusion of platform-mediated short-time rental accommodation facilities, in particular in cities. The assumption to be tested is that this significantly reduced the supply of housing, generating a positive net effect on prices and rents.

The empirical analysis of the study focuses on the city of Milan, where the post-COVID19 trend of housing values is at the core of the public debate on the rapidly growing socioeconomic inequalities. The paper will therefore explore the association between the change of housing prices and the density of short time rentals over time. The hypothesis to be tested is that the raise of housing prices is higher in those areas where the density of short time rentals increased more. The use of geo-referenced data for both real estate transaction and short time rental accommodation facilities (i.e. Airbnb hosts) allows, through the use of GIS, for a precise measurement of this spatial spillover. Importantly, this effect will be empirically estimated by applying multiple regression models, to control for the different characteristics of houses, both intrinsic (such as year of construction, quality of finishes) and extrinsic (closeness to the center and/or to services).

The findings of this research are expected to convey important policy implications for public policies on the potentially negative externality generated by short time rentals.

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Small French towns and territorial development strategies in rural areas.  
Saint Jean d'Angély (Nouvelle-Aquitaine), between reindustrialization and  
the well-being economy

Dr. Marie Ferru<sup>1</sup>, Dr Adrien Sonnet, Mr Elodie Texier<sup>1</sup>, Dr Emmanuel Nadaud, Dr Brice Navereau, Dr  
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❖ [Terceira-G12-O1 Economic development in rural places, S15, August 28, 2024, 11:00 AM - 1:00 PM](#)

see attached

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## Spatial dependencies and the impact of COVID-19 on German real estate markets

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❖ [Terceira-G25 Spatial Econometrics, S10, August 30, 2024, 9:00 AM - 10:30 AM](#)

The specific economic, social and health-related developments of the last decade have led to increasing heterogeneity on the real estate market in many regions, with far-reaching macroeconomic consequences. These include, for example, the sharp decline in financing costs in historical comparison, the increasing attractiveness of urban living spaces in the 2010s and, more recently, the frequently described (but often without statistical evidence) urban exodus in response to the restrictions on public freedom of movement in the wake of COVID-19.

In addition to these factors, price trends are influenced by regional characteristics (e.g. unemployment rate, purchasing power, age structure) and strong regional interdependencies, which makes the statistical modeling of small-scale data more complex. Finally, the real estate market has experienced additional uncertainty and disruption with the outbreak of COVID-19.

Based on a comprehensive regional panel data set for Germany (NUTS-3 level), we investigate the following questions quantitatively in a joint model framework: a) What influence does the socio-economic status of a region have on purchase and rental prices? b) To what extent did the regionally varying contact restrictions and case numbers during COVID-19 have a significant influence on property prices? c) In addition to a) and b), what role do regional interdependencies (spillover effects) play for real estate price trends?

To answer b), in addition to case and death figures at regional level, we also analyze the influence of the strength and effects of political lockdown measures (e.g. curfews, travel restrictions) for the first time, as these have a direct influence on the quality of housing in a region and thus on the demand to buy or rent.

Based on a discussion of various spatial econometric models (e.g. SAR, SEM, SAC), the above questions are analyzed for 401 German NUTS-3 regions using socio-economic data and a unique housing price dataset for the years 2012 to 2023. We also focus on the choice of spatial weighting matrices (to capture the spatial relationships between regions), which is often disregarded in the literature, and discuss the robustness of the results in detail.

For example, the results of the spatial models show that high regional COVID-19 incidences and contact restrictions have a significant negative impact on real estate prices. In addition, we find significant positive effects on property prices for factors directly related to housing demand, such as childcare, climatic conditions and recreational value.

The economic policy implications of our findings are discussed in detail.



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## Industrial ecosystems for assessing economic impacts of tourism: A holistic approach

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❖ [Terceira-S41-S1 Assessing the economic impacts of tourism, S08, August 29, 2024, 9:00 AM - 10:30 AM](#)

The Industrial ecosystems approach goes beyond the strict direct economic impact and looks to not only look to goods and services that are directly a part of tourism activity, but also considers how it affects surrounding activities that are related to it; for instance some consulting services, legal support and much more. This approach allows for a more cross-cutting approach that gives a broader overview of the economic impact of tourism. The approach was developed to support for EU-wide policy, with a focus on addressing the challenges of the twin digital and green transitions. Since the original development the approaches methodology has shown itself to be fruitful with calculations such as business and consumer confidence, and in decomposing producer price inflation. Furthermore, its use has expanded with the EIB (European Investment Bank) using it for its Investment Report and the OECD (Organisation for Economic Co-operation and Development) using it for ecosystem specific studies. There is thus value in looking at tourism from the industrial ecosystems approach with key performance indicators such as trade, bankruptcies, turnover and employment.

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## Smart and Green: the twin transition in the Smart Specialisation Strategy of the European regions

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❖ [Terceira-S21-S5 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S03, August 29, 2024, 2:30 PM - 4:15 PM](#)

This study investigates the integration of digitalisation and environmental sustainability in the EU's Smart Specialisation Strategy (S3) during the 2014-2020 period in the context of the European Green Deal. It examines how these 'twin transitions' are incorporated into regional development strategies across EU regions. The research gains significance against the backdrop of the European Green Deal, an ambitious EU strategy aiming for a sustainable and inclusive transition to a green economy. By focusing on the challenges of digitalisation and sustainability, the study extends S3 strategy analysis to encompass these modern concerns, aligning with the Green Deal's objectives. This approach is essential for understanding the strategic integration necessary for the resilience, competitiveness and even growth of EU regions. The methodology includes detailed text analysis of S3 documents from different EU regions, identifying references to digital and sustainable initiatives. This qualitative analysis is complemented by spatial econometric methods to explore how the twin transition strategies are related to spatial and income inequalities across EU regions. Data sources include publicly available S3 documents and EU databases, enabling a multi-dimensional analysis of the twin transitions within S3 frameworks. The findings aim to offer insights for policymakers and stakeholders, advocating for a balanced approach to integrating digital and sustainable strategies in line with the Green Deal's vision. Overall, this research contributes to the academic discourse and offers practical guidance for regional development. It underscores the importance of incorporating the twin transition as a central component of development strategies in EU regions, resonating with the objectives of the Green Deal. The study's implications extend beyond the EU, providing valuable lessons for global regional development, particularly in areas where digital and sustainable transitions are increasingly important.

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## The geography of energy transitions: a network approach for post-Fukushima Japan

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❖ [Terceira-G18-R Climate Adaptive and Resilient Regions and Cities, S05, August 30, 2024, 2:30 PM - 4:15 PM](#)

Given the increasing threat of climate change, energy transitions from traditional sources to greener and renewable ones has become a major need and goal worldwide. However, energy transitions are costly and usually slow. In this paper, we empirically study the adoption and spatial spread of energy transitions from nuclear to wind triggered by the Fukushima incident in Japan in 2011. We build a novel panel dataset for 1741 municipalities combining detailed gridded data on the location of wind farms and nuclear plants, merged with data on lights, population, vegetation greenness, and pollution, from 2001 to 2020. Using panel-data econometric techniques, we explore the connection between the proximity to nuclear power plants and the adoption of Wind Energy Technology (WET). We then rely on a network diffusion model to analyze the direction, speed, and order in which municipalities adopted WET. Finally, we perform a counterfactual analysis by targeting key spreaders to alter the diffusion process, allowing us to propose policies to overcome "bottlenecks" in the network.

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## Pathways to sustaining rural accessibility: Insights from perceived accessibility

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❖ [Terceira-S61 Transport and Rural Development: Keeping Rural Areas Accessible, S06, August 30, 2024, 11:00 AM - 1:00 PM](#)

Traditional approaches in transport planning that encourage motorized mobility have induced the upscaling and spatial concentration of opportunities while aiming to maximize overall economic growth. Car-based land-use development and the associated spatial accessibility inequalities have resulted in mobility becoming vital for accessing economic and social opportunities, particularly in rural areas. However, the status quo, of car use as a means of reducing accessibility inequalities, could increasingly prove incompatible with emerging broader transport policy agendas that include social inclusion and environmental objectives.

Some inequality in accessibility is unavoidable, as activity locations and transport infrastructure are inevitably unequally distributed across space. The normative issue that then arises is how to balance the economic and societal benefits of spatial concentration and personal mobility against potential negative impacts on the environment and quality of life in rural areas, where residents may face reduced opportunities for local participation in activities. Individual heterogeneity in activity participation requirements and abilities complicates the evaluation of accessibility adequacy and setting policy goals in such places with few locally available opportunities. Accessibility evaluations typically comprise top-down approaches using accessibility indicators calculated from spatial data that rely on aggregated assumptions on how individuals perceive accessibility, but potentially overlook much of the heterogeneity in needs, desires and abilities that shape perceived levels of accessibility.

This paper describes how giving consideration to perceived accessibility can contribute to the design of effective, efficient and fair accessibility policies for rural areas. First, it argues that understanding perceived accessibility can help to normatively assess the impact and fairness of inequalities in spatial accessibility. Subsequently it is argued that subjective experiences can provide valuable information regarding balancing accessibility policy goals against other, potentially conflicting, social and environmental policy goals related to transport. This is illustrated by scrutinizing some pathways to sustain rural accessibility oriented towards facilitating spatial proximity, physical mobility and digital connectivity (i.e. the ‘triple access system’), while considering some of the practical issues when attempting to integrate perceived accessibility in policy practice.

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## PARIS2019: The impact of rent control on the Parisian rental market

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❖ [Online-S72 Consequences of Place-Based Policies: Perspectives and Challenges, August 26, 2024, 11:00 AM - 1:00 PM](#)

We evaluate the impact of the rent control regulation implemented by the city of Paris since July 2019 on the rental market. We take advantage of the mass of data available in real time on SeLoger platform with the ads published by professional realtors, with a database of 422,874 observations from January 1, 2018, to July 31, 2022. We apply a difference-in-differences model, where control units are located in eight major French cities in which the rental market is particularly tense but not regulated during the period of analysis. We show that the rent control policy decreased rents by 3.2% in Paris on average but that the policy is heterogeneous depending on dwelling characteristics. In particular, we find that small apartments are more affected by the policy than others.

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## A geographically weighted approach to understanding local/regional disparities in pupil attainment

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❖ [Terceira-G04-O1 Segregation, Social and Spatial Inequalities, S12, August 29, 2024, 9:00 AM - 10:30 AM](#)

This study investigates potential geographical variations in associations between socioeconomic factors and deprivation measures, across Wales. The key research question is: How do various socioeconomic, family, neighbourhood (area), and school factors relate to and interact with pupil academic performance across local (Lower Layer Super Output Areas - LSOAs) and regional (Local Authorities - LAs) contexts within Wales?

The study examines various socioeconomic variables, including household employment status, parental occupation as a proxy for income, household deprivation levels, free school meal eligibility as a proxy for pupils' socio-economic status, special education needs (SEN), and ethnicity. Family characteristics are centred around family structure, while area deprivation is assessed using the Welsh Index of Multiple Deprivation (WIMD). School-related variables encompass the number of pupils as an indicator of school size and the pupil-teacher ratio. The primary focus is on pupil attainment, specifically Key Stage 4 results. Indeed, in addition to exploring traditional binary indicators currently prevalent in education data, this study contemplates the potential advantages of incorporating richer continuous measures for socioeconomic status.

Therefore, the analysis focuses on geographic variability across LSOAs and LAs in Wales. The research employs Geographically Weighted Regression (GWR) to account for spatial heterogeneity and assess how the relationships between predictor variables and pupil academic attainment vary across locations. The results highlight geographical inequalities and provide insight into which factors exhibit the greatest local/regional variation in terms of associations with pupil attainment.

Understanding these localised patterns has important policy and practical implications in terms of resource allocation, and strategies to address disparities. The findings will be informative for education leaders and policymakers focused on improving equity in pupils' opportunities and outcomes across varying socioeconomic and regional/local contexts. Indeed, by using geographical lens, this study aims to support localised decision-making in the Welsh education system based on the variation of the diverse factors analysed across the local/regional settings.

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## Regional firearm homicide rates in the US: Convergence patterns and background factors

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❖ [Terceira-S28 The Geography of Public Health, S05, August 29, 2024, 2:30 PM - 4:15 PM](#)

Firearm homicides present a dire situation in the US, with quite some variation among US states. The space-time pattern of firearm homicide rates is not stable. This study aims to explore convergence patterns of firearm homicide rates across US states over the period 1999 to 2020, with a particular view to the identification of background factors of this space-time trajectory. Several socioeconomic and gun-related factors are selected and examined as potential drivers. Results point to two convergent clubs of US states. Gun ownership, violent crime rates, social capital, and poverty appear to be significant predictors of club membership in case of firearm homicides.

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## Touristification and incumbent residents: evidence from personal income tax records

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❖ [Terceira-S32 On the Dynamics and Consequences of Short-term Rentals, SF3, August 28, 2024, 2:30 PM - 4:15 PM](#)

Touristification is a polarizing process associated with both opportunities and displacement. We estimate the effect of a touristification boom on the welfare of incumbent residents in the most affected areas of Lisbon, Portugal. We rely on individual and household-level data from personal income tax records between 2016 and 2019 and an instrumental variables approach that considers proximity to touristic amenities. We find that the decision to move out increases for locals in areas that witnessed a sharp rise in the establishment of short-rentals. At the same time, we examine the effects on different types of income. We also identify the most vulnerable groups in several heterogeneity analysis.



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## Extended producer responsibility and trade flows in waste: The case of batteries.

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❖ [Terceira-G46 Circular Economy and Technological Change, S14, August 28, 2024, 11:00 AM - 1:00 PM](#)

In the debate on international waste trade, the focus on resource efficiency and recycling has gradually begun to accompany the focus on negative environmental externalities. In this context, we examine the impact of Extended Producer Responsibility (EPR) on the export of waste batteries (WB). EPR is considered as a key policy for the “marketization of waste”. WB are a hazardous waste that also contain a high concentration of critical raw materials. As such, they are of strategic importance for the recovery of critical resources, while at the same time requiring proper environmental management. Therefore, it is crucial to understand where WB are treated and how this is affected by related policies. Our results, based on difference-in-difference models in a gravity framework, show a consistent increase in WB exports after EPR implementation compared to the trend for other wastes. This result is likely to be an indirect consequence of the ability of EPR to support growth in waste collection rates, more accurate tracking of transboundary waste flows, and specialization of national waste management systems. In particular, WB exports appear to be directed to countries with more advanced waste management systems, more stringent environmental regulations, and limited endowments of the mineral resources typically contained in batteries.

As a development of this paper, we are currently exploring E-PRTR data on emissions from the waste management sector in Europe in order to assess possible environmental impacts connected to the rise in WB trade.

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## Brain drain versus brain gain: the effects of universities mobile students on territorial inequalities.

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❖ [Terceira-S21-S3 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S03, August 28, 2024, 4:45 PM - 6:30 PM](#)

We investigate if and to what extent university mobile students contribute to the dynamics of the economic performance in the territory where they decide to move to attend university. We examine the case of Italy at the level of 90 NUTS3 areas over the years 2013-2019. Moreover, we assess the brain drain/brain gain effects by looking at differences in the impact between southern and northern regions and derive the implications in terms of income inequalities.

We find a positive impact of student inflows on GDP pc growth of Italian regions (NUTS3 level). The positive effect is driven almost entirely by the effect on northern regions (brain gain). On the contrary, only the southern regions suffer from the brain drain effect on regional growth. Notwithstanding substantial outflows of students from northern regions, they do not impact negatively on their regional economic dynamic. Thus, increasing interregional mobility of students is likely to increase the spatial income inequalities between the South and North of Italy.

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## Organising the response to road traffic accidents for French Counties: does demand drive performance?

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❖ [Terceira-S25-S2 Counterfactual Methods for Regional Policy Evaluation, S14, August 30, 2024, 9:00 AM - 10:30 AM](#)

Reducing both mortality and morbidity from road traffic accidents remains a major objective of public policy across both high- and low-income countries. The social cost of these accidents continues to receive great attention, suggesting that significant resources must be committed to reducing this phenomenon. Achieving such objectives can be done in two ways: better prevention of such accidents, or better response when they occur. This paper will focus on the latter, looking at the role of emergency services in the response provided to road-traffic accidents and their approach to post-crash interventions.

In order to understand how these services are provided to a population, we will look to provide the building blocks to a simple supply-demand model of these emergency services. We will do so using two sets of data from France. The first covers all interventions by fire and rescue services for road-traffic accidents, notably giving access to all inputs used as well as performance measures. The second covers official data on road-traffic accidents collected by police forces. This data gives more details on the profile of victims and in particular their health state post-accident. Our analysis will focus on two sources of variation, the most notable of which will be at county-level. We will also use data from three different periods (2002,2012,2022) to analyse variation over a long timeframe.

The first analyses performed show that there is a clear heterogeneity in the supply of rescue services across France. We will look to comment on what could explain the fact that smaller counties may have insufficient supply of rescue services, all other things being equal. Several variables could explain such a phenomenon, such as the proportion of operations dedicated to road-traffic accidents, or the proportion of volunteer personnel compared to full-time personnel. This work will contribute to a better understanding of how the emergency response to road-traffic accidents can be organised when different counties have heterogeneous characteristics.

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## Sustainable local identity as a vector of urban societies transition

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❖ [Online-G21 Urban Challenges and technological transformations, August 26, 2024, 9:00 AM - 10:30 AM](#)

The megatrend of sustainable development is influencing an increasing number of cities, including those in post-socialist countries in Central and Eastern Europe. This trend is associated with various visions of sustainable city, including concepts like the 15-minute city, smart city, and movements promoting green spaces. To explore the social dimensions of urban transformation, researchers examine the relationship between place and sustainable behavior.

To assess interactions between sustainable city ideas and local urban residents' beliefs, it is helpful to focus on the identity, that certain urban places encompass. Model of urban identity is constructed with two complementary components: the material layer and the immaterial layer. Therefore the identity of an urban place consists of elements such as the urban grid, architecture, infrastructure as well as values and beliefs expressed within this layer such as empathy and collectivity.

This identity does not emerge in exclusion from the people who inhabit a given area. It results from collaborative efforts between different local actors with varying degrees of involvement in its creation (e.g. local authorities, developers, residents) and it remains interconnected in the relationship between the collective-spatial level and the individual level.

This presentation (1) shows the methodological foundations of how the identity of urban place shapes the attitudes and beliefs of its inhabitants, (2) explores how it might be used in the sustainable behavior creation and (3) aims to define the ideal type of sustainable local identity for Central and Eastern Europe.

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## T-KIBS in the New Digital Era: Web-based Evidence from Italy

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- ❖ [Terceira-S45 AI and Other Digital Technologies: Old Wine in New Bottles or Transformative Tools for Urban and Regional Economies?](#), S05, August 28, 2024, 11:00 AM - 1:00 PM

Literature has found that knowledge-intensive business service organizations (KIBS) play a crucial role in driving technological innovation and overcoming barriers to the adoption of emerging technologies. This paper delves into the contemporary digital landscape and investigates the firm-level and territorial-level determinants that affect the engagement of these organizations in the provision of new digital technologies and related services, and how these determinants vary by type of technology. The research considers a subset of technological KIBS (t-KIBS) with a NACE code associated with the provision of ICT technologies. Looking at Italy, an original dataset was built and enriched with data extracted from t-KIBS websites and collected through web-scraping procedures. A keyword-based approach allowed for the identification of the t-KIBS that could be involved in the provision of new digital technologies. A probit model with sample selection was then applied to find out which are the firm-level and territorial-level determinants that affect the probability to provide digital technologies. The results suggest that overall, the involvement in the provision of new digital technologies is strongly affected by the co-location with manufacturing companies that demand these technologies. However, this finding does not hold for all the technologies as some of them rely more on urban advantages. This suggests that in new digital technologies the spatial dimension continues to be important, but in different ways depending on the specific technological context.

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### Studies on an experimental test facility for the emerging energy micro-communities

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❖ [Online-S57 Government of Anthropization Processes: Domain of the Territories and Cities, Climate Changes, August 26, 2024, 11:00 AM - 1:00 PM](#)

The Renewable Energy Directive (RED) and the inherent recent update (EU/2018/2001 - EU/2023/2413) promote the uptake of renewable energy communities (RECs) and Jointly Acting Renewable Self-Consumers (JARSCs) for the local production and shared consumption of energy, as an alternative to the classic model based on centralized production, transmission, and distribution. The rising of RECs and JARSCs allows rethinking the morphological organization of land from an ecological perspective, towards cities increasingly designed on a human scale. Renewable energy sources (RESs) are fundamental for the diffusion of the rising RECs, where Photovoltaic (PV) is the most employed technology, especially in an urban context, due to its performance, application flexibility, longevity, and affordability. Since RESs provide intermittent power production and the energy demand of consumers is growing and becoming more variable, the application of Demand Side Management strategies, such as the load shifting operated by storage systems, is urgent to maximize the energy self-consumption (SC) and self-sufficiency (SS) of RECs. We conducted an extensive experimental study on an energy micro-community consisting of a building served by a 12 kW PV system and a heat pump (HP) combined with hot/cold water and Domestic Hot Water storages, controlling the production, storage and use of electrical and thermal energy by means of a Programmable Logic Controller (test facility S.A.P.I.E.N.T.E. located in ENEA Casaccia)[1, 2]. We set up a power-to-heat strategy: by using a Proportional-Integral-Derivative control we tracked the power produced by the PV system and used it to drive the HP in real time, maximizing SC and SS, since the HP does not need to draw energy from the grid. The thermal energy produced in excess of the load (real or emulated) is stored. Thus, taking advantage of the high coefficient of performance of the HP used to produce and store thermal energy, we increased in value the electrical power coming from the PV. In our investigations, we demonstrated SS and SC values of 96.7% and 83% respectively, again emphasizing and promoting a new sustainable model of advantageous energy production and use.

[1] DOI: 10.12910/EAI2020-077

[2] DOI: 10.1109/BLORIN54731.2022.10028501

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## Mineral Winds: Exploring the Geographical Spread of Mining Booms

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❖ [Terceira-G12-O1 Economic development in rural places, S15, August 28, 2024, 11:00 AM - 1:00 PM](#)

In this paper, we use geo-coded register data on mines and all Swedish inhabitants to investigate the effects of the mining boom on labor market outcomes, such as income and employment. We also examine how these effects propagate across space and time. In the resource economics literature, the mining shock analyzed is assumed exogenous because it was generated mainly by demand shifts and not supply shifts. By employing a difference-in-difference setup, and treating the mining boom in 2004 as an exogenous shock, we exploit two sources of variation: temporal (the global mining price shock) and spatial (individuals' distance to mines providing a source of heterogeneous exposure). In addition, as the effect may vary significantly depending on different individual and regional characteristics, for example by economic sectors and individual education, we run various heterogeneity analyses. We find the mining boom improved the labor market conditions of individuals located close to the mines. These effects propagate across space and over time. Most previous literature on the topic examines aggregate outcomes and focuses on the energy sector and the fracking boom. This spatial analysis contributes to the literature and provides evidence to policymakers about the extent of the effects of the income shock.

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## Local effects of a large industrial investment in a sparsely populated region

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❖ [Terceira-S43-S1 Skills on Local Labour Markets, S17, August 30, 2024, 9:00 AM - 10:30 AM](#)

After decades of disinvestment and population decline, several areas of northern Sweden are now attracting largescale industrial investments, such as wind farms, battery factories, and underground mines. The Norrbotten and Västerbotten Chambers of Commerce have estimated that the area will receive close to SEK 1000 billion in new investments over the next two decades. If realized, the region will need an estimated 100,000 additional inhabitants in the next ten years to meet the anticipated increased demand for labor, a population growth of about 20%. A large share of these jobs will be created in the manufacturing industry (low-skilled). Such large investment relative to the regional economy is expected to have a long-term positive effect on regional employment, but large investment could also crowd out incumbent activities. However, there is scant knowledge of the effects of a relatively large industrial investment on employment, especially on the employment in the local public sector.

In this paper, we address this issue. We derive a theoretical model which consists of three parts; labor supply, production and the housing market. Our theoretical model differs from the typical setting where a positive local productivity shock is assumed to occur among high-skilled workers. We consider three periods with different time spans. To set the stage, consider a large industrial investment in one region. The productivity shock appears among low-skilled workers in the first period. The investment has a positive effect on the productivity of relatively low-educated workers which translates to higher wages among this group of workers. Higher wages within manufacturing attract both low- and highly-educated workers in the public sector. It could for instance be a nurse dissatisfied with his work hours or other issues related to the work environment or benefits within the public sector. If not compensated for this, through higher wages, workers will move from the public to the private sector independently of her qualifications (e.g. both high- and low-skilled in the public sector). With no migration across regions housing prices are unaffected.

In the second period, the semi-long period, the restricted labor mobility is relaxed. Now low-skilled (and perhaps also high-skilled in the public sector) in other areas will be attracted by higher wages. This will cause housing prices to increase and benefit landowners. In the long-run, wages and housing prices will stabilize across regions.

When confronted with register data, the main predictions from the theoretical model is confirmed.



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## Manufacturing automation and its implication for local employment outcomes: Evidence from Sweden

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❖ [Terceira-YSS5 Drivers of Inequality - EPAINOS, S03, August 29, 2024, 11:00 AM - 1:00 PM](#)

Automation technologies diffuse unevenly across time and space and their impacts on employment may differ across subnational regions, due to the latter being shaped by different past and current economic structures. The purpose of this paper is to utilize these economic structures to explore the link between firm-level automation technology adoption in manufacturing and municipal-level employment outcomes. Using Swedish register data featuring firms and their respective establishments, and workers during 1997-2021 and a shift-share instrumental variable framework, robust results are retrieved indicating an associated positive relationship between automation and employment growth in manufacturing. When allowing for municipal heterogeneity, the relationship weakens in magnitude in the manufacturing dense and rural parts of the country. Negative local employment spillovers in nonmanufacturing sectors are detected. The increase in manufacturing automation brings no impact on overall municipal employment growth. These findings suggest that manufacturing automation preserves jobs while overall municipal employment growth remains unaffected, possibly due to worker reallocations between automating manufacturing establishments and nonmanufacturing establishments.

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## Spatiotemporal Land Use Change Pattern Detection and Evaluation using SIGPAC time series: A Case Study in Navarra

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❖ [Terceira-G48 Mapping conflicts and exclusion, S14, August 28, 2024, 4:45 PM - 6:30 PM](#)

Understanding the dynamics of land use and its changes plays a pivotal role in effective resource management, sustainable agriculture, and informed policymaking. The System of Geographic Information of Agricultural Plots (SIGPAC), leveraging advanced remote sensing tools, has emerged as the primary means to monitor the impacts of the Common Agrarian Policy on land use change in Spain. This study focuses on analyzing the spatiotemporal time series data from SIGPAC in Navarra, aiming to identify patterns of land use change and assess their representativeness of real processes. Delving into the spatiotemporal characteristics of SIGPAC, we scrutinize data quality issues and gain insights into the underlying processes driving land use changes. Intensity analysis, a well-established methodology for comparing categorical changes between two maps, is extended in this research to analyze the entire SIGPAC time series comprehensively. This innovative approach enables the identification of land use categories undergoing more intensive changes, offering a detailed understanding of these changes' timing, location, and nature. To validate the reliability of detected patterns, interviews with the public company responsible for the creation of the time series (Tracasa) are conducted.

The dataset under consideration is the SIGPAC of Navarra, comprising an annual time series of maps spanning from 2005 to 2023. These maps provide categorical information for 29 land uses, along with parcel-specific attributes such as elevation, slope, and pasture coefficients. It was initially conceived as a tool to help farmers declare their crops, but it has become an extremely used resource in fields other than agriculture.

Application of the proposed methodology to the SIGPAC dataset reveals key patterns. Years 2013, 2015, 2017, and 2020 exhibit similar change patterns in terms of the magnitude of changes and the specific land uses involved. Notably, shifts from Grassland to Shrubland and from Shrubland to Forest are observed, suggesting potential corrections in map generation criteria. Genuine ground patterns, such as transitions from Agriculture to Grassland in response to potential land classification concerns, are also identified.

The findings presented in this paper offer valuable insights for map creators to enhance future releases, while also providing policymakers, farmers, and researchers with a deeper understanding of the dataset for informed decision-making.

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## Shaping Territorial Governance: A Comprehensive Overview of the Sicilian Regional Urban Reform

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❖ [Online-S50 Territorial Disparities and the Achievement of the SDGs?, August 26, 2024, 4:45 PM - 6:30 PM](#)

The Sicilian regional urban reform evolved into a paradigm shift from urban planning to territorial governance. This transformation, epitomized by the Regional Territorial Plan (RTP), integrates socio-economic and environmental objectives. The RTP is a comprehensive framework aligning regional missions, fostering sustainability, and guiding territorial transformations. Despite resource challenges, the Region remains committed to RTP implementation, emphasizing dynamic data updates and participatory strategies. This paper briefly overviews the reform's essential features, exploring its potential impact on territorial governance and sustainable development.

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## Does institutional quality promote regional resilience? Recent evidence on the corruption-growth nexus in Europe

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❖ Terceira-G42 Crime, Corruptions, Institutions, and Local Economic Policies, S18, August 28, 2024, 11:00 AM - 1:00 PM

The article focuses on the effects that corruption and poor institutions have on the resilience of territories facing crises. The topic of regional resilience is timely, given the continual shocks we experienced in recent years and that are expected to continue to be frequent in the future. Temporary shocks may prompt permanent changes or hysteresis in complex adaptive systems, especially when the distribution of good institutions is already highly uneven across countries and regions, as is the case in Europe. Recent evidence suggests that despite the high persistence, the regional quality of government does shift over time and within countries (Charron et al., 2022). Nevertheless, lagging-behind regions and low-income countries might have already ended up in the basin of a “bad institutional trap”, a vicious cycle of high levels of corruption and inadequate public service delivery that will further worsen their economic prospects without public support. Meanwhile, the future of middle-income regions is by no means clear, and many of them could lose ground if threatened by adverse and deteriorating institutions. Against this background, after an overview of the evidence on the corruption-growth nexus, we will preliminarily run dynamic system GMM regressions with the traditional specifications of the literature (basic model) and an extended model with the institutional variables. Appropriate methodologies will be adopted to tackle non-linearities in panel data (Kripfganz and Schwarz, 2019). The analysis will be based on the European Quality of Government (EQI) index, also considering the most recent and comprehensive survey to date to measure perceptions of regional quality of government with respondents in all EU 27-member state countries (Charron, Dijkstra, & Lapuente, 2014, 2015; Charron et al., 2022). We will provide robustness checks considering different groups of countries and categories of regions (e.g., urban/rural). Previous analyses (Cutrini, 2023) and preliminary results suggest that the quality of government appears slightly more important in ensuring convergence of lagging-behind regions than high-income regions. If further confirmed with more recent data, this evidence will contribute to a more effective design and implementation of regional and industrial policies to mitigate the recent surge of inequalities among European regions.

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## Highly educated, highly Mobile? Location choices of doctorate recipients working inside and outside academia

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❖ [Terceira-S43-S2 Skills on Local Labour Markets, S14, August 30, 2024, 11:00 AM - 1:00 PM](#)

We investigate the geographical patterns of labour market entry (at the level of German functional labour market regions (planning regions) for doctoral graduates starting their first position after receiving their doctorate. The mobility decisions of more than 23 thousand doctoral graduates in Germany from five graduation cohorts are examined using a unique micro level data set based on doctorate recipient's social security records. Empirical findings suggest that factors influencing the choice of a working region after graduation differ depending on whether doctoral graduates remain in academia after graduation or switch to the private sector. The results indicate that especially researchers who remain in academia, tend to move to regions where they have stronger networks. For doctoral graduates who leave academia after graduation, on the other hand, a good fit between subject-specific qualifications und the structure of regional labor market seems to be relevant. At the same time, there are a number of regional factors that favour the choice of a region for both groups, such as low unemployment rate and regional amenities. Further, there is a high attachment to the graduation region. This result is particularly relevant for regional science, as it shows that doctoral graduates as group of most highly educated workers are less mobile than often expected.

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## A network, scientometric review of resilience studies

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❖ [Online-G01-O2 Peace, Regional and Urban Sustainable Development, August 26, 2024, 2:30 PM - 4:15 PM](#)

The capability of entities to withstand crises and bounce back to normality, known as resilience, is a common concept in the global economic discussions, indicating the power and suitability of countries and regions to cope with shocks and recover the previous condition. This study conducts a scientometric analysis exploring literature on economic resilience, focusing on regional (NUTS-2) level, identifying its changes and developments, the countries that are more academically interested, the most suitable authors, main journals, and future research directions. To this aim, toward the study of previous literature, bibliometric records has been selected based on the criteria of matching five keywords that are relevant to our topic of interest and allowed to outline the boundaries of the investigation (regional economic resilience, territorial, local, crises, shock impact) and with the application of specific search query. The analysis considers various aspects such as publication trend, citations, words co-occurrence, co-authorship and, co-citation, to find out the main characters of the field and changes over time. Bibliometric data was collected from Dimensions database and the VOSviewer software was used to conduct the scientometric. Following the growing trend and the international connections founded, this paper can assist researchers and policymakers in enhancing their understanding of this primary research area in the global economic panorama.

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## Human Rights between universality and specificity in developing countries

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❖ Online-S65 Contribution of Peace and Cultural Diversity to Sustainable Economic Growth in the Era of Climate Change, August 27, 2024, 9:00 AM - 10:30 AM

Even if related to minorities and communities, culture is a human universal issue. Thus, globalization / localization and universalism / particularism are binaries to which the Universal Declaration of Human Rights (UDHR) is confronted in many levels and around the Globe. Indeed, “UDHR is a milestone document in the history of human rights” (<https://www.un.org>), but when we talk about certain rights, the “flag of specificity” is raised against the universal values and rights a person has simply because he or she is a human being.

In one hand, universalism searches for what is systematic and tries to impose the rules, laws, and norms on all of its members so that things can run more efficiently ; in the other hand, particularism seeks for what is different, unique, or exceptional in order to create something that is incomparable or of special quality. Human rights are universal and inalienable; indivisible; interdependent and interrelated. They are universal because everyone is born with and possesses the same rights, regardless of where they live, their gender or race, or their religious, cultural or ethnic background. However, homosexuality, Adultery, Freedom of belief (...) lead to relativism and particularity. Here, comes our main question of research: What to do against the principle of supremacy of international agreements over local legislations in developing countries?

To try responding to this problematic, we will ask practices of certain communities in developing countries in the light of the UDHR as document that acts like a “global road map for freedom and equality” (<https://www.amnesty.org/>). All human beings have the right to live freely, equally and in dignity, but many questions must be asked in this context.

To present the results of our investigation, we will use the outputs of EViews and SPSS software

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## Multidimensional Territorial Attractiveness: an Application to European Flows

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❖ Terceira-G39-O2 Big Data and Regional Science, S07, August 30, 2024, 2:30 PM - 4:15 PM

The attractiveness of regions and territories for firms, investments, tourists, students, talented people, and other categories is a relevant issue for regional economic development. Usually, studies on this topic have focused only on one of the types of flows concerned. That is, these dimensions of territorial attractiveness have been studied separately and partially [1]. For example, many studies have been conducted only on the territorial attractiveness for foreign direct investments (FDIs) or tourists.

However, this topic has rarely been approached and studied using a comprehensive analytical strategy. The research question we studied is thus the following: from a multidimensional point of view (i.e., dealing with different types of flows), what makes a region attractive, and to whom?

The data we have used comes from the ESPON project [2]. Specifically, region-to-region (NUTS 2) origin-destination (OD) matrices for People Tourism, People Migration, Freight of Goods by transport mode, Capital FDI, Knowledge Erasmus students, People Passengers by transport mode, Capital Remittances, Knowledge H2020.

We decided to use Network Science tools to characterize these flows properly. Indeed, we have built a multilayer network where each layer is a weighted directed network representing a different flow type and studied its basic statistics (assortativity, clustering, centrality measures, etc.). Then, we compared the results with null models to find significant properties emerging from the data that the models cannot explain.

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## Assessment of Socio-Economic Effects of Introducing Social Housing Based on Socio-Economic Dynamics in France

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❖ [Terceira-G04-O1 Segregation, Social and Spatial Inequalities, S12, August 29, 2024, 9:00 AM - 10:30 AM](#)

This article investigates the impact of new social housing developments on economic and social factors within localities in France. The primary focus is on the effect on real estate transaction prices, but the study also explores the impact on other factors such as the provision of public services and the socio-economic composition of the population. An in-depth examination will be carried out to grasp the intricacies across various regions of France and to better understand the contextual variations in the impact of social housing. The study utilizes comprehensive administrative databases containing real estate transactions in France from 2010 to 2022. This timeframe enables the study to capture long-term trends and variations in the housing market and associated socio-economic factors. To ensure robust and reliable empirical findings, the empirical analysis employs state-of-the-art difference-in-differences methods available in the literature.

The analysis will aim to determine if the effects can vary in heterogeneous economic contexts. Indeed, in a context of high land pressure, real estate inflation can be particularly strong. To some extent, the production of social housing fits into a perspective of regulating real estate prices: the aim is to build them, especially in sectors deficient according to the law, to meet demand without excluding the most modest. On the contrary, in areas where land pressure is lower and struggles to attract households, the production of social housing can lead to the renovation of neighborhoods and a modification of its population, causing a new dynamic on demand and prices. Thus, the study contributes to the broader discourse on urban development and housing policies, offering insights that can inform evidence-based decision-making. Understanding how social housing initiatives influence not only property prices but also public services and community demographics is crucial for policymakers and urban planners.

The comprehensive analysis of diverse outcomes across the entire French territory using the new DiD methods renders this study a valuable addition to the literature on housing and local development in the French context.

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## The importance and the security aspects of humanitarian aid assistance in Sudan and South Sudan

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❖ [Terceira-G48 Mapping conflicts and exclusion, S14, August 28, 2024, 4:45 PM - 6:30 PM](#)

During the conflict that led to the separation of Sudan and South Sudan in January 2011, 2.5 million people were killed and approximately 4.5 million displaced (Blanchard 2016). 13 years later, the daily lives of people in the region are still affected by conflicts and their consequences. The United Nations Office for the Coordination of Humanitarian Affairs estimates that 24.8 million people in Sudan and 9 million in South Sudan will require humanitarian assistance in 2024 (OCHA 2024).

Armed conflicts between and within countries have several socio-economic impacts, since they often lead to casualties, forced migration, refugee flows and the destruction of infrastructure that provide essential services (Gates et al. 2012). Humanitarian aid, therefore, has an important role in providing basic services to people in severely affected areas and restoring stability in these regions. In addition, humanitarian aid aims to alleviate suffering, save lives, and restore human dignity during large-scale emergencies. Therefore, the humanitarian aid and peace- building are closely linked in the field of armed conflict.

Despite the important role of international aid organizations in regions of armed conflict, their workers are not protected and are often attacked by armed groups. The aim of the research is to examine the regional distribution of Internally Displaced People (IDP) in Sudan and South Sudan based on the database of International Organization for Migration. Moreover, the research aims to further investigate the regional distribution of attacks on aid workers in Sudan and South Sudan based on the Aid Workers Security Database (AWSD), in order to identify which regions are the most affected ones.

The research synthesizes the literature on the importance of international aid in conflict zones and contributes to raising awareness of the need for greater protection of international aid workers in conflict zones.

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## A spatially-explicit sensitivity analysis of urban definitions: uncovering implicit assumptions in the Degree of Urbanisation

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❖ [Terceira-S06-S2 RSPS Special Issue: A New Toolbox for Novel Research in Regional, Urban and Spatial Studies, S01, August 30, 2024, 9:00 AM - 10:30 AM](#)

There is no broadly shared agreement on how to define a city, neither in terms of methods nor in terms of thresholds or criteria to be used in these definitions. This can have profound implications: different delineation approaches lead to varying city boundaries, which in turn affect the quantitative analysis of, for example, economic development. In addition, deciding on delineation criteria inevitably involves making explicit and implicit assumptions about the fundamental nature of ‘the urban’. These assumptions may – unwittingly – reproduce urban realities experienced and observed by those expressing them, potentially leading to spatially unequally distributed implications. It is key to understand how specific criterion choices shape our understanding of ‘the urban’ and assess how, why and – especially – where a definition leads to specific sensitivities.

Against this backdrop, we introduce a methodological framework to conduct a spatially-explicit sensitivity analysis that aims to quantify the sensitivity of a location’s ‘urban’ classification across various criterion settings. Our methodological framework is spatially-explicit in the sense that it does not rely on aggregate statistics such as the urban population or number of cities per region, but instead focuses on the sensitivity of the classification of individual spatial units at the finest possible resolution. The final sensitivity map serves as a starting point for an in-depth examination and guides researchers to potentially interesting regions. By zooming in on these regions researchers can assess the link between the sensitivity and the underlying urbanisation pattern. In that way, they can gather a deeper understanding of the implications of certain criterion choices for specific types of urbanisation, and potentially uncover implicit assumptions tied to a delineation approach.

As empirical example, we apply the framework to the definition of the Degree of Urbanisation proposed by Dijkstra et al. (2021). Our initial results demonstrate that sensitivity is not equally distributed across the world. Certain regions (e.g. area around Dallas – Fort Worth) and specific types of urbanisation (e.g. desakota regions) exhibit higher sensitivity than others, pointing to potential skewness in the urban delineations of DEGURBA. This serves as an example to illustrate that, because there is no generally accepted ‘true’ definition of urbanisation, every urban definition inevitably requires making assumptions about the outlook of ‘the urban’. However, it is crucial to be aware of unequally distributed sensitivities when employing a specific definition. Our proposed methodological framework facilitates making the implications of sensitivities legible in a spatially-explicit manner.

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## Impacts of Széchenyi István University on the local and regional development: challenges and opportunities

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❖ Terceira-S08-S1 University Impacts on the Local and Regional Economy, S02, August 28, 2024, 11:00 AM - 1:00 PM

Széchenyi István University is located in Győr (Hungary), in the North-West part of the country. Széchenyi István University aims to contribute to the development of the region through high quality education, research focused on state-of-the-art technologies, sustainability and close relations with companies, social and civil organisations. In order to promote this, the institution has over the past year created a management model that enables it to compete in the domestic and international higher education space, therefore the institution is a major player not only in research and development in Hungary but it also enhances the knowledge of social and economic actors in the region through state-of-the-art services. This paper puts the examination in context by focusing on university-industry-government-civil society relations, then it describes the present situation highlighting best practices regarding the cooperation with economic and social actors in the region. Finally, we present the features of the Science and Innovation Park established recently where the arrival of domestic and international companies represents a huge opportunity for both the university and the city Győr that will not only help to raise the quality of the institution's training programmes and its academic performance, but also to trigger new developments in the city. The findings of this paper prove that the role of the university has been changed, the institution has a tremendous responsibility and equally significant opportunity in the development of the region.

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## Spatial design and environmental sustainability: controlling land consumption in medium-sized city plans, the case of Cerveteri

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❖ [Online-S57 Government of Anthropization Processes: Domain of the Territories and Cities, Climate Changes, August 26, 2024, 11:00 AM - 1:00 PM](#)

In the past few years, the issue of land consumption, considered as a phenomenon of anthropisation of agricultural and natural land, has largely entered the disciplinary and cultural debate in our country, characterising the current planning phase according to two main aspects.

The first happening, linked to the economic crisis that has characterized our country in recent years, seems to be expressed in the strong reduction of land pressure (with a radical re-dimensioning of the entire building sector) and, on the contrary, in a different, unseen articulation of the demand for new building and regeneration of the built environment that is now felt even in medium and small centers. Settlement sprawl processes and increasing degradation and abandonment of rural territories gradually highlight the ineffectiveness of functionalist disciplinary models aimed at clearly distinguishing between settlement (urban) and territorial dimensions. These processes lead to the definition of a new rurururban territory and in parallel new management processes capable of pursuing objectives environmental and housing quality but also sos-tenability of development models.

The second, which is finding its way to the institutional level concerns tools and procedures for reducing land consumption. Land consumption has as a direct consequence the loss of ecosystem services, which have a very high cost in environmental and social terms in the coming years that not even the National Recovery and Resilience Plan (NRP) could offset. The issue of land consumption has strong implications in terms of climate change and hydrogeological risk by making our territory even more fragile: increasing urbanized land contributes to the growth of total human-caused greenhouse gas emissions, mainly through deforestation and habitat conversion for agriculture, and at the same time to the loss of biodiversity and unprecedented land degradation. The settlement patterns of the sprawling city "use" previously rural spaces by amplifying the degree of housing fragmentation and land infrastructure. This implies parallel increases in costs related to energy consumption, soil sealing, increased demand for transportation, and pollution-increasing urban vulnerability and its effects on climate change.

The contribution will propose the experience carried out in Cerveteri for the drafting of the new General Regulatory Plan: a territorial project, oriented quantitatively and qualitatively in the face of the changing needs of social demand and massive development pressure that has involved its territory (going from 26,772 inhabitants in 2001 to 38,056 in 2023, Istat data).

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## How are electric bikes affecting the profiles of cycle tourists?

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❖ [Terceira-G35-O2 Tourism and Overtourism Issues, SF3, August 29, 2024, 2:30 PM - 4:15 PM](#)

The electric bicycle (e-bike) is a promising and versatile solution for promoting sustainable mobility. It aligns with the imperative for environmentally responsible transportation, and it has a positive influence on various societal aspects. The potential impact of electric bikes on cycle tourism is noteworthy, broadening the range of options for sustainable and responsible travels.

The field of e-bike tourism has experienced significant growth in recent years, and this trend is expected to continue in the future. The analysis of this emerging phenomenon is however still in its infancy. To navigate the changing landscape of sustainable mobility in tourism and cater to the growing interest in electric bicycles, it is essential to have a thorough understanding of their impact on bike tourism. This study aims to address the knowledge gap by examining the changing profile of bike tourists after the introduction of electric bicycles. The study provides some insights into the evolving dynamics of sustainable mobility in the context of e-bike tourism.

The study's empirical section examines the characteristics of cyclists who have taken trips in Italy or Europe in recent years. The University of Insubria Varese-Como (Italy), in collaboration with FIAB- Italian Federation Environment and bicycle, Active Italy, and CIAB- Club Business Friends of the Bicycle, conducted an online survey to collect data, resulting in 2,800 observations. The survey examines demographic factors such as gender, age, education level, job position, income, as well as cycling and travel preferences.

Through these data the differences between e-bike and traditional bike tourists in terms of gender, trip durations, destination choices, and the impact of socio-economic factors are investigated, showing how these characteristics change between e-bike tourists and traditional bike tourists.

Key findings indicate a preference for e-bikes among older individuals, highlighting the appeal of their assistive features. Higher household income is associated with increased e-bike usage, indicating the influence of socioeconomic factors on e-bike adoption patterns. The research highlights the impact of e-bikes on bike tourism, revealing different perspectives on factors such as trip planning, travel distances, and terrain choices, as e-bikes allow for longer journeys and more challenging terrains.

In summary, this research aims to be a starting point for a better understanding of the multifaceted effects of e-bikes on bike tourism. It emphasises the important role of e-bikes in redefining the composition of cyclists and their approach to plan bike travel.

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## Implementing a holistic approach to long-range planning for tourist territorial development

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❖ [Terceira-G35-O2 Tourism and Overtourism Issues, SF3, August 29, 2024, 2:30 PM - 4:15 PM](#)

Tourism emerges as a pivotal sector for economic expansion and regional progress, acknowledged in European industrial development strategies. The fundamental premise is that tourism, seen as both an economic catalyst and a territorial asset, harbors significant potential to rejuvenate regional resources. However, the benefits derived from the tourism sector often suffer from uneven distribution and a lack of clear delineation, posing a challenge in assessing their potential impacts within strategic development frameworks and policies. Despite the concerted efforts of numerous organizations and governments to promote sustainable tourism, a shared framework guiding the design of sustainable tourism strategies remains elusive, resulting in adverse effects on information sharing, comparability of approaches, and lessons learned.

The conducted research aims to delineate the tourism ecosystem through a taxonomic framework explicitly grounded in spatial components, encompassing attractors, services, and tourism facilities. The analysis centers on tourism destination areas, integrating analytical perspectives derived from big data, local tourism systems, and tourism specialization. The theoretical and analytical framework utilized seeks to construct a comprehensive understanding of spatial complexity in defining and managing tourist systems at the territorial scale.

A specific case study area, the Vulture district in the Basilicata region of Italy, is examined to assess the complex network of relationships among territorial agents and values. The findings contribute to providing a conceptual framework for tourism strategic planning with established operational concepts, facilitating a deeper exploration into the process underlying the analysis, modeling, and comprehension of the territorial structures and local geographies.

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## Job search in cities

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❖ [Terceira-S43-S2 Skills on Local Labour Markets, S14, August 30, 2024, 11:00 AM - 1:00 PM](#)

Large labor markets have long been hypothesized to facilitate matching between employees and employers. Those looking for work in large markets have more job options, while employers can choose from a wider pool of applicants. Consequently, jobseekers in large urban labour markets are more likely to find jobs that match their skills and preferences. While little evidence has been found in favor of the ‘urban insurance effect’, that is, labour market size does not seem to shorten the duration of unemployment, the effect of labor market size on matching quality has been little researched. In this paper, we develop a simple economic model that establishes a relationship between matching quality and labour market size. Then, we analyze this relationship using administrative data on all registered job seekers in Hungary between 2012 and 2017. Matching quality is measured by the degree of skill similarity between occupations before and after unemployment using survey data on the skill requirements of Hungarian. Jobseekers also declare what kind of occupation they are looking for which enables us to analyse whether skill mismatches are already present in intentions.

Since skill similarity is bounded on both sides we use fractional response models instead of linear models to assess the extent to which labour market size contributes to matching process. We find that in large urban labour markets the distance between the preferred and filled (post-unemployment) job is smaller on average, which means that in such labour markets it is easier to find a job with similar skill requirements as the preferred job. Surprisingly, this result holds regardless of the duration of unemployment. Estimation issues arising from the endogeneity of labour market size are addressed using historical instruments while fixed-effects models are estimated to remove unobserved characteristics of workers. In the models where we control for unobserved individual heterogeneity, the effect of labour market size is identified for individuals who moved and were registered at least twice in the unemployment register in the period 2012-2017. This means that the identification of the effects is done on a highly selective sub-sample of jobseekers, nevertheless the results are very similar to the baseline models estimated on the full sample. These results are also robust to re-employment definitions, alternative measures of occupational similarity, and measurement errors of the preferred job title.



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## Changing Public Perceptions of Artificial Intelligence in the Generative AI Era

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❖ [Terceira-S45 AI and Other Digital Technologies: Old Wine in New Bottles or Transformative Tools for Urban and Regional Economies?](#), S05, August 28, 2024, 11:00 AM - 1:00 PM

The year 2023 marked a significant shift in the field of Artificial Intelligence (AI), with the introduction and growing popularity of generative models such as Chat GPT, Dall-E, Google Bard, Midjourney, and others. This evolution ushered in a new era where businesses rapidly adopted AI technologies into their products, and prompt engineering became the foundation for numerous innovative solutions. While high-tech companies swiftly integrated these new technologies, public sentiment towards AI remained complex and multifaceted. As with any unfamiliar concept, people's reactions to these revolutionary products varied widely, ranging from uncertainty and fear to excitement and anticipation. These emotions significantly influence public behavior, making it crucial to understand public perceptions of AI. Understanding these perceptions is not only pivotal in shedding light on how generative AI is shaping society but also influences trust, adoption, decision-making, and the ethical development of AI technologies. Furthermore, it highlights areas for education and awareness to align AI advancements with public interest and societal values. This paper seeks to answer the central question: 'How has public sentiment towards AI evolved over the last two years?'. Employing multidimensional sentiment analysis techniques, this study analyzes a corpus of 639 most read world news articles, collected via the G-News API, published before and after the Generative AI Boom in 2023. In this study bart-large-mnli model of Facebook is used to estimate different sentiment scores of the articles using zero-shot classification techniques. The analysis captures various dimensions of public perceptions, such as fear and excitement, job displacement alerts, the tone of voice of the articles and overall trust in AI. These sentiment scores are then analyzed as time series, considering major AI events as influencing factors. The results reveal periods of uncertainty about AI, alongside clear trends of positive or negative sentiment shifts, and an overall pattern of the public sentiment formation. This paper introduces a novel methodology for studying public perceptions using textual data, contributes to ethical AI discussions, and provides insights into future trends.

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## Technical efficiency, productivity and performance of the sociobiodiversity crops in Brazil

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❖ [Terceira-G12-O2 Economic development in rural places, S12, August 28, 2024, 4:45 PM - 6:30 PM](#)

Since 2015 Brazil has been a signatory to the United Nations 2030 Agenda, which defines the Sustainable Development Goals for environmental protection, poverty reduction, and the promotion of socioeconomic development. To achieve these goals, the Brazilian economy needs to develop economically sustainable use of its environmental resources. This also requires promoting ecologically sustainable income generation for disadvantaged populations, which contributes to environmental preservation combined with actions to reduce poverty. Despite the importance of the bioeconomy, researches that assess the impact of public policies and climate change on products from Brazilian sociobiodiversity is still relatively scarce in the economic literature. Therefore, the purpose of this research is to evaluate the economic performance of socio-biodiversity products, and present estimations of technical efficiency scores for Brazilian socio-biodiversity production using data of 22 crops and 68 Brazilian municipalities between the years 2008-2023. Referent to the methodological approach, a product-oriented stochastic frontier model was implemented, and the results indicate highly heterogeneity among crops and regions over the analyzed period in terms of technical efficiency and productivity, suggesting that there are opportunities for public policies and private investments to increase the economic performance of this sector, which can promote the environmental sustainability and rural development in Brazil.

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## Federal Unconditional Transfers and Urban Services Provision: An Empirical Analysis for Brazilian Municipalities

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❖ [Terceira-G06-O6 Regional and Urban Policy and Governance, S02, August 30, 2024, 2:30 PM - 4:15 PM](#)

Developing countries' cities are known for their poor urban infrastructure and lack of basic services such as garbage collection, potable water, and sewage, for example. In Brazil, the 1988 constitution clearly defines the municipalities as the political entity responsible for the provision of urban services, a considerable challenge due to the country's very quick urbanization process, on the one hand, and lack of funding and own fiscal receipts, on the other. A situation that recently became even harder due to the expansion of social policies and associated federal demands for cities' complementary actions. We study the causal effect of the Fundo de Participação dos Municípios (FPM), the most important Brazilian federal unconditional transfer to municipalities, on urban infrastructure services in small municipalities of the country. Our identification strategy is based on FPM's rules that are based on the population thresholds of the municipalities and allow applying Regression Discontinuity Fuzzy Design (RDD) to estimate local effects of the FPM on urban services outcomes (access to water, sewage, garbage collection, urban collective transport, and street paving). Our results indicate that the FPM increases the expenditures on urbanism and transport, besides its effects on education and health expenditures. The FPM municipal resources also positively impact water provision through a general network, but no effects are found on sewage services, garbage collection, urban collective transport, and street paving. Furthermore, we found that the positive effect of FPM on urban expenditures and services occurs solely in the municipalities in the South and Southeast regions of Brazil, the richest ones. In all five regions, we also found that FPM resources bring more expenditures on public administration. Overall, despite its relevance for the small municipalities' receipts, we constate that the FPM resources play a small role in improving urban services. We note that these results are consistent with the highest share of own resources in the municipalities' receipts in the richest regions of the country.

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## Do big cities, small rural areas, or suburbs offer a better quality of life? in search of well-being

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- ❖ [Terceira-S54 Territorial Intelligence, a Key for a Sustainable Future? New Challenges and New Prospects for Regional Development and Growth: Data, Methods and Solutions, S07, August 28, 2024, 4:45 PM - 6:30 PM](#)

For a long time, the wealth of cities drew the poor from the countryside, giving rise to a so-called rural exodus. Over the centuries, the division of space has become more complex, mainly due to urban expansion. The suburbs of cities expanded, in part due to the growth of suburban housing. The debate on the standard of living of the suburbs is not new. Disadvantaged suburbs are often presented as the areas where hardship accumulates: it is now far from the city, in suburban and rural areas, that poverty is to be found. However, according to official statistics, the peri-urban area, although far from reaching the living standards of affluent inner-city neighborhoods, remains on average largely advantaged. This paper aims to examine the quality of life in cities, suburbs, and rural areas in European countries. This work presents long-term trends in socioeconomic development in different regions of the world, focusing on the effects of the 2008 financial crisis and the consequences of the COVID-19 crisis and current wars.

The analysis is based on data from social surveys conducted by European and worldwide statistical institutes. It will examine the relationships between environment, life expectancy, education, employment, and poverty in the urban and rural context. With the help of ad-hoc statistical indicators, it will also reveal where people are more satisfied with their quality of life.

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## Economic growth and international migration: the case of the Visegrad countries

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- ❖ [Online-S52 Sustainability Challenges in GVC-Dependent FDI Development Path: Assessing Regional Development within Global Production Networks, August 26, 2024, 2:30 PM - 4:15 PM](#)

Enlargements of the EU intensified the migration of labour force in Europe, which has controversial effects. On the one hand the home country may face with economic problems due to the lack of skilled workers, however, on the other hand migration is not a one-way process and out-migrants could return with competitive (e.g., language, technical, management) skills which has positive influence on the productivity. Economic centres of the home country could be not just the target areas of return migrants, but foreign direct investment (FDI) as the presumed drivers of economic growth in the Visegrad countries (V4) may also favour these regions. While the most dynamic economic centres (e.g., the capital or regional centre and its agglomeration) were focal points of investments and enjoyed the increase of population, border regions suffered from the opposite outcomes. The loss of population, whether it happens due to natural change or out-migration, means a real threat for the region, both in an economic and in a demographic context. The aim of this presentation is to investigate the linkage between FDI and migration and explore the spatial characteristics of these phenomena. In our case study, we try to reflect how migration and FDI could reshape space and place in the V4, which lost 10 million people since 2004 and suffering from labour shortage due to international migration.

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## The quality of work during the COVID-19 pandemic in Europe: does the workplace matter?

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❖ [Online-S59 Telework in Post COVID Times: Trends and Challenges for the Future, August 26, 2024, 4:45 PM - 6:30 PM](#)

Following the Covid-19 pandemic's emergence in 2020, we have witnessed an acceleration in the rescheduling of working methods. Specifically, there has been an increase in the number of opportunities for flexible work arrangements at different workplaces, including home or third places (e.g., bars, hotels, coworking spaces, etc.). This phenomenon has raised interest in the quality of work in non-traditional employment, which can be defined as the degree to which a job exhibits qualities that benefit the workers, including their physical and emotional well-being (both actual and perceived).

The paper aims to analyse the differences in terms of quality of work among working from home, traditional workplaces (i.e., employer or business premises) and third places.

The European Working Conditions Telephone Survey's sixth wave (2021) data were analysed through multinomial logistic regression, which compare the relative quality of work encountered by homeworkers with that found by those working at employer or business premises. The dataset includes detailed information on working conditions about 70,000 workers across European countries (i.e., EU Member States, the United Kingdom, Norway, Switzerland, Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, and Serbia), including evidence on their workplace, job prospects, working time quality, autonomy over job tasks, work intensity and demographic characteristics.

The results will add to the expanding body of literature on remote working and provide insights into the current policy discussion on the nature of work in the future. Moreover, the paper contributes to the current debates on the quality of work at different workplaces, by providing evidence-based insights for the European countries.

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## Disaggregation of economic indicators to identify left-behind areas

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❖ [Terceira-S11-S1 Left Behind Areas: Past, Present and Future, SF2, August 28, 2024, 2:30 PM - 4:15 PM](#)

The identification of left-behind areas is increasingly becoming a central topic of Regional Economics and the public debate. From an academic perspective, the existence of these areas and their evolution raises a problem of territorial inequality. The identification of key variables could allow researcher to identify what could cause the stagnation of certain places in relative terms to others. These places with a weak economy, do not only matter from a perspective of inequalities, but they could also point towards a problem of incorrect incentives, creating an inefficiency in the allocation of resources. This topic is also increasingly becoming central in the public debate. If the Government tries to modify the incentives of the population to agglomerate in certain places, it could easily need a high public investment in these areas to compensate their handicap. Consequently, there is an intense debate about the necessity of these resources. Citizens in declining areas demand a higher intervention from the public authorities while those in dynamic areas do not want to suffer a higher fiscal burden. From an empirical perspective, identifying these areas to evaluate their situation and create guidelines for policy makers is extremely challenging. Most of the time, there areas are far too small for Statistical Institutes. As a result, there are no official figures about them in most of the official databases.

Given this lack of data, our research provides local estimations of economic indicators for Spain, Italy, France and United Kingdom. These estimations are obtained thanks to the extrapolation of economic relationships from microdata of the European Income and Living Conditions Survey over the microdata of the national census. The application of entropy econometric techniques allows to obtain consistent indicators with available information coming from official sources.

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## Rural-Urban Digital Divide and Effects on Rural Development: The Case of Turkey

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❖ [Online-YSS2 Inequality and Regional Investment - EPAINOS, August 27, 2024, 11:00 AM - 1:00 PM](#)

Rural development is a process that aims to ensure socio-economic development in rural areas. Today, rapid developments in information and communication technologies make significant contributions to this process. Information and communication technologies (ICT) are one of the most important tools supporting rural development. ICT provides fast and easy access to information, facilitates communication, enables the creation of new business models and can increase the productivity of enterprises. Therefore, increasing the use of ICT in rural areas can help to accelerate rural development. ICT is boosting socio-economic development and reducing or deepening inter-regional disparities. One area where inter-regional inequalities are observed is the divide between rural and urban areas. In particular, the fact that ICT is more widespread in urban areas than rural areas makes it difficult for rural areas to keep pace with today's dominant economic and social structure. Accordingly, the digital divide between rural and urban areas has implications for rural development. The primary aim of this research is to reveal the effects of rural-urban digital divide on rural development. Within the scope of this study, the effects of ICT on rural development in rural areas have been discussed and the obstacles to the widespread use of ICT in rural areas have been revealed. Accordingly, the current situation of ICT in rural areas in Turkey is analyzed by referring to the rural-urban digital distinction for Turkey, which is a developing country. Within the scope of the study, descriptive analyses and correlation analyses are performed on Turkey's NUTS-3 level rural population ratio, socio-economic development status, and broadband usage data, and the results of the analyses are discussed.



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## Interplaces and Metropolisation in the Metropolitan Core Area of Belgium

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❖ [Terceira-S39-S1 From Neglect to Nuance: Exploring the Diversity of Second-Tier Cities](#), S06, August 28, 2024, 4:45 PM - 6:30 PM

Multiple urban processes are unevenly weaving formerly rural or suburban places into the fabric of metropolitan regions, especially in Europe. Collectively termed ‘metropolisation’, these integrative processes produce an increasing number of places situated in between erstwhile urban, suburban, or rural areas, and are hence referred to as ‘interplaces’. Although interplaces have long remained secondary to their primary urban counterparts, a growing body of literature on different types of interplaces as diverse as Sieverts’ (2003) *Zwischenstadt*, Garreau’s (1991) *Edge City* and many other types of peripheral centralities has emerged. Despite the many similarities across these interplace-concepts, they each stem from a particular geographical context and/or a particular perspective, hampering a comprehensive analysis that traces commonalities and highlights differences. Therefore, the aim of this paper is to establish conceptual clarity in the manifold concepts that make reference to interplaces by producing a typology of interplaces. We do so by employing the metropolisation framework developed by Cardoso & Meijers (2021) and its tripartite dimensions of spatial-functional, political-institutional, and cultural-symbolic integration. Within this framework, interplaces can be defined as those places that are shaped by ongoing integration in the wider metropolitan region yet where contradictory processes of integration unfold. In a similar vein, they can be classified depending on the dimensions according to which they are or are not integrated. We operationalise each dimension of metropolitan integration and illustrate each type of interplace with an example from the Metropolitan Core Area of Belgium, the urban area roughly delineated by the cities of Brussels, Ghent, Antwerp, and Leuven and characterised by a seemingly incomprehensible and structureless regional urbanisation. By disentangling metropolitan integration into three dimensions and operationalising each for the Metropolitan Core Area of Belgium, this research contributes to a systematic and nuanced comprehension of interplaces and their socio-economic, cultural, and political tensions.

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## Green Transitions of Regional Economies: A Multiregional Input-Output Analysis of the European Steel and Metal Industry

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❖ Terceira-G19-O1 Energy and Ecological Transitions, S17, August 29, 2024, 2:30 PM - 4:15 PM

In the transition towards a more sustainable economy, the steel and metal industries are pivotal. These sectors are not only integral to numerous modern economic and technological infrastructures, but also play a crucial role in driving the shift to a greener future. However, in a globally competitive landscape, they face challenges due to their high energy consumption and significant emissions, which require substantial reduction to meet environmental objectives. Therefore, transforming the steel and metal industry is essential for a greener economy, impacting both upstream and downstream value chains across multiple sectors and regions.

This study aims to analyze the dynamics of the steel and metal industries, focusing on their critical role in regional economies and their integration into global value chains. The study analyzes how steel and metal industries are integrated into regional economies and international value chains across Europe, assess the impact of changing competitiveness, and examine how global demand shifts and diversification affect regions with dominant steel and metal sectors. Key focus areas of the study are the regional economic impacts of these sectors, the role of governmental and regional support in tackling economic and environmental challenges, and the effects of decreased competitiveness in these regions.

This study uses a multiregional input-output (MRIO) analysis to analyze interactions among various sectors within an economy with a particular focus on steel and metal industries. Utilizing MRIO data from three different sources, the study examines the economic relationships between sectors and regions. It analyzes the regional economic impacts of the steel and metal sector, assesses the effects of government and regional support, and explores the implications of changes within these sectors. By analyzing how traditional steel and metal production centers integrate into regional economies and their roles in fragmented international value chains, the study reveals linkages between various regions and sectors, highlighting the need for sustainable growth strategies in these industries. It also assesses the impact of changing competitiveness within these industries across different regions and sectors. The findings highlight the necessity for these industries to adapt to sustainable production methods, considering their substantial emissions and high energy consumption. The research is crucial for developing comprehensive strategies that align with environmental goals while maintaining regional economic viability, thereby contributing to a broader sustainable transformation in society.

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## Water governance and hydrosocial territories: the case of groundwater contracts of Sebou Basin in Morocco

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❖ [Terceira-G15-O3 Spatial Sustainable Development, S15, August 30, 2024, 9:00 AM - 10:30 AM](#)

The configuration of actors and spaces around water system in Morocco has been a special and controverted issue over last decades. It has been discussed by few and insufficient academic researches and studies while the matter of water scarcity, drought and overexploitation, in the region, represent increasingly a huge source of population concern as well as public authorities one. The design of space, the cultural, historical, social references and water governance are not the only variables that could have an impact on the transformation of hydrosocial territories. Besides, hydraulic infrastructures represent one of the most important components of the pattern, and the distribution of people, around those assets, the kind of their activities, their deep relation with land, contribute enormously in the territory modelling and its development. The Sebou Basin is one of the most important basins in Morocco, in which water governance is increasingly complicated with the multiplicity of actors, policies and strategies, especially when those are not converging towards a specific goal, or when the goals are serving divergent interests. This paper aims to explore the pertinence and eventually the contribution of groundwater governance mechanism, materialized by the groundwater contract, in order to enhance hydraulic environment and reduce water deficit and scarcity in Sebou Basin in Morocco. The groundwater contract is meant to be a way of struggle against overexploitation and abusive use of underground water and preserve the natural reserve of the ecosystem in the region. However, human practices have been long working, consciously or unconsciously, against the assigned objectives that are far from being reached in terms. Moreover, the related policies acknowledge huge number of misunderstanding, failure, dissonance and ignorance from local authorities as well as the rest of stakeholders. The article highlights different perspectives and challenges to show how the articulation of the relation between different components, social, natural, political, of the territory could play a major role in the whole water governance scheme.

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## Real estate investment decisions in peripheral areas

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❖ [Online-G12 Economic development in rural places, August 26, 2024, 4:45 PM - 6:30 PM](#)

Among possible investments, the housing market represents a long-term investment and one of the largest assets of many households. The role of “geography” in determining housing investment decisions has begun to receive increased attention in recent years, especially since the impact of the pandemic on our daily lives (Van Nieuwerburgh, 2023). In this regard, researchers have studied factors influencing the housing market in suburban areas (e.g., Voith, 1999; Tsai et al., 2022), but very little has been documented when it comes to the relationship between peripheral municipalities and housing investment decisions.

This paper aims to fill this gap by investigating how living in a peripheral area affects real estate investment decisions. The research question is currently significant as researchers have documented in many countries a process of counter-urbanization that may stem from a desire to “return to one's roots”, to seek better environmental conditions, or simply to avoid the rising cost of living in urban centers (Goryunov & Kokovin, 2016; Cui et al., 2019; Sandow & Lundholm, 2023).

We use a dataset owned by the Centro Einaudi research institute that contains a set of variables about Italians collected by survey in 2022 and 2023, with a total of 2711 respondents. The sample was collected by a professional data analysis company, BVA Doxa, and the sample scheme was designed to ensure the representativeness of the sample. We combine this microeconomic dataset with other variables and create the Periphery dummy variable by the Italian Agency for Territorial Cohesion framework. Using this variable and a rich set of control variables, we study the relationship between the peripherality of the respondent's municipality of residence and homeownership (Y1), having invested in the housing market in the past 24 months (Y2), and propensity to invest in the housing market in the next 24 months (Y3).

We processed data by a probit model and several robustness checks, such as linear probability models, logit models, and bivariate probit models. We also applied a machine learning approach to determine the importance of peripherality among all available covariates. We found that living in a peripheral area increases the probability of owning a home but decreases the probability of investing in the housing market in the future. These effects are significant and are preserved in any model. On the other hand, we find no significant effect of peripherality on previous investment decisions.

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## Regulating Black Carbon emissions from international shipping impacting the Arctic

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❖ [Online-S53 Maritime Regions: Europe Hot Spots, August 26, 2024, 9:00 AM - 10:30 AM](#)

The International Maritime Organization (IMO) has committed to taking concrete actions that ensure that international shipping bears its fair share of responsibility in responding to climate change and reducing greenhouse gas emissions from international shipping. With respect to reducing the impact on the Arctic of emissions of short-lived climate pollutant Black Carbon (BC), the IMO established a work plan in 2011 to "investigate appropriate control measures to reduce the impact of BC emissions from international shipping" the plan envisage a final report and agreement on the appropriate action or actions within two years. In the intervening years, emissions of BC from ships operating in and near to the Arctic have more than doubled. Black carbon is a short-lived climate pollutant, produced by the incomplete burning of fossil fuels, it has an impact over 3000 times that of CO<sub>2</sub> on a 20 year global warming potential (GWP<sub>20</sub>) basis, and it makes up around one-fifth of international shipping's CO<sub>2</sub> equivalent emissions. This paper proposes an approach for a regulation in MARPOL Annex VI, which could deliver "fast and immediate" action on BC emissions via a fuel switch, followed by stricter stepped emission cuts via a polar fuel standard and designation of BC emission control areas (ECAs).

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## Social Entrepreneurial Intentions: a bibliometric analysis, thematic evolution and research agenda

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❖ [Online-G39 Intangible assests and regional development, August 26, 2024, 4:45 PM - 6:30 PM](#)

Social entrepreneurs are individuals who create and sustain social value through innovative solutions to neglected social problems. Entrepreneurial intention is a reliable indicator of actual behavior. Therefore, it is important to understand the systematic process of social entrepreneurial intention formation for an individual's desire to become a social entrepreneur.

Social entrepreneurship intentions (SEI) is a topic of great interest to researchers as implementations in this field are increasing in number. This noticeably increased interest of the academic community is due to the explosive growth of social issues regarding environmental pollution, poverty, climate change, unemployment, and so on. In recent years, there has been a growing interest in studying SEI. This increase in publications requires a systematic literature review to sort out the results achieved, explore the main trends and examine the relationship with other topics.

The aim of this paper is to provide a bibliometric analysis of the research on social entrepreneurial intentions (SEI). The study attempts to identify the significant journals in this area, years with the maximum publication, most cited papers, most important authors and most prolific countries and institutions. Also, this study provides the co-authorship network map, inter-country co-authorship network map and keyword co-occurrences network maps.

The methodology used is based on bibliometric techniques using mapping and clustering. The study has been conducted on 376 scientific articles using English language, published in journals indexed in the Scopus and Web of Science (WOS) databases for a period that is, from 2010 to 2023. VOSviewer software was used to conduct the analysis.

The findings of this study highlight the top authors, the ranking of the main journals and universities doing research in the field of SEI. Also, identify and classify the main research streams and gaps that have been highlighted. This study contributes to the existing literature on SEI by giving some order to the variety of sources, outline state-of-the-art extant research, clarifying predominant research trends, and subsequently suggesting further research directions in the field

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## The integral function of urban gardening in building resilient and sustainable cities

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❖ [Online-G01-O1 Peace, Regional and Urban Sustainable Development, August 26, 2024, 9:00 AM - 10:30 AM](#)

Cities are expanding with an exponential increase of population with endangering the social, economic and environmental issues. Unequivocally, urban gardening helps for sustainable city development. Thus, scientists must create measures to direct public decision-making for gardening activities. Synchronization is required between policy makers and urban residence by considering the urgency of city gardening. Adoption of gardening practice require several extension activities. Urban ecosystem services will be strong by strengthening the policy regarding urban gardening. Urban gardening seems to be a jointly developed and integrated process within complex social-ecological systems, rather than merely a design of systems or structures, according to the resilience concept. Urban gardening is placed within the conceptual contexts of resilience and sustainability, which will be discussed by examining their similarities and contrasts, with a special emphasis on planning components. The objectives are: 1. To develop a framework of holistic approach in building city resilience, 2. To involve different stakeholder in the way of active and effective participation of decision processes and 3. To integrate urban gardening in different planning principles and approaches. A diverse group of experts is involved in the methodology. Resilience indicators will be evaluated using qualitative methods. This research will focus on the planning instrument for urban sustainability and resilience. It also promotes the in-depth involvement of city residents and different stakeholders from several institutions.

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## Cultural Capital Transmission and Sticky Intergenerational Mobility

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❖ [Online-S02 Culture Based Development: Cultural Narratives for Polarization versus Peace, August 26, 2024, 2:30 PM - 4:15 PM](#)

Cultural memory of places may be a cause of sticky intergenerational mobility for individuals from traditionally culturally discriminated groups. Our hypothesis is that this stickiness is a function of the Bourdieu-type distinction based on local cultural persistence in the perception of parental cultural capital (i.e., parental occupation and linguistic identity). Using a newly discovered historic dataset from Wales (UK) in the period 1900 – 1915 and a plethora of econometric techniques (including multinomial logit, Tobit model, 2ISLS IV and 3SLS), we explore this mechanism on individual level and find that the local persistence in treatment towards social class and Welsh identity causes biases on intergenerational mobility. Therefore, intergenerational mobility is generally associated with earning lower wages. Humble origins generally result in students starting work rather than continuing to higher education. Only affluent parental occupations lead to positive distinction at school but are associated with fewer upwardly mobile heirs.

Moreover, parental Welsh names, as a cultural marker, are associated with students' negative distinction (physical punishment), which is related to lower wages. Our findings confirm that local cultural perceptions can cause persistent over time discrimination towards individuals from local ethnic groups through hindering their justified by merit socio-economic mobility.



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## Beyond the Dreamhouse: Analyzing Microgeographical Patterns of Female CEOs in Berlin's startup Scene

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❖ [Online-G38 Industrial dynamics and spatial development, August 27, 2024, 9:00 AM - 10:30 AM](#)

This paper explores microgeographical patterns of firm birth rates in knowledge-intensive business services (KIBS) within the city of Berlin. The novelty of the paper lies in distinguishing and comparing startups founded by female CEOs and male CEOs and their location decisions. For the regression analysis, I use geo-coded microdata of firm births aggregated on a 1\*1 km<sup>2</sup> grid level and complement this data with several control variables on grid level. These include housing prices, socio-economic indicators, transport infrastructure, and social infrastructure such as kindergartens, primary schools, and playgrounds. Preliminary results show significant differences in the clustering of firms led by males and females. Although there are minimal differences in socio-economic determinants among the neighborhoods, access to highways is, quite surprisingly, a significant location determinant for more female-led startups, while there is no significant effect for male-led new firms. Further, I do find an effect for kindergartens for both groups, but the effect is double the size for female-led firms. Overall, the paper contributes to the literature in two ways: first, the literature on micro-geographical firm patterns in general is still sparse. The paper contributes to general questions of firm clustering and industry clusters within cities with a special emphasis on amenities and local infrastructure. Second, the paper contributes to current debates in the planning literature on feminist planning by providing evidence on the necessity of mixed built structures and the need for supporting economic opportunities for women through the built environment and local infrastructure.

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## Ecosystem Services and SDGs, Sustainability and Craftsmanship activities in Sicily

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❖ [Online-S50 Territorial Disparities and the Achievement of the SDGs?](#), August 26, 2024, 4:45 PM - 6:30 PM

Ecosystem services linked to biodiversity conservation, sustainable natural resource use and to the Sustainable Development Goals (SDGs) are underscored as a crucial research focus. Ecosystem services contribute to the achievement of various objectives, including the environmental sustainability and human well-being. Preserving and developing ecosystem services could lead to a reduction of inequalities and promotion of sustainable development models. Furthermore, the universal access to these services in all regions and communities is crucial for addressing existing territorial disparities among different regions or communities, especially socioeconomic, environmental, and access to resources (such as clean water, food, healthy air, and soil).

The paper wants to zoom in on a pilot study in Sicily, a marginal territory of Italy. The primary aim is to classify economic activities in Sicilian craftsmanship, identifying those aligning with the transition to a new model of economic and environmental development.

The structure of the paper is outlined: the first part defines circular and bio-economy and Ecosystem services exploring their connections and relevant sectors. The second part delves into ecosystem services and the CICES classification. The final part compares ATECO (ISTAT) and CICES classifications, analyzing the distribution of Sicilian craftsmanship to identify ecosystem services impacting well-being. Additionally, GIS tools are mentioned as a means of creating maps to aid in the analysis.

In summary, the abstract provides an overview of a comprehensive study that integrates societal resilience, sustainable economic approaches, and ecosystem services. It focuses explicitly on Sicilian craftsmanship and its alignment with the transition towards a circular and bio-based economy.

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## The role of innovative forms of public-private engagement in fostering sustainability transitions of (smart) cities

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❖ [Terceira-S77-S2 Collective Smartness to Foster Sustainability Transitions of Places: Smart Cities, Regions, and Energy Communities, S08, August 30, 2024, 11:00 AM - 1:00 PM](#)

This paper explores the role of innovative forms of public-private engagement in supporting urban sustainability transitions. In order to investigate the theoretical impact of these collaborative tools and their role in shaping a smart city ecosystem, we conduct a two-steps analysis.

In the first step, we develop a literature review of relevant articles and book chapters collected by Scopus, published between 2013 and 2023. The examination consists of a bibliometric analysis, and data are analyzed using the bibliometrix software.

In the second step, we analyze a set of current smart city projects - collected through European portals and crowdsourcing platforms - in order to understand the real impact of new forms of public-private engagement in driving the sustainable urban transition. Our analysis emphasizes the role played by these collaborative tools in supporting the sustainable development of places.

The results include the discovery of a theoretical framework, main pillars, and pertinent trends of participatory tools. Moreover, thanks to the detection of best practices for the development of innovative forms of public-private engagement within the urban context, the paper offers policymakers inspiration and tools on how to address urban sustainability transformations and promote the achievement of the Sustainable Development Goals (SDGs) consequently.

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## Great Expectations: Spatial and socio-economic differences in the development of parent and teacher academic expectations and links with educational outcomes.

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❖ [Terceira-S21-S4 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S05, August 29, 2024, 9:00 AM - 10:30 AM](#)

Student's academic trajectories indicate both social class and spatial differences, and narrowing these inequalities requires an understanding of malleable social and environmental factors that make a difference for students. One potential area to target is academic expectations from parents and teachers, which show significant associations with student educational outcomes (Agger et al., 2018; Byun et al., 2012). This study draws on five waves of the Growing Up in Ireland cohort study (9, 13, 17 and 20 years) which repeatedly measures parent and teacher academic expectations and student's achievement, academic self-concepts and eventual higher education choices. Using cross-lagged autoregressive models, our study has three aims. (1) Track the development of parent and teacher academic expectations and examine differences in mean levels and temporal changes across levels of family income, parent education and spatial regions. (2) Examine concurrent and longitudinal associations between parent and teacher academic expectations and student's academic achievement, self-concepts and HE choices. Compare differences in the relative salience of these effects across levels of family income, parent education and spatial regions. (3) Examine the importance of exposure to information from online educational resources and school guidance counsellors plays for student's HE choices across levels of family income, parent education and spatial regions. While set in the Irish context, the study had relevance internationally in understanding the interplay of parental and teacher expectations, resources and information in shaping educational outcomes like higher education entry and in identifying policy mechanisms to address spatial and socio-economic inequalities in such educational opportunities.

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## Cross Country Analysis for the Impact of Culture on Ecology and Peace

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❖ [Online-S02 Culture Based Development: Cultural Narratives for Polarization versus Peace, August 26, 2024, 2:30 PM - 4:15 PM](#)

Culture Based Development (CBD) individual and regional analysis has demonstrated that places that provide highly for ecological goods are also high on the provision of other public goods. The aim of this paper is to cross check two questions. Firstly, it inquires whether provision for peace (approximated with defense spending, cultural cohesion and welfare effort) and provision for environmental concerns are also having a common trend across space. The rationale for this expectation is that cultural attitudes with high other-regarding preferences motivate the provision of any type of public good, while environment and peace are two types of public good. Second, I would like to check whether the aggregation of the effect makes any difference. We all know that aggregation on different levels shows differences in the sign of the effect for population and economic growth relationship and for altruism of individuals and groups. Hence, the question is whether the coincidence between level of provision of public goods for same underlying cultural attitudes will hold the same way on national (country) level as it was previously found for individual and regional level. Using a composite dataset with indicators obtained from the World Value Survey and the Estes Weighted Index of Social Progress for year 2010 and for 147 countries and 88,681 individual observations, I apply both individual and country level analysis and confirm that cultural filtering drives the other regarding preferences that determine the local provision of both environmental and peace related public goods.

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## Challenges and actors of Hungarian refugee policy

Dr. Andrea Schmidt<sup>1</sup>

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❖ [Terceira-G41-O2 Migration and Integration in a Global World, S18, August 30, 2024, 9:00 AM - 10:30 AM](#)

This paper is the contribution to the project awarded by the International Visegrad Fund under the title: Situation of Ukrainian refugees in Central Europe and the Balkans - lessons learned and policy recommenadtions. It focuses on the case of HUnghary and follows a comparative approach. In 2022, Hungarian refugee policy was faced with a new dimension. The migrant threat that started in 2015, which criticised the refugee policies of Western European countries, both socially and in government, and which made refugees look like foreigners, posed a new challenge to the population and the institutional background.

The aim of this paper to analyse the obstacles and institutional models that the Hungarian government and the citizens have had to face, and to analyse the problem of how to overcome the stereotype of the migrant as a foreigner who poses many dangers. On the one hand, the lecture deals with the analysis of the institutional background and the handling of the migrant issue and its pitfalls, while on the other hand, it also seeks to answer the question of what tasks and challenges were posed by the first refugees from Ukraine, what actors were involved in the handling of the crisis, what legal, institutional and financial background ensured the handling of the refugee issue, and how all this could be reconciled with the populist government's communication and its changes. Focusing on the Hungarian example, the presentation will also look at Central Europe.

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## Subnational population ageing in New Zealand: Past, present, and future

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❖ [Online-G02-O1 Demographic Change, Population and Migration, August 26, 2024, 9:00 AM - 10:30 AM](#)

The structural ageing of the population is one of the key global trends of the 21st Century. The importance of population ageing has gained prominence because of a growing recognition that future populations will include an increasing share of older people, raising potentially important resource implications for national and local governments alike. In this paper, I summarise past, present, and future measures of population ageing for New Zealand at the regional and territorial authority level. This exercise highlights two key facts. First, all subnational areas have been, and are projected to continue, ageing. Second, not all subnational areas are ageing at the same rate. Moreover, the ranking of subnational areas in terms of past, present, and future ageing depends on the measure of structural ageing that is employed. In particular, I highlight the differences between ‘traditional’ measures of structural ageing, such as the median age or the proportion of the population aged 65 years and over, and a new class of axiomatically-consistent structural ageing measures developed by Cameron (2022). Looking more deeply at the results, it appears that more rural and peripheral areas have been ageing faster than more urban and peri-urban areas, and will continue to do so into the future. Policymakers and other decision-makers should remain cognisant of the importance of subnational population ageing.

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## How administrative degradation affects middle-sized cities: lessons from Poland's 1998 regional reform

Borys Cieslak, Dr. Paula Nagler, Prof. Dr. Frank van Oort

❖ [Terceira-S39-S1 From Neglect to Nuance: Exploring the Diversity of Second-Tier Cities, S06, August 28, 2024, 4:45 PM - 6:30 PM](#)

Among Polish cities facing socioeconomic difficulties are the former regional capitals which lost their administrative status due to the 1998 reform, reducing the number of regions. Making use of this quasi-experimental setting, we assess the impact of the loss of administrative status on the affected cities with difference-in-differences estimations. Our findings show the negative impact of the regional amalgamation on economic and, to a lesser extent, on other dimensions of local development. We identify the reform's contribution to the growing disparity between the second-tier and the largest cities and reflect on the design of place-based compensatory measures.



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## Cohesion Policy in the outermost regions

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❖ [Terceira-S63 The European Outermost Regions: Remote Territories... Forgotten Territories?](#), S09, August 30, 2024, 9:00 AM - 10:30 AM

The EU has nine outermost regions: Guadeloupe, French Guiana, Réunion, Martinique, Mayotte and Saint-Martin (France), the Azores and Madeira (Portugal) and the Canary Islands (Spain). Altogether, close to five million people live in the outermost regions, which is slightly more than 1% of the EU's total population. These regions are, by definition, located far away from the European continent and are thus granted tailored support from the EU (through Article 349 of the Treaty on the Functioning of the European Union) to compensate for the (natural and structural) drawbacks linked to their geographical situation. While facing a range of common challenges linked to their geographic features, the EU's outermost regions are very diverse when it comes to their demographic and socio-economic profiles. This has, in turn, influenced their economic development path and still weighs heavily on their convergence prospects.

In this context, the role of EU Cohesion Policy and the European Structural and Investment Funds in supporting (sustainable and inclusive) growth in the outermost regions, the majority of which are categorised as 'less developed regions' in the 2021-2027 Cohesion Policy framework, appears to be decisive. Yet their impact is hard to assess due to the diverse and rapidly changing profiles of the outermost regions in terms of geographic, environmental, economic, social and demographic characteristics, as well as the multifaceted nature of the institutional and governance systems in place there. Logically, the role of place-based, tailor-made approaches (not least as part of EU Cohesion Policy) to overcome regional disparities and build on the outermost regions' assets deserves particular attention.

This paper describes the unique situation and specificities of the outermost regions and investigates the role of Cohesion Policy in exploiting opportunities for their socio-economic development. It is extracted from a study (Maucorps et al., 2024) contracted by the European Parliament that builds on both primary and secondary data and uses different analysis methods. It combines a qualitative and statistical analysis of the outermost regions' profiles and development paths (based on Eurostat, national and regional data sources), a literature review of policy documents and studies related to EU Cohesion Policy and other cohesion-enhancing strategies, interviews with key regional stakeholders, and in-depth case studies focusing on three outermost regions: Réunion, the Azores and the Canary Islands.

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## From Brain Drain to Cultural Gain: the socio-economic impact of MAC fest on a Southern Italian community

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❖ [Online-S70-S2 The role of young people in building up sustainable development practices for inner and rural areas, August 26, 2024, 11:00 AM - 1:00 PM](#)

Sustainable development is about improving life experiences. The phenomenon of intellectual migration has emptied several southern Italian contexts in favour of the northern European area. The Millennium generation has suffered more than any other from this process of estrangement from their native places and the consequent depletion of human resources necessary to ensure forms of consociativism among non-profit sector and community-driven initiatives. There is flourishing of various cultural festivals in inner and peri-urban areas and it seems to be a generational response aimed at reversing this trend as an opportunity for local development, aimed at offering a better choice for those who must decide to leave or not, building a legacy for next generations. The case of MAC fest - Festival of Music, Arts and Culture is interesting in several respects. The festival was born in 2019 in Cava de' Tirreni (Campania, Italy) and fed by young people belonging to Gen Y and Z (the cohort between 1993 and 2003), most of whom emigrated to Northern Italy for study and work reasons. During the summer, they experience the organisational process as a way to come back, a voluntary service and the need to fill the void of cultural offers as well. MAC fest benefits only from private contributions (sponsors and donations) and it is entirely free of charge. What is interesting is the mechanism of drawing up and publishing a "Socio-economic impact report", through which organisers measure the cultural demand trend before and after the Festival and its effects in terms of participants' wealth and motivation. The research crosses several lines, questioning: the role of Millennials in the production of cultural events; the impact of non-profit festivals in terms of social innovation; the value-creation associated with the attraction of tourism and the promotion of emerging professionals linked to the world of art, music and culture.

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## On Evacuation Route based on Spatial Cognitive Map in Disaster Occurs

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❖ [Online-G41 Modelling spatial analysis, August 27, 2024, 9:00 AM - 10:30 AM](#)

In many urban areas today, evacuation plans have been formulated to cope with disasters such as earthquakes, tsunamis, and the resulting fires. In addition, temporary evacuation sites and long-term evacuation sites have been established. In the evacuation plans, citizens are encouraged to conduct evacuation exercises in each area. Citizens can cope with disasters by conducting such exercises on a continuous basis. However, there are many people who do not participate in evacuation drills, such as the elderly. Many citizens understand the plan but do not actually simulate it. When a disaster occurs, many citizens may be hesitant to evacuate to the evacuation sites set in the plan. They may be more willing to evacuate to an evacuation site along a path that they often walk, even if it is a bit far away, than to an evacuation site that is closer but unfamiliar to them. The same is true for neighborhood community groups. For them, a distant but well-known town is more likely to be an evacuation site than a nearby neighborhood. In fact, evacuation plans need to be developed based on an understanding of the cognitive structure of such cities.

The purpose of this study is to find appropriate evacuation sites based on the cognitive maps of citizens. In this study, data will be collected from children between the ages of 10 and 12, the age group from which cognitive maps can be extracted the best.

As a result, we found the importance of establishing evacuation routes in well-known areas. In the children's cognitive maps, places where directional changes are made, such as curves and intersections, are drawn larger than they are in, while busy areas with stores, such as shopping streets, are drawn wider and shorter in distance.

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## Can higher-quality nighttime lights predict sectoral GDP across subnational regions? Urban and rural luminosity across the provinces in Türkiye

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❖ [Online-G42 Quantitative spatial analysis, August 27, 2024, 2:30 PM - 4:15 PM](#)

We investigate the potential of higher-quality nighttime light (NTL) data for predicting the sectoral gross domestic product (GDP) across subnational regions. Specifically, we use satellite images from the Visible Infrared Imaging Radiometer Suite (VIIRS) to study the relationship between regional luminosity and sectoral production across 81 provinces in Türkiye over the 2004-2020 period. Luminosity intensity is further decomposed into urban and rural components using land cover data. Employing pooled ordinary least squares, between-estimator, and within-estimator regressions, we examine the relationship between NTL and total GDP, agricultural GDP, non-agricultural GDP, industrial GDP, and services GDP. Our results show that urban NTL exhibits the most robust correlation with non-agricultural GDP. Notably, industrial GDP shows the highest GDP-NTL elasticity, pointing out the high predictive performance of urban NTL. From an estimation standpoint, the between-estimator yields superior predictive performance and more robust GDP-NTL correlations compared to other models. We also find that after accounting for spatial and temporal fixed effects, the within-estimator does not identify a significant relationship between NTL and GDP. Thus, we conclude by arguing that higher-quality nighttime light (NTL) data accurately predict sectoral GDP differences across regions but have weaker predictive power for annual GDP changes.

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## Unveiling the Evolution of Gender Gap of PhD holders: A Regional Perspective in Italy

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❖ [Terceira-S08-S2 University Impacts on the Local and Regional Economy, SF3, August 28, 2024, 4:45 PM - 6:30 PM](#)

The topic of gender gap increasingly attracts the attention of both scholars and policy makers, but it has been scantily addressed in the regional studies literature. This paper aims at filling this gap, by addressing a specific category of high-skilled individual, i.e. Ph.D. holders. Specifically, this paper aims at exploring how gender inequalities among PhD holders have evolved in the recent past and across Italian regions, considering not only the wage gap but also the general working conditions, taking account in particular of the job satisfaction and the degree of education-job (mis)match. To achieve this research objective, two waves of a Retrospective Survey on the Professional Placement of Ph.Ds. (4 and 6 years respectively after graduation), conducted by the Italian National Statistical Institute of Italy (ISTAT) are used. From a methodological point of view, the (Double-Robust) Inverse Probability Weighted Regression Adjustment (IPW-RA) estimator is applied. Our preliminary results highlight that: i) the gender wage gap is confirmed and appears to be widening over time; ii) the wage gap is observed in all Italian macro-regions, but, while it tends to narrow in the north of Italy, it has increased in the center and south of the country and iii) besides wage differences, our analysis documents a growing gap in the education-job mismatch, in terms of over-education and over-skilling

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## Determinants of the adequate insertion of small cocoa producers in Tolima (Colombia) in GVCs and strategies for strengthening their competitiveness

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❖ Terceira-G09-O2 Regional Competitiveness, Innovation and Productivity, SF2, August 28, 2024, 4:45 PM - 6:30 PM

This project aims to identify the main determinants of the adequate insertion of small cocoa producers in Tolima in the Global Value Chain (GVC) and to propose strategies to strengthen their competitiveness.

The questions that motivate this research include the following: ¿What conditions are required for small farmers to "adequately integrate" into global value chains? ¿What are the main opportunities, risks and limitations faced by cocoa producers in Tolima to integrate into global value chains? and ¿what strategies can be used to strengthen their competitiveness?

Based on the Global value chain analysis methodology, the first step is to establish the participation of the country and Tolima in the cocoa GVC in terms of: production, export and consumption of domestic cocoa, the specialty cocoa niche, prices, actual and potential buyers, and standards. In turn, the actors and power relations along the different links of the GVC are identified, including the State, farmers, processors, exporters, guilds, and research centers. This is condensed into a map for the cocoa value chain in Tolima.

The Tolima cocoa value chain was selected for the study using as criteria the producer associations that are the most representative of the region, some export and others have high export potential, participate in the generation of added value and employment and by the degree of association of small producers. The samples have been taken under a non-probabilistic selection criterion, also called targeted or by convenience.

The study is being conducted by convenience sampling that includes two associations from each of the main cocoa producing municipalities of Tolima (Chaparral, Rioblanco, Ataco, Planadas) in southern Tolima, and the Multiactive Cooperative of Agricultural Producers of Northern Tolima "Riqueza Ancestral" which is made up of five associations of producers of specialty cocoa, including cocoa liquor plant and marketer of the own brand CACAO A5, based in Mariquita. They are: Agrocames of Palocabildo, Aprocal of Alvarado, Asprafal of Falan, Asocamelias of Mariquita, Asosanpedro of Armero Guayabal. The municipalities where these associations selected for the study are located account for about 70% of the total cocoa production in the department by 2021

Finally, strategies are designed to strengthen the competitiveness of small-scale cocoa producers in Tolima to promote their proper insertion in the GVC

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## Are Capitalist Systems of Health Truly Self-Organising?

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❖ [Online-G45 Sustainability of local policies, August 27, 2024, 9:00 AM - 10:30 AM](#)

In the context of current socioeconomic inequalities deepening in capitalism, major adaptations are necessary, the fundamental challenge must be institutional: existing institutions are improper, and a greater period of experimentation is necessary. This is why we should look at the basics of institutional theory, particularly of Marxist traditions, outside of the ruling ‘neoliberal consensus.’ However, the vulnerability hampering their affluent capability truly to challenge the ruling consensus is the weak integration into radical-theory, particularly of Veblen, on the question, whether capitalist systems of health are truly self-organising, which lead to five sub-questions: (1) how capitalist system of health gets to organisation-structuration in real-world (objectivity); (2) what its origin of disorder is; (3) how capitalist systems of health are self-organising, possibly in the context of institutional variables structured into: (a) market versus non-market, (b) pro-capital versus anti-capital; (4) whether truly self-organising in value-and-history; (5) if untrue, what the normative solutions are, addressing the duality of ‘reformism’ versus radicalism. This paper, which defines ‘structure’ as ‘order’, ‘capital’ as the ‘result of capitalist law and institutions based on structured relations of production,’ and ‘self-organisation’ as ‘institutional process of change with struggle to reorganise, reconstitute and restructure an order out of disorder,’ and ‘evolution’ as ‘self-organising change for survival,’ seeks to answer the question through the application of deeper understanding on Veblen to an empirical case-study (with quantitative data-analysis) on Republic-of-Korea, during the last decade. By doing so, this paper argues: beyond superficial issues of state versus market, Keynesianism versus neoliberalism, there is a deeper real-world issue ‘structuration’ of capitalist systems of health in Korea, which can be addressed well by most institutional theory in Marxist-tradition. But this in turn can be only valid if it is linked to radical theory, especially of Veblenian, looking beyond such capitalist system. Such connection is one of the precondition to deepen Marx.

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## Inequality, Institutions and Macroeconomic Policies. Present and Future from Regional and EU-Wide Perspective

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❖ [Online-S13 Regional Development and Sustainable Peace, August 26, 2024, 9:00 AM - 10:30 AM](#)

The current geopolitical volatility in the immediate proximity of the European and, more specifically, EU-27 borders has brought to light wide incongruities about policies, the actual state of affairs regarding inequality at several levels, and the lag between changes in the economic and social landscape designed through policies and the wider public perception of the public, thus triggering a wave of increasing discontent Europe-wide resulting in an unprecedented populist wave. The European Union construction was in itself an institutional and the past two decades have progressed towards increased challenges and risks as the shift from “one size fits all” to the “customized size” was associated with the creation of the new institutional assessment tool “European Semester”. The subsequent pandemic-triggered changes and the outbreak of open conflicts in the immediate proximity of European borders contribute to heightening the volatility. Issues and potential challenges can be identified at several levels, all determinants for the current state of economic and social uncertainty. Our analysis proposes a mixed framework for analyzing the interplay between economic- and social-institutional factors influencing outcomes relevant to the European labor markets and societies and traditional macroeconomic indicators used to assess the competitiveness and performance level of member states with particular emphasis on selected central and European member states (Romania, Bulgaria, Poland, Czech Republic, Hungary) and Southern Member-States (Greece, Malta, Portugal, Spain, Italy) while using as benchmark some other comparable western and central Europe member-states (France, Germany, Austria, the Netherlands, Sweden). Considering the availability of data, several dimensions were selected for analyzing the specific interaction between institutional, economic and social factors with impact on present and future developments determining the increase or decrease of inequalities from the perspective of education, labor market and digitalization of the economic and social life. The findings show that institutional factors need to be reconsidered as they impact either directly or indirectly actual measurable macroeconomic indicators. Of particular relevance is the interaction of the educational systems and their capacity to coordinate and collaborate with stakeholders from the public and private sectors aiming to the creation of inclusive labor markets that are the core of reducing persistent inequalities both at intra- and inter-regional levels. Lack of assessing impact from the economic and social-institutional perspective in an integrated institutional-macroeconomic framework might increase short, medium-term and even long-term risks of polarization, and social unrest and even create a favorable environment for open or covert economic and social conflicts.



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## Creating an Assessment Tool for University Campuses as Innovation Hubs: A Comprehensive Exploration

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❖ Terceira-G03-O1 Innovation and Regional Development, S11, August 28, 2024, 11:00 AM - 1:00 PM

This study addresses the existing gap in knowledge concerning the transformation of university campuses into innovation hubs. University managers often lack a clear roadmap on how to cultivate an environment conducive to innovation. The Ministry of Education, Cultures, Sports, Science and Technology-Japan has also addressed a new concept of campus called “innovation commons”, however, a clear understanding of its roadmap is still lacking among practitioners of universities. The final goal of this research is to bridge this gap by developing an assessment tool that outlines the essential conditions for a campus to evolve into a successful innovation hub.

The tool aims to provide a systematic framework for evaluating key elements within university campuses that impacts their potential as innovation hubs. By adopting this tool at a campus, it will be possible to develop an action plan for an innovation hub based on their campus’s physical conditions and societal conditions of the university.

The research methodology involved a qualitative data analysis for the responses from 108 participants through a non-structured questionnaire. By adopting a content analysis under the framework of sustainable campus management, social engagement, accessibility, spatial design, facility and equipment provisions, people's interaction dynamics, personal activities, traits of the university, and the management system are found as critical aspects to be considered for the assessment tool. These dimensions are tagged as pivotal contributors to the creation of an innovation-friendly campus environment.

The questionnaire results provide valuable insights, the next phase of the research involves the development of specific criteria for assessment based on these findings. This ongoing work will enhance the precision and applicability of the assessment, ensuring its relevance across diverse university contexts.

This tool, once fully developed, has the potential to guide university leaders in systematically transforming their campuses into dynamic innovation hubs, thereby contributing to the advancement of knowledge and societal progress.

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## Coworking Connections: Examining the Characteristics of Inter-Company Interactions

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❖ [Terceira-S80-S1 New Work Horizons: Geographical, Social, and Economic Dimensions of Collaborative Working Spaces, S09, August 29, 2024, 2:30 PM - 4:15 PM](#)

This contribution examines the characteristics of inter-company interactions that occurs within coworking spaces (CWS). CWS are mostly private companies, located mainly in cities, that provide workspaces and a diverse portfolio of support services, especially for small companies and individual entrepreneurs. CWS are clustering different economic activities around as well as within themselves. Current research on CWS mainly focuses on the detection and international comparison of their localization factors, on the exploration of differences in the way CWS operate, on description of the structure of CWS users, or on the description of the effects of CWS location on their surrounding areas. However, a deeper investigation of the mutual interactions of users of CWS has not yet been sufficiently explored. This contribution examines the reasons, rates of interactions, and forms of interactions between CWS users operating in different industries. The analysis of inter-company interactions is based on data from international questionnaire survey for users of coworking spaces in Europe, which was carried out between 2022 and 2023.

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## On Resilience in inner areas. The governance of repopulation processes in Socio-Ecological Systems

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❖ [Online-G02-O2 Demographic Change, Population and Migration, August 26, 2024, 2:30 PM - 4:15 PM](#)

Like a virus making a species jump, the concept of resilience has been the protagonist of an impressive interdisciplinary spill over. This article focuses on the difficulties of including this concept in the epistemic plane of the social sciences, and proposes an analysis of the limitations encountered when it is applied in contexts characterised by components and regulatory processes at a different level of ontological stratification in comparison to physical systems, such as mountain inner areas.

The contribution is structured in three parts: the first focuses on the interdisciplinary genealogy of the concept and the reflections that have attempted to interpret the causes, modalities and effects of its growing relevance for the social sciences. The second addresses some interpretative problems and proposes possible theoretical and methodological solutions oriented towards the inclusion of resilience in the domain of the social sciences. The last part delves into the case of a peculiar socio-ecological system such as that of mountainous inner areas, in which the dynamics of resilience are observed from an inverted perspective compared to the traditional one, namely by conceiving repopulation phenomena as trauma, rather than depopulation.

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## Development of a Simulation Model for the Evaluation of Water and Environmental Policy in Finland

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❖ [Online-G24 Human - Environmental Interactions, August 26, 2024, 4:45 PM - 6:30 PM](#)

This study develops a simulation model for evaluating water environment policies in Finland. First, we construct a model of the structure of economic activities and water pollutant discharges in Finland. Here, economic activity means production in certain industrial sectors and consumption in households in Finland, which are the sources of water pollutant discharges. The target area of this study is Finland, which has a land area of about 338,000 km<sup>2</sup>, more than 70% of which is covered by forests and semi-natural forests. Including wetlands and water bodies, about 90% of the country is a natural environment. The capital city, Helsinki, is located at the southernmost point and faces the Gulf of Finland, with a population of 658,457 (2021). Economic activities in the capital and other cities emit several types of water pollutants, including total nitrogen (T-N) and total phosphorus (T-P). In addition, parts of Finland border the Baltic Sea, and water pollutants from terrestrial activities enter the sea through rivers. The Baltic Sea and other surrounding waters of Finland are still assessed as eutrophic waters. In order to improve the water quality of Finland's inland waters and surrounding sea areas, it is also necessary to clarify the discharge structure of water pollutants from socioeconomic activities and the natural environment, and to conduct analysis for evaluating water environment policies using model simulations.

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## Feasibility Study on Renewable Energy Project using the Biogas Power Generation System and Grass Collected through Community Clean-up Activities

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❖ [Online-G46-O1 Sustainable development, August 27, 2024, 9:00 AM - 10:30 AM](#)

The GET system developed by the Meijo University Faculty of Agriculture is a technology that utilizes rice straw from rice cultivation to obtain methane gas (biomethane). This is a type of biogas power generation, and combustion of the methane gas generated in this system produces high-output electrical energy. Furthermore, this power generation system can efficiently recover and utilize methane gas, which has a high greenhouse effect and would normally be released directly into the atmosphere. In an experiment, the GET system was able to produce 300 liters of biogas with a methane concentration of 60% from one kilogram of rice straw. The system was also modified to generate biogas not only from rice straw but also from mowed grass generated by cleaning activities, etc., and the final output was 800W. Therefore, the GET system is being considered for use for various purposes as a method of power generation with a low environmental impact.

However, the supply of rice straw and mowed grass as biofuel for the GET system is limited. In addition, the collection and transportation of biofuel, as well as the maintenance and management of the system, requires a large amount of labor cost. The authors (2023) focused on mowed grass from daily community cleanup activities as a source of biofuel and attempted to construct a model to estimate the participation rate of local residents in community cleanup activities. This was calculated based on a web-based survey about community cleaning activities, assuming the introduction of biogas power generation in the future. In Japan, community cleanup activities are based on the voluntary participation of local residents, which is expected to significantly reduce the labor costs for obtaining biofuels. Thus, identifying the factors that contribute to their participation will enable the efficient collection of biofuels. In such a case, local residents will demand a value commensurate with their labor, and the cost-benefit criterion must be met in order for such a community-participatory project to be established.

In this study, it was assumed that the GET system would be introduced as one of the power generation projects with local community participation in an actual community where daily community clean-up activities are conducted. The relationship between community cleaning activities and the assumed amount of electricity generated was clarified, and the quantitative power output was obtained.

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## The Position of Women in the City in the Context of SDG 5 and Sustainability Dimensions: Antalya Metropolitan Municipality, Türkiye

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❖ [Terceira-G06-O3 Regional and Urban Policy and Governance, S12, August 29, 2024, 2:30 PM - 4:15 PM](#)

The 21st century is a period marked by land degradation, resource scarcity, wars, crises, earthquakes, migrations, social and spatial segregations. These negative external factors jeopardize the role/place of disadvantaged groups, including women, in the city. In this context, the importance of urban policy decisions developed and implemented by local governments are significant.

The aim of this study is to elucidate the position of women in the dimensions of urban sustainability within the context of Sustainable Development Goal 5, which addresses gender equality, based on the approaches and actions of local governments. This study utilizes systematic review and comparative analysis methods conducted with the MAXQDA, with Antalya selected as the sample area, being the 5th metropolitan city in Türkiye. In line with the purpose and methodology, the 10-year (2012-2022) activity reports and practices of Antalya Metropolitan Municipality were examined to identify how women were addressed by local governments in the dimensions of urban sustainability, namely social, physical, and environmental contexts, over the 10-year period. This systematic review and comparative analysis are crucial in identifying policy gaps/shortcomings created by local governments and determining the consistency of women's involvement in urban sustainability dimensions.

The research indicates that there are various dimensions of urban sustainability, and within the context of gender equality, women are involved in various aspects of the city, undergoing various changes over time. The findings of the study question whether there is a comprehensive approach specific to women in the various-scale practices implemented by Antalya Metropolitan Municipality to achieve sustainability goals. Therefore, the study's results are expected to emphasize the necessity for local governments to adopt an inclusive approach towards women's role in the social, physical, and environmental processes of urban sustainability dimensions in the city.

Keywords: Sustainability, Woman in City, Local Governments, Urban Policy, Türkiye

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## Do Global Production Networks Contribute to Job Polarization in EU Regions? Exploring the Mediating Role of Regional and Sectoral Complexity

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❖ [Terceira-S73 Global Value Chains Restructuring, Regional Dynamics and Inequalities, S06, August 28, 2024, 11:00 AM - 1:00 PM](#)

In this study, we examine the dynamics of polarization in European NUTS-2 regions between 2007 and 2021, as well as the contribution of participation in Global Production Networks (GPNs) and economic complexity to this phenomenon. The underlying hypothesis is that the presence of a pool of diverse and sophisticated knowledge plays a heterogeneous mediating role both at the level of region and sector. For sectoral complexity, in addition to the traditional PCI indicator (Hidalgo & Hausmann), we develop an occupation-based complexity indicator that aggregates information related to the diversity and sophistication of occupations in each sector.

We use three main data sources: Amadeus/Orbis for the GPNs of European Multinational Enterprises, the Labour Force Survey Database for ISCO occupations, and SBS on EUROSTAT to calculate economic complexity.

In this way, we examine, through a mediation analysis, the role of economic and sectoral structure in mediating between GPN participation and job polarization.

This work contributes to the literature by developing specific economic complexity tools to measure complexity in relation to the occupations employed in each sector. Additionally, it is the first study to evaluate the effect of Global Production Networks (GPNs) driven by European multinational enterprises on regional polarization. Furthermore, this methodology allows us to untangle the effects of both active and passive participation in GPNs on the local labor market.

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## Who Benefits from Place-Based Policies? Evidence from Matched Employer-Employee Data

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❖ [Terceira-S25-S1 Counterfactual Methods for Regional Policy Evaluation, S05, August 28, 2024, 4:45 PM - 6:30 PM](#)

We study the wage and employment effects of a German place-based policy using a research design that exploits conditionally exogenous EU-wide rules governing the program parameters at the regional level. The place-based program subsidizes investments to create jobs with a subsidy rate that varies across labor market regions. The analysis uses matched data on the universe of establishments and their employees, establishment-level panel data on program participation, and regional scores that generate spatial discontinuities in program eligibility and generosity. These rich data enable us to study the incidence of the place-based program on different groups of individuals. We find that the program helps establishments create jobs that disproportionately benefit younger and less-educated workers. Funded establishments increase their wages to attract new workers, but unlike employment, wage gains do not persist in the long run. Employment effects estimated at the local area level are slightly larger than establishment-level estimates, suggesting limited spillover effects. Using subsidy rates as an instrumental variable for actual subsidies indicates that it costs approximately EUR 25,000 to create a new job in the economically disadvantaged areas targeted by the program.



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## The regional just transition melting pot: whether conceptualization meets practice?

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❖ [Terceira-S75-S2 Collective Action and Territorial Transitions, S09, August 28, 2024, 4:45 PM - 6:30 PM](#)

The paper is mainly inspired by research in transition management and the works on the centrality of justice theory in relation to the governance models. We use the experiences from the EU-funded (Horizon) BOLSTER project and focus on the Slaskie (Silesia) region in Poland. Our research objective is to cross-check whether the conceptual / academic framework of the just transition meets the framework of the funding. We primarily focus on the state of the art review concerning the just transition and on the analysis of the empirical evidence, i.e. the submissions being the answers to the JTF's calls for proposals in Silesia, specifically those that are expected to boost bottom up initiatives and empower communities. The initial results allow some hypotheses on the governance mechanisms to be "path-dependant", relying upon the tools, techniques and routines used for the "good-old-EU-money". This enables efficiency and coordination. However, has no or negative impact on boosting small-scale bottom-up initiatives and enabling community empowerment. Municipalities and regional authorities tend to promote large-scale projects, so the syndromes of "the usual suspects" and "business as usual" are quite clearly visible. In case of the measures targeting the inclusion and community initiatives, we can see the "first mover advantage" taken by those who have already been in the funding game. Therefore the outreach to potentially left behind citizens is probably minor.

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## Good Migrant versus Bad Migrant - the changing migration policy in Hungary

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❖ [Terceira-S13 Regional Development and Sustainable Peace, SF2, August 29, 2024, 9:00 AM - 10:30 AM](#)

The war in Ukraine has challenged Hungary in various ways. The country's geographical location has made it a clear route and destination for refugees. A large part of the country's population, apart from the southern border region which faced a flood of refugees in the 1991 Yugoslavian war, has not had the experience of war in its immediate neighbourhood since the Second World War.

It also brought a surprising challenge for the government. The refugee crisis that sprouted up in 2015 had at the time become firmly entrenched in government communications, sending a message to the public that refugees were to be feared, refugees were to be locked up, but better still, the best way to protect against the flood of refugees, who have been colloquially referred to as "migrants", is to build a wall, a multiple reinforced wire fence along the southern border. Now the majority of those fleeing to Hungary spoke Hungarian and came from Transcarpathia.

This paper examines how Hungary has struggled to manage the refugee influx, who and how has been involved in this task, and in what areas the challenges have been most significant. Nor can we ignore the fact that the government had already put the refugee issue in a completely different context some seven years earlier, and as previous surveys have shown, the Hungarian population has become quite distrustful of refugees from anywhere.

In this paper it is our intention to give a comparative analysis how the Visegrad Group states are facing this issue by using Hungary as a reference point.

We would like to follow a critical approach by analysing the following layers:

- the problem of the war in Ukraine as a geopolitical issue
- the conceptual frames of critical migration studies
- the number of refugees, their legal status – here we would use the terms implemented by the EU, we would rely on the reports of UNHCR and the reports of national governments
- the changes in political communication
- the reaction of the recipient countries' society, based on public opinion polls
- the institutional framework of the refugee policy, the challenges
- the division among V4 group states, the populist approach and the standpoint towards Ukraine

We would also like to get the answer whether the migration crisis in 2015 and in 2022 can determine the cohesion or deepen the cleavages within the Visegrad Group.

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## Navigating Forest Fire Risks in Tunisia: Transitioning and Adapting the Tourist Ecosystem

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❖ [Online-G35-O2 Tourism and Overtourism Issues, August 26, 2024, 2:30 PM - 4:15 PM](#)

Situated in the mountainous region of Kroumiria, in the Northwest of Tunisia, our study explores the distinctive challenges posed by forest fires in the local tourist ecosystem. Despite the natural richness of this area, preserving its ecological wonders while managing the intricate dynamics of tourism presents a significant challenge.

This research aims to address knowledge gaps intersecting urban planning, tourism, and natural resource management. Highlighting our study region, our exploration will encompass three cities, each with its distinctive characteristics: one oriented towards mountain tourism, another towards coastal tourism, and a third serving as a border-crossing city. Our objectives encompass mapping coordination gaps among tourism stakeholders in response to major fires, investigating stakeholder adaptations to recent devastating blazes, identifying best practices for sustainable responses, and formulating pivotal questions on adaptive governance.

Our methodology, grounded in a proactive mixed approach, integrates spatiotemporal analysis of fire risks using geographic information systems and remote sensing. Actively involving stakeholders through geospatial surveys, we explore the intricate links between environmental dynamics, institutional policies, and stakeholder perspectives, directly addressing governance transitions in the tourism sector.

Survey results, integrated into geographic information systems, contribute to a recommended multi-scale temporal examination. These findings seek to provide a holistic understanding of the evolving landscape of forest fires and generate targeted recommendations to enhance the ecosystem's adaptive capacity. Emphasizing preventive measures, crisis management, and adaptive practices, these recommendations aim to address the specific needs of a sustainable transition in the face of fire risks in the mountainous region of Kroumiria, Northwest Tunisia.

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## Better Together? The impact of municipal mergers on economic efficiency in Italy

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❖ [Terceira-YSS4 Spatial Structure and Delineation - EPAINOS, S02, August 29, 2024, 11:00 AM - 1:00 PM](#)

Different territorial challenges such as urbanization, agglomeration, decentralization, and increased autonomy and responsibilities may require the progressive adaptation of administrative bodies' boundaries to new required functions. However, Italy experienced the lowest number of mergers across European countries over the period 1995-2020 and existing evidence struggles to provide a complete overview of the impact of the amalgamation process. We aim to fill this gap by analyzing the effect generated by municipality mergers in terms of economic efficiency over the time frame 2016-2020 after the promulgation of the 'Delrio' law. Through a panel event study, we highlight that amalgamated administrative units experienced significantly larger current transfers, consistently with the regulatory framework establishing financial incentives for the merged municipalities. We also show that the larger financial capacity was not used neither to shrink the fiscal pressure nor to reduce the cost of local services. Conversely, merged administrative units experienced a significant increase in current expenditures with a specific focus on the Education, Tourism, and Transportation sectors. Growth in investments requires some years before being observed and is limited to a few specific years, with high heterogeneity across sectors and geographical macro-areas. This finding suggests a non-structural nature of the change, with investment projects needing some years to be designed and implemented.

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## Innovative solutions to rural challenges: Insights from case studies in German LEADER regions

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❖ [Terceira-G03-O2 Innovation and Regional Development, S11, August 28, 2024, 2:30 PM - 4:15 PM](#)

Innovation is seen as a crucial factor for regional development, specifically in facing challenges relating to economic growth and demographic change. For this reason, fostering innovation is an important part of the agenda when it comes to funding policy. One funding instrument, which supports innovation in rural areas, is the community development initiative, LEADER.

LEADER follows a bottom-up, participatory approach to rural development driven by cross-sectoral cooperation and collective decision-making within a so-called “Local Action Group” (LAG) in each LEADER region. Each LAG is allocated a budget to support the implementation of projects in line with its local development strategy, which states the distinct objectives for development in the respective region.

While LEADER was in itself a social innovation through its mode of policy delivery, it also promotes the implementation of innovative ideas for solutions to rural challenges. In the context of LEADER, innovations generally refer to new products or services, processes, strategies, forms of organisation or cooperation or their adaptation to new geographical or environmental contexts. Therefore, innovations in the LEADER context must not be complete novelties per se but rather entail an approach that is new to the region. Also of relevance is the ability of the innovation to diffuse into other areas facing similar challenges.

In our work, we examine LEADER in four German federal states, aiming to identify factors that foster the successful overall implementation of LEADER in term of both the process and the results. Our research gives various indications of innovative approaches being implemented through LEADER projects. Surveys of beneficiaries of LEADER funding show relatively high proportions of innovative projects (between 44 % and 66 %) in all four federal states. The aim of this contribution is to highlight a few of these projects and their contributions to (sustainable) local development in areas such as mobility, the provision of local services and amenities, nature conservation and strengthening the rural economy. Insights into the origins of the various project ideas, their implementation process and outcomes are derived from case studies conducted in eight LEADER regions.

The in-depth analyses of different projects in this qualitative approach provides detailed insights on the parameters necessary for the successful implementation of innovative projects through LEADER. This complements quantitative data from different LEADER surveys, thus enabling us to determine which framework conditions are required to help facilitate new approaches to improving the living conditions in the rural areas.

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## Does local context affect the contribution of green Cohesion Policy funds to air pollution reduction?

Dr. Francesco Scotti, Dr. Giovanni Bonaccorsi, Mr. Alessandro Buongiorno, Dr. Andrea Gilardi, Dr. Mario Intini, Dr. Valeria Maria Urbano, Prof. Andrea Flori, Prof. Angela Bergantino

❖ [Terceira-G18-O2 Climate Adaptive and Resilient Regions and Cities, S11, August 30, 2024, 2:30 PM - 4:15 PM](#)

During the programming period 2014-2020 the sustainability transition represented a key pillar of the EU Cohesion Policy. However, the bulk of extant contributions still investigates the impact of such regulatory framework in terms of socio-economic growth, neglecting its contribution to the achievement of environmental targets such as carbon abatement. This paper aims to fill this gap, by analysing the effects generated by green Cohesion Policy funds in terms of PM2.5 reduction across municipalities with a heterogeneous level of territorial capital in Italy. Through the application of panel Spatial Durbin Models (SDM), we highlight that such programs of financial support display both a significant direct and indirect effect in municipalities characterized by a high economic capital. Indeed, funds targeting carbon abatement tend to reduce PM2.5 concentration levels both in the municipalities where such projects are implemented and in the neighbour municipalities. We rather show how these green funds are associated only with significant spillovers in the cluster of Italian municipalities exhibiting a strong presence of Tourism infrastructures. We rather do not find significant direct and indirect effects in the cluster of municipalities mainly located in the Centre-South of Italy with high levels of territorial capital. We also discuss how these findings might be related to the local high quality institutional capacity and to the capability to select and implement projects actually contributing to carbon abatement. Overall, our paper may contribute to a more precise understanding of the impact generated by EU Cohesion Policy in terms of carbon abatement.

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## Incentives and Barriers Affecting the Transition towards the Circular Economy: A Systematic Literature Review

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❖ Terceira-G19-O2 Energy and Ecological Transitions, S15, August 30, 2024, 11:00 AM - 1:00 PM

The present study delves into the evolving paradigm of the circular economy, positioning it as a sustainable alternative to the conventional linear economic models. This comprehensive review meticulously scrutinizes the economic incentives and barriers associated with the adoption and implementation of circular economy practices, providing a critical evaluation of the current landscape. This study, adhering to the PRISMA protocol, systematically reviews 121 peer-reviewed articles to offer an integrated view of the circular economy. It explores the interplay of government policies, business strategies, and environmental imperatives, emphasizing their collective role in implementing circular economic practices. The research highlights the necessity of interdisciplinary approaches in effectively advancing circular economy processes.

Key economic incentives identified in the review include the potential for cost savings and revenue generation through efficient resource use, waste reduction, and the extension of product lifecycles. These incentives are supported by growing consumer demand for sustainable products and practices, alongside the environmental benefits of reduced resource depletion and lower carbon emissions. However, the study also identifies significant barriers impeding the widespread adoption of circular economy principles. These include regulatory and legislative challenges, where existing policies may not fully support or align with circular economy objectives. The lack of adequate infrastructure for recycling and remanufacturing, as well as challenges in supply chain integration, also pose substantial hurdles. Furthermore, cultural resistance and a lack of awareness or understanding of circular economy principles among businesses and consumers are highlighted as critical obstacles.

In light of these findings, the review offers a set of targeted recommendations aimed at facilitating the transition to a circular economy. These recommendations underscore the importance of harmonizing regulations to support circular initiatives, investing in the development and improvement of necessary infrastructure, and implementing educational and awareness programs to foster a cultural shift towards sustainability. Additionally, the study emphasizes the need for collaborative efforts and innovation across industries and sectors, encouraging the sharing of best practices and knowledge to drive the circular economy forward.

In conclusion, this systematic review provides valuable insights and practical guidance for policymakers, industry stakeholders, and academia, aiming to foster a deeper understanding and accelerated adoption of circular economy practices. It lays the groundwork for future research and action, advocating for a concerted effort to embrace circular economy principles as a pathway towards sustainable economic development and environmental stewardship.

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## Towards a circular economy in island territories: the case of the outermost region, La Réunion

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❖ Terceira-S04 The Spatial, Regional and Urban Dimensions of Circular Economy, S01, August 28, 2024, 11:00 AM - 1:00 PM

The study on the implementation and significance of the circular economy in island economies has been largely overlooked in existing literature (Andriamahefazafy & Failler, 2022). However, it presents potential for local economic development (Bourdin & al., 2022; Niang & al. 2023). This study explores the adoption of circular economy principles and practices in isolated island and continental territories, using La Réunion as a case study. We argue that in these settings, the implementation of the 9Rs of the circular economy goes beyond being ecological options and becomes vital necessities due to the environmental, societal, economic, and logistical constraints of these territories (Eckelman & al. 2014).

La Réunion, as a European outermost region, provides a pertinent case study. It has experienced rapid post-departmentalization development, transitioning from an agricultural economy to increased reliance on imports and fossil fuels. While this transformation has yielded short-term benefits, it has also rendered the island's economy vulnerable to global ecological crises. Today, facing the choice between maintaining its current linear model or adopting a resilient circular model, Réunion is positioning itself as a laboratory for waste management solutions and ecological transition.

Our contribution seeks to demonstrate how a small island economy, confronted with challenges such as limited size, isolation, and resource scarcity, can advance towards a circular economy. We examine the waste management strategies and plans implemented in Réunion, including the Regional Waste Management Plan and compare them with those of other European outermost regions.

Additionally, we emphasize the crucial role of international cooperation, public awareness, and stakeholder training in the transition to a circular economy. We underscore that to implement the circular economy, solutions must be hybrid, incorporating public, local, international, private, associative initiatives.

This study offers a fresh perspective on how small, isolated territories can not only adapt to waste management challenges and the ecological crisis but also serve as innovative models for other isolated islands and continental regions.

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Bourdin, S., al. (2022). Circularities in territories: opportunities & challenges. *European Planning Studies*, 30(7), 1183-1191  
Eckelman, M. J., al. (2014). Island waste management systems: Statistic for applied industrial ecology. *Journal industrial ecology*, 18(2), 306-317  
Niang, A., al. Bourdin, S., Torre, A. (2023). The geography of circular economy: job creation, territorial embeddedness and local public policies. *Journal of Environmental Planning Management*, 1-16





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## Opportunities and barriers to the development of an equitable sustainable tourism in the Danube Delta Biosphere Reserve, Romania

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❖ [Terceira-S48 Tourism in Times of Crises: Current and Future Challenges, SF4, August 28, 2024, 2:30 PM - 4:15 PM](#)

The Danube Delta was declared a biosphere reserve in 1993 and the inhabitants of this place found themselves living in a protected area. Regulations and restrictions were imposed and transformations regarding tourism, investments, economic opportunities, ecological limitations appeared. The regulations were perceived by locals as very restrictive and they felt more and more estranged in their places and tourism activity became more and more important as a seasonal source of income. Increasing tourism has attracted more investors from outside of the local communities and has deepened the social inequalities, changing local architecture and improving hosting conditions, building new houses or installing AC. From this perspective, we explore the perception on ecotourism and the protected area label by applying interviews and questionnaires with stakeholders and local communities and how to ensure no one is left behind. Encompassing activities related to protected areas on land or sea, the sustainable (blue) tourism is becoming a central concept for all states, in the EU and worldwide. However, its continuous development has already led to overexploitation, unsustainable practices, and overcrowded spaces and conflicts have emerged among users competing for space.

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## Political backlash against climate policy: The electoral costs of renewable energy in a multilayer government

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❖ [Terceira-S77-S2 Collective Smartness to Foster Sustainability Transitions of Places: Smart Cities, Regions, and Energy Communities, S08, August 30, 2024, 11:00 AM - 1:00 PM](#)

The factors determining the allocation of renewable energy facilities and their effects are questions of growing interest. This paper delves into the critical imperative of transitioning to renewable energy amidst global climate change concerns. Despite global commitments, challenges arise, including substantial costs, behavioral shifts, institutional barriers, lobbying influence, and local resistance. Using data on all wind farms and solar farms installed in Spain and electoral results at the municipal level from 1991 to 2019, we conduct a diff-in-diff event-study to determine the effect of siting these facilities on different electoral outcomes. Our findings reveal that siting a wind farm results in an electoral loss of 2.2 percentage points for the party incumbent at the regional level, while the local incumbent faces no significant punishment. However, when we perform heterogeneity estimation based on political alignment, the electoral loss increases to 4.8% for the party holding office at the regional level on those municipalities in which both layers of government are aligned, while the local incumbent in aligned municipalities experience a 2.2% loss of their vote-share.

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## Diversity in Motion: The Role of Immigrant Human Capital in Danish Second-Tier Towns and Rural Areas

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❖ [Terceira-S39-S1 From Neglect to Nuance: Exploring the Diversity of Second-Tier Cities, S06, August 28, 2024, 4:45 PM - 6:30 PM](#)

This paper examines counterurban migration in Denmark, focusing on the impact of human capital immigration on II-tier towns and III-tier rural areas. Using Danish micro register and geographical data, we analyze migrants moving from large cities to smaller towns and villages, employing Javakhishvili-Larsen & Hansen's (2023) methodology to identify urban typologies. The study extends human capital beyond formal education, considering age, job skills, and socioeconomic characteristics. Addressing a gap in existing research, we introduce the Regional Entropy Index (REI) Model to measure geographical diversification of human capital attributes.

Methodologically, we use pooled Ordinary Least Squares (OLS) and Year Fixed Effect (FE) models. Preliminary results reveal significant correlations between entropy of human capital attributes and average wage in destination municipalities. In II-tier towns and III-tier rural areas, attributes like age, wage, and occupation entropy show positive correlations with average wage, suggesting diversification. Conversely, education entropy exhibits a negative correlation, indicating segmented education attributes.

This paper contributes to understanding migration's economic impact in Denmark and offers insights for policymakers and researchers interested in the relationship between human capital, migration, and regional economic development. Particularly valuable for practitioners in II-tier and III-tier towns, it challenges conventional views on human capital measurement, introducing the Regional Entropy model for studying local economies outside major cities.

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## The effect of the Covid-19 pandemic on MNEs' location and characteristics

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❖ [Terceira-S73 Global Value Chains Restructuring, Regional Dynamics and Inequalities, S06, August 28, 2024, 11:00 AM - 1:00 PM](#)

The Covid-19 pandemic has represented an unexpected shock that has deeply affected all countries, both from a health and economic point of view. In an already complex situation, it has raised uncertainty, bringing out doubts and new concerns on the international organization of the production process. The global supply chains have become more complicated. COVID-19 has forced governments to lockdown, with interruption of production, closure of national borders, social distancing restrictions, and, consequently, profound implications on policy and business decisions.

In this paper, we analyzed how the COVID-19 pandemic might have affected GVC configuration, investigating how MNEs adjusted their strategies for the location of their foreign subsidiaries. For this purpose, we observed EU multinational firms and their network of foreign subsidiaries in three different years: 2014, 2018, and 2021.

The impact of the Covid-19 pandemic was geographically uneven, both in terms of health impact and in terms of restrictions imposed. In this work, we exploited this geographical heterogeneity to establish our identification strategy and to compare the EU regions most affected by COVID-19 with EU regions less affected by the virus.

The results show that the intensity of the COVID-19 shock matters since MNEs headquartered in regions severely affected by the COVID-19 pandemic reacted differently from their counterparts headquartered in the least affected regions. In addition, a clear differentiation between EU MNEs originating from Eastern EU member states and those originating from Western EU member states emerged, with the former engaged in offshoring (outside the EU) processes but the latter more prone to re- or near-shoring production activities.

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## Social Acceptance and the Reduction of Inequalities as Means for Peace and Development - The Role of Mass Media

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❖ [Online-G04-O2 Segregation, Social and Spatial Inequalities, August 26, 2024, 2:30 PM - 4:15 PM](#)

In this paper, we will examine how social inequalities impact the harmonious coexistence of citizens, ultimately acting as obstacles to peaceful living, development, and progress of nations. After identifying dominant forms of discrimination in contemporary states (gender, race, age, religion, education level, social or economic status, etc.), we will analyse them in light of the need to expand "social acceptance," aiming for a more harmonious and functional coexistence of local communities. Through literature references and examples, we will document how traditional structures (such as educational institutions) and influential cultural entities (such as museums and galleries) could decisively contribute to uprooting outdated perceptions and limiting inequalities rather than perpetuating them. In this context, the role of lifelong education of the social collective will be highlighted in the battle against divisions, recognizing the role of technology in the modern era of information and knowledge for achieving this goal. The paper will present – emphasizing on the Greek example- the historical role that Mass Media has played in narrowing the gap between citizens. Furthermore, it will highlight the emerging opportunities and possibilities in the era of "political correctness," social movements (#me too, Black Lives Matter, etc.), and social media. The aim of this paper is to ascertain the extent to which central goals of the United Nations' Agenda 2030 - such as peace, justice, gender equality, reduction of inequalities, poverty alleviation, and hunger reduction - can strengthen our planet.

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## Resilience Strategies of Danish Firms Under Pandemic. A Survey Analysis

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❖ [Terceira-G08-O1 Covid-19 and regional and urban resilience, S12, August 28, 2024, 2:30 PM - 4:15 PM](#)

This paper investigates diverse strategies employed by Danish firms in response to the COVID-19 pandemic, focusing on their management decisions and resilience during restrictions. A nationwide survey conducted between April and June 2023 includes 5,081 surviving firms of various sizes, regions, and sectors. By merging survey data with micro register data, the study explores management strategies influencing firms' growth (resilience) or decline (survival) during the pandemic, such as investing, decision-making processes, state support, insourcing, outsourcing, and support for remote working (WFH).

The paper identifies the "survival firms" as those that fired employees to survive the crisis and the "resilient firms" as those that hired and grew activities during the pandemic. Using the survey data and micro register data for firms, this paper investigates the extent to which different management strategies were explanatory of the firms' growth (resilience) and decline (survival), such as investing, centralization or decentralization of the decision-making process, receiving state support as compensation, insourcing, and outsourcing, as well as firm's supportive measures for remote working (WFH) possibilities for employees.

Preliminary results reveal positive correlations between resilience and strategies like supporting WFH and making new investments. Survival probability is associated with state compensation, centralized decision-making, and insourcing/outsourcing. The paper emphasizes the complexity of firms' responses to the pandemic, highlighting the importance of understanding adjustments across sectors, firm sizes, and locations (urban/rural).

This study contributes to the literature on firm resilience during crises and the role of WFH as a resilience strategy. The findings can inform public policies for fostering a more resilient business climate at regional and national levels, enhancing our understanding of firms' decision-making in unexpected shocks.

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## Localization and Diversification of Circular Economy Activities: The Potential of Sustainable Transition for Growth in Regional Labour Markets.

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❖ [Terceira-G46 Circular Economy and Technological Change, S14, August 28, 2024, 11:00 AM - 1:00 PM](#)

This paper delves into the issue of climate change and the ecological transition towards green technologies and Circular Economy (CE), a priority on several policy agendas, including the Next Generation EU recovery plan. The paper contributes to an expanding body of literature on the adoption of green transition technology and Circular Economy (CE) practice and policies which is concerned with understanding the potential environmental and economic impact of this shift.

In particular, the main objective of the paper is two-fold. The first is to construct measures of territorial exposure to CE activities at the firm and regional level. This is done by using firm-level data from the Orbis database—focusing on employment and businesses at a fine NACE classification—and by constructing concentration and entropy measures for Circular Economy aggregated at the NUTS-3 level. The second objective is to analyze the effect of CE public policies on EU regional labor markets. To this end, the study maps European public investments and policy programs for CE transition with the territorial indexes of exposure to CE activities and uses a Difference-in-Differences design to examine their effect on firm and regional employment.

Results of the study will contribute to the emerging literature on CE and help understanding the impact of CE activities, their growth, and diversification, on regional labor markets as well as the impact of EU transition policies. The study aims at providing evidence of the potential of CE activities, to understand whether they can be a key factor to trigger growth in European regional labour markets, this is especially relevant for lagging regions where public investments in CE activities could trigger new development paths.

The study would also have relevance for the policy discourse. The discussion on public investments in CE activities can be enhanced by providing evidence on the potential of these programs to sustain regional labour markets. In addition, the specific results of the study related to the concentration and diversification of CE activities in European regions can shape the discussion further and provide insights to improve the programming of public aids sustaining the CE transition in Europe. The study thus contributes to the discourse on sustainable development and green transition, providing valuable insights for policymakers and stakeholders in the field.



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## entrepreneurial learning in the university coworking space; insights from a case study

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❖ [Terceira-S31 Entrepreneurship and Sustainable Development: Uncovering the Sources and Effects of Innovative Entrepreneurship for Sustainable Value Creation, SF4, August 29, 2024, 9:00 AM - 10:30 AM](#)

Entrepreneurs from the creative industry are known to make extensive use of coworking spaces (Howell, 2022; Moriset, 2014). This form of working suits this industry well, as the physical proximity to other professionals in the creative industry is then small. This encourages collaboration, knowledge transfer, motivation and inspiration (Komorowski & Fodor, 2020). It is an attractive idea to allow student entrepreneurs to reap the benefits of the potential to learn about entrepreneurship within coworking spaces. Especially where the educational philosophy is based on social constructivism, as for example in case-, problem- or design-based learning (Gómez Puente et al., 2013; van Diggelen et al., 2021). To do this in the best possible way, research is needed on the entrepreneurship learning phenomenon of student entrepreneurs in a (university) coworking space.

The proposed study focuses on the concept of university coworking space. University coworking spaces have a specific composition (homogeneous in many respects) and a rapidly changing composition when working in cohorts.

Research questions are:

1) What is the conceptual difference between university coworking spaces and the commercial coworking space?

2) How does entrepreneurship learning take place within the university coworking space and does it differ from what the literature suggests about entrepreneurship learning from the commercial coworking space?

A case study is used to answer these questions. The object (case) is a university coworking space in The Netherlands where approximately 20 student entrepreneurs, active in the creative industry, have access to. Element of theoretical sampling of grounded theory is applied.

Empirical data will be collected by interviewing student entrepreneurs and observations from the coworking space.

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## Supranational funds for cities and regional autonomy

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❖ [Terceira-G06-O2 Regional and Urban Policy and Governance, S11, August 28, 2024, 4:45 PM - 6:30 PM](#)

Is the unitary or decentralized nature of a country related to the reception and use of supranational funds at the urban level? Using the urban energy and environmental European Funds for regional policy within the Smart Cities and Community (SSC) initiative as a case study, this work aims to explore the issue of multilevel government funds and the interplay with decentralization. Different indicators are considered to measure decentralization, with the aim of capturing the multifaceted nature of this phenomenon, from formal federalism to varying degrees of subnational autonomy and authority. The quality of regional institutions is used as a moderator variable, to account for differences in local administrative capacity.

Keywords: decentralization; regional autonomy; supranational funds; urban policies

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### Augmenting Tourism Satellite Account data for a comprehensive assessment of the economic contribution of tourism in the EU.

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❖ [Terceira-S41-S1 Assessing the economic impacts of tourism, S08, August 29, 2024, 9:00 AM - 10:30 AM](#)

Tourism is a demand-driven macro-sector whose boundaries are defined by the consumption from tourists in different economic sectors. The measurement of the overall economic contribution of tourism in a country's economy is a complex and challenging task as there is no official statistics separating the economic activity generated by tourists or residents. An attempt to shed lights on this figure is provided by the Tourism Satellite Account (TSA): the standard statistical framework developed in 2008 by a joint effort from the World Tourism Organization (UNWTO), the Organisation for Economic Co-operation and Development (OECD), the Statistical Office of the European Communities (Eurostat) and the United Nations Statistics Division. It uses the same concepts, definitions and classifications as national accounts and aims for measuring tourist activity and the importance of tourism to national economies.

Nowadays, TSAs data in the European Union (EU) and the European Free Trade Association (EFTA) countries present some limitations, including 1) the assessment of solely direct contribution of tourism to the economy, failing to capture the indirect and induced impact, 2) scattered data coverage and inconsistent time series, due to TSAs not being included in the regulatory framework of tourism statistics in the EU and collected on a voluntary basis.

This paper aims to address these limitations by: 1) proposing a new method to estimate the total contribution of tourism on the economy by combining TSAs data with Input-Output Tables, 2) using official nights spent statistics to interpolate estimations of the economic contribution of tourism in the years when TSA data are not provided by national statistical institutes. The method is applied to the EU and EFTA countries that provided TSAs data during the 5th voluntary data collection conducted by Eurostat in 2022. Results show heterogeneity across countries in the contribution of tourism to the economy, and in economic multipliers of type I and II.

This research contributes significantly to the literature by providing a comprehensive method for estimating the economic impact of tourism. By addressing the limitations of existing TSAs data and incorporating additional sources, the paper enhances our understanding of the complex economic contribution of tourism. The findings of this study have implications for policymakers, businesses, and researchers seeking to understand the true economic value of the tourism sector.

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## Socioeconomic projections of urban and rural regions in the European Union until 2050

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❖ [Terceira-G26 Urban-Rural Relationships, SF1, August 28, 2024, 2:30 PM - 4:15 PM](#)

Nowadays, urban and rural NUTS3 regions in the EU present different characteristics and are affected by specific challenges. Rural regions are affected by depopulation and ageing, while urban contexts deal with constraints for land use management. It is difficult to predict how much these problematics will accelerate or decelerate in the future in the EU due to a lack of proper tools. Socioeconomic projections at the EU level are only conducted at the national level, which fail to capture the different dynamics and challenges that urban and rural regions are expected to face.

We present an innovative model, namely the Demography-Economy-Land use interaction (DELi) as a new tool for regionalizing socioeconomic and demographic projections from country-level to NUTS3 regional level in the EU.

The model integrates empirically-derived assumptions regarding future regional growth and estimates regional levels of GDP, employment, population, and land use in an integrated manner. It captures demography-economy feedbacks and processes of divergence and convergence across regions. It fills a gap in the EU policy support by providing a comprehensive, integrated, transparent, and flexible framework for regionalizing socioeconomic projections.

We present a set of NUTS3 level socioeconomic projections consistent with the country-level projections from the European Commission Ageing Reports. The results show different trends of population and economic growth trajectories between urban and rural regions. Results from our research can be used to quantify scenarios of regional socioeconomic trends for anticipatory policy support on domains with a strong regional or territorial dimension.

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## Diversification and “New Innovators” in Resource-Based Regions: an Insight Based on Patent Analytics

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❖ [Online-G03-01 Innovation and Regional Development, August 26, 2024, 11:00 AM - 1:00 PM](#)

The world is in the preliminary stage of another industrial revolution, which is tearing down the technological structure and destroying settled economical connections. It has already led to a life cycle shortening for products and technologies, has sharply accelerated the processes of emergence and implementation of innovations, and has led to instability and uncertainty. In these circumstances, it is crucial to search for new trajectories of regional development, based on a clear forecast and assessment of the region’s readiness to implement high-tech developments and transition to a new specialization.

Determining the degree of a technology feasibility, which includes assessing the degree of technology maturity and the possibility of its effective implementation in a particular region. This problem is especially acute in regions specializing in the extraction of fossil energy resources. The energy transition demands quick solutions to environmental problems and a change in the region’s specialization. This is largely due to the early stage of technology development, with the closed nature of value chains that have developed in the extractive industries, and therefore, the difficulty of implementing the associated diversification of the region’s economy.

The purpose of the report is to search and assess the degree of feasibility of promising critical technologies associated with the extractive industries and capable of creating conditions for the implementation of related diversification of the region.

Assessment of the degree of maturity and applicability of technologies for developing forecasts of scientific and technological development, including long-term ones, is actively carried out within the framework of technological foresight at the national, industry and corporate levels. The novelty of the proposed approach lies in assessing the applicability of introducing technologies for diversifying the economy and changing the trajectory of development of a resource-based region, considering the established value chains and the prospects for the emergence of new development factors - “new innovators”.

When conducting the study, the authors used the following research methods: patent analysis using patent analytics tools Orbit Intelligence, and fuzzy logic methods FAHP, FIS.

The paper is prepared within the framework of the Mirror Laboratory “Transformation of value chains in the coal and related industries in the context of the global energy transition and sanction pressure on the Russian economy” (joint project with the Center for Studies of Structural Policy of National Research University Higher School of Economics)

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## Policy targeting assessment of Austrian social assistance schemes among federal provinces and rural-urban trends

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❖ [Terceira-G06-O1 Regional and Urban Policy and Governance, S12, August 28, 2024, 11:00 AM - 1:00 PM](#)

In Austria, social assistance programs undergo variations among Laender/federal provinces, leading to differences in eligibility criteria, benefits, and the organizational and financial structures. The coexistence of diverse anti-poverty schemes in such a distinctive context prompts us to scrutinize their varying effectiveness in terms of policy targeting. Consequently, our goal is to evaluate the targeting efficiency at the local level, recognizing that aggregated analyses may obscure disparities between the percentage of beneficiaries and poor households, as noted by Tonutti et al. (2022). Additionally, we contribute to the existing literature by examining potential misalignments in the amount of provided cash transfers and the local poverty gap. We measure poverty rates and gaps by using two Foster-Greer-Thorbecke indices, i.e. the headcount ratio and the poverty gap index, relying on data from the EU-SILC survey. To derive reliable estimates, we employ small area estimation models that integrate both survey and registry office data. This estimation is conducted for 24 local areas, taking into account the province and the degree of urbanization. We assess the targeting effectiveness by means of a Beta regression model, defined at the area level, that disentanglements the analysis between rural and urban area as to account for such differences.

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## Understanding sustainable tourism behaviours: a comprehensive longitudinal study based on tourist digital footprint

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❖ [Online-S34 Opportunities, Risks and Challenges of the Digital Transformation in Tourism, August 26, 2024, 11:00 AM - 1:00 PM](#)

This empirical study presents a longitudinal fieldwork (covering a ten-year period) that investigates how tourists experience travel destination attractions. By doing so, it contributes to filling the literature gap on sustainable real behaviours in tourism, overcoming the limitations of traditional research methods that fail to address the attitude–behaviour gap. By combining multiple sources of big data (including mobile phone network data and user-generated content) and identifying tourists' mobility flows among points of interest throughout a travel destination, this paper offers a new methodological approach for analysing real behaviour patterns. To achieve this goal, this research extends the application of Social Network Analysis techniques to identify sustainable behaviour patterns and understand how tourists' behaviours evolve over time based on the network structure of the collected user-generated content. In particular, it strives to identify sustainable behaviours that can reduce overcrowding in specific areas, distribute visitor flows throughout the destination and maximise the diversification of economic opportunities. Moreover, the proposed methodology holds potential utility for local authorities by enabling them to monitor and track tourists' real behaviours. It also facilitates the identification of emerging patterns conducive to a more sustainable approach to tourism. Consequently, local authorities stand to derive considerable benefits from this analytical framework, thereby fostering more informed decision-making in the context of sustainable tourism management.

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## Abandonment of Homeownership is Costly for Owners in a Shrinking Society: A Hidden Vacant Housing Problem

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❖ [Terceira-G02-O2 Demographic change, Population and Migration, S10, August 28, 2024, 2:30 PM - 4:15 PM](#)

This paper conceptualizes how the difficulty for owners in abandoning their property ownership affects housing market structure and short/long-term consequences of the shrinking society. Using Japan as a case study and employing data from Survey on Owners of Vacant Properties (Ministry of Land, Infrastructure, Transport and Tourism), we first discuss structural backgrounds for emergence of vacant houses, as well as arising problems for individual owners – owner’s burden on keeping vacant houses – and for society – unregistered inheritance and emergence of owner-unknown properties.

We then develop a framework of market for existing houses facing low demand, more specifically, a simple economic framework for demand-supply curve analysis considering a possibility of transactions with negative prices. The framework shows that the property prices can be negative from the burden for owners to keep the unused assets. Since market transaction is possible only with positive prices, the resale market disappears, which leave the properties vacant without changes of ownership.

The implications are: (i) in the short-term, a need for volunteer maintenance becomes a heavy burden for absent owners, while it retains the quality of neighbourhood environment; and (ii) in the long-term, failure of property transaction does not update registration information, which diverges ownership of the neighbourhood’s lands or leads their true ownership unknown, hindering future conversion of the assets to other profitable purposes such as farmland and greenery.

We argue that such problems arising from the difficulty for owners in abandoning their property ownership are more pronounced in Japan, but are common in shrinking society.



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## How to slip out of the inner periphery - a qualitative study of development factors and barriers

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❖ Terceira-S11-S1 Left Behind Areas: Past, Present and Future, SF2, August 28, 2024, 2:30 PM - 4:15 PM

Inner peripheries (according to ESPON) are common throughout Europe, irrespective of a country's level of development. The peripheral nature of these areas is affected primarily by the limited extent of their relations with the economic environment. These sites can be called permanently marginalised or left behind areas. In political discourse, these concepts have recently been widely used and multiplied. In this respect, it is worth paying attention to the concept of lagging regions, which refers to NUTS-2 units whose development was stopped as a result of the 2008 crisis. This approach is somewhat a spatial over-interpretation. We argue that the level of development and its determinants should be investigated on lower spatial scales, for instance, in the scale of functional areas of small and medium cities and towns. Left-behind places are also touched by multidimensional peripherality whose description should go beyond the purely economic indicators. This approach is used to identify inner peripheries

The TIPERICO research project (<https://tiperico.web.amu.edu.pl/en/>) aims to delimit, investigate and inform policy interventions in the inner peripheries of Poland. In the project's initial stage, such areas were delimited and classified within the urban functional areas (FUA) framework. Afterwards, we conducted in-depth case study research on Poland's four peripheral FUAs. In the presentation, we aim to identify specific development opportunities and challenges unique to these areas with the use of a comprehensive quantitative analysis aided with statistical indicators.

This study is based on the results of interviews with the FUAs' central city authorities, focus interviews with local entrepreneurs, politics, and NGO leaders, as well as telephone surveys conducted among the populations. We identified the most important development factors and barriers in case study areas. We have attempted to assess the importance of core FUA cities as local development centres. We got to know the opinion of residents on whether peripheral areas can become a place of development opportunities by stimulating their dormant and rebuilding lost development potentials.

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## Geographic inequalities in accessibility of essential services

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❖ [Terceira-S17 Tackling Territorial Inequality: Challenges, Research, and Policies, S04, August 30, 2024, 9:00 AM - 10:30 AM](#)

People's ability to access essential services is key to their labour market and social inclusion. An important dimension of accessibility is physical accessibility, but little cross-country evidence exists on how close people live to the services facilities they need, for lack of data. This paper helps to address this gap, focusing on three types of essential services: Public Employment Services, primary schools and Early Childhood Education and Care. It collects and maps data on the geographic location of these services for several OECD countries and links them with data on regional population and transport infrastructure. This allows to compute travel times to the nearest service facility and to quantify disparities in accessibility at the regional level. The analysis is done at the level of small (TL3) regions and considers two possible transport modes, walking and driving. The results highlight substantial inequalities in accessibility of essential services across and within countries. Although large parts of the population can easily reach these services in most countries, some people are relatively underserved, facing high travel times to the nearest service facility. This is particularly the case in non-metropolitan and low-income regions, although there can exist significant dispersion in travel times for regions with the same level of access to cities. Lack of access to a motor vehicle can crucially undermine service accessibility for some people, in the absence of public transport, as walking times can be too long in a number of regions. At the same time, accessibility seems to be associated with the potential demand for these services, once accounting for other regional economic and demographic characteristics.

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## Leadership in urban commoning. Why bridging social capital matters?

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❖ [Terceira-S75-S2 Collective Action and Territorial Transitions, S09, August 28, 2024, 4:45 PM - 6:30 PM](#)

The article focuses on the role of leaders in the process of urban commoning. Applying interviews with leaders of urban communities situated in Katowice, Poland, we scrutinize their role in shaping internal and external relationships across distinct stages of urban commons development. Thus, in the paper we develop the concept of leadership in urban commoning, drawing from place-based leadership but also building on original elements such as a priority for the leader in creating bridging social capital and ensuring a balance between work and pleasure. The research results indicate that the abovementioned conditions are critical for sustainable development of urban commons.

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## The impact of regional innovation policies in Europe under different sources of endogeneity

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❖ [Terceira-G03-O4 Innovation and Regional Development, S11, August 29, 2024, 9:00 AM - 10:30 AM](#)

This paper investigates the influence of the European Union's Framework Programmes (FPs) on regional innovation, focusing specifically on Framework Programs 5 and 6 (FP5 and FP6). Implemented during 1998-2002 and 2002-2006, respectively, these programs are central to the EU's innovation strategy. Employing a panel dataset covering 218 regions across the EU-27 from 1996 to 2012 and measuring innovative output through patents, we adopt a conceptual framework based on Griliches (1979) for the knowledge production function. We consider an interactive fixed-effects panel data model incorporating endogenous explanatory variables, extending beyond conventional standard fixed-effects models in the existing literature. This allows to address different sources of endogeneity of FP spending, arising from criteria determining regional allocations, posing a challenge to traditional modeling.

To tackle this challenge, we propose a novel semiparametric instrumental variables estimator, supported by asymptotic theory and simulations. This innovative approach strengthens our capacity to consider the endogeneity of FP5 and FP6 spending, as well as research and development (R&D) spending and human capital (HK). Significantly, it addresses endogeneity associated with selection biases, a facet not effectively handled by standard or interactive fixed effects specifications alone. Our initial findings indicate that both FP5 and FP6 expenditures exert a substantial impact on regional innovation output in the EU throughout the study period. Importantly, both sources of endogeneity prove influential, underscoring the importance of our proposed methodology. These outcomes contribute to a nuanced comprehension of the effectiveness of EU FPs in promoting regional innovation.

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## The role of the food industry in the development of rural areas: a case study in the Calabria Region

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❖ [Online-G12 Economic development in rural places, August 26, 2024, 4:45 PM - 6:30 PM](#)

Calabria, a region in the south of Italy, is the least developed region in Italy and in Europe in terms of per capita GDP. Agro-food sector has a negligible weight on the national economy but play an important role in the regional economy due to the weakness of the production system and the large weight of services. We can certainly define Calabria region as rural: in rural areas lives 80% of the regional population. But Calabria is not an indistinct underdeveloped area, much less an area unitarily refractory to growth and economic modernization. Successful businesses, territorial economic microsystems and production's chains have emerged in recent years and are beginning to differentiate geography. The objective of the contribution is to analyse a case study of a successful food company, located in a rural area of Calabria region, that manages to become a protagonist in the birth and success of the Italian tomato canning industry and then expand its activity to frozen ready meals. Despite local and territorial constraints, in this case study the ability to transform and innovate the company and the territory is clear. Through structured interviews, the paper aims to identify what are the determining factors of success and which are replicable. In particular, it wants to focus the analysis on two aspects: one internal to the company and concerns the role that innovation has played in the paths company development; the other external, and concerns relations with the territory. Answering these questions allows us to provide indications for the design of territorial and sectoral public policies for the development of rural areas.

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## Identifying left-behind places through MCDA methods: a municipal approach

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❖ [Terceira-S11-S2 Left Behind Areas: Past, Present and Future, S03, August 30, 2024, 9:00 AM - 10:30 AM](#)

Voices from postindustrial, peripheral cities, and rural environments, alongside regional political movements across Europe, have emerged in recent years, drawing attention to the so-called “left behind places”. Even though this term has not been clearly defined, it has nonetheless become a prominent topic of discussion in the regional science literature. Researchers have studied both the causes and consequences of such a phenomenon, highlighting the need for strategic public policies that foster integration of these places with their surroundings, mitigating the adverse effects on the local population. This article proposes a multi-criteria decision analysis (MCDA) methodology, using the Technique for Order of Preference by Similarity to Ideal Solution, TOPSIS, method and its unweighted variant, for systematically identifying and studying these places. This MCDA allows us to create a ranking of municipalities based on a set of variables such as economic activity, employment, educational attainment, among others, thereby identifying those left behind. To achieve this, data from the last two censuses across 17 European countries have been collected at the municipal (LAU 2) level. This approach not only enriches the existing literature by presenting a specific identification tool but also establishes groundwork to inform and guide regional policy in these areas. Additionally, the presented method offers an innovative framework for future research in other regional contexts, opening new avenues to understand and tackle regional development inequalities.

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## Understanding Agglomeration: A Comparative Analysis with Related Terms

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❖ [Terceira-G13-O1 Entrepreneurship and Regional Development, S13, August 28, 2024, 4:45 PM - 6:30 PM](#)

Agglomeration, traditionally understood as the concentration of economic activity and population in urban centers, has long been a cornerstone of urban planning and economic theory. It is still a popular research subject – all the time new methods and approaches appear, which is related of course to availability of data. Agglomeration phenomenon seems to be totally explained, however due to its nature there are still some unsolved questions left. Only recently, it became possible to measure knowledge spillovers between firms (Sweeney & Gómez-Antonio, 2021), so we may expect further studies on the topic.

This article focuses on agglomeration and its scientific context. It overviews definitions of this term and connected terms such as concentration, specialisation, cluster, economies of density, agglomeration economies and agglomeration externalities by analysing their similarities and differences. It presents economic theories studying and using agglomeration in their design. Finally, it also describes the determinants of firms' location and analyses their connection with above-described terms.

Article contributes to the ongoing discourse on urban development and economic geography by emphasizing the importance of rethinking agglomeration as a dynamic and evolving phenomenon in an ever-transforming world.

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## The Relationship between Impression Evaluate and Cognitive Distace Based on Auditory Information

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❖ [Online-G31 Methods in Regional Science or Urban Analysis, August 26, 2024, 4:45 PM - 6:30 PM](#)

In recent years, the number of companies which adopted remote work is increasing after the outbreak of Covid-19 in Japan. People working in their house may say that it is very important to create good environmental conditions. However, the number of people who say complaint about noise problem is increasing. we consider that there are some contents which structural countermeasures can't solve. Thus, we focused on the psychological aspects for non-structural countermeasures.

The purpose of this study is to analyze the relationship between impression evaluate and cognitive distance based on auditory information. This is because we guessed it is important to describe psychological impacts.

As a method, we conducted two questionnaire surveys and an experimental investigation. We did the first questionnaire survey, which has three types of voices (conversation of adults, playing children, screaming children). We could obtain four types of principal components. Next, we did a second questionnaire survey, which had six types of sounds in the city (conversation of adults, playing children in the nursery school, bird sound, rain sound, noise of moving train, construction noise). We could obtain four types of principal components. This part of them is different from the first questionnaire. Finally, we conducted an experimental investigation. For this experiment, we created an experimental environment and experimented on 18 people. In the experiment, we instructed to dot the points where the examiner felt the location of the sound source after listening to six types of sounds in the city. This is because we tried to obtain different of cognitive distance on the type of sounds.

In conclusion, we could obtain the relationship between four types of principal components and cognitive distance based on the auditory information. The conclusion suggests the possibility that cognitive distance and impression are connected.



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## Long-term Neighborhood Effects on Adult Occupational Opportunities

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- ❖ [Terceira-S33 Drivers and Impacts of Migration: New Insights on the Role of Labour Markets, Demographic Change, Human Capital, and Networks, S02, August 30, 2024, 11:00 AM - 1:00 PM](#)

Several studies have examined long-term neighborhood effects on educational attainment, income, employment, and health outcomes, but there have been few studies specifically focusing on occupational choices. Together with early childhood, adolescence has been identified as a critical period during which individuals' personalities and behavioral traits are formed. It constitutes a phase in one's life cycle when we can expect to be more influenced—both in the short and long term—by our neighborhood environment. While cognitive abilities and general behavioral patterns may form during early youth, it is typically during later adolescence and the early stages of adulthood that individuals start to think more critically and practically about educational choices and preferred career paths.

The purpose of this paper is to examine the long-term consequences of residing in disadvantaged neighborhoods during adolescence (at age 16) on the occupational choices of males in the 40-44 age group, which represents their prime working years. Specifically, we aim to determine how socioeconomic and ethnic segregation affect individuals' likelihood of obtaining high-status jobs—those occupations that offer the highest incomes.

Our research reveals that the characteristics of residential neighborhoods during adolescence significantly impact the probability of securing a high-skilled job later in life. Despite the greater influence of an individual's own cognitive ability, educational level, and father's education, residing in a marginalized neighborhood during adolescence tends to negatively influence the likelihood of attaining a more advanced occupation as an adult. Specifically, growing up in a neighborhood characterized by low educational and income levels implies a reduced likelihood of being employed in occupations requiring higher levels of education later in life.

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Badia Lost and Found: active citizens as driver for sustainable tourism, social innovation, and employee development in rural areas.

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❖ [Online-G46-O1 Sustainable development, August 27, 2024, 9:00 AM - 10:30 AM](#)

This abstract presents an example of community-led project which started from a neighbourhood regeneration activity and led to the creation of a peri-urban street art park that enhanced sustainable and cultural tourism in a rural area of Sicily. The contribution is structured in three parts. In the first part, an introduction describes the theoretical framework of rural and inner areas. The second part presents the topic of participation as a tool for the empowerment of rural and inner areas. Finally, the third part gives a practical example of community-led territorial regeneration project: Badia Lost and Found. The objectives, methodologies and strategies of this approach are briefly described, as part of a larger funded research project, the WELLTS project (Work Employment Labor Logic Talent Scope), which aims to analyse the main changes that technology is creating in terms of workplace and socio-cultural innovation.

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## Literature review on the decision making process and spatial socio-economic and environmental consequences of international high speed railways

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❖ [Terceira-S61 Transport and Rural Development: Keeping Rural Areas Accessible, S06, August 30, 2024, 11:00 AM - 1:00 PM](#)

Concerns about socioeconomic disparities and sustainability challenges have prompted calls for a more comprehensive assessment of wealth that extends beyond mere economic output. Consequently, when appraising transport infrastructural investments, challenges emerge in aligning goals and the assessment of a broader array of potential societal and environmental outcomes more explicitly, either within or alongside traditional appraisal methods. This study contributes to this challenge for the case of high-speed rail (HSR) by reviewing the (spatial) effects, motivations for construction, and decision making process of high speed rail in an international context. Several systematic reviews, literature reviews, and meta-analyses have been used to develop a conceptual model on the decision making process and micro and macro-level impacts related to HSR. This conceptual framework served as the structure of the literature review. The relevant literature was identified using a snowballing approach, beginning with existing reviews on the socioeconomic outcomes of HSR. This involved tracing the references and related literature cited in the papers used to construct the conceptual model. Additionally, governmental and institutional reports elucidating policy goals and presenting ex-ante and ex-post economic appraisals related to HSR were included. This paper finds that the most cited reason for high speed rail construction is congestion on existing (rail) infrastructure. The use of the social cost-benefit analysis (SCBA) in the decision making process seems paradoxical. On the one hand, several governments use SCBAs to identify socially profitable infrastructural investment. On the other hand, SCBAs play a minor role in the final decision. Lobbying and electoral support seem influential in the decision making process and design of the infrastructure. In terms of effects this paper finds that HSR can increase accessibility if existing services and maintenance continue, and that spatial economic effects show parallels to the New Economic Geography: Agglomeration economics initially cause the clustering in densely populated agglomeration, but will eventually, under high clustering with soaring property prices and congestion, stimulate the spread of economic activity towards (semi-)peripheral areas. Especially the service sector seems affected by HSR. For this reason, economic development motivations seem unsubstantiated as they are highly context dependent. Therefore, future research could address this uncertainty by what factors contribute to this context. Moreover, future research could perform qualitative research into the decision making process about how different goals and motivations weighed in different context and what actors influence the actual outcomes. Lastly, qualitative methods could be used to research the underlying socioeconomic impacts.

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## Evaluation of the Covid-19 Crisis in the Context of Economic Endurance, Fragility and New Opportunities: The Case of Antalya/Türkiye

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❖ Terceira-G08-O2 Covid-19 and regional and urban resilience, S13, August 29, 2024, 9:00 AM - 10:30 AM

The Coronavirus (COVID-19) pandemic, which took hold of the whole world in a short period of time, is an unprecedented event in terms of its impact. The COVID-19 pandemic has negatively affected the whole world not only in the field of health, but also socially and economically. Although the COVID-19 crisis is regarded within a broad scope in economic terms, small and medium-sized enterprises (SMEs) have been affected the most from the situation as most of them suffered a rapid decrease in income or were closed down (Dai et al., 2020; Mahajan, 2020; Shen, et al., 2020; Zeidy, 2020). Although the COVID-19 crisis is evaluated on a global scale in terms of its impact, it requires regional thinking in terms of problem assessment and solution proposals. In this context, every region has a certain capacity of flexibility against economic shocks based on their endurance and fragility indexes against crisis. If a region is economically durable or has a high capacity of flexibility, the time to overcome the crisis and the damage it leaves will be less. When these studies are evaluated, it is observed that they were generally carried out on a macro scale and using secondary national economic data. The project to analyze the study on an urban and sub-regional scale. The project aims to analyze the effects of the COVID-19 crisis on the SMEs in Antalya from March 2020 when the first case was reported to January 2021. In line with this purpose, sectors that are durable and fragile against the COVID-19 crisis will be determined on the scale of the SMEs in Antalya based on two-digit Nace Rev.2-coded economic activities, and the flexibility capacity of Antalya's economy will be revealed. In the following step of the study, based on this flexibility capacity, it will be determined whether there is a sectoral difference in the crisis in the Muratpaşa, Kepez and Konyaaltı districts, which are located in Central Antalya. It is predicted that the results of the project will reveal the effects of the COVID-19 crisis on Antalya's economy and serve as a reference to local administrators, NGOs, Chambers and policymakers in preparing strategies and action plans for crises.

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## A place-based policy framework for SDGs: exploring opportunities in the geography of complex knowledge

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❖ [Terceira-G51 Sustainable Development Goals, S06, August 30, 2024, 9:00 AM - 10:30 AM](#)

With the 2030 Agenda, the United Nations determined that creativity, know-how, technology, and financial resources from all of society are necessary to achieve Sustainable Development Goals in every context. This research investigates how a place-based approach can foster SDG-related know-how production, drawing on the knowledge complexity framework. Due to the considerable amount of EU-led and government-funded programs to support research in the post-pandemic phase, the study is focused on Italy at the NUTS-3 level. To do so, a new dataset at the provincial level has been developed by georeferencing the affiliations of all the papers published in Italy from 2008 to 2022 on the Web of Science. Given the path-dependency of knowledge creation, this research investigates comparative advantages in SDG-related research while also exploring the untapped potential of territories. Furthermore, the knowledge space computation allows for the mapping of clusters of provinces. These are critical in the public funding allocation mechanisms. The analysis shows that medium-sized provinces have significant potential for SDG-related research, highlighting the importance of quality over quantity. Considering that knowledge (especially the most complex) is particularly sticky to places, this study provides further evidence for fostering more SDG-informed place-based policies for knowledge creation.

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## Spatial dynamics in the productive system of the Italian creative and cultural industry

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❖ [Terceira-S60 Towards Local Development Through a Sustainable Valorization of Cultural Heritage: the Role of Tourism, S05, August 30, 2024, 11:00 AM - 1:00 PM](#)

The European Commission and Executive Agency for Small and Medium-sized Enterprises describe creative and cultural industry (henceforth CCI) as an ecosystem that “represents approximately 3.95% of EU value added and employs around 8 million people, including around 1.2 million firms, over 99.9% of which are small and medium-sized enterprises (SMEs)” (EASME, 2016). CCI means all sectors whose activities are based on cultural values and/or artistic and other creative expressions, covering architecture, archives and libraries, artistic crafts, cultural heritage, design, music and many other sectors. The industry represents a clear example of economic system profoundly influenced by complex relationships and dependencies arising from multisectoral and multiproduct production processes, spatial phenomena such as agglomeration and clustering and contextual and physical factors characterizing the area where production occurs.

This study aims to identify and measure spillover effects among interconnected industrial sectors characterizing CCI by disentangling the effects originating from both inter and intra sectoral relationships within a specific area and between neighbouring territories. To address this objective, starting from EASME classification and results of Input-Output analysis, we identify the main actors of the Italian CCI industry. Then the production functions are estimated using data for the period 2013-2022, collected at the Labour Market Area level of aggregation, by means of a system of dynamic spatial panel data models (Yang and Lee, 2019) characterized by endogenous interdependencies. The proposed approach allows considering separately the production functions of the interrelated sectors composing CCI system. Each sector’s output is modelled as a function of (i) production inputs, (ii) simultaneous relationships between sectors’ performances, (iii) past performances of the same and related sectors, and (iv) the current and past performances of the same and related sectors in neighbouring areas.

The insights derived from this research can offer valuable information to policymakers for designing economic plans for industries, shedding light on interdependence features within diverse sectors that define the complexity of CCI industry.

EASME (2016). Boosting the competitiveness of cultural and creative industries for growth and jobs – Final report.

Yang, K. and Lee, L.-F., (2019). “Identification and estimation of spatial dynamic panel simultaneous equations models”. *Regional Science and Urban Economics*, 76, 32-46.

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## Who Benefits from University Openings?

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❖ [Terceira-G02-O4 Demographic change, Population and Migration, S16, August 30, 2024, 11:00 AM - 1:00 PM](#)

Research shows that university openings have positive effects on the education outcomes of youth in close geographical proximity. However, the specific individuals that experience these positive effects remain unclear. In this paper, we identify the individuals benefiting from university openings. Using a two-way fixed effects strategy, we compare the educational outcomes of youth in districts with newly established universities to those in districts without universities at all.

To identify the age cohort with the most significant effects, we vary the definition of the treatment group and evaluate the effects separately for each age group. Setting the lower age threshold of the treatment group at 0, we explore different upper age thresholds, ranging from 0 to 21. The findings suggest that university openings increase the probability of obtaining a higher education degree primarily for individuals aged 0 to 14 in the opening year.

Furthermore, we identify the relevant spatial radius within university openings impact local youth. We change the treatment group to include individuals within a maximum of 0 to 50-kilometer radius of the newly opened university. We compare the outcomes of individuals within this defined kilometer range to those in districts without universities. Results for this are to be completed soon.

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## Socio-spatial Inequalities in the Peri-urban Development of European Post-socialist States: a Comparative Analysis

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❖ [Terceira-G04-O1 Segregation, Social and Spatial Inequalities, S12, August 29, 2024, 9:00 AM - 10:30 AM](#)

The transition from the planned socialist economy to the liberal market economy has determined numerous changes into the countries that were part of the former Eastern Bloc in Europe. As they previously followed similar principles in all of the areas of the society, they have undergone transformations which led to different patterns of development as a result of the action of multiple factors.

Suburbanisation makes no exception to the rule. As socialist cities have become oversaturated, the prerequisites of development could only be met in their peri-urban areas, which held enough land, mostly agricultural, to host the new residential, industrial and commercial expansion.

While the peri-urban development has taken mostly unsustainable forms due to the loose planning rules in these countries, leading to inequal access to basic facilities such as health, transport, education or even utilities infrastructure, this paper aims to identify the factors that have determined socio-spatial inequalities in two study cases from two different post-socialist states: Iași (Romania) and Lublin (Poland). Therefore, we will try to decipher the spatial patterns of development in both cities using population and built-up area rasters provided by the Joint Research Center of the European Commission. Our statistical analysis will include several variables such as the proximity to city or to different amenities, environmental conditions or local authorities decisions that will be able to elucidate the inequal development of the built environment. Moreover, it will showcase the main differences in this respect between the two cities and observe how the national and local context played their role into this process.

The results of this study will open the way on the reflection if these inequalities may represent a result of the differences in the planning approach and also about how to minimise these inequalities by envisioning policies that may contribute to this goal.



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## Urban Proximity Policies and Political Dynamics: Analyzing the Acceptance and Electoral Consequences of Barcelona's Superblocks

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❖ [Terceira-S01-S1 Building Sustainable Cities, S01, August 28, 2024, 2:30 PM - 4:15 PM](#)

The increasing focus on sustainable urban environments brings urban proximity policies like superblocks to the forefront. Our study investigates the acceptance of these policies and the political impact on the endorsing party, Barcelona en Comú (BEC), in Barcelona. Superblocks aim to foster sustainable, proximity-based living, yet have elicited a range of responses, reflecting broader trends in urban planning.

Criticism of superblocks spans from conspiracy theories and ideological opposition to concerns over lifestyle changes and social exclusion. These criticisms echo global opposition to similar urban planning initiatives, influenced by historical skepticism towards centralized planning and heightened in the post-COVID-19 context. Addressing these challenges, the research emphasizes strategies for urban planners to balance empirical insights and participatory methods in urban development.

Parallel to social acceptance, the study explores the political implications of superblocks in Barcelona using Geographic Information System (GIS) data and electoral data. Employing Adjusted Difference-in-Differences (DiD) and Propensity Score Matching (PSM), the research assesses the electoral response to these interventions. Findings indicate a stronger inclination towards BEC in areas with superblocks, countering the party's city-wide decline in popularity. This suggests that superblocks can positively influence political landscapes, supporting parties advocating sustainable urban policies.

In conclusion, the study underscores the importance of considering both social acceptance and political dimensions in urban policy implementation. As urban planners and policymakers navigate the complexities of sustainable transformations, the insights from Barcelona's superblocks highlight the need for balanced, inclusive approaches in urban planning. This case serves as a pivotal example of the interplay between urban planning, societal acceptance, and political consequences in contemporary urban environments.

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## Amenities, urban consumption and tourism

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❖ [Terceira-S32 On the Dynamics and Consequences of Short-term Rentals, SF3, August 28, 2024, 2:30 PM - 4:15 PM](#)

In this paper, we investigate how tourism shapes local consumption amenities in cities. To do so, we combine a novel geo-located dataset of monthly retail establishments (licenses) with the number of tourist accommodations (Airbnb rooms) and develop an empirical strategy based on IV panel techniques to address endogeneity concerns. Average results show that tourism positively affects the number of establishment licenses. However, this effect is mainly related to tourist-oriented retail activities (e.g., bars and restaurants), while more resident-oriented establishments are negatively affected. This latter result highlights the segregating and re-shaping effect of tourism on retail activity in city centers.

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## Citizen Regional Future Literacy Labs - Creating multi-level space for place based transformative citizen participation in Sweden's expansive green transition?

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❖ [Terceira-G14-O3 Institutions, Political and Decisional Processes, S04, August 30, 2024, 2:30 PM - 4:15 PM](#)

Sweden has set the ambitious goal of becoming carbon neutral by 2045. This commitment to green growth is influencing Sweden's northern most regions and municipalities, which play a crucial role in providing the necessary land, resources, educational competence and services to implement these policies. Sweden's Norrbotten County is expected to receive large industrial investments to develop fossil free mining and steel production. A significant proportion of these investments, around 90 million euros, are channelled through The Just Transition Fund 2021- 2030.

Recent evidence suggests that citizen participation in the design and execution of national, regional, and local green energy and climate policies—especially those with considerable territorial impact in Norrbotten—is limited. This lack of involvement is a cause for concern. Many Swedish northern regional, and local governments are currently weighing significant trade-offs between green growth opportunities, often linked to natural resource industries, and environmental protection. These decisions have far-reaching implications, potentially affecting local landscapes, culture, and social equality, and could escalate social conflict. Democratising these complex multi-level decision making processes through meaningful citizen participation is however not without practical challenges. To ensure their transformative nature, these processes must adhere to four key principles—accountability, transparency, participation, and inclusion. Moreover, they must be institutionalised at all levels of governance. Transformative participation implies that citizens have a clear impact on decisions and results in their empowerment, and well as collective learning. It should allow for a community to create collective representations of its geography, history, shared experiences and visions of the future, and allow space for a community to tell its own stories of their lives and landscapes.

This study will focus on whether and to what extent the DUST Regional Future Literary Laboratories (RFL) method can support governments at all levels in Sweden to create transformative participation spaces for their citizens and in turn allow for deep democratization of their local community's landscapes. The study will address the following research question:

Given Sweden's expansive green transition, what are the opportunities and barriers for transformative citizen participation within multi-level decision making?

How do decision makers problematise the issue of citizen participation in Norrbotten in relation to national green transition?

Can RFL create a multi-level participatory space for citizens? How do decision makers at different level envisage they could be successfully implemented? What barriers do they foresee?

What impact, if any, do these decision makers envisage RFL would have on the local territories?

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## Unveiling Synergies: Exploring Interactions Among European Structural Funds for Regional Development

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❖ [Online-S72 Consequences of Place-Based Policies: Perspectives and Challenges, August 26, 2024, 11:00 AM - 1:00 PM](#)

In principle, ESIFs should provide additional inputs to production, accelerate the productivity of private capital and labour, and bring about higher growth and more favourable labour-market outcomes, especially for less developed areas. There is a vast literature on the effectiveness of European regional policy. In most cases, this policy seems to have a positive impact on GDP per capita, but the significance of the results is far from uniform. The policy impact turns out to depend on a series of conditioning factors (see Fratesi and Perucca, 2019; Fratesi, 2020). However, in the literature, the role of interactions among various types of ESIFs has been systematically neglected. Yet, these interactions are a very interesting field of research, especially if related to ESIF types that may be jointly used in policy actions. Already Capello and Kroll (2016) pointed out that the smart specialisation agenda encouraged regions to combine ESF and ERDF expenditures. The survey in Ferry and Kah (2021) confirms that particularly strong interactions are likely to exist between these two funds. This survey however also unveils the potential existence of synergic effects also involving other types of ESIFs. Subsequently in this paper we thoroughly explore the interactions among all types of ESIFs. Our empirical analysis is based on 264 NUTS2-level regions from 28 European countries (including all EU countries plus the UK) throughout 2000–2018.

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## Developing a typology of measures to confront seasonality in Mediterranean tourism destinations

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❖ [Terceira-G35-O3 Tourism and Overtourism Issues, S18, August 30, 2024, 11:00 AM - 1:00 PM](#)

One notable aspect of tourism is its unequal spatial and temporal distribution leading thus, the hospitality and tourism industry to being susceptible to seasonal variations in tourist flows. Determining causes and effects is a challenging aspect of the analysis of seasonality in the tourism industry. Key contributing factors relate to climate and weather, social customs and holidays, and special events (conferences, sport events). Despite the fact that ‘seasonality is not necessarily bad for everyone’, many authors support that it has a number of detrimental effects on society, environment, employment and the economy. Tourism destinations can face resource depletion and overcrowding during the peak season, while, on the other hand, lower demand during off season might result in underutilized resources and unstable employment. Understanding the causes and impacts of seasonality in tourism destinations is crucial for developing innovative strategies and policies to address this phenomenon. Existing measures include the diversification of tourist products, infrastructure improvements, destination promotion strategies and pricing policies, with the aim to mitigate the effects of seasonality in tourism.

The Mediterranean region is faced with constantly increasing levels of seasonality, while the pattern of sun, sea and sand is adopted by the Mediterranean tourism destinations with tourism activity mainly taking place during the summer season. Reducing tourism seasonality in the Mediterranean is, therefore, an important challenge in order to ensure the sustainability of the sector and avoid over-tourism. This paper focuses on the identification and evaluation of measures put in place in Mediterranean destinations with the aim to mitigate seasonal variations in tourism. The research builds upon a literature review on policy documents and insights provided by a Community of projects dealing with sustainable tourism in the Mediterranean region. The paper results include the analysis and evaluation of measures and the identification of a typology of measures based on specific criteria. The identification of the policy mix adopted by each destination is a first step to a systematic evaluation of which kind of policies have the best results in confronting seasonality.

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## Territorial identity and left behind places: Evidence from the central Italian Apennines from a time perspective

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❖ [Terceira-S11-S2 Left Behind Areas: Past, Present and Future, S03, August 30, 2024, 9:00 AM - 10:30 AM](#)

The term ‘left behind’ has become increasingly common in the last decade due to its association with the rise of the so-called populist movements, which have recently undermined local, national and EU establishments. This rising discontent, however, cannot be simply considered as a contingent phenomenon and the result of dramatic shifts in the political opinion. Rather, they signal the persistence of inequalities and long-term processes of socioeconomic marginalisation in Western countries, which negatively affect the performances and, more importantly, the opportunities of specific population strata. Based on the notion of territorial identity as defined by Capello, which includes economic, cultural and relational assets, our paper provides an original contribution to the empirical and theoretical debate on the understanding of the relationship between the issue of left behind places with territorial identity and inequality. We applied principal component and cluster analyses to a set of Italian mountain municipalities of Umbria and Marche regions. We subsequently identified five different typologies of these left behind places as of the early 1950s and examined how they reacted to external shocks in two subsequent periods (1951–1981 and 1981–2011), corresponding to the Italian economic miracle (from the early 50s to the late ‘60s) and to the emergence of the ICT revolution and globalisation. The results suggest the changing importance of the cognitive, cultural and relational domains in coping with the different phases of Italian economic development: different territorial identities have shaped local responses to exogenous shocks, and thus their capability to follow lock-in patterns or to de-lock.

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## Exploring the relationship between the presence of foreign-owned firms and the business dynamics in Hungarian agglomeration areas

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- ❖ [Online-S52 Sustainability Challenges in GVC-Dependent FDI Development Path: Assessing Regional Development within Global Production Networks, August 26, 2024, 2:30 PM - 4:15 PM](#)

The foreign-owned companies and their impacts on the various dimensions of the economy (both on national and sub-national levels) might be a crucial issue in those countries whose economy relies significantly on them, like Hungary but also other CEE countries. Reviewing the literature, several papers can be found that discuss the potential role of foreign-owned firms. In this way, these studies investigated the role of these companies in bringing in new knowledge and enhancing regional R&D; their impact on the differences in growth trends among Hungarian counties; or their function in pursuing entrepreneurial activity in the national level. Still, studying the potential influence of foreign-owned companies on the business dynamics in the level of agglomeration areas might provide an additional part to the stream of literature investigating the overall role of foreign-owned firms in the Hungarian economy. This study will contribute to this field by investigating the question of how foreign-owned companies influence business dynamics in Hungary's agglomeration areas. Along with this research question, two preliminary hypotheses are structured. On the one hand, it is assumed that the presence of foreign-owned companies may support the entry of new firms due to providing opportunities for local suppliers (effects on related activities), and it might also offer demand for products and services in the region (effects on non-related activities). On the other hand, there is expected to be a spatial limit to this positive effect of entry. Hence, this impact might become weaker far from the centre of the agglomeration area. Building on a panel dataset of Hungarian firms provided by the Databank of the Centre for Economic and Regional Studies, the paper analyses whether the effects of foreign-owned companies on firm entries are negative or positive. In the frame of this investigation, we attempt to reveal both the cross-sectional (region, industry) impacts and the spatial effects.

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## The relationship between communities of experts and traditional communities as a key to the uneven logistics-port development in Colombia

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❖ [Online-G39 Intangible assests and regional development, August 26, 2024, 4:45 PM - 6:30 PM](#)

Within the framework of the literature review, particularly in Latin America, it can observe how institutional interventions at the local, regional, or national levels, and the interests of actors converging in port cities in Colombia, impact the local/global articulation, influencing the formation of local clusters (Fernández and Vigil, 2007). On the other hand, when considering the unequal dynamism in territorial development in two port cities in Colombia and recognizing that it is characterized by the disconnection of collectives within communities of practice, the fragmentation of the innovation system (Gallego, 2016) becomes a highly explanatory factor, along with gaps in its development, in explaining the unequal dynamism of port cities. Given the necessary integration of logistic clusters with knowledge and the challenges in communication, cooperation, and coordination between expert communities and local communities, a novel contribution is proposed to explanations of territorial development, emphasizing the integration with traditional communities as a vital element for the relative development of port logistic clusters.

In this regard, this article delves into the analysis of the relationships among actors in the port city from the perspective of the national Logistics and International Physical Distribution Sector (LIPDS) to interpret the sector's capabilities and drive territorial development. Likewise, an attempt is made to recognize the developmental threads based on the knowledge and experiences of those who have ancestrally inhabited the territory, even if they are not part of expert communities. This aspect represents a vital contribution to broaden the conversation by providing a more comprehensive interpretation of actors possessing different types of knowledge (Rutten, 2017), essential for driving the development of the innovation system and port logistics clusters in the selected cases.

With an evolutionary focus, through the conduct of more than 50 in-depth, structured, and semi-structured personal interviews with LIPDS members in 2023 in two major Colombian port cities, differences in territorial development are evident with particularity in their relationships (Boschma, 2005) and their social dynamics (Galaso, 2018). On the one hand, there is a relatively more specialized dynamic of local relationships between expert communities and adjacent communities in Barranquilla, contrasting with the disconnection of such dynamics between mentioned communities and actors from traditional communities in Buenaventura. In summary, a different articulation is observed between their expert and primarily ethnic non-expert communities, with collective territorial rights (ACNUR, 2016) being an essential strategic factor for both integrating into globalization and progressing the port cities in Colombia.



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## Beyond the mean: exploration of night time light intensity based features in regional economic prosperity prediction

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❖ Terceira-G39-O2 Big Data and Regional Science, S07, August 30, 2024, 2:30 PM - 4:15 PM

This research delves into the effective use of VIIRS night-time lights intensity (NTLI) data in economic modelling, focusing on designing features to enhance the applicability of NTLI data across academic domains. The study posits that a set of variables can be derived from NTLI data which significantly explains economic prosperity, across spatial, temporal, and regional size dimensions. It further hypothesises that developing separate models for urban and rural regions provides enhanced explanatory power compared to combined models, addressing nuances in the relationship between NTLI and economic prosperity. Lastly, the research will explore how the different types of models, such as decision tree based models, neural networks and others fit the problem of using NTLI data for predicting economic prosperity.

Motivated by the goal of optimizing VIIRS data use for economic modelling, the study explores alternative feature design methods. Economic prosperity is chosen as the focal point due to its prevalence in VIIRS applications and the widespread availability of economic data. The research questions the conventional practice of developing separate models for urban and rural regions and explores the relationship between economic prosperity and various distribution descriptors and variables, such as NTLI distribution moments and scores assigned by convolutional neural networks. To achieve its primary goal of exploring the stability of importance and relationships across different features over time, sample size, and geographical locations, the study will utilize explainable AI tools. Temporal analysis spans several years between 2012 and 2023. The geographical scope covers various EU countries, such as Poland, Germany and France, due to the consistency in economic data sourcing methods and administrative region definitions. Region size analysis encompasses NUTS 2, NUTS 3, LAU 1, and LAU 2 levels. The mean standardised features' utility is verified through Shapley Values, with further exploration using Partial Dependence Profiles for the most important features as recognised by a collection of model architectures, including OLS, XGBoost, Random Forest, Neural Networks and SVM. This research aims to contribute to the broader field of spatial and economic modelling by enhancing understanding of the relationship between VIIRS NTLI based features and economic prosperity, as well as by providing researchers with a base set of features more elaborate than the usually utilised arithmetic mean.

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## The relocation of school catering systems: building a conceptual framework to analyze local coordination

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❖ [Online-S76-S2 Places for Sustainable Food: What's Behind and Beyond the Relocation of Food Systems?](#), August 27, 2024, 2:30 PM - 4:15 PM

The conventional food system is nowadays widely contested as it faces numerous challenges. A structural change in production and consumption patterns, as well as in distribution channels, towards more just, healthy, and environmentally friendly systems is advocated. In this context, public food procurement is under scrutiny. School canteens are seen as a powerful lever for transforming the food system through scaling-up processes, provided that the enabling conditions (among others, local coordination processes) are sustained. We pay specific attention to the relationship between public buyers and producers, which is analyzed as a central node in the food catering provisioning system. To address this issue, we provide a theoretical framework that articulates the literature on public procurement and the transaction cost theory. The proposed framework allows us to study the relationship between buyers and suppliers in terms of governance and power relationships. To illustrate the usefulness of the framework, we discuss its application to the case of public food procurement in the Réunion island, a French overseas department, where the challenge of local food is paramount. We show the potential of the suggested framework to: analyze the network of actors involved in the provision of local food, to identify the obstacles they face and how they overcome them, and to understand to what extent these structures of governance favor (or not) innovations that foster changes that catalyze the transition towards sustainable food systems. We conclude with empirical perspectives on methodology.

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## A possible diverse economic geography of talent? Counterflow of students' migration in Italy

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❖ [Terceira-G26 Urban-Rural Relationships, SF1, August 28, 2024, 2:30 PM - 4:15 PM](#)

The mobility of students has always a neoclassical model, migration flows are considered an adjustment mechanism for balancing economic and social disparities among territories. Extant studies demonstrated that several factors affect the student choice process of a university, such as its overall quality and that of life in the destination provinces. They farther show that students generally migrate from peripheral areas to selected urban and metropolitan areas, where universities are typically located. However, a new stream of research is investigating the counterflow of students, who, on the contrary, move from central to more peripheral areas. These “counter-flows” of students, although small in scale, may represent a crucial driver for the renewal of peripheral universities as well as for the local development of inner areas (Fonseca, 2023). Based on these premises, this study aims at identifying the determinants of Italian counter-flow students' mobility at the province level (NUTS 3) over the period 2010-2023. We consider: i) students living and studying in these areas; ii) students moving from a peripheral province to a university belonging to a different peripheral province; and iii) students moving from metropolitan to peripheral areas (counter-flows). The econometric analysis is based on data on students' characteristics, to be coupled with those regarding the universities' characteristics and the local socioeconomic milieu.

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## Resilience, Connectivity and Spatial Effects in Sweden

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❖ [Terceira-S49-S1 Networks in Resilience and Vulnerability, SF3, August 28, 2024, 11:00 AM - 1:00 PM](#)

This research investigates the relationship between spatial connectivity and resilience, focusing on the context of Swedish municipalities. The research on resilience (conceptualized as the capacity of a system to withstand shocks or absorb perturbations) often lack considerations for connectivity and interactions.

Our primary research question revolves around understanding the interplay between connectivity and resilience development. Connectivity, defined as the establishment and maintenance of spatial connections, is examined in the context of spatial labour market networks characterized by main nodes and corridors. Additionally, the study delves into the complexity of networks, considering their irregular and dynamically evolving structures.

The research specifically explores how spatial connectivity is linked to community resilience.

Topological indexes derived from network connectivity measures are used to estimate the impact of network connectivity on resilience. The analysis employs Ordinary Least Squares (OLS) regression and Quantile regression.

Data from the PLACE database, encompassing labor market, education, and social sector information, along with the Swedish Electoral Authority database, is employed for the year 2017 at the municipality level.

We identify network connectivity, age, and education as the most influential variables in explaining resilience variations.

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## Beyond the "Blue Banana": emerging dynamics of economic development in Europe

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❖ [Terceira-S63 The European Outermost Regions: Remote Territories... Forgotten Territories?](#), S09, August 30, 2024, 9:00 AM - 10:30 AM

During the 1990s, the concept of the "blue banana" was introduced to highlight the economic imbalance between the developed central Europe, spanning from Greater London to Rome, and the less-developed peripheral regions of Europe. Since then, various enlargements and the implementation of cohesion policy in the underdeveloped regions have occasionally reshuffled the dynamics. While the issue of disparities has been extensively studied in the theoretical (geographical economics) and empirical (analysis of growth, convergence, space) literature on regional development, most of the research has relied on databases at the regional (NUTS 2) or even sub-regional (NUTS 3) level, particularly those provided by Eurostat. However, this meso-economic approach to regional development obscures the considerable variations that exist when examining development at the local level.

Against the backdrop of a growing body of literature in regional science on development traps, our article investigates whether the blue banana still remains as the economic core of Europe or whether a more nuanced understanding of this meso approach can be observed at the micro-local level. Specifically, we aim to identify (i) whether there are areas within the blue banana where development is stagnating or progressing at a significantly slower rate, and (ii) whether there is evidence of the emergence of new economic development zones in Europe that could serve as alternatives or complements to the blue banana. This aspect of our study provides fresh insights into the spatial dynamics of European economic development, considering recent changes and emerging trends that have the potential to redefine Europe's economic landscape.

The originality of our contribution lies in the utilization of satellite night-time light data as a proxy for economic activity. Nowadays, academic research can leverage satellite light data to gain a better understanding of the determinants of economic growth and development. The pioneering work by three researchers from Brown University in 2012, Vernon Henderson, Adam Storeygard, and David Weil, has paved the way in this field. Another advantage of using this data is that it is consistently collected across all regions, enabling us to examine growth and convergence dynamics while including the outermost regions that are often overlooked in analyses due to a lack of long-term data.

Ultimately, our findings aim to strengthen the empirical literature on convergence analysis and either confirm or challenge the conclusions of existing studies on catch-up dynamics, development traps, and the experiences of regions that have been left behind.

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## Development of International Transit Transport Routes as a Factor of World Economy Development

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❖ [Online-G11 Transport and Accessibility, August 26, 2024, 9:00 AM - 10:30 AM](#)

Transport is one of the most important sectors of the country's economic development. The developed transportation system is the basis for the development and competitiveness of all the sectors of the country's economy, the expansion of foreign economic ties and integration into the world economic system.

Under the current conditions, due to globalization processes, when the economic and trade relations between the states are continuously expanding, the integration of the transit transport routes of the country into the international transport system is of vital importance. For Armenia, which does not have direct access to the sea and whose cross-border transport communication channels do not operate with the 2 neighboring countries, Azerbaijan and Turkey, the development, expansion and effective management of transport routes is of strategic importance.

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## Measuring and Reporting Sustainable Tourism: Towards a Harmonised Environmental, Social, and Governance (ESG) Framework for the Tourism Sector

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❖ [Terceira-YSS3 Sustainable Development - EPAINOS, S01, August 29, 2024, 11:00 AM - 1:00 PM](#)

In recent years, the tourism sector has encountered escalating pressure to disclose Environmental, Social, and Governance (ESG) actions and impacts. However, this disclosure has been hindered by a lack of standardised sustainability metrics and a unified ESG reporting framework tailored to the sector's inherent heterogeneity. This paper explores contextual nuances, technical intricacies, potential avenues, and challenges associated with developing a harmonised ESG Framework for tourism. To achieve this, it employs a multi-method approach that combines rich documentary evidence with interviews involving 27 tourism companies from the accommodation and travel agencies industries, ranging from large international chains to small and medium-sized enterprises. Among other things, the study reveals a collective eagerness within the sector for the establishment of a harmonised ESG Framework, envisioning consistent tourism-specific metrics, shared objectives, and international benchmarks. Anticipated benefits extend to alleviating companies' reporting burdens and addressing widespread concerns about greenwashing. However, optimism is tempered by the recognition of potential barriers to framework harmonisation. Concerns include apprehensions about increased reporting responsibilities, reservations regarding the excessive technicality of the framework, and doubts about its transformative impact on the sector's practices. These findings enhance our understanding of the complexities of fostering sustainable practices within the tourism sector, providing valuable insights for experts and policymakers engaged in the ongoing discourse on ESG framework harmonisation.

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## Rural Development through Culture – Cultural Policy and the Gender Dimension

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❖ [Terceira-G20 Creative Industries and Regional Development, S16, August 28, 2024, 11:00 AM - 1:00 PM](#)

Rural societies worldwide face multiple transformations. Culture, understood as the corporate identity of communities, has always been developed locally by its individuals and first served to rhythmize work processes in the former self-organised agricultural societies, inspired by the impulses of those who dared to look beyond their own rural world, brought together by networkers and passed on through intergenerational learning-by-doing. Volunteering was a fundamental aspect and fostering togetherness by participating in cultural processes belonged to the daily life of villagers. The ongoing demographic processes, globalisation, (over-)tourism and all other forms of transformation processes in non-urban areas endangered the vitality of such communities. Impulse givers and networkers left or grew old, the young people lack time to engage for culture after long commuting distances or challenging working conditions. Culture as the framework for democratic exchange processes, platform for cultural education and experimental field needs to find other formats to be kept alive. Profound strategies of cultural policy beyond the urban are strongly needed. But what kind of Cultural Policy is required? What priorities, strategies and forms of implementation are useful to re-vitalise villages and help to re-built resilient communities? What role could artists and the cultural and creative sector play and what do they need to overcome the challenges? The ongoing research on the topic is based on ethnographic methods like expanded field research, qualitative empiric social research with a wide range of interviews as well as artistic and experimental research and practise-based evaluation of cultural projects beyond the urban. The gender dimension is one topical issue in the many different transformation processes, especially related to the culture and creative sector of rural areas. Our research highlights the relevance of the topic and further research. Concepts like "Doing Gender" will be used and explained to support the argumentation. The information had been gathered through literature review and interviews with local experts from six different rural areas throughout Europe. The research takes place in the context of the project IN SITU - an EU HORIZON project ([insituculture.eu](http://insituculture.eu)) that investigates cultural policy, the innovative power of CCT's and their positive influence on rural development. Together as a research team we want to address the situation of CCIs in non-urban areas to combine our expertise on cultural policy, intersectionality and gender.



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## Canada's Ocean Supercluster: Brief Notes to its Analysis

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❖ [Terceira-S53-S1 Maritime Regions: Europe Hot Spots, S09, August 29, 2024, 9:00 AM - 10:30 AM](#)

The Canada's Ocean Super-Cluster was launched in the early 2018, by the Federal Government, aiming to define a strategy able to support innovation and economic growth from coast-to-coast-to-coast.

Canada has the largest coastline in the world and, along with it, many subsea resources and a highly productive ecosystem. Therefore, conditions are met for the engagement of experts in ocean technology and the search for innovative solutions, in what sustainability, job creation, and competitiveness are concerned.

Canada's Ocean Mega-Cluster was launched as an industry-led transformative cluster model. Canada's OSC is an innovative cluster, designed by the Government to promote Ocean economic growth, by involving all interested parties into a large-scale technology--focused plan.

To achieve this goal, OSC is funded by both public and private entities, in equal shares. It also integrates all type of members, from small to large organisations, from individuals to local communities (including Indigenous Communities), small and medium enterprises (SME) to big companies, and universities. Each one can have a main role and contribute to boosting maritime economy.

From all the above, OSC is a praiseworthy initiative, that can be replicated across the globe, as it recognises and values the initiative of all seeking to leverage the ocean economy, with contributions from across the all country.

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## The role of decentralization on regional economic resilience in EU

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❖ Terceira-G06-O4 Regional and Urban Policy and Governance, S12, August 30, 2024, 9:00 AM - 10:30 AM

Severe external shocks and highly heterogeneous territorial impacts of great volatility have increased importance of regional economic resilience concept in last fifteen years. While there are different concepts of regional economic resilience, almost all approaches allow looking on specific region as a complex system characterized by the interdependence of time and place-specific socio-economic characteristics (Cellini and Cuccina, 2019). Consequently, regional ability to be resilient has been established as a complex multidimensional property and generating different reactions and different levels of resilience on shocks (Martin et al., 2016).

Empirical studies have resulted with the different groups of regional economic resilience determinants. Macroeconomic conditions (Crescenzi, Luca & Milio, Webber, 2016; Healy & Bristow, 2018; Rios & Gianmoena, 2020), human capital endowment (Di Caro, 2015; Crescenzi, Luca & Milio, Webber, 2016; Annoni, Dominicis, & Khabirpour, 2019), intensity of innovation activities (Bristow, & Healy, 2018; Filippetti, Gkotsis, Vezzani & Zinilli, 2020; Muštra, Šimundić, Kuliš, 2020); socio-demographic characteristics (Giannakis & Bruggeman, 2019) economic structure composition (Martin et al, 2016; Cainelli, Ganau, & Modica, 2018) and institutional conditions (Fratesi & Rodríguez-Pose, 2016; Ezcurra, & Rios, 2019; Rios, & Gianmoena, 2020).

However, despite increased interest and rapid theoretical development, a common sentiment in the literature is that the regional economic resilience concept is still fuzzy concept requiring greater conceptual clarity (Sutton et al, 2023). On this matter, there is especially gap in understanding the role of decentralization on regional economic resilience.

By implementing panel data for NUTS 2 regions in EU for period 2000-2016, paper seeks to expose insights into the role of decentralization, shedding light on optimal levels of regional autonomy to strike a balance between local responsiveness and national cohesion during the periods of great external shocks and economic volatility.

Empirical findings confirm previous findings on the positive role of institutional quality (Annoni et al., 2019; Ezcurra & Rios, 2019; Farole et al., 2011; Rios & Gianmoena, 2020; Rodríguez-Pose, 2013; Rodríguez-Pose & Garcilazo, 2015, among others) but also provide evidence on decentralization as a fundamental driver of economic prosperity and on regional resilience in Europe. These findings provide important puzzle in understanding role of decentralization in navigating complex terrain of regional economic resilience.

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## A GPS-Based Analysis of Cruise Tourism Impacts on Mediterranean Destinations.

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❖ [Terceira-S48 Tourism in Times of Crises: Current and Future Challenges, SF4, August 28, 2024, 2:30 PM - 4:15 PM](#)

Cruise tourism has emerged as an important area of study in urban destinations, prompting researchers to investigate the mobility patterns of cruise visitors. Initially, research in this area relied on observational techniques and time-space budgets. However, the advent of GPS tracking devices has revolutionised data collection methods, allowing researchers to gather detailed spatio-temporal information on human movements. This technological advance has opened up new avenues for social and economic research, particularly in the field of tourism.

The evolution of GPS technology, from its inception in travel surveys in the late 1990s to its rapid development over the past decade, has had a significant impact on research methodologies in tourism studies. Shoval and Ahas (2016) provide a comprehensive overview of this evolving field, highlighting the transition from conventional survey methods to GPS-based data collection. Prior to GPS technology, traditional travel surveys posed challenges to respondents, requiring them to recall detailed travel information.

Recent studies have used GPS technologies to analyse the spatial behaviour of cruise visitors in different destinations such as Palermo, Valencia and Tarragona. These studies share a common methodological framework, focusing on cruise visitors as the primary unit of analysis and using GPS technology to capture their mobility patterns.

The current study aims to combine evidence from three Mediterranean destinations - Palermo, Valencia and Tarragona - to compare and contrast cruise passenger behaviour. Methodologically, the study aims to establish a robust resampling method to achieve similar sample distributions across destinations. Empirically, the study aims to improve the understanding of the spatio-temporal mobility patterns of cruise passengers and to identify the factors influencing these patterns in different destinations.

Key mobility variables examined in the study include total trip duration, length, maximum distance from port, number of stops, average stop duration and expenditure stratified by destination. In addition, the study considers socio-demographic characteristics, type of company trip and previous visits to the destination as pre-treatment covariates to be balanced.

Preliminary results suggest that the destination visited has a significant impact on the behaviour and spending patterns of cruise passengers. These findings have practical implications for destination management, particularly in the development of cruise tourism destinations and ports of call, by informing decisions regarding visitor flows and concentration. Overall, the study contributes to the advancement of knowledge in cruise tourism research and informs strategies for destination management and planning.

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## The efficiency redundancy trade-off through connectivity. An analytical framework

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❖ [Terceira-S49-S2 Networks in Resilience and Vulnerability, SF3, August 30, 2024, 11:00 AM - 1:00 PM](#)

The link between redundancy and resilience has been discussed in various disciplines, with ecosystem resilience related to the trade-offs between efficiency and redundancy. Scholars found that ecological networks maintain a unique balance between pathway redundancy and efficiency that allows them to be productive under normal circumstances as well as survive disruptions (Ulanowicz et al., 2009 among others).

Starting with the engineering conception of redundancy as an indicator of the reliability of networks and systems (Downer, 2009, Perrow, 1999), we aim to provide a comprehensive view of the links between redundancy, resilience, and efficiency. Since real-life complex human systems are highly interconnected, improving resilience usually implies increased sunk costs. We propose a simple economic framework based on a trade-off between redundancy and efficiency that also relates to the notion of vulnerability. We discuss how the proposed model can be easily adapted to different purposes and applications such as supply networks, strategic business decisions, and public welfare systems up to the design of choices in behavioural economics.

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## Balancing environmental and social sustainability: The gendered impact of transport scarcity on daily life in Cuba

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❖ [Terceira-S19 Gender and Diversity in Cities, S05, August 30, 2024, 9:00 AM - 10:30 AM](#)

Daily mobility in Cuba relies heavily on public transport, making it one of the least carbon-intensive systems globally. Nevertheless, this system faces numerous challenges. Resource scarcity, which has persisted since the 1990s, has intensified in the last five years due to the escalating US embargo, energy crises, and the COVID-19 pandemic. Shortages of fuel and spare parts have led to the gradual deterioration of the public transport network, resulting in unpredictable bus schedules and extended waiting times for passengers. In relation to this context, my research aims to address the following questions:

- a) What is the role of passengers within the transportation system?
- b) How do women experience mobility within the context of transport scarcity?
- c) What impact does this scarcity have on women's daily lives?

Being mobile comes not only financial and temporal costs but also with energetic and cognitive strain. Waiting at a public transport stop is an active engagement, requiring vigilant pursuit of travel opportunities. This process is facilitated by mutual support among passengers and their interactions with transport personnel. By scrutinizing the narratives of women passengers in Santiago de Cuba concerning their daily mobility, this study aims to gain insights into their travel behaviors, experiences, coping strategies, and preferences. Additionally, it seeks to explain how these mobility challenges influence their other social roles and engagement in daily activities.

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## Spatial bootstrapping using deep clustering methods: spatial machine learning applied to Lombardy high-tech businesses

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❖ [Terceira-S06-S2 RSPP Special Issue: A New Toolbox for Novel Research in Regional, Urban and Spatial Studies, S01, August 30, 2024, 9:00 AM - 10:30 AM](#)

Our work introduces a novel spatial machine-learning approach based on Deep learning to analyse high-tech firms in Lombardy, Italy. We used the Deep Embedded Clustering (DEC) algorithm, which leverages an Autoencoder Neural Network to create meaningful strata of similar businesses. This notion of similarity is not given by an ex ante assumption of distance between the characteristics of businesses, but rather it is iteratively learned by the machine learning algorithm during training, by looking at the characteristics of the probability distribution of the clusters.

Our model considers the characteristics of businesses like their latitude and longitude, therefore it takes into account the geographical distance between the firms but it also takes into account several other characteristics like their economical performances and their sector of activity. This feature is essential to our analysis since it allowed us to create clusters that effectively mitigated the issues brought about by geographical inhomogeneity.

The DEC algorithm's role is crucial as it efficiently segments high-tech firms into coherent groups based on factors like sector activity and economic performance. This segmentation is not merely based on geographical proximity but also deeper, often hidden, interactions of business characteristics. Such a nuanced approach to clustering provides a more accurate representation of the high-tech business environment in Lombardy. This sophisticated clustering is essential for the subsequent stratified bootstrap process.

The stratified bootstrap method in this research operates by drawing repeated samples from each stratum formed by the DEC algorithm, ensuring a comprehensive data analysis. This technique is effective in overcoming the challenges posed by the spatial distribution of firms, which can vary significantly in an area like Lombardy, known for its diverse economic landscape.

Working with the DEC-derived clusters, the stratified bootstrap is used to compute the distribution of correlation coefficients among various business characteristics like productivity, business size and female employment. These results are robust against the spatial inhomogeneity inherent in the data, underscoring the effectiveness of deep clustering and stratified bootstrap techniques in spatial analysis. Overall, this paper presents an innovative approach to understanding the high-tech business landscape in a region as economically diverse as Lombardy. Integrating deep clustering with stratified bootstrapping offers valuable insights into the spatial dynamics of business clusters, transcending traditional methods.

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## Exceeding Targets in Environmental Policy: A Spatial Diff-in-Diff Analysis of the Priority Municipalities Policy in the Brazilian Amazon

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❖ [Terceira-G25 Spatial Econometrics, S10, August 30, 2024, 9:00 AM - 10:30 AM](#)

As part of Brazil's environmental protection policy, the list of priority municipalities for prevention, monitoring, and control of deforestation in the Amazon was established in 2007. This list includes municipalities with extensive deforested areas or where the increase in deforestation has been significant. In the second chapter of this study, previously identified positive effects of this action in the literature (Assunção and Rocha, 2019; Souza-Rodrigues, 2011) are revisited, with a more detailed exploration of the spillover effects of this policy.

This spillover effect was initially introduced in the work of Andrade (2016) and Andrade and Chagas (2016), from which this chapter is an extension. Indeed, based on the results presented in these studies, Assunção et al. (2021) discuss the importance of this spillover using a different approach.

In this paper, the main argument is that being a neighbor to a priority municipality represents an exogenous variation to the presence of environmental authorities. In this case, selection bias for these municipalities would be mitigated. This work explores the difference-in-differences spatial estimator proposed in Chagas et al. (2016). The results suggest that the Priority Municipality List affects the listed municipalities, reducing the odds ratio of the annual deforested remaining forest area by around 50%. This effect increases if the treated municipality has many equally treated neighboring municipalities. The list also caused a 70% reduction in deforestation in non-listed neighbors of listed municipalities. These findings highlight the effectiveness of the policy and underscore the importance of considering spillover effects in the evaluation of environmental preservation initiatives.

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## Chestnut festivals: an opportunity to redesign chestnut-growing territories in Italy

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❖ [Online-G46-O2 Sustainability of local policies, August 27, 2024, 2:30 PM - 4:15 PM](#)

With around 15,000 farms covering an area of just under 40,000 hectares, chestnut fruit cultivation is present throughout the country. The chestnut tree characterizes the Italian landscape: the gentle giant (Adua, 2009) is widespread throughout the Apennines where it plays an important role in the conservation of biodiversity and the protection of the territory.

Despite these numbers, the sector is experiencing a continuing production crisis linked to the problems of economic sustainability of the crop and phytosanitary emergencies: the relaunch of the sector is required through a process of valorization of local peculiarities with a wide-ranging strategy from an economic point of view, environmental and social.

The identification of territorial identity (at the different scales of the geographical region and of the single place) is fundamental to start processes of re-territorialization, i.e. acts that reconstruct the relationships between the local community and the territory. Chestnut "sagra" can represent an instrument of this type.

Taking the definition from the Treccani online dictionary (<https://www.treccani.it/vocabolario/sagra/>), the "sagra" is a popular festival of local character and annual frequency, which traditionally arises from a religious festival, used to celebrate the harvest or promote a local food and wine product.

During a festival the local fair, the market and various celebrations generally take place.

Italy is still dotted with traditional celebrations and festivals throughout the year which represent a great heritage of non-material culture.

Chestnut festivals are organized in small mountain villages along the entire Apennine and partly pre-Alpine range in the same limited time span that coincides with the harvest period (October). Therefore, we can say that they have both a local and national dimension, precisely because the chestnut is one of the few products that is present throughout the Italian territory (along with the wine).

However, there are no specific studies on chestnut festivals in Italy, nor is there a mapping of the festivals and a contextual assessment of the impact on local economies. The aim of the work is the analysis of the economic relationships and networks of relationships that are established at a territorial level thanks to the chestnut festivals in order to identify specific local identity markers.

To this end, through a desk analysis and territorial focus groups organized together with the Italian Chestnut Towns Association, we propose an initial mapping of the chestnut festivals in three case study regions and subsequently an analysis of the local economic relations generated.



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## Are fare discounts effective? Exploring its impact on transit rideship and car substitution

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❖ Terceira-G06-O4 Regional and Urban Policy and Governance, S12, August 30, 2024, 9:00 AM - 10:30 AM

Public transport plays a pivotal role in urban mobility and subsidies are justified to transit provision scale economies, its externalities relief effect and contribution to social equity. The relationship between fares and transit ridership plays a central role in the policy debate about transport supply, investments, and financing, where price reductions cyclically pop up in the policy arena and even more so now with the application of country-wide discount schemes in Germany and Spain. However, it is still unclear whether broad fare discounts are the most effective way to promote modal shift, as evidence suggests the sign of the net effect of massive fare discounts is not yet clearly established and depends on what modes this increased ridership is shifting away from. Moreover, fare discounts have heavy budgetary implications as increasing the cost coverage ratio bore by the public sector can increase the risk of quality deterioration, service cuts and political backlash for any price increase back to previous fare levels.

This paper analyzes the causal impact of transit fare on transit ridership and travel mode substitution. We focus on the specific fare discount scheme introduced in Barcelona and its metropolitan area, relying on daily ridership figures for the stations access turnpikes and road traffic counts for the period 2018 - 2023. Our research strategy combines fixed effects and regression discontinuity, taking advantage of the exogeneity in the date of implementation of discounts for the whole transit network. Our models flexibly account for other potential confounding factors like COVID-19 restrictions, relative changes in multi-ride ticket prices, and gas price discounts introduced by the Government. Results indicate a nuanced impact of fare discounts on ridership levels. While fixed effects models show mixed effects, regression discontinuity models suggest a 7-15% increase in ridership levels. Exploring car substitution effect suggests that discounts' ability to shift drivers away from their cars is difficult, and potential shifts from more sustainable modes and transit crowding effects due to induced demand make it hard for discounts to yield a positive welfare impact. The findings underscore the need for nuanced policy considerations and highlight the challenges in achieving modal shift through fare interventions.

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## The influence of ESG on performance and stock price fluctuations during the COVID-19

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❖ [Terceira-G08-O1 Covid-19 and regional and urban resilience, S12, August 28, 2024, 2:30 PM - 4:15 PM](#)

As domestic and international attention to environmental, social and corporate governance (ESG) issues continues to heat up, more and more companies are incorporating ESG into their business strategies. This study uses the annual data of Taiwan listed companies from 2015 to 2022 as the research object and adopts regression analysis to explore the impact of a company's implementation of ESG activities on its financial performance. In addition, this study investigates whether there is a critical value when investing in costs to implement ESG activities. That is, whether a certain level of investment in ESG activities will bring the best benefits to the company, or the more investment, the greater the benefits, or a certain level of investment is required to generate benefits. Finally, this study also explores whether implementing ESG can stabilize stock price fluctuations during the COVID-19. Empirical results show: First, the company's total ESG score has a significant positive impact on ROA and ROE in the current and next period. The total ESG score will produce a critical value in ROE, when this critical value is exceeded, the company's performance will reverse downward. The impact of ESG on ROA is that the more ESG is invested, the better the ROA performance, and there is no reversal. However, it has a completely different impact on Tobin's Q. When a company invests in developing ESG activities in the beginning, it will have a significant negative impact on Tobin's Q for the current period. After the company continues to invest beyond the critical value, the total ESG score will have a significant positive impact on Tobin's Q for the current period. Second, the total ESG score that lags behind one period will have a significant negative impact on stock price fluctuations, which means that the higher the company's total ESG score in the previous period, the more stable its stock price fluctuations will be. During the COVID-19 period, whether the total ESG score is lagging behind in the current period or not, it has a significant positive impact on stock price fluctuations, which means that during the COVID-19 period, the higher the company's total ESG score, the greater the stock price fluctuations. Regardless of whether it is during the COVID-19 period, the higher the score of the corporate governance aspect, the higher the stock price fluctuation will be in the current period and the next period.

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## Towards a shared future for Flemish cities: exploring the intersection between Ethnic Entrepreneurship, Policy, and Urban Revitalization.

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❖ [Terceira-G41-O1 Migration and Integration in a Global World, S18, August 29, 2024, 9:00 AM - 10:30 AM](#)

This paper explores the interaction between migration, (sub)urbanization, and ethnic entrepreneurship in Flemish local commercial districts. Ethnic entrepreneurship has become an increasingly important and studied aspect of urban economies and has been recognized as a way for migrants to overcome social and economic barriers (Volery T., 2017). This paper builds on previous research that has highlighted the importance of social networks, economic integration, and cultural capital for ethnic entrepreneurs (Waldinger et al., 1990, Kesteloot C. and Mistiaen P., 2005). Using quantitative and qualitative data such as in depth interviews with ethnic entrepreneurs, we answer the question on how local policy makers are handling this phenomena in Flandres. The main finding on this subject is the importance of a healthy entrepreneurial environment. Urban diversity comes with challenges, but also opportunities for example tackling the problem of commercial vacancy in a local commercial district. Local policy makers should as such create a more supportive environment.

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## Worker Sorting, Industry Sorting, and Agglomeration Effects

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❖ [Terceira-G27-O1 Regional and Urban Labour Markets and Entrepreneurship, S18, August 29, 2024, 2:30 PM - 4:15 PM](#)

Significant spatial wage disparities can be observed in virtually all countries with free market economies. In particular, larger cities offer higher wages compared to more rural areas. There are at least two major explanations for this observation: (1) people with characteristics that are related to higher wages prefer to live in larger cities and (2) the same worker becomes more productive if she or he is located in a larger rather than a smaller city. In this paper, we shed light on the relative importance of those explanations and demonstrate that, after controlling for worker and industry sorting, there is still a significant agglomeration effect that makes wages increase with the size of local industries. We find that, aggregated to the region-industry level, 21.8 percent of the variation of wages in a full sample of all workers subject to social security in Germany for the years 2011-19 can be attributed to factors that are specific to region/industry-cells. Furthermore, the region/industry-specific wage component increases with the share of workers in this cell with an elasticity of 0.04, which provides evidence for the existence of agglomeration effects. We contribute to the literature on spatial wage disparities in at least three ways. First, we demonstrate how the wage decomposition by Card, Rothstein, and Yi (CRY) can be adapted to measure the magnitude of Marshall-Arrow-Romer-type agglomeration effects. Second, we discuss the intermediate results of industry- and region-specific wage premia. Those premia reveal the various sources of spatial wage disparities and are informative to (local) policymakers. Finally, we measure the relative magnitude of four different mechanisms that explain spatial wage disparities.

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## Interregional Trade, Structural Changes and Regional Inequality

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❖ [Terceira-G10 Trade and Global Value Chains, SF3, August 29, 2024, 9:00 AM - 10:30 AM](#)

This study explores changes in regional inequality and examines distinct adjustment patterns among Brazilian states investigating the role played by interregional trade during economic stagnation. We combine structural decomposition analysis with observed demographic changes to identify the main drivers of change in regional inequality. By focusing on different dimensions of integration, we show that changes in intra-regional and international integration were the main drivers of the observed reduction in regional inequality. However, inter-regional trade was critical to drive changes in regional value-added, acting as an absorber of structural changes for the richer states.

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## Marginalised Zones – instrument to navigate the complexity of permacrisis and its social, economic and environmental impacts

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❖ [Online-S47 Leave No One Behind! The Role of The EU Cohesion Policy in a Changing World, August 26, 2024, 11:00 AM - 1:00 PM](#)

It should be noted the special importance given to the increase of cohesion in Romania, through the public policies formulated by the Government of Romania and under the responsibility of the Ministry of Labor and Social Solidarity. As a response to the complex persistence of poverty and need for resilience, recently was launched the National Strategy Concerning Social Inclusion and Poverty Reduction for the Period 2022- 2027 (SNISRS 2022-2027). SNISRS 2022-2027 of 30.03.2022 approved by GOVERNMENT DECISION NO. 440/2022 establishes as the only General Objective (GO) "the reduction by at least 7% compared to the year 2020 of the number of people exposed to the risk of poverty or social exclusion, until the year 2027". This objective is strongly connected and harmonized with Romania's objectives assumed for the implementation of the Europe 2020 Strategy (through the National Reform Program) and the 2030 Agenda through the National Strategy for the Sustainable Development of Romania 2030).

This strategic document marks Romania's commitment to cohesion as a priority at the level of public policy. Thus, in the context of the "Leave no one behind" principle and supporting the growth of cohesion, we note the assumption of the first two strategic objectives of the Strategy:

1st Strategical Objective. A decent living for all, based on the principle "No one is left behind";

2nd Strategical Objective. Social investments to promote cohesion.

Not at least, the other two strategical objective consolidates in a complementary manner the first two objectives, respectively:

3rd Strategical Objective. Social protection throughout a person's life;

4th Strategical Objective. Improving the administrative capacity to coordinate national policies in accordance with European requirements.

A new element in Romania's inclusion policy is the diversification of the spectrum of more efficient and effective interventions aimed at marginalized areas together with their vulnerable communities. In this context, we propose a deep rethinking of the "marginalized area" as a tool to navigate the complexity of permacrisis and its social, economic and environmental impacts. In this sense, we foresee the use and development of analysis and intervention tools at the community level, in order to successfully operationalize the Strategies that support the growth of cohesion through an integrated, spatial approach to social inclusion and poverty reduction, based on supporting employment in conditions of just transition, according to the wishes of the 2030 Agenda, under conditions of sustainability.

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## How does the network structure of inter-industry labour flows within regions condition economic resilience and diversification over time?

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❖ [Terceira-S49-S1 Networks in Resilience and Vulnerability, SF3, August 28, 2024, 11:00 AM - 1:00 PM](#)

While regional economies can be regarded as webs of specialized production units, largely dependent on the technologies, skills and tacit knowledge integrated in the process of value creation, the role that explicit network structures play in regional economic resilience is still poorly understood. In this paper we use information on three decades of inter-industry labour flows within regions to construct networks of labour reallocation for 72 local labour markets in Sweden. Drawing on advancements in network science that are novel in regional science, we stress-test these networks against the sequential elimination of their nodes, finding substantial heterogeneity in network robustness across regions. Our previous work indicates that this network robustness conditions regional economic resilience in the cross-sectional setting of the 2008 crisis. In this work we extend on this basic finding by first exploring how local labour flow network structure changes over time. Second, using established measures of node contribution to overall network robustness, we quantify the individual contribution of an industry to the labour flow network robustness of its corresponding regions. With this approach we are able to explore the connection between robustness and industry-region-specific resistance to and recovery from idiosyncratic and systemic economic shocks. Finally, as regional resilience in an evolutionary perspective entails the capacity to withstand shocks as well as the ability to create new growth paths, we combine the standard measurement of industry relatedness to the local economy (relatedness density) with our measure of industry contribution to overall network robustness. This allows us to study how the (related) diversification of regional economies brings about more or less robust labour flow structures. These findings elaborate on how variation in the self-organisation of regional economies as complex systems makes for more or less resilient regions over time, thereby forging new connections between the literatures on regional economic resilience, evolutionary economic geography and network science.

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## Exploring the reasons for differences in structural change between organic and conventional agriculture in Norway

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❖ [Terceira-S64 The Role of EU- and Regional-Policy in Sustainable Land Use Management, S05, August 28, 2024, 2:30 PM - 4:15 PM](#)

The four strategic goals for agricultural policy in Norway are food security, maintaining agriculture across the country, increased value creation, and sustainable agriculture with lower emissions of greenhouse gases. In this paper, we will investigate how organic agriculture could be a possible manner to reach the goal of agriculture across the country. We observe a structural change in Norwegian agriculture, highlighted by a decline in the number of conventional and organic active farms. In Norway, agriculture receives direct payments for the production of animals and plants, and support for more environmental manners. Organic farms receive an additional payment on top of general direct payment. On average, an organic farm receives more subsidies than a conventional farm. We use data from the entire Norwegian farm population, including subsidies, both organic and conventional, numbers of animal, crop area, and location. We will investigate the difference in the probability of an organic and a conventional farm exiting the agriculture sector. We find that being an organic farm has a lower probability to exit compared to a conventional farm. We control for factors such as age, farm area, production types, direct payment, rurality etc.. Organic farms have a lower exit rate, which could imply less structural change for organic farms and, hence, indicate a more sustainable and robust type of farming.



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## Paradoxes of festival tourism: An analysis of the local impacts of Eurovision Song Contest in Turin

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❖ Terceira-G50 Sustainability, Smartness and Festivals, S14, August 29, 2024, 2:30 PM - 4:15 PM

Festivals and other cultural events are usually considered essential levers for urban promotion and development. The positive effects on the local economic fabric are at the center of numerous studies and refer to a wide range of events (large or small; folkloric or globalized; entertaining as in the case of performing-art events or disclosing as in the case of science-led festivals). Among the main positive effects that cities obtain from being the venue for these events, urban image, tourist attractiveness and internationalization, and economic turnover are the most highlighted aspects. Concerning more significant events (such as the Olympics and the International Expos) or other specialized events (such as sector and sports events), festivals and other cultural events have the advantage of being much more inclusive and embedded within the territory that hosts them.

However, festival-based urban politics also present gray areas and ambiguities, which suggest adopting a critical approach. Cultural events can mobilise relevant shares of people (tourists, visitors, volunteers, professionals) and catalyze the global attention of an even wider audience. Event media exposure, in particular, is often the primary stimulus that induces cities to apply as venues, quite independently from estimating the expected outcomes and risks for the local communities. In that sense, we can say that events may have a "hypnotic" effect on urban policymakers (Dansero and Segre, 2002) that consider them a win-win option to promote the urban image, support the local economy, increase the cultural offer and produce benefits in a diffused way. Nevertheless, let's take a medium-term territorial perspective, which considers what happens in the territories at a suburban scale (urban districts and neighborhoods) and extends the analysis some years after the end of the event. The positive effects may be smaller than expected. Otherwise, some uneven dynamics, both positive and negative, may also emerge. The paper discusses this paradoxical dimension of festival tourism from both a theoretical and practical perspective, presenting the results of an extended qualitative-quantitative analysis of the effects produced by the Eurovision Song Contest Festival on the city of Turin and its neighborhoods.

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## European capitals in the Context of EU Cohesion Policy 2021-2027

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❖ [Online-S47 Leave No One Behind! The Role of The EU Cohesion Policy in a Changing World, August 26, 2024, 11:00 AM - 1:00 PM](#)

The EU Cohesion Policy 2021-2027 and the European Green Deal are two entities that prioritize the development of sustainable cities. The definition of a sustainable city involves several areas of urban development, but an important side is represented by the component of the circular economy and green cities. Therefore, the paper aims to analyze the pattern of the cities included in the research sample from the perspective of their circular and green component. In order to achieve the main objective of the research, GIS variables were extracted from the area of the circular economy and the green economy, at the level of each city in the sample, and then a quantitative analysis was carried out on the urban development model of these cities. The main methods used to identify urban development patterns are clustering algorithms, as well as spatial density. Green city and circular economy are two hot topics promoted by the EU Cohesion Policy 2021-2027. Therefore, for the process of substantiating decisions by political decision-makers, it is important to analyze the current state, as well as the development directions of urban settlements worldwide. The paper aims to identify an urban development pattern from the perspective of the concepts of eco-city, circular city and green city. It is important to mention that in this paper the concept of "eco-city" is considered as a consolidated level of the other 2 dimensions "circular city" and "green city". The identification of ecological urban development models will lead to the possibility of identifying examples of good practices, but it can also lead to the development of partnerships between local administrations of cities that have a similar urban development model. The novelty element of this research is represented by the data collection process, using GIS technology. Thus, the data are taken from the satellite, and then processed to ensure the main dimensions of statistical data quality: relevance, accuracy, comparability. The results of the research show structural differences at the level of the cities included in the sample as a result of the economic specificity of the countries they come from, as well as a result of the public policies applied at the local administration level. Also, a relationship of association was identified directly between the two dimensions of the eco-city concept, "circular city" and "green city".

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## “For whosoever hath, to him shall be given”? Convergence of Regional Labour Markets in the European Union

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❖ [Terceira-G27-O1 Regional and Urban Labour Markets and Entrepreneurship, S18, August 29, 2024, 2:30 PM - 4:15 PM](#)

This paper investigates the dynamics of regional labour market efficiency within the European Union (EU) from 2010 to 2019, focusing on patterns of convergence, divergence, and stagnation. Utilizing both beta and sigma convergence concepts, the study analyses seven labour market efficiency indicators from the Regional Competitiveness Index. The dataset encompasses all EU NUTS 2 regions, categorized into two groups based on fixed categorical factors, reflecting path dependencies. Our findings reveal that EU NUTS 2 regions exhibit absolute beta convergence in long-term unemployment, overall unemployment rate, and gender-balanced unemployment. However, sigma convergence analysis points to a significant divergence in the unemployment rate, labour productivity, and female unemployment. Notably, the employment rate demonstrates stagnation in terms of both beta and sigma convergence. In post-socialist regions, there is significant beta convergence in various indicators, including long-term unemployment, unemployment rate, labour productivity, gender balance in unemployment, and female unemployment. Conversely, capitalist regions show convergence in long-term unemployment, unemployment rate, and gender balance in unemployment, with a notable divergence in employment rate.

Regression analysis reveals distinct trends between post-socialist and capitalist regions, particularly in employment rate, gender balance unemployment, and female unemployment. The study concludes that post-socialist regions generally exhibit better convergence performance. Nonetheless, it underscores the complexity of convergence trends across different indicators and highlights the necessity of long-term policy initiatives and broad access to diverse higher education opportunities as key measures for fostering labour market convergence in the EU.

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## Tourism Competitiveness and Environmental Quality: A review

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❖ [Terceira-G35-O2 Tourism and Overtourism Issues, SF3, August 29, 2024, 2:30 PM - 4:15 PM](#)

The study of tourism competitiveness/demand has been a significant area of research for a long time. Despite some signs of saturation and a lack of new insights, it remains an important field. In the past, research on tourism demand has mainly emphasized the role of economic and sometimes political factors in determining the level of tourism activities. However, in more recent times, there has been growing recognition of the significance of environmental quality, as well as other factors such as climate change and sustainable tourism practices in general. Unlike many other industries, the relationship between the tourism industry and the environment is highly complex. The demand for tourist products is partly determined by the quality of the related environment while at the same time, growing tourism activities affect - more often negatively than positively - the environmental quality. In some cases, tourism development helps better protect the environment, defined as natural and non-reproducible historical and cultural resources, but it usually also brings along increased air emissions from passenger transport, water quality degradation, waste management problems, etc. In this review, we aim to analyze the literature on the relationship between tourism competitiveness and environmental quality with a special focus on Croatia, an economy that heavily relies on tourism while attempting to balance the benefits of mass tourism and environmental protection. We will identify the key findings from the most influential previous research and highlight gaps that require further investigation. Attention will also be devoted to the (un)explored possibilities of including environmental quality indicators in the empirical analysis.

Note: This work was made as part of the project "Challenges Facing Local and Regional Development in Croatia" at the Institute of Economics, Zagreb and funded/co-funded within the National Recovery and Resilience Plan 2021-2026 - NextGenerationEU.

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## Extreme Weather Events, Urbanization, Deforestation

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❖ [Terceira-G24-O2 Human - Environmental Interactions, S16, August 30, 2024, 2:30 PM - 4:15 PM](#)

We examine the nexus between extreme weather events, urbanization and tree cover loss in a global data set of regions from 2001-2018. Droughts or floods might induce migration into cities. On the other hand, expansion of urban areas is one factor behind deforestation, which can make the damages of extreme weather events more severe. We explicitly capture the inherent interrelation in a simultaneous equations model with four equations. We find evidence of a vicious cycle of tree cover loss, increasing drought damages and urban expansion at the global scale. The results for other links and feedback mechanisms are more heterogeneous.

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## Reducing the dimensionality of sustainability indicators: a contribution to monitoring progress at the regional level

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❖ [Terceira-G24-O1 Human - Environmental Interactions, S17, August 28, 2024, 11:00 AM - 1:00 PM](#)

In the recent years, a proliferation is observed in the design of sustainability indicators. The measurement of the three pillars of sustainability, that is, economic, social and environmental, is conducted through several approaches. For this reason, efforts towards measuring sustainability regionally are hindered by the excessive number of indicators that are currently being used at the country level. Given the limited resources for data collection and monitorization at the regional level, a proposal is made for reducing the number of indicators. An analysis is conducted for studying relationships and detecting redundancies across countries in Europe, that are expected to replicate at the regional level. As a result, a manageable indicator list is proposed so that regional resources can be directed in an efficient way.

The methodology to be followed includes the selection of the main sustainability indicators, an analysis of the information they reflect and the reduction of their dimensionality through a correlation analysis. Annual data for 36 European countries on the Adjusted Net Savings, Domestic Material Consumption, Ecological Footprint, Environmental Performance Index, Happy Planet Index, Human Development Index and Planetary Adjusted Human Development index are extracted from their corresponding sources. This analysis could serve as a contribution to tracking progress towards sustainability at the regional level.

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## The Impact of Flash Floods on the Spatial Distribution of Businesses and Workers

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❖ [Terceira-S07 Navigating the Storm: Exploring the Socio-Economic and Behavioural Impacts of Natural Disasters on Communities, S04, August 29, 2024, 9:00 AM - 10:30 AM](#)

This paper analyzes how a natural disaster affects the spatial distribution of establishments and workers, using the devastating 2008 Santa Catarina Flash Flood (Brazil) as a natural experiment. We combine synthetic-aperture radar images that show the exact location of flood spots with geocoded employer-employee data to estimate the impact of the disaster. We find that establishments in affected areas have a higher chance of closure but they do not adjust to the shock through business relocation or market entry. Workers dismissed in the wave of disaster face reduced job prospects, with no impact on wages or migration rates for those who do find new employment. These effects persist over the analyzed 5- to 9-year period.

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## Changes in the spatial structure of urban regions in Poland, 2011-2021

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❖ Terceira-G01-O2 Peace, Regional and Urban Sustainable Development, SF4, August 28, 2024, 4:45 PM - 6:30 PM

The 2010s in Poland witnessed significant developments propelled by the influx of European funds, resulting in substantial public (particularly in infrastructure) and private sector investments. Despite temporary disruptions, the country experienced robust economic growth, with a remarkable 40% increase in GDP per capita during the analyzed period.

This economic upturn had far-reaching effects, including the stabilization of the labor market, marked by a three-fold decrease in unemployment and an upswing in employment among the working-age population. Additionally, there was a noticeable surge in entrepreneurship and innovation within the Polish economy. However, it is crucial to note that these advancements were not uniformly distributed but were concentrated in urban regions, which emerged as the primary beneficiaries of these transformative changes. The extent of these changes is distinctly reflected in the spatial structure of these urban areas.

The primary objective of our study is to discern contemporary patterns of change in the spatial structure resulting from the socio-economic processes in urban regions. In our previous research, we highlighted disparities between the developments in Polish urban regions during the political transformation period and those observed in Western European countries or the USA at the turn of the century (Bartosiewicz, Marcinczak 2022). Our current investigation aims to determine if a similar trend in the evolution of spatial structure in Polish urban regions persisted in the second decade of the 21st century, under free market conditions and comparable socio-economic processes, and to identify potential differences.

To explore this phenomenon, we employed the concept of polycentric urban development (PUD), analyzing changes in spatial structure across two dimensions: morphological and functional (Burger et al 2011). Utilizing NSP (National Census of Population and Housing) data from 2011 and 2021, containing information on work-places distribution and commuting we conducted the study on a defined set of 56 urban regions. Polycentricity measures (Bartosiewicz, Marcinczak 2020) were applied to assess and quantify the observed changes in the spatial structure, providing a comprehensive understanding of the evolving urban regions in Poland during this critical period.

Bartosiewicz, B., & Marcinczak, S., 2020, Investigating Polycentric Urban Regions: Different Measures–Different Results, *Cities* 105 (2020) 102855.

Bartosiewicz, B., & Marcinczak, S., 2022, Urban structure in transition: evidence from Poland, 1983–2011. *Regional Studies*, 1–12.

Burger, M. J., de Goei, B., Van der Laan, L., Huisman, F. J. 2011, Heterogeneous development of metropolitan spatial structure: Evidence from commuting patterns in English and Welsh city-regions, 1981–2001. *Cities*, 28(2), 160-170.



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## Local demographic transition paths in Poland. A spatiotemporal comparative study of population pyramids

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❖ [Terceira-G02-O1 Demographic change, Population and Migration, S10, August 28, 2024, 11:00 AM - 1:00 PM](#)

Significant changes in the population structure in local administrative spatial units (LAU 2) have been visible for many years in Poland. There are several demographic and social reasons for these changes. They include: 1) vital processes of suburbanisation, 2) population migrations, both external and internal, including the growing influx of economic migrants to Poland in recent years, 3) changes in the family model, postponement of procreation and a decrease in fertility, a decrease in the number of marriages and an increase in the number of divorces, 4) an increase in life expectancy, 5) a pan-European process of population ageing. All of them result in changes in population structure, such as depopulation, overpopulation, population ageing, lack of productive age population, etc., in some areas of Poland.

In this paper, these demographic processes occurring across Poland are reasons for looking at general trends. We use population pyramids to see the population structures of 2477 local administrative units in Poland and their changes in 2002-2022 with a general overview for 1995-2001. This paper identifies the shapes of local population pyramids across Poland year-by-year and compares them with theoretical models of age-sex pyramids (for example progressive, regressive, etc.). For this purpose, we use multivariate non-parametric statistical tests of probability distributions. This procedure results in a set of pyramid time series for each local unit. Then, using cluster analysis, we identify typical demographic transition paths in Poland. Finally, we analyse the spatial distribution of these paths and changes in the spatial distribution of pyramid types over time.

In conclusion, we will identify the demographic challenges for local units. Policymakers can use the results of these studies to revise social and economic policies at the local level.

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## Digital transformation in agricultural sector towards sustainable development: the institutional approach

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❖ Terceira-G16-O1 Cities, Regions and Digital Transformations, S16, August 29, 2024, 2:30 PM - 4:15 PM

The global challenges, such as climate change and food insecurity among others, require the revision and re-composition of economies and supply chains at large, as well as search for new ways to adapt each industry's process, and agriculture is no exception. One of the ways to address the consequences of this dramatic impact is deployment of smart and digital technologies in the agricultural sector, the agri-food in particular. Smart and 4.0 technologies, on the one hand, could help firms increase their productivity and their competitiveness in general; on the other hand, they allow for sustaining profit-making with the improvement of workers' conditions, the reduction of emissions and environmental impacts on fields and production plants, reducing the overall footprint of the industry. According to the European Commission, the implementation of digital technologies in agriculture will enable increased economic and environmental performance and environmental sustainability, as well as competitiveness of the EU digital supply industry, improved working conditions and increased transparency. Moreover, a combination of the new digital tools with the already integrated automated technologies is supposed to support farmers to be more precise with inputs while enhancing their knowledge of agro-ecological conditions. The incorporation of digital strategy in economic activities, including the agricultural sector, has been invented and guided by several policies on the European level, in particular the EU Green Deal. While the policy initiatives largely contribute to expansion of sustainability in industries through digitalisation, there are various factors influencing the local practical implications of policy initiatives. Our research focuses on the role of institutional actors and factors in the development of digital strategy within agricultural sector. In particular, it investigates the variety of socio-economic factors, which enable or, on the contrary, limit the technological application. The research utilises and synthesise, on the one hand, the institutional approach (from economic sociology and institutional economics), and, on the other hand, the three sustainability pillars (economic, environmental, and social) framework. This synthetic conceptual framework allows not only to analyse the pathways between applications of specific technologies and their input in sustainability dimensions but also the institutional context of those applications. The methodology is based on systematic literature review and document analysis regarding the adoption of specific digital technologies and evaluation of their impact on operations and networks. In the sphere of policy making, this research can advice the development of digital strategies for agribusiness regarding the existing resources, needs and predicted outcomes.

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## An Analysis of Tourism Attractiveness and Competitiveness in Italian Provinces

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❖ [Online-S34 Opportunities, Risks and Challenges of the Digital Transformation in Tourism, August 26, 2024, 11:00 AM - 1:00 PM](#)

The present study, thus, aims at examining the ability of Italian provinces to attract foreign tourists and evaluate the changes of tourist inflows over time. To this purpose, we consider several factors including climate, seasonality, cultural heritage, technology, competitiveness and infrastructures as possible driver of tourism demand and evaluate their influence on tourism performance. We try to assess which provinces are efficient and which inefficient.

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## Case study: Border survey for foreign travellers in Finland

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❖ [Terceira-S41-S2 Assessing the economic impacts of tourism, S07, August 29, 2024, 2:30 PM - 4:15 PM](#)

Tourism is a significant sector of the economy in Finland, generating about 2.7% of the gross domestic product in 2019 and employing about 5.8% of the workforce before the pandemic. Understanding the economic impacts of tourism is essential for supporting the industry and political decision-making.

This paper provides a case study on a new border survey for foreign travellers in Finland. Visit Finland, the national tourism promoting organization, launched the survey in March 2023 to collect data on the trips, expenditure, and characteristics of foreign visitors in Finland. The objective of the border survey is to provide reliable and comprehensive information about the volume, economic significance, regional structure and characteristics of inbound tourism in Finland to support the industry and political decision-making. The information is needed to allow for the better targeting of tourism marketing, for the development of tourism services and the preparation and evaluation of strategies. The information is utilized by regional tourism organizations, tourism companies, Visit Finland, Statistics Finland, municipalities and ministries.

The survey provides basic information on the demographic characteristics of foreign travellers, their expenditures related to the trip, timing and duration of trips, destinations within Finland, purpose of the trip, types of accommodation and other travel characteristics.

The survey uses various selection criteria and methods to form the sample from the population that is travellers who leave Finland by flight or ferry. The survey collects data from passengers through interviews conducted prior to departure.

The results of the survey are published through Visit Finland's Rudolf web service, where one table is updated every month and seven tables every quarter. The processed survey data set is available as open data in open data portal [avoindata.fi](https://avoindata.fi). Additionally Visit Finland publishes a visual and interactive report based on the open data.

We present the methodological choices and feasibility of the chosen methods for different conditions. Furthermore, we discuss potential limitations as well as additional data sources for improving the survey results.

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## Is public transport an efficient way to reduce pollution in smaller cities near big cities?

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❖ [Terceira-S01-S2 Building Sustainable Cities, S01, August 29, 2024, 9:00 AM - 10:30 AM](#)

Air pollution has become one of the main causes of respiratory and cardiovascular diseases and, at the same time, of mortality on a global scale, especially in urban areas. In order to reduce this problem, supranational, national, regional and, local governments have implemented policies that sought to reduce pollutant emissions. However, the impact of a large city on the populations that surround it, that is, smaller cities surrounding it, has not been studied. Our main objective is to analyze if there is a direct relationship between a good public transport network, in our case, railways, and low levels of pollution in small cities and municipalities near Barcelona. In this context, this paper analyses the impact of public transport strikes on air quality in smaller cities and municipalities near Barcelona using a dataset from January 2008 to December 2016. Using a difference-in-difference approach we show that pollution increases when people cannot use public transport in those small towns and municipalities with access to train stations. From our results, we can infer that expanding public transportation in smaller cities can improve air quality in those areas. Our results can be used to provide useful information to improve air quality in municipalities near big cities.

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## Functioning of educational services in Poland in the context of demographic forecast until 2060

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❖ [Terceira-G02-O3 Demographic change, Population and Migration, S10, August 29, 2024, 9:00 AM - 10:30 AM](#)

The aim of my presentation is to characterize possible scenarios for the functioning of educational services in Poland in the light of Poland's demographic forecast until 2060. Demographic conditions are the basis for planning the school network on a local and supra-local scale. The Central Statistical Office in Poland prepares demographic forecasts for the country, voivodeships, poviats and communes, which are publicly available and can be used by local government units in the process of planning and managing social services, including educational services. Unfortunately, demographic forecasts for Poland indicate that the negative demographic phenomena and processes already observed will continue in the future, in particular resulting from a decrease in the number of births and an increase in the number of deaths. The deteriorating demographic situation will therefore have a very important impact on maintaining the current school network, considering that Poland's demographic forecast indicates a decrease in the total population from 37.5 million people in 2024 to 30.9 million people in 2060. During my presentation I will discuss the results of the demographic forecast for Poland and the projected changes in the number of school-age children and youth, along with possible consequences for the functioning of educational services (in particular primary and secondary schools) in the future.

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## “Borrowed size” and “agglomeration shadow” debates: Is locating next to large cities a Blessing or a Curse for small cities?

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❖ [Terceira-S39-S2 From Neglect to Nuance: Exploring the Diversity of Second-Tier Cities, S06, August 29, 2024, 2:30 PM - 4:15 PM](#)

Small cities could either benefit from “borrowed size” or suffer from “agglomeration shadow” when they locate next to large cities. To explain the complex formation mechanism of the two disparate development contexts, the existing research mainly focuses on the single perspective of the large cities or the conditions of small cities, and neglect the combined effect. This study proposes an interaction framework of “small city development attraction and central city spillover ability”, and expounds the interaction process between the natural and institutional contexts of small cities and the characteristics of central cities, aiming at exploring the internal mechanism of borrowed size and agglomeration shadow phenomenon. A comparative study of the Yangtze River Delta urban agglomeration and Beijing-Tianjin-Hebei urban agglomeration is then conducted to examine the theoretical framework. The research results show that the Beijing-Tianjin-Hebei megaregion has formed a huge poverty belt around the central city, showing a single-center polarized spatial development model, which is opposite to the highly integrated spatial development model in the Yangtze River Delta megaregion. The difference in spatial development model between the two megaregions could be attributed to the institutional environment of small cities and the industrial structure of central cities. Specifically, as the birthplace of modern Chinese national capitalist industry and commerce, the small cities in the Yangtze River Delta megaregion are characterized by strong market awareness and entrepreneurial culture. Moreover, Shanghai as the central city of the Yangtze River Delta megaregion has a strong manufacturing base, and its spillover effect on neighboring cities is larger. Therefore, the small cities in the Yangtze River Delta megaregion can borrow size from large cities. In contrast, within highly politicized environment, the small cities in Beijing-Tianjin-Hebei megaregion are marked by weak market awareness, incapable of receiving the spillover of Beijing's industrialization. Furthermore, Beijing is a service-oriented city, and its spillover effect on neighboring cities is smaller. Thus, the Beijing-Tianjin-Hebei megaregion shows agglomeration shadow and tends to form a relatively polarized regional city system. The comparative results of the two megaregions supports the interaction framework of “small city development attraction and central city spillover ability”.

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## How to assess the impact of venture capital investments on the labour productivity of EU countries?

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❖ [Online-G09 Regional Competitiveness, Innovation and Productivity, August 26, 2024, 9:00 AM - 10:30 AM](#)

The research focuses on a relevant and insufficiently investigated problem of venture capital investments. The global scope of this aspect is increasingly becoming more popular in academic research because of the likely higher profitability. However, venture capital investments may encounter a higher level of risks for new business ideas or products, or for those ideas or products which are already being developed. These investments increase the own capital of companies and are used for funding the seed capital, the start of performance or the later stages of a business in progress. Venture capital investments are highly significant for companies creating new, innovative products and technologies. The analysis of scientific research works has shown that, when assessing the impact of venture capital investments at the country level, venture capital investments are associated with economic growth, financial development, innovations, creation of new businesses, and productivity. The research problem deals with how to assess the impact of a country's venture capital investments on labour productivity and the impact of a country's venture capital investments on its labour productivity. The research aims to design a model for assessing the impact of venture capital investments on the country's labour productivity and empirically validate it in the EU countries after analysing the phenomena of venture capital investments and labour productivity. For the research have been used these methods: graphic representation of data, cluster analysis, multiple correlation and regression analysis of panel data. The research results were obtained by using the GRETL software package. The selected research duration covers the period from 2007 to 2019. The research sample consists of 25 countries of the European Union because the OECD does not provide data on venture capital investments in Cyprus, Croatia and Malta for 2007–2019. The research substantiated both the direct impact of venture capital investments on labour productivity and the impact of venture capital investments on labour productivity conditioned by the innovative environment and financial development factors. The main findings show that venture capital investments do not determine the labour productivity growth in the EU-25 countries.



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## The right tools for the right questions? Probing the role of an open computational geographic tool in urban polycentricity research

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❖ [Terceira-S06-S1 RSPS Special Issue: A New Toolbox for Novel Research in Regional, Urban and Spatial Studies, S01, August 29, 2024, 2:30 PM - 4:15 PM](#)

Polycentric urban regions (PURs) have become a key concept in regional studies both as an analytical framework to capture empirical realities as well as part of normative visions in regional development policies. Despite there being a rich scientific debate, ongoing PUR research paints a mixed picture. At the conceptual level, there is no consensus on what a polycentric urban system is and how its empirical diversity can translate into equally robust conceptual diversity. At the methodological level, a plethora of ad hoc analytical-operational frameworks are invoked, making it difficult to interpret and compare results and, ultimately, to draw robust conclusions on the impact of this regional form on people and places.

To push forward PUR research, recently calls were raised to establish a stronger tool-building community to work around collective, data-driven, computational geographic tools. These calls resonate more broadly with appeals to develop more accessible and modifiable software and tools with and within academic communities to advance the spatial sciences. In the context of PUR research, the proposition is that such pursuit could, at the very least, advance the comparability, reproducibility, replicability and reusability of findings.

While, today, there are several successful examples of open-source spatial software tools in GIScience and urban science communities, concrete explorations of what a PUR-oriented academic tool could look like remain thin on the ground. More importantly, there exist no prior efforts to elicit insights and epistemological positions from scholars who are actively shaping the field of PUR research with respect to the proposition to commit more strongly to tool-building. The latter venture is nonetheless crucial to anticipate to what extent, why, and to whom such interventions may be useful, and if these should be pursued at all.

Against this background, our contribution to this special session generates new and critical insights with respect to academic tool-building endeavors in the fields of urban and regional studies in general, and PUR-driven research in particular. We focus on the anticipated potential of a PUR-oriented academic tool to advance the field's main research agendas, viewed from the perspective of the academic community itself. To this end, we have developed a web-based survey to elicit insights from scholars involved in PUR-driven research. Depending on the thrust of our findings, we will produce a set of specific recommendations (in terms of data requirements, tool capabilities, etc.) to develop a tool prototype, which will be evaluated in further rounds of validation.

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## The European added value of Cohesion Policy: economic and welfare impacts of differentiated layers of financing

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❖ [Terceira-G06-O3 Regional and Urban Policy and Governance, S12, August 29, 2024, 2:30 PM - 4:15 PM](#)

The European cohesion policy is redistributive through both its expenditure and its financing, as the majority of investments are made in the less developed regions and the financing of the policy is financed by Member States through contributions proportional to their GDP weight within the Union. The policy is an expression of the EU solidarity, with the objective of enhancing economic, social and territorial cohesion and solidarity among EU countries. Yet, some argue that the EU value added is only limited and that such policy should better be implemented by the Member States rather than been planned through negotiations between the EU authorities and the national and regional ones. We investigate the economic and welfare implications of different ways of financing the policy using a spatial dynamic general equilibrium model. The results show that the impact on GDP is similar whether the policy is financed by the European Union budget or if the regions have to levy taxes to finance the interventions that take place there. This is due to the demand and supply side effects of investment, which are independent of the source of financing. However, the composition of the GDP response to the policy shock changes significantly across the scenarios. If the policy is financed by the European Union budget, there is a deterioration in the trade balance in the less developed regions, which does not occur if the regions finance the interventions themselves at the cost of lower household consumption and welfare. The opposite happens in the more developed regions, where welfare is lower in the first scenario due to the large contributions needed to finance the policy investments, which are mostly made elsewhere.

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## Telework Beyond the COVID-19 Pandemic: Exploring Residential Density and Travel Behavior

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❖ Terceira-S59 Telework in Post COVID Times: Trends and Challenges for the Future, S04, August 30, 2024, 11:00 AM - 1:00 PM

The COVID-19 pandemic was a catalyst for teleworking, but less is known about this trend beyond the pandemic and its implications for the built environment, travel behavior, and social equity. Using three rounds of survey data (n=474) in Flanders, Belgium at the onset of the pandemic (April-May 2020), one year into the pandemic (April-May 2021), and after a return to normal (October-November 2022), this research investigates teleworking profiles in terms of residential population densities, necessary trip behavior and satisfaction, and sociodemographic characteristics. Four profiles are evaluated based on not teleworking, teleworking because of the pandemic and continuing afterward, teleworking during the pandemic but returning to work physically, and teleworking before, during, and after. Results indicate a negative relationship between teleworking and residential population density, therefore teleworking options might contribute to equitable access to employment. Further, accommodating teleworkers in urban areas might be less critical but instead commuters might benefit from mobility systems supporting trip-chaining without a car. Women were more likely to return to work physically (especially those with children), indicating challenges in work-life balance that might benefit from structure and separation that comes with commuting. Finally, experienced teleworkers were older, employed full time, with higher salaries, indicating that skill and job competence might relate to flexible contracts including teleworking alongside employer trust. Increases in and normalization of teleworking following the COVID-19 pandemic are related to work-life balance, equity, the urban form, and travel patterns, and understanding these relationships can aid in predicting teleworking trends and informing supportive policy.

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## Process justice in Transit-oriented Development (TOD) in Hong Kong: the case of Kai Tak station development

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❖ [Terceira-G11-O2 Transport and Accessibility, S15, August 29, 2024, 9:00 AM - 10:30 AM](#)

Though its original vision was to create equitable and sustainable communities, Transit-oriented development ('TOD') has received increasing scholarly attention on its social equity and justice implications, from worsening housing affordability and gentrification, to unequal accessibility. However, the bulk of existing justice-related TOD research focuses on outcomes and results, but less on equity in the planning processes.

In view of this, the paper aims to adopt an analytical framework developed by the authors to conduct an analysis of process justice in the case of Kai Tak TOD in Hong Kong ('HK'). The focus on process justice is because it is less addressed in existing empirical literature, while the framework adopted highlights the importance of the process and how it affects the outcome.

The framework adopts the Institution Assessment and Development ('IAD') model to analyse the TOD's process justice. The core element is the 'Rules-in-use', which are implicit rules that guide the interaction and dynamics between the participants in the planning process. They cover aspects from participation and role of those involved, to decision-making and information flow.

To collect data, 16 semi-structured interviews were conducted with stakeholders involved in its planning, including government departments, parliament members, consultants, property developers, the metro operator ('MTR') and various organisations. Guided by the IAD model, the interview asked about TOD in HK in general, Kai Tak's planning process, and its built environment. The interview transcripts are coded for thematic analysis, identifying recurrent topics and patterns, and connected to process justice to formulate our findings.

Currently, data analysis is ongoing, though we have formulated some key issues on macro (TOD as a whole in HK) and micro (more specific on Kai Tak) levels. On the macro level, the first issue is that TOD in HK is implemented under a single mode, MTR's 'Railway+Property', which transforms societal benefits of TOD into financial returns of MTR and developers. Secondly, aggressive housing development targets have led to TOD prioritising 'development' over 'transit'. Thirdly, a lack of overarching strategy to guide the planning process have negatively affected stakeholders' participation. On the micro level, government actors dominated the whole planning process of Kai Tak, from setting boundaries, making decisions, to ruling on conflicting wants and controlling information. Secondly, the visions and targets of many stakeholders were fragmented with little reconciliation in the planning process. Thirdly, stakeholder participation and collective decision-making mechanisms, though existent, were limited in their effectiveness.

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## From Trams to Buses and Back: Tracing the Impact of Tram Networks on Urban Modal Shift. Evidence from German Cities.

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❖ [Terceira-G11-O2 Transport and Accessibility, S15, August 29, 2024, 9:00 AM - 10:30 AM](#)

What role did tram networks play in the development of German towns and cities regarding modal shift? Following the guiding principle of the car-friendly city, tram lines in a large proportion of West German cities were shut down and partly replaced by trolleybuses as well as omnibuses, mainly in the 1950s and 1960s. Today, in contrast, some cities are considering reactivating their disused tram lines for sustainability reasons. Our study is based on extensive data from the statistical yearbooks of German municipalities from 1950 to 1990. We analyze the causal effects of the dismantling and decommissioning of tram networks on individual transport and other means of public transportation. Using a difference-in-differences and event study approach, we examine whether and to what extent cities with and without decommissioned tram networks developed differently in terms of vehicle density and population. We also use two-way fixed effects regression models to estimate the effect of tram line length on vehicle density.

Preliminary results suggest that cities with large public transport networks tend to have lower vehicle densities. This effect is even more pronounced when the transport modes of rail-based and electrically powered public transport are considered separately.

Our research adds valuable insights to the ongoing public debate on sustainable urban transport use and modal shift.

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## The impact of Business Improvement Districts on crime

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❖ [Online-S72 Consequences of Place-Based Policies: Perspectives and Challenges, August 26, 2024, 11:00 AM - 1:00 PM](#)

This study evaluates the impact of Business Improvement Districts (BIDs) on crime using a novel data set on the total number of BIDs established in England and Wales between 2012-2017. Results indicate that BID areas are, on average, affected by higher levels of crime than other commercial areas, but they experience a drop of 10-11 crimes per quarter following BID formation. The reduction in crime is stronger for shoplifting, anti-social behaviour and public order-related crimes. Effects depends on the intensity of the approach adopted as well as on the amount of resources devoted to crime prevention. The study also provides evidence of diversion effects. As crime declines in BID areas, criminal activity diverts in neighboring commercial areas. Diversion effects are smaller than deterrence effects so that aggregated crime declines.

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## House Price Impacts of Land Subsidence: evidence from the Netherlands

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❖ [Terceira-G18-O1 Climate Adaptive and Resilient Regions and Cities, S16, August 28, 2024, 4:45 PM - 6:30 PM](#)

Land subsidence is a human-induced physical process gaining increased attention in the Netherlands. Increasing droughts and current water management practices exacerbate the physical processes that cause land subsidence. This results in damage to houses yielding high costs to be covered by homeowners themselves. In this research, we investigate part of the financial impact by looking at the effect on house prices in the Green Heart region in the Netherlands. We use yearly land subsidence rates and 96,000 housing transactions over the period 2000—2020 to estimate the financial impact by using a hedonic pricing model and add neighborhood fixed effects to control for local unobserved heterogeneity. Our results show an average decline in prices of around 2% when houses are subject to land subsidence. We also find that the effects vary by housing type and construction year, with detached houses and houses constructed before 1970 experiencing stronger declines. The average decline in house prices is lower than the average cost of land subsidence damage per affected house. Therefore, potential damage is not fully capitalized in house prices indicating a lack of awareness among homeowners. These results provide insight to steer the public debate concerning water management, insurability, and governmental interventions to mitigate and adapt to land subsidence effects.

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## Local Preferences and Social Commitment: The Effect of Ecosystem Factors on Enterprises' Location Choice and Social Performance

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❖ [Terceira-G49 Entrepreneurship and Digitalization, S14, August 29, 2024, 9:00 AM - 10:30 AM](#)

This paper explores the effect of ecosystem attributes on the location choice and social performance of social enterprises. While prior research has examined the delimited regional influences on social enterprises' establishment and growth rates, it is still unclear why some regions have a higher rate of (successful) social enterprises than others. Utilizing a dataset comprising 2527 U.S.-based social enterprises and employing conditional logit regression and linear regression analyses, we identify specific ecosystem attributes that positively and negatively influence the location choices of social enterprises. However, our study reveals a misalignment between the regional influences affecting location choices and those leading to higher social performance. By providing insights into the nuanced relationship between regional influences, location choices, and social performance, this research contributes to a more comprehensive understanding of the intricate dynamics shaping the success of social enterprises within ecosystems.



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## Sustainable tourism in Italian municipalities: the role of heritage under an optimal city size framework

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❖ Terceira-S60 Towards Local Development Through a Sustainable Valorization of Cultural Heritage: the Role of Tourism, S05, August 30, 2024, 11:00 AM - 1:00 PM

This paper is part of a research project that aims at identifying policy suggestions meant to promote a cultural tourism that is sustainable in terms of its socio-economic impacts, with the final objective of fostering local economic development.

Drawing on the concept of carrying capacity (UNWTO, 2018) and exploring it within an optimal city size theoretical framework (Alonso, 1971), the present work originally aims at investigating the local sustainability of tourism flows in Italian municipalities. Particularly, we follow Camagni et al. 2013, and, in operational terms, we augment the optimal city size theory to consider touristic flows and the possible related congestion issues. In addition, we deepen our research by taking into account local specificities in terms of cultural touristic vocation (ISTAT, 2022) and heritage endowment.

Therefore, the two main innovative aspects of the proposed paper are the following: first, the optimal city size framework is originally used to explore tourism and overtourism topics; second, the empirical analysis is carried out at the municipal level, which allows an extremely granular spatial disaggregation enabling to gain a deeper understanding of the peculiarities of different local contexts.

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## Transforming the Food System: The Influence of Aesthetics Bias on Consumer Perceptions and Its Implications for Reducing Waste

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❖ Terceira-G21 Urban Challenges and technological transformations, S06, August 30, 2024, 2:30 PM - 4:15 PM

Approximately one-third of food produced is lost or wasted every year mainly due to food production systems and consumption patterns focused on aesthetics. At the same time, millions of people around the world suffer from hunger and malnutrition. An important contributor to food waste is consumers' preferences for highly aesthetic products (beauty-is-good bias). As the saying goes "the first taste is always with the eyes", consumers are known to use aesthetic cues to make inferences about freshness, flavor, and food quality.

We explore consumers' food waste decisions by examining two lay theories: beauty-is-good and ugly-is-risky. The "beauty-is-good" bias can be explained by survival instincts, where the search for the perfect aesthetic is conceptualized by the evolutionary literature. Concerning food products, which have a direct relationship with people's health, the instinct to search for the perfect food appearance is dominant. We propose that consumers associate aesthetically imperfect foods with food hazards (i.e., the ugly-is-risky bias). The rigorous quality standards established by large-scale distributors involving the size, shape, and appearance of food products contribute to such risk perceptions. Considering the high impact of aesthetics on consumers' food decisions, the desire for perfect appearance leads to food waste. However, little is known how to mitigate the ugly is risky bias in order to induce sustainable consumption.

To bridge that gap, we rely on the construal level theory to investigate its effect on aesthetic biases and risk perceptions. In this paper, we extend this line of research to investigate whether an abstract (vs. concrete) construal helps in diminishing the "beauty is good" and "ugly is risky" biases.

We conducted six experimental studies to explore consumers' risk perceptions and purchase intention of imperfect food products. This research makes at least three contributions to the literature and practice. We extend the literature by examining a novel intersection between three substantive areas — food aesthetics, risk perceptions, and construal level. First, it shows that aesthetics of imperfect foods lead to enhanced risk perceptions thus influencing consumers' purchase intention.

Second, it demonstrates that construal level moderates the "beauty is good" and "ugly is risky" biases. Specifically, our findings demonstrate that an abstract construal mitigates the biasing effect of food aesthetics, thus leading to reduced food waste of imperfect foods.

Third, we present implications for managerial practice and public policy in the area of food waste.

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## Climate change impacts and implications on Alpine Snow Tourism Destinations and their Communities: Hints from the Interreg AS BeyondSnow project

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- ❖ [Online-S56 Regional Transitions: Adaptation and Transformations in the Tourism Sector, August 26, 2024, 2:30 PM - 4:15 PM](#)

The proposal aims at exploring the cascading impacts of Climate Change on Snow Tourism Destinations and Communities in the Alps, focusing on the specific impacts of the potential general decrease of snow coverage. The authors analysis highlights how global warming affects the duration and consistency of snow, compromising the stability of winter sports-related activities. Decreases in snow cover directly impact ski-related activities and destinations, reducing the skiing season, the profitability of connected businesses, and potentially causing harm to the economy and society. Thus, many Alpine communities, which are traditionally reliant on winter tourism, face significant socio-economic challenges, including job losses and revenue reduction. Additionally, climate change can lead to extreme weather events, increasing the risk of avalanches and adverse climatic conditions. These events can damage tourist and community infrastructure and threaten the safety of visitors and local inhabitants.

Capitalising vulnerability and resilience data and first results of the ongoing EU Interreg Alpine Space Project “BeyondSnow”, authors emphasize the need for adaptation strategies to preserve winter tourism in the Alps, focusing on sustainability and economic diversification to reduce dependence on snow-related activities, especially skiing. Study results provide insights for policymakers, DMOs, businesses, and local Alpine communities, highlighting the urgency of addressing the challenges of climate change to protect the long-term vitality of these unique areas.

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## Identity shifts of youths in border areas: the case of Hungarians in Vojvodina

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❖ [Online-G40 Local identity, August 27, 2024, 9:00 AM - 10:30 AM](#)

Today, there are many ethnic groups in Europe whose main goal is to preserve their identity. Although assimilation challenges the survival of ethnic minorities in all levels of life (e.g. education, administration, cultural life, or business activities), nationality is a strong feature of the everyday lives of these group members. This is particularly true in border areas where the borderline is the external border of the EU. Vojvodina, in the north of Serbia, is special in this respect because the Hungarians living there have been able to acquire Hungarian – and thus EU – citizenship over the last decade. Partly based on this situation, the emigration of those living in Vojvodina accelerated, but those who stayed, especially the young generation, have strengthened their local identity. This means an identity which is primarily Vojvodina, secondarily Hungarian and thirdly Serbian. However, nationality is not always clear-cut, even in non-mixed families it is observed that one identity is sometimes stronger in individuals, while another is stronger at other times. Such divergence is particularly evident in sport, in the identity of supporters at international sporting events. This presentation aims to identify several fracture points where identity shifts, especially among young people? To answer this question, an interview survey was conducted with Hungarians under the age of 40 living in Hungary and Serbia.

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## From Cities to Circular Food Systems: Leveraging Spatial Agglomeration, Centrality and Agency

Joana Wensing<sup>2</sup>, Roger Cremades<sup>1</sup>, Eveline Van Leeuwen<sup>1</sup>, Dr. Carina Castagna<sup>1</sup>

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❖ [Terceira-G21 Urban Challenges and technological transformations, S06, August 30, 2024, 2:30 PM - 4:15 PM](#)

Cities form central nodes in global networks of food and related resource flows which is why the much needed transition towards a more circular food system could be enabled through the engagement of cities. Cities are characterized by the spatial clustering of firms, institutions and citizens, leading to disproportionately high agency levels. Still, the central role of cities in enabling food system transitions is largely neglected. We argue that greater consideration should be given to the spatial dimension of circular food systems, to the agency of cities on it, and to their potential roles in complex local, national and global food system networks. In this perspective, we propose how policy-makers could take advantage of these factors to steer the transition towards a more circular food system and trigger un-precedented momentum to materialize circularity at multiple scales.

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## An inexact science: Accounting for measurement error and downward bias in mode and location choice models

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❖ [Terceira-G27-O2 Regional and Urban Labour Markets and Entrepreneurship, S17, August 30, 2024, 11:00 AM - 1:00 PM](#)

Using commuting data for Brisbane, Australia, we find that accounting for measurement error in travel times causes the magnitude of parameters in mode and location choice models to increase approximately three-fold and 30-40%, respectively. Errors appear to be somewhat systematic, with travel times being underestimated for short journeys and vice versa for long journeys, especially by public transport. We find similar results when we use alternative transport cost measures and independent commuting data from London. Our findings are likely to have important implications for transport and land use policy as well as the many types of economic models in which travel times, and transport costs, more generally, occupy a central role.

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## Interconnected Tracks and Tech: Analyzing the Impact of Transport and Technology Networks on Labor Market Integration in China

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❖ [Terceira-S44 Networks: An Empirical and Conceptual Toolset to Understand and Model Cities, Regions and Their Interactions](#), S18, August 30, 2024, 2:30 PM - 4:15 PM

### Abstract:

Despite growing scholarly attention on the role of urban networks for understanding the dynamics of regional integration, a more explicit focus on the multiplexity of networks is required for understanding the nuanced ways in which cities regionally integrate, particularly in labor markets. Applying a panel model to data for the Yangtze River Delta for the period 2014-2021, we analyze and compare the different impacts of transport and technology network connections on labor market integration. We then abstract these different types of connections as a two-layer multiplex network, and explore their (potential) interplay. Our analysis reveals a positive correlation between transport networks and labor market integration, contrasting with a U-shaped effect observed in technology networks. We also observe evidence for a nuanced interplay between cities interconnected through these transport and technology networks. Specifically: 1) cities' overall connectivity in the multiplex network has a U-shaped effect on labor market integration, and 2) the interdependencies between cities (across different network layers) contribute to an increased integration level of labor markets. We reflect on the broader implications of our empirical findings for regional development strategies and discuss possible avenues for further research.

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## When innovation policies go inclusive: Overcoming digital divides in Nordic and Baltic countries through innovation policies and civic society engagement

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❖ [Terceira-G03-O5 Innovation and Regional Development, S11, August 30, 2024, 9:00 AM - 10:30 AM](#)

Digital transformations has been one of the most visible and significant global changes over the past two decades. The transformation has been pervasive, impacting nearly every aspects of society, economy and daily life. However, not all have equal access to the digitalised society, which causes certain groups to become at risk of digital exclusion. These groups are often already marginalised in society with the digital component adding an additional layer of social and economic exclusion. Exactly, how to develop inclusive innovation policies with and for these marginalised groups still remain an open question.

Recognizing the fundamental role of user-producer interaction in innovation, as established in existing literature (e.g., Lundvall 1984), and acknowledging the dark side of innovation with its socially and geographically uneven consequences, there has been a surge in political attention toward inclusive innovation. This paper contributes to the growing body of literature on inclusive innovation (e.g., Lee 2023), focusing specifically on the emergence of political attention to digital inclusion in the Nordic and Baltic countries and exploring the diverse approaches each country takes.

We analyse all 25 national, political innovation strategies emphasising digital inclusion published in the Nordic and Baltic region over the past two years. We also conduct fieldwork and interviews with key actors at political and civic society levels across all eight countries. This aims to unravel the intricate relationship between the formulation of inclusive innovation policies and their practical implementation, ensuring that these policies genuinely foster digital and innovative inclusion.

While the recent intensification of focus on digital inclusion is evident from the substantial number of new strategies, similarities among the Nordic and Baltic countries reveal a shared understanding. However, the diversity of perspectives emphasizes the necessity for flexible, context-sensitive approaches to address digital inclusion effectively. Interviews across the eight countries highlight a discrepancy between political ambitions and the level of support at the civic societal level, with financial challenges and biased engagement with larger organizations exerting significant influence.



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Risk management systems for occupational safety. What makes them effective?

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❖ [Terceira-S25-S1 Counterfactual Methods for Regional Policy Evaluation, S05, August 28, 2024, 4:45 PM - 6:30 PM](#)

The ISI calls are a policy offering incentives to firms to invest in occupational safety and health. One measure of this policy is devoted to the adoption of systems to manage occupational risk (risk management systems, RMS now on). These are adaptive sets of actions undertaken by a firm to improve its preparedness to manage the emergencies and to reduce risks. In this paper we will show the results of new estimates on the impact of ISI incentives on the firms' accident profile.

In previous papers based on this research, some impact of the incentives was detected, but the results were very volatile and not reliable. There are many possible explanations for this lack of robustness:

- Choice of the unit of observation (local unit vs whole firm)
- Sample size (even though our sample is not very small, accidents are very rare events, so large samples are required to detect the impact)
- The problem of non-compliance to assigned treatment (attrition and firms investing even without the incentive), which affects the credibility of the natural experiment evaluation setting
- The role of non-observables as factors conditioning the impact in OSH
- The role of heterogeneity among yearly calls (in pooled estimations)

In this more advanced version of our research we tackle those problems by adopting a new combination of panel matching and difference-in-difference that considers time varying treatments and including the accident profile of firms prior to participation in the program as a proxy for motivation of management and workers.

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## Back-casting population grids to assess long-term urbanisation and depopulation trends in Europe

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❖ [Terceira-G31-O1 Methods in Regional Science or Urban Analysis, S17, August 28, 2024, 2:30 PM - 4:15 PM](#)

Geospatial data about the location of population is essential for policy support and scientific assessments in many fields, including regional science and urban analysis. Since the early 2000's, the European Commission acknowledged the usefulness of population grids, and pushed for the improvement of their coverage and quality. Specifically, the Joint Research Centre and Eurostat have made substantial contributions to advance the mapping of population distribution at fine spatial scales. The current state-of-the-art includes the census grids for 2011 and 2021, compiled by Eurostat with input from National Statistical Institutes. These grids are based on the aggregation of address/point-based population counts to the reference European 1 km grid system. However, these so-called "bottom-up" grids are not available for earlier census years due to the lack address/point-based population counts for most EU countries. "Top-down" grids have been produced for previous or intra-census years by downscaling aggregate municipal counts of population to the 1 km grid cells in a conventional, dasymetric fashion. However, because of the inconsistency between the top-down and bottom-up methods, time-series analysis is not warranted.

Here, we present a new, chain-linked dasymetric back-casting approach to generate consistent, decennial population grids going back to the year 1961 for Europe. The approach combines known population from the 2011 census grid with historical population at municipal level and land use changes derived from Earth Observation. Independent validation corroborates the superiority of the approach vis-à-vis static dasymetric approaches. The presentation will describe the method and validation results and illustrate their application to assess long-term urbanisation and depopulation trends in the EU.

Based on preliminary results, between 1961 and 2021, the EU population increased from 359 to 456 million inhabitants. This overall demographic growth was accompanied by a steady urbanisation process, with population living in urban areas increasing from 59% to 71% at the expense of rural areas, which dropped to a share of 29% of the EU population in 2021. The high spatial detail of population grids allows to discern distinct spatial patterns. Population has increased substantially in or around the main cities. Coastal areas and coastal cities observed important population growth too, especially in the southern EU. Rural areas lost population overall. But the rural decline has been more pronounced in the southern and eastern EU, with large swaths of inner/rural parts of, for example, Portugal, Spain, Croatia, Bulgaria, Romania and the Baltic countries experiencing a strong population decline in many areas.

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## Making room for everyone: Assessing housing needs and suitability in Waterloo Region, Ontario via time, space, and equity lenses

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❖ [Online-G02-O1 Demographic Change, Population and Migration, August 26, 2024, 9:00 AM - 10:30 AM](#)

Over the past decade, Canada's Waterloo Region has experienced significant population growth and a resulting wave of housing construction, but house prices and rents in the Region have continued to rise. To tackle the broader housing crisis affecting Ontario and Canada, calls for increased housing construction have grown, but advocates often estimate the quantities of homes needed by considering overall population and average household size, without considering different housing types or the household compositions of populations in need. Using publicly available data, we analyze temporal and spatial trends in housing construction and population growth across Waterloo Region to assess how changes in housing and population compared at the census tract level. We also assess housing indicators across household types, bedroom counts, income categories, and related socio-economic indicators to highlight groups deserving greater attention in community planning efforts. Based on our findings, we propose including equity-based analysis in future housing and land needs assessments to account for a wider range of needs. We further explore and discuss the potential for “missing middle” housing to address a wider variety of household needs, and we propose options for Canadian municipalities looking to support greater housing diversity and supply as a means of addressing housing needs in Canada.

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## European Digital Innovation Hubs – shaping the digital innovation ecosystem in Europe

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❖ [Terceira-G03-O6 Innovation and Regional Development, S10, August 30, 2024, 11:00 AM - 1:00 PM](#)

Digitalise or perish is a new mantra. Digitalisation is seen as a solution to all problems from decreasing competitiveness of the economy to environmental degradation. Even if true, economy-wide rollout of digital technologies is easier said than done. Lacking skills, high investment costs, inadequate infrastructure, complexity of digital technologies or unclear benefits are just a few examples of the barriers to turning digital opportunities into economic value. To address these challenges, created in 2023 and covering all the European regions, the European Digital Innovation Hubs (EDIH) network provides tailor-made digitalisation support to SMEs and public sector organisations in all regions and sectors of the EU. Regional context influences the composition of an EDIH and the way it is organized. The structure of the regional economy in which the EDIH operates also shapes the offerings of the EDIH and the demand for its services. Reflecting their unique combination of territories, sectors and technologies covered, the EDIHs are formed of a diverse array of organisations, including private companies, research organisations, universities, and public sector entities. The services provided by EDIHs to SMEs and public sector organisations encompass a broad spectrum of technologies and sectors showcasing diversity in strategies and designs. The hubs demonstrate strong competencies in key technologies like Artificial Intelligence, Cybersecurity, and High-Performance Computing. This paper analyses the process of EDIH formation, their characteristics and activities. It contributes to the discussion on how to support impactful digital innovation in Europe.

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## From Healthy Cities to Territories of Wellbeing: Transforming second-tier port cities along the Rhine

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❖ [Terceira-S39-S2 From Neglect to Nuance: Exploring the Diversity of Second-Tier Cities, S06, August 29, 2024, 2:30 PM - 4:15 PM](#)

This paper presents a critique and a conceptual advancement of urban-centric health and wellbeing planning approaches, e.g. the Healthy City, and takes the first steps in operationalizing an alternative framework that operates across larger territorial regions. First, we argue that focusing on the capacities of individual cities limits the possibilities of health and wellbeing planning, as it neglects that the crises affecting health and wellbeing are spatially unbounded, that there is a diverse urban world beyond the handful of frontrunner cities, and that spatially just health and wellbeing planning requires cooperation across polycentric regions. We then explore the ‘natural planning region’ of the Rhine watershed as a territory where our approach can be tested, due to its socio-environmental interdependencies, polycentric diversity of interconnected cities, and history of cooperation and complementarity across regional port city networks. Finally, we move beyond merely upscaling planning approaches designed for the city scale and discuss to what extent Manfred Max-Neef’s Fundamental Human Needs framework can address territorial wellbeing, arguing for allowing multiple dimensions and spaces of need satisfaction, examining relations between needs and satisfiers, non-hierarchical need structures and promoting active participation across places and communities as a basis for health and wellbeing planning.

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## Accounting for recreational freshwater ecosystem services: The case of Israel's water economy

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❖ [Terceira-G18-R Climate Adaptive and Resilient Regions and Cities, S05, August 30, 2024, 2:30 PM - 4:15 PM](#)

We study the impact of freshwater ecosystem services (FESS) on water allocation policies within a comprehensive water economy model. The FESS generated by flows and stocks are distinguished and their effects on water allocation and pricing are analyzed. The inverse demand for recreational FESS in Israel is estimated based on household visitation data and freshwater flow and stock information. The estimated willingness to pay per unit of water is incorporated into a reduced form of Israel's water economy model. The results of numerical simulations indicate that changes in the demand for FESS have significant effects on optimal water diversion decisions from all freshwater sources. For instance, a 20 % increase in the demand for recreational ESS generated by stream flows leads to a 24 % reduction in water diversion from this source, a 13 % increase in water diversion from Lake Kinneret, and a 29 % increase in diversion (extraction) from groundwater aquifers. These findings emphasize the importance of incorporating FESS within economywide water allocation policies.

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## Brazilian Labor Reform: An Empirical Analysis of Law No. 13,467/17 Across Different Regions

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❖ [Terceira-G14-O2 Institutions, Political and Decisional Processes, S13, August 29, 2024, 2:30 PM - 4:15 PM](#)

This paper aims to evaluate the impact of Brazil's Law No. 13,467, ratified in July 2017, with the objective of fostering employment opportunities by modernizing labor relations and improving workers' salary conditions. The study employs entropy balancing methods and quantile analysis using regional data from 2017 and 2018, focusing exclusively on private-sector workers. The results reveal adverse effects of the Labor Reform on hourly wages across all quantiles at the national level. Regional variations in the impact of the Labor Reform are also observed, with more distinct effects in the South and Southeast regions compared to other areas. This variability can be attributed to regional diversity in economic and social contexts, indicating that changes in labor legislation became more evident in regions with specific salary structures and employment dynamics. Additionally, the study shows that heads of households in the South and Southeast regions experienced the most significant impact on their hourly wages in the upper quantiles post-labor reform, while those in the Northeast were affected in the median. In the Central-West, characterized by low worker participation in the formal job market, no statistically robust effects were observed.

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## Iasi Municipality's integration of smart city concepts and quality of life. An objective indicators approach

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❖ [Online-G36 Digitalization from a regional perspective, August 26, 2024, 4:45 PM - 6:30 PM](#)

Smart city concepts and quality of life have become fundamental to the sustainable development of urban areas in the current digital age. The two concepts are connected, as the application of innovative technologies in the development of a Smart City can make a visible and significant contribution to improving the quality of life of its inhabitants. The two concepts are linked because the application of innovative technologies in the development of a smart city can visibly contribute to improving the quality of life of its inhabitants.

This study analyses this relationship in the context of the city of Iasi. The research method is based on the collection, analysis, and interpretation of the particular data of Iasi city, but also with specific references for the territory of Romania or that of the European Union, with emphasis on objective indicators relevant to both concepts and how the rapid development of initiatives influences the quality of life. These indicators include the efficiency of technological infrastructure, access to public services, the level of digital connectivity, pollution, social equality, and the residents' satisfaction with local government. The impact of implementing intelligent technologies on the community's quality of life is assessed using a rigorous set of criteria (related to the six general smart directions).

The results include a detailed picture of the current state of Iasi Municipality in terms of smart city concepts and quality of life, identifying areas that need to be optimized, and developing recommendations for developing these two areas. This study makes an essential contribution to the understanding of urban development and the impact of implementing smart technologies on the quality of life in an urban environment, favoring the evolution towards a more sustainable urban environment.



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## Degrowth approaches as a leverage point for increasing the quality of life for inhabitants of small island tourism destinations

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❖ [Online-G44 Remotness in the EU, August 27, 2024, 9:00 AM - 10:30 AM](#)

A number of special challenges related to spatial contextualities are evolving from different pressures to social and ecological issues in small island tourism destinations. As is frequently the case for the more popular small island destinations, tourism is perceived both as a blessing and as a curse. Recent literature on overtourism has highlighted conflicts evolving through the economic dependence on the tourism sector and its negative effects on the quality of life for islanders. This paper argues that degrowth approaches can provide a solution to established problems arising from neoliberal market dynamics by taking the well-being of the islands' population centre stage. We thereby add to the recent uptake of degrowth approaches in the field of tourism, while acknowledging previous related research on sustainable tourism development, limits to growth, carrying capacities or community resilience. Our analysis of degrowth notions focuses on one of the most pressing issues at present, that of (the lack of) affordable housing for residents and seasonal staff while at the same time seeking to further explore the role of the limited amount of space as a potential catalyst for evolving conflicts between locals and guests and thereby necessitating awareness of regional tourism destinations for their responsibility to offer sustainable tourism which benefits both locals and guests. Results suggest that adding the dimension of degrowth approaches to the process of governing tourism-induced land use conflicts may serve as a leverage point for keeping in mind and enhancing the quality of life of the island's residents, for example through focussing on degrowth as a form of labour-intensive development.

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## Teleworking and commuting patterns: a case study in East Flanders, Belgium

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❖ [Terceira-S59 Telework in Post COVID Times: Trends and Challenges for the Future, S04, August 30, 2024, 11:00 AM - 1:00 PM](#)

This study investigates the relationship between teleworking frequency and commuting patterns in East Flanders, Belgium. The widespread adoption of teleworking during the pandemic prompted a shift in the work landscape in many regions. The province of East Flanders, the study area, experienced a large increase in teleworking since 2019, making it, in 2021, one of the top ten European regions in terms of teleworking adoption. Teleworking has the potential to reduce travel, as teleworkers perform fewer commute trips. However, recent studies often reveal nuanced findings, including rebound effects such as increased non-work trips, longer commute trips, or residential relocation counterbalancing the substitution effect of teleworking. Also, the association between teleworking frequency and modal choice and travel satisfaction is less straightforward and understudied in the literature.

In this study, we focus on two main sets of research questions. We first aim to describe the teleworking landscape in East Flanders. We examine teleworking frequency, the distribution of teleworking throughout the week, and the duration of the teleworking sessions. Second, we are interested in the commuting patterns (commute distance, commute duration, number of commute trips, commute mode, and commute satisfaction) of three different groups of teleworkers: non-teleworkers, non-regular teleworkers, and regular teleworkers, by using one-way ANOVA and the Chi-square test of independence. We use data from an online survey on teleworking, travel, and well-being that ran between October 2023 and December 2024, targeting people working in the province of East Flanders. With this research, we aim to gain more insights into the teleworking landscape of East Flanders while also contributing to the literature on the commuting behaviour of different teleworking groups.

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## Literally ‘left behind’? Perceived accessibility and perceptions of institutional bias in rural areas of the Netherlands

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❖ [Terceira-S61 Transport and Rural Development: Keeping Rural Areas Accessible, S06, August 30, 2024, 11:00 AM - 1:00 PM](#)

Peripheral rural regions in Europe face significant challenges in providing adequate access to essential services and employment opportunities, primarily due to the effects of centralization and urbanization. This trend symbolizes a perceived withdrawal of governmental support, emphasizing the prioritization of urban economic centers and the neglect of rural areas. Consequently, these 'lagging places' may cultivate a sense of abandonment among residents, manifesting in feelings of being 'left behind'. Quite literally, considerable distances to essential facilities, coupled with a lack of transport options and perceived limited efforts to enhance accessibility, may exacerbate feelings of isolation and exclusion. This experience of neglect may contribute to the perception of institutional bias against peripheral regions, treating them like they ‘don’t matter’, a sentiment commonly associated with populist movements

Previous research has highlighted distance as a significant factor contributing to senses of neglect, particularly emphasizing the impact of proximity to the nation’s capital as a driver of discontent. Moreover, communities of discontent are nested within their regional contexts wherein feelings of being left behind may, in addition to the national context, be fuelled by their relative position regarding access to opportunities in nearby places. However, regional disparities in distances and travel times to opportunities do not always correspond to differences in satisfaction with access. Such potential discrepancies between perceived accessibility and spatial data is compounded by regional variations in individual accessibility needs, desires, and abilities.

This complexity prompts the question of whether the relationship between accessibility and perceptions of institutional bias in rural areas is primarily driven by the actual challenges in accessing desired opportunities or by relative differences in the availability of these opportunities. This paper aims to explore the extent to which difficulties in accessing desired opportunities moderate the link between accessibility and perceptions of institutional bias in rural areas, contributing to a deeper understanding of the dynamics driving regional disparities and populist sentiments in Europe's peripheral rural regions.

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## From thresholds to risk factors: Prioritization of socio-economic risks to sustainable tourism development

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❖ [Terceira-G35-R Tourism and Overtourism Issues, S18, August 28, 2024, 4:45 PM - 6:30 PM](#)

This paper contributes to the ongoing efforts for assessing tourism sustainability by focusing on the analysis and interpretation of the perceptions of local residents in relation to the thresholds of social carrying capacity. More specifically, we propose a statistical framework that supports identification of risk factors contributing to negative perceptions of tourism, rather than focusing on identification of a clear threshold for a given sustainability indicator. This framework is based on explanatory and predictive modeling and adopts multiple regression analysis, dominance analysis and random forest method to identify the risk factors and their relative importance. Estimating the relative importance of each risk factor provides a means to prioritize management and monitoring of sustainability indicators. The proposed statistical framework is intuitive and its usefulness is demonstrated on the case of the city of Split, one of the major tourism destinations in Croatia. The findings demonstrate that apartmentization, and perceived changes in city appearance and its authenticity are the key risk factors that affect overall perception of tourism development in Split.

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## A composite index to promote sustainable development with Zero Net Artificialisation (ZNA) in France

Prof. Jean Bonnet, Associate Professor Bruno Drouot

❖ Terceira-G31-O2 Methods in Regional Science or Urban Analysis, SF4, August 29, 2024, 2:30 PM - 4:15 PM

One of the main problems of sustainable development is to reduce the consumption of natural lands. The reform of “Zero Net Artificialisation” (ZNA) in France, provides a framework for a downward trend in the observed consumption of Natural, Agricultural and Forestry Land, but which needs to be amplified. The aim of ZNA is to compensate for any new artificialisation by measures to restore, renature or enhance other areas.

As far as business parks are concerned, we want to define several sub-indexes to promote the densification of areas and more sustainable businesses, with buildings that respect environmental criteria, better governance and equality between employees.

- The Land Sobriety dimension takes into account the need to reduce land use. For example, we are encouraging companies to make an effort to build taller buildings. Yet, two other dimensions must be taken into account,

- The Energy Sobriety and the Circular dimension, that refer to all the incentives and constraints that exist regarding new buildings that must be environmentally performant.

- The Employ and Societal dimension that refer to all dimensions that new installations must comply, regarding density of employs but also diversity, minimum wage, access to education etc.

The construction of aggregate composite indexes for each of the three selected dimensions of sustainable development in the ZNA can be described in several stages.

- 1 Choice of variables
- 2 Normalisation method (Min-Max, Desirability)
- 3 Aggregation method (arithmetic)
- 4. Choice of weighting

The calibration is important. The index should be see as a mean towards sustainability. There is also the question of the social acceptability of entrepreneurs.

1. Multi-factor, the index provides flexibility (in particular, some companies will find it easier to meet one criterion than another, and some form of compensation can be accepted).

2. Adaptable, while maintaining the general principle, certain variables may be weighted differently or even may be different, depending on the branch of activity.

3. Self-improvement: by taking into account the total size of the plot and not just the floor area ratio, existing businesses can be encouraged to release surplus land - land reserve - (which can then be used to densify the zone).

Of course, all these new constraints are costly, but we will try to offer the best way for a company to gain in sustainability according to the specifics of its activities.

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## Green strategies and internationalization: the case of the Italian textile clusters

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❖ [Online-G10 Trade and Global Value Chains, August 26, 2024, 11:00 AM - 1:00 PM](#)

The textile industry, one of the most important industries in Italy, is dealing with a deindustrialization process due to imports from extra-UE countries, the advent of new retail organizations, relocation of production processes to extra-EU countries with lower production costs, and competition from big EU companies.

In addition, the EU Green New Deal approach asks for a new stringent environmental regulation, such as reduction of non-renewable resources (water, raw materials, energy, etc.), circular transition and traceability of production processes, and reduction of CO<sub>2</sub> emissions.

Because of that, globalization and sustainability play a major role in affecting the Italian textile industry.

The industry tries to be resilient by exploiting its traditional competitive advantage, based on the external economies that positively affect firms within the textile clusters. Specialization, quality-oriented production, flexible production, and export-oriented markets are the ordinary strategies of Italian firms, which must be integrated with the new green strategies requested by institutions (Green New Deal) and markets (top-level consumers).

Our hypothesis is that such cluster economies support not only the economic performance of the firms but also their growth strategy based on green investments.

Our research questions are as follows: to what extent do international growth and cluster economies foster the green strategies of textile firms? Are the export-oriented companies more involved in green strategies than the home market-oriented firms? Are the firms of the textile clusters more involved in the green strategies than the non-cluster firms?

We use a firm-level dataset containing a set of variables about economic performance, financial structure, exports, and characteristics of green strategies of each firm.

We estimate the green strategies of a firm by its green certifications and standards, such as ISO14000 and EMAS regulations. In addition, we use a web scraping tool to check if the firm website declares some green keywords, such as circular, CO<sub>2</sub>, traceability, ESG, sustainability, and so on.

We combine this microeconomic dataset with other variables and process all the data about economic performance, green strategies, location, and exports to understand which are the main variables that affect the green strategies of textile firms.

We consider the textile districts of Prato, Biella, Brescia and Bergamo, and we compare their structure and growth strategies with the rest of the country.

We manage data time series from 2015 to 2022.

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## Exploring foodservice perspective of regionalized food supply chains in Slovakia

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❖ [Terceira-S26-S1 Social Innovation for Sustainable and Inclusive Regions, Communities and Neighborhoods, S04, August 28, 2024, 11:00 AM - 1:00 PM](#)

In recent years, institutions and researchers have paid attention to alternative food networks, emphasizing localized and geographically proximate chains of producers, processors, distributors, and consumers. Utilizing regionally focused approach, short food supply chains aim to enhance sustainability, reduce environmental impact, and strengthen the connection between local producers and consumers. In these regionalized systems, foodservice sector can serve as a pivotal intersection, as it is able to generate increased interest in local food among customers, as well as farmers and potential distributors. In the context of Slovakia, this pertains to an unexplored subject. Only sporadic and undocumented instances of alternative food networks are available, lacking in-depth exploration, and there is a notable absence of knowledge regarding the involvement of foodservice sector in these networks. This article investigates the dynamics and implications of regionalized food supply chains within the context of foodservice establishments in Slovakia. The aim of the paper is to unveil the extent and manner in which foodservice establishments are engaged in regional food systems in Slovakia, the structure of the food networks they are part of, and what motivates their involvement in these networks, with emphasis on perceived social, economic and environmental benefits. Applying quantitative and qualitative methodology, we utilize data data acquired through a questionnaire survey distributed to the foodservice facilities in Slovakia, specifically targeting 3,876 establishments. The research provides insights into the unique characteristics of short supply chain within the Slovakian context and by proposing recommendations for policymakers, businesses and other stakeholders, mainly for improving these structures and reaching more consumers.

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## Globalization and Entrepreneurship: The role of Institutions and Culture

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❖ [Terceira-S21-S6 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, SF2, August 30, 2024, 11:00 AM - 1:00 PM](#)

This paper investigates the interdependency of countries' global trade integration with their institutional settings and cultural values in affecting entrepreneurship. While most studies suggest that entrepreneurship-friendly institutional reforms or cultural changes foster entrepreneurship largely irrespective of the state of trade integration, this paper shows that the joint effects of trade integration and institutional or cultural changes on entrepreneurship are more complex. Panel fixed effects estimations for OECD countries during the period since the early 2000s show that while trade globalization has little direct effects on entrepreneurship rates, it affects them indirectly. Institutional reforms or cultural changes towards more entrepreneurship-friendly societal values become less effective in fostering entrepreneurship at higher levels of trade integration. Among others, deregulation of worker dismissals is estimated to significantly foster entrepreneurship at low degrees of trade integration but to lose part of its effectiveness as trade integration increases. This estimated loss of effectiveness is stronger for opportunity than for necessity entrepreneurship. Likewise, cultural changes towards greater individualism (vs. collectivism) are estimated to significantly foster opportunity and necessity entrepreneurship at low levels of trade integration but not at higher levels. From a policy perspective, this implies that institutional or cultural differences matter less in highly integrated economies, and governments may have to develop alternative tools to foster productivity and income growth. The paper regresses different indicators of entrepreneurship rates, including those for opportunity and necessity entrepreneurship, on trade integration, a variety of alternative indicators of national institutions and cultural values, and the interaction terms of the two, using data from the Global Entrepreneurship Monitor, the World Bank's Doing Business and Worldwide Governance Indicators Databases, the World Value Survey and Hofstede's Cultural Dimensions.



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## Energizing EU Regions: Smart Grids at the Crossroads of Technological Relatedness and Smart Specialization

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❖ [Terceira-S77-S1 Collective Smartness to Foster Sustainability Transitions of Places: Smart Cities, Regions, and Energy Communities, S07, August 28, 2024, 11:00 AM - 1:00 PM](#)

Smart grid technology plays a vital role in the twin transition process, combining digital, green, and non-green technologies to construct a sustainable power system that integrates resources and relevant users with the existing electrical grid. It aims to provide more efficient and energy-saving solutions for users through the adoption of updated digital technologies and the inception of sustainability. The development of the smart grid has received support from institutions, authorities, and academics. In particular, it has been placed in a predominant position under the regional smart specialization strategy in Europe, which emphasizes the focus on applying local advantageous resources, integrating knowledge across regions, and facilitating co-production activities.

However, research on the influencing factors of the increasing adoption of smart grid technologies is underexplored at the regional level. In this paper, we focus on the smart grid as a form of twin technology, examining the role of technological relatedness and collaboration in supporting the diversification of EU regions in smart grid technologies. To this end, we aim to investigate the drivers that explain the capacity of EU regions to establish smart specialization in the development of smart grid technologies, using smart grid patent data (Y04S patents) from 1978 to 2019 in 238 NUTS-2 European regions. The findings of this study helps us understand the characteristics of smart grid technologies and then propose strategies that better develop them. Also, it contributes to the development and fostering of regional specialization strategies in smart grid technologies.

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## The good place, the good policy: a quasi-experimental approach for territories in recovery

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❖ [Terceira-S67 A World of Shocks: Multi-Layers Multi-Shocks Resilience, S06, August 28, 2024, 2:30 PM - 4:15 PM](#)

Scope of this paper is to explore how different territories can perform in response to positive and negative shocks. Territories is used on purpose as a vague term, where the object of study are municipalities but neighborhoods or hamlets as well, settlements with or without independent administrative power. The policy in analysis is the Italian public recovery subsidies after the 2009 earthquake of L'Aquila, where households have been supported for their own private houses reconstruction. The policy had the explicit goal to accelerate the recovery process, preventing a depopulation of affected areas, and the more implicit goal to maintain landowners' wealth stable. The paper adopts a quasi-experimental approach to understanding how the use of reconstruction subsidies affected local attractivities, measured both in terms of population change and housing prices. Territories are clustered according to their distance to the seismic epicenter, peculiarly situated close to L'Aquila city center, adopting discontinuity design methods to assess the direct impact of these different clusters' recovery processes and counterfactual methods for the impact in relative terms. Results show a displacement effect between negative earthquake damages and public reconstruction funds, with some heterogeneity in the geographical distribution. Surprisingly, as far the land gradient goes away from the epicenter, housing prices are relatively decreasing.

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## Public R&D funding and private R&D investment in regions: UK regions in international comparison

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❖ [Terceira-S54 Territorial Intelligence, a Key for a Sustainable Future? New Challenges and New Prospects for Regional Development and Growth: Data, Methods and Solutions, S07, August 28, 2024, 4:45 PM - 6:30 PM](#)

The United Kingdom provided the highest government support for business R&D expenditure among OECD countries in 2018, accounting for 0.4% of its GDP. The UK government aims to further increase domestic public investment in R&D by at least 40% outside the Greater South East regions by 2030, as outlined in the "Levelling Up" white paper. However, government support can potentially reduce private R&D investment simply by replacing private R&D that would have been invested anyway, or by increasing production costs due to input competition such as wage increases for scientists. An important policy question is then whether and to what extent public R&D investment can bring additional private R&D investment. This paper employs a system-GMM approach to estimate the returns on private R&D investment with a focus on UK regions. Using OECD TL2 subnational data spanning from 1998 to 2018, the analyses address three main challenges of the R&D data: the underestimated of UK R&D business expenditure, the inclusion of tax relief in business R&D funding, and the absence of internal R&D funds for the UK higher education sector. Our findings indicate that USD 1 public R&D investment in UK regions could stimulate USD 2.4 private R&D investment in the long-run. The majority of the effect crowds-in within the first five years with the remaining impact gradually materialising over the next 20 years. The returns appear to be high in regions that already invest heavily in R&D, benefitting from agglomeration economies. However, these returns are not limitless. In UK regions, the returns are rather lower in East of England and South East England compared to the other regions, despite their R&D intensity exceeding 2%. Cross-country evidence also shows that countries investing in R&D more than the United Kingdom, such as Korea, Austria, and the United States, do not necessarily exhibit higher returns.

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## The CAP across regions: The varied impact of agricultural subsidies on EU land use

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❖ [Terceira-S64 The Role of EU- and Regional-Policy in Sustainable Land Use Management, S05, August 28, 2024, 2:30 PM - 4:15 PM](#)

The global climate crisis has conceived the need for impactful policies reducing greenhouse gas emissions across all sources, including emissions stemming from agricultural expansion. In order to study the effectiveness of mitigation policies, statistical methods need to take into account complex biophysical and socio-economic processes. We propose a Bayesian spatio-temporal model for exploring the impact of agricultural subsidies on land usage while simultaneously controlling for other relevant drivers. We combine recent developments in the literature on land use models with a Bayesian nonparametric prior in order to cluster areas which exhibit similar results of the policy in question. We control for individual impacts of essential spatial processes and explicitly model spillovers between regions. Additionally, we develop a suitable Markov chain Monte Carlo (MCMC) algorithm and test the model in an extensive simulation study.

Using European regional data, we investigate the effectiveness of mitigation policies concerning agricultural expansion across Europe and reveal the diversity of the problem. Our model offers a novel approach in understanding the geographical variability in policy impacts, taking into account local environmental, economic, and social conditions. By identifying regions with similar policy outcomes, our study not only aids in assessing current policy effectiveness but also provides valuable insights for future policy formulation. This is particularly crucial in tailoring location-specific strategies that can more effectively address the unique challenges and opportunities in different areas.

The outcomes of our research have wide-reaching implications for policymakers, environmentalists, and agricultural stakeholders. By offering a nuanced understanding of how agricultural subsidies influence land use across varied European regions, our study contributes to the global effort in combating climate change through more informed and effective agricultural policies. Our findings highlight the importance of considering spatial heterogeneity in policy impacts, advocating for more regionalized approaches in environmental planning and management.

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## Population and tourism drivers of Spanish fishing communities

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❖ [Terceira-G12-O3 Economic development in rural places, SF2, August 29, 2024, 2:30 PM - 4:15 PM](#)

The aim of this paper is to explore the interplay among coastal community typology (CCT), distinguishing among fishing (FC) and non-fishing coastal communities (nFC), geographical location (GEO) and the fact of being within the commuting zone of a densely city (FUA), so as to assess whether they interact to explain key individual dependent variables related to demography, including population variation (VPOP), AGING and DEPENDENCE; and tourism, namely the number of tourist apartments (TA), places in tourist apartments (PTA) and total tourists (TOUR). Since our primary concern is the effect of coastal fishing community typology, CCT will be the focal variable in the analysis. Nevertheless, we presume that any of the above-mentioned dependent variables may also be influenced by GEO and FUA (the two moderator variables) and by the interaction among the three factors (CCT:GEO:FUA). Methodologically, the basic one-way ANOVA that splits the target population in FC and nFC, will be followed by a three-way ANOVA design so as to verify whether there is a statistically significant difference between the means of different groups that have been split on CCT, GEO, and FUA.

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## Bike-Sharing Stations in Urban Areas and Proximity: A Multi-Criteria Approach

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❖ [Terceira-S49-S1 Networks in Resilience and Vulnerability, SF3, August 28, 2024, 11:00 AM - 1:00 PM](#)

Bike-sharing systems are attracting considerable interest in the literature for their potential key role in encouraging the transition from car-based private transport to more sustainable mobility, particularly in the urban context. The success rate of bike-sharing schemes depends on many factors, including demographics, morphology, and service design. When designing a bike-sharing service, one of the first issues that arise is where to locate the bike stations.

This paper aims to propose a new location model for bike stations, based not only on spatial economic factors but also on factors related to the robustness of the urban public transport network. Such a model can be applied to a set of feasible alternative sites to install bike-sharing docks. The hypothesis behind this choice is that, given the complementarity between public and shared transport, implementing bike-sharing stations near public transport stops would increase the integration between the two modes.

Our aim is to guide decision-makers in ranking these alternative sites. Since this is an optimization problem, we use the Analytic Hierarchy Process (AHP) within a multi-criteria analysis (MCA) to identify the most suitable locations for new bike-sharing stations. AHP is a method grounded in mathematical and psychological principles that offers a systematic approach to handling intricate decision-making scenarios through pairwise comparisons (Saaty, 2008).

In particular, we perform our analysis by considering the following criteria (derived from the literature): a) proximity of bike-sharing stations to points of interest/amenities; b) socio-demographic characteristics and pollution rates of the surrounding areas; and c) network-based features to explore the robustness of public transport networks.

Concerning the proximity criteria, we adopted four (quantitative) measures: proximity to green areas, proximity to sports/entertainment centres, proximity to schools, and proximity to tourism areas.

It should be noted that the weights of all the criteria are based on the answers from a questionnaire addressed to a group of experts on sustainable mobility. These expert opinions allow us to establish different scenarios, and, consequently, the hierarchical importance of the alternatives ensuring, by means of AHP, a comprehensive and balanced evaluation.

This approach will be applied to the transport stations of selected European cities. It can be considered a prototype model for further applications in urban areas.

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## Demographics and Entrepreneurship: The Role of Institutions and Culture

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❖ [Terceira-S21-S4 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S05, August 29, 2024, 9:00 AM - 10:30 AM](#)

Older societies tend to have lower levels of new business formation, a key source of economic growth and innovation (Lamotte and Colovic 2013; Liang et al. 2018). Population ageing is a global megatrend that might therefore depress economic prosperity in the long run. Under what conditions can entrepreneurship be promoted in ageing societies? To answer this question, we focus on the role of institutions and culture in moderating the relationship between demographics and entrepreneurship. Previous literature has demonstrated that institutions (both formal, such as laws and regulations, and informal, such as social norms and values) are important determinants of entrepreneurship (Baumol 1990; van Stel et al. 2007; Lusardi 2008; Singh and DeNoble 2003). At the same time, institutions and culture may affect opportunities for individuals of different age to accumulate entrepreneurship-relevant human, social, and financial capital. For instance, in older societies, younger workers may have restricted access to managerial jobs if a higher fraction of these jobs is blocked by older workers, which may vary depending on a country's institutional setting. We empirically assess how a country's institutional framework moderates the relationship between demographics and entrepreneurship in the EU countries by drawing on several established data sources, such as the Global Entrepreneurship Monitor (GEM), the World Bank database (e.g., the Doing of Business index) as well as the European and the World Values Survey (EVS, WVS) containing data on social norms and cultural values.

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## Conceptual model and concrete projects for urban regeneration

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❖ [Terceira-G06-O1 Regional and Urban Policy and Governance, S12, August 28, 2024, 11:00 AM - 1:00 PM](#)

### Conceptual model and concrete projects for urban regeneration

The paper is based on a long-standing expertise in the field of urban regeneration in Italy and Europe. It includes a repertoire of the structural processes that have generated abandoned urban complexes and an analysis of quantitative data in 13 Italian metropolitan areas.

Through a system of relationships between different variables it is possible to determine the best regeneration strategy that involve local institutions, communities and the private sector

Thanks to technological innovation, a significant real estate asset has gradually become available, mainly located within urbanized and very often central areas, now available for a transformation that increases its value economic, social and environmental.

Such valorization can provide a multiplicity of ways through which the initiatives can be positive for the common good and for increasing social capital. For possible strategies were examined by acting:

- through sale as brownfield;
- through the sale of building following a partnership between local authorities and investors;
- through participation in local entities with investors that allow longer-term returns also participating in the management of the assets resulting from the transformation process;
- through the creation of functions of significant public interest (social housing, student housing, public spaces, temporary homes, etc.) which involve the use of public sector investments.

The conceptual model was then tested in concrete projects to support the choices of public decision makers. Examples that will be presented,



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## Contrasting mountain tourism seasonality with culture

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❖ [Terceira-S85 Sustainable Cultural Tourism in Urban and Rural Areas, S12, August 30, 2024, 2:30 PM - 4:15 PM](#)

The touristic exploitation of the local cultural heritage is a strategic resource for social cohesion and inclusive sustainable growth. At the same time, the cultural tourism industry tends to remain anchored to a definition of culture and cultural heritage that is inherently urban, whereas sustainable cultural tourism should be the target of any local community, included the rural and mountain ones. Natural parks and protected areas, as well as specific ecosystems like woodlands and wetlands, also can be proficiently valorized for the purposes of tourism growth and local development.

Consistent with these premises, the paper provides a general framework to conceptualize seasonality of mountain destinations and its consequences on local development. Also, the paper investigates the potential of cultural tourism as a promising means to contrast this seasonality. In doing that the paper moves from a broad definition of cultural heritage which comprehends cultural sites, historic buildings and infrastructures, monuments, festivals, rites, festivities, and other cultural events, as well as the natural assets and ecosystems that are constitutive of the local cultural landscape and the identity of the destination. Then, the case of study of the Susa Valley in Piedmont will be presented with a specific focus on: i. the planning and governance framework that supports the contrast to seasonal tourism, also via the valorization of the local cultural heritage; ii. the identification of the territorial and organizational factors that can help this action to be effective. For instance, lack of exceptionalism, poor information, and undersized services are frequently identified as major factors limiting cultural tourism in rural areas. However, another key factor is the accessibility of the destination to external and inner flows. Besides being spatially remote from the major urban poles, rural destinations also have bad inner accessibility.

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## Impact of COVID-19 on business efficiency in Russia: spatial view

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❖ [Terceira-G08-O3 Covid-19 and regional and urban resilience, S03, August 30, 2024, 2:30 PM - 4:15 PM](#)

The impact of the COVID-19 pandemic has varied widely across Russia. This work examines the impact of COVID-19 on changes in the performance of Russian firms in spatial and regional contexts. The following hypotheses were empirically tested: 1) firms located in the regional centre have, on average, larger size; 2) market mechanisms work more perfectly in large cities; 3) the greater the population growth rate in a region, the more revenue is generated by companies there. To test the mentioned hypotheses, we estimated two types of regression models explaining the financial performance of the firm by its individual, spatial and regional characteristics. The first is geographically weighted regression (GWR) model to obtain local regression coefficients for each firm. The second one is a multilevel model to account for two levels of factors (individual and regional). Both models were estimated separately for the pre-crisis period (2019) and the crisis period (2020). In total, the sample included 791 439 firms from the 82 regions of Russia approved by the international community. As the dependent variable the logarithm of revenue (normalised by industry) is used. This normalisation is necessary to take account of sectoral differences: it is clear that the steel industry has, on average, larger enterprises than the catering industry. We distinguish three groups of independent variables: 1) non-spatial variables for firms: logarithms of assets and number of employees (according to the Cobb-Douglas production function), age and financial leverage; 2) spatial variable for each firm: distance of the firm from the nearest large agglomeration (i.e. agglomeration effect); 3) characteristics of the region where the firm is located: severity of quarantine restrictions; level of digitalisation of the region; presence of state borders; level of urbanisation; population growth in the region; median per capita income. Hypotheses 1-2 were confirmed: the firm's revenue does indeed decrease with the distance from the regional centre, with this effect becoming weaker during the crisis; both before and during the crisis, the revenue of firms in densely populated areas was more predictable, suggesting better market mechanisms. Hypothesis 3 was partially confirmed: in 2019, rapid population growth favoured business development, while in 2020 this factor had no effect.

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## Strategic niche management of zero-waste cities in the transition to sustainability: Japan and Italy cases

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❖ Terceira-S77-S2 Collective Smartness to Foster Sustainability Transitions of Places: Smart Cities, Regions, and Energy Communities, S08, August 30, 2024, 11:00 AM - 1:00 PM

This study investigates the proliferation of zero-waste initiatives in Italy and Japan, tracing their evolution from local projects to national strategies. While some studies question the sustainability of incineration proposed by the circular economy, the Zero Waste Hierarchy of Highest and Best Use 8.0 promotes a lifestyle avoiding waste incineration (ZWIA, 2022). Employing the Strategic Niche Management (SNM) approach, the study highlights the importance of technological niches as protected spaces for sustainable innovations. These niches, comprising local projects and global networks, facilitate the transfer and localization of knowledge, crucial for successful niche development. The research, involving field observations in Kamikatsu and Capannori, examines the implementation of zero-waste strategies in these municipalities. Kamikatsu, a leading zero-waste city in Japan, achieved an 81% recycling rate in 2020, while Capannori, Italy, was the first European municipality to adopt a zero-waste strategy in 2007. Both cases demonstrate substantial policy transformations in waste management. The study's methodology, centered on secondary data analysis and field observations, focuses on the challenges faced by nations with limited land area. Strategic Niche Management (SNM) plays a critical role in the development of zero-waste cities by emphasizing three key processes: learning, network building, and establishing shared visions and expectations. The learning process in zero-waste cities involves gaining insights from pilot projects, community initiatives, and local policies, focusing on understanding effective strategies and adapting them to local contexts for the improvement of waste management practices. Building networks is also crucial, where actors like local governments, businesses, community groups, and residents share knowledge, resources, and support, essential for the development and expansion of zero-waste initiatives. SNM underscores the significance of a shared vision and expectations, where a collective goal of waste reduction and sustainable management unites various stakeholders, fostering collaborative efforts towards achieving these objectives. The establishment of Zero Waste Italy was a precursor of Zero Waste Europe network that currently impacts on directives regarding waste management in all Europe. In Italy the learning and consequently the knowledge flows from the zero-waste niched institutions as ZWI and Italian Zero Waste to the community, municipality, and region. The network develop is internationalized and all stakeholders share the same visions and expectations. In Japan, the learning process gave force to initiatives of the Zero Waste Academy in Kamikatsu that have directed the Zero Waste Japan, a broader network.

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## Updating IO models – A step forward for PReMMIA

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❖ [Terceira-G31-O3 Methods in Regional Science or Urban Analysis, S13, August 30, 2024, 9:00 AM - 10:30 AM](#)

Recent economic and societal challenges have highlighted the need to develop better estimates that specify, in a globalised world, the dynamics between trade, sectoral linkages, and transportation networks. Value chains become a topic that deserves more attention from the scientific community, the media, and those involved in international policy, but practitioners still struggle to access official data that allows them to update their modelling accuracy in an increasingly unpredictable world. In Portugal, as in most of the countries, Input-Output (I-O) data can be released with significant time lags, typically around five years, requiring the use of updating estimation techniques.

Nevertheless, it is possible to take advantage of additional statistical information dispersed across various sources to develop and update the sectoral linkages of an I-O model for the following years. These include Tables by Industry, National Accounts, Agriculture Census, National Forest Inventory, as well as, e.g., data on energy and electricity production. Our assumption is that the adequate integration of this information raises accuracy in the process of updating I-O tables, ensuring a more precise representation of the economic structure and, therefore, a better estimation of the multipliers. In this paper, we aim to find the best method to regularly update the Portuguese Matrix of Technical Coefficients and Matrix of Leontief. The goal is to create an accurate model of the economic structure, using dispersed information from more recent years than the ones that are reported in national accounts. To estimate the core of these matrices in subsequent years, we will use bi-proportional matrix balancing algorithms, particularly RAS, Generalised RAS, and Sign Preserving Squared Differences. We will also assess potential errors by comparing the results produced by each method and official data from Portuguese National Accounts for previous years. Measures such as Mean Absolute Deviation and Weighted Absolute Difference will be employed to evaluate the disparity between the estimated core matrix and the actual data. Given the results and departing from the last year available (2017), we will estimate a new national I-O model for Portugal in 2023.

The following step will involve extending this approach to update PReMMIA (Portuguese Regions Model for Multi Impact Analysis), a Multi-Regional I-O (MRIO) model for Portugal. This updating procedure and corresponding matrices will enhance policymakers' capacity for both ex-ante and ex-post impact assessments affecting the country's regions, thus aiding informed decision-making at national and regional levels.

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## The dynamics of cattle expansion and deforestation in the Brazilian Amazon\*

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❖ [Terceira-S23 Tropical Deforestation – Measurement, Economic Drivers, and Human Consequences, S04, August 28, 2024, 4:45 PM - 6:30 PM](#)

Demand for agricultural products is a major driver of deforestation in the Brazilian Amazon and tropical rainforests beyond. However, it is well known that newly deforested land is relatively unproductive, and agricultural products are barred from the predominant agriculture supply chains. An alternative, intermediate channel for deforestation in the context of agricultural land is the appropriation of unclaimed public land, where forest is cut and agricultural activity feigned to justify claims of ownership. These channels are entangled, yet require distinct policy responses to reign in deforestation rates. In this paper, we propose an approach to identify the deforestation impacts of expanding agricultural production, differentiating it from other channels with different implications for economic and environmental policy. We use a shift-share design, exploiting international changes in beef consumption, to identify causal effects of the demand-induced agricultural expansion, and find that pasture and cattle herd expansions are major drivers of deforestation. We also find that these impacts diminished in recent years, indicating that other factors, such as land appropriation motives, have become relatively more important. Our findings suggest that agricultural intensification could help decrease land pressure, and highlight the growing deforestation impacts of an ongoing expansion of infrastructure and legalization of land claims in the Brazilian Amazon.

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## Coastal tourism infrastructure development. Policies and parameters that shape tourism infrastructure development.

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❖ [Online-G48 The role of tourism in regional development, August 27, 2024, 2:30 PM - 4:15 PM](#)

Coastal areas are transitional areas between land and sea characterized by a very high biodiversity. They include some of the richest and most fragile ecosystems on earth, like mangroves and coral reefs. At the same time, coastal areas are those that are most visited by tourists, and in many coastal areas, tourism presents the most important economic activity. Coastal destinations are particularly vulnerable to the impacts of climate change and need to prepare comprehensive strategies related to climate mitigation and adaptation that involve all tourism stakeholders and the entire value chain, based on quantitative and qualitative policies, actions, and indicators.

The triple crises of climate change, biodiversity loss, and environmental pollution, as well as external disruptions such as the COVID-19 pandemic and growing geopolitical conflicts, are increasing threats for the tourism industry globally.

The aim of the current paper is to investigate the way tourism constructions have been developing during the last two decades on the island of Rhodes. It will analyze, with the use of aerial photos, the way the coastal zones of one of the most popular tourism destinations in Greece have been developed during periods of economic crisis and the COVID-19 crisis. Its aim is to analyze the degree to which the coastal zones have been shaped during the last 20 years and to investigate the factors that shape tourism development.

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## Foreign direct investment and informal labour markets in emerging economies: Evidence of Mexican municipalities

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❖ [Terceira-G27-O2 Regional and Urban Labour Markets and Entrepreneurship, S17, August 30, 2024, 11:00 AM - 1:00 PM](#)

Multinational Enterprise (MNE) presence may affect the degree of informality in the host economy. Whilst foreign firms generally operate within the formal sector of the economy, they may also choose to outsource some stages of production in the host informal labour markets. The economic significance of these effects will depend on the labour force requirements for a given economic sector and the reliance of MNEs on certain types of labour. On the one hand, recent decades have witnessed changes in sectoral composition of inward foreign direct investment (FDI) along with changes in the spatial distribution at the subnational level. On the other hand, labour informality is still commonplace in the Mexican economy, though, informality rates vary markedly across subnational regions. This paper studies the heterogeneous effects of MNEs' direct investment activities on informality in the host region and sector of destination. By exploiting cross-municipality variation in both labour informality and inward FDI stocks, we can assess the capacity of such investments to increase or decrease informal employment in the host regional economy. This paper sheds light on the link between FDI and labour informality in the context of an emerging Latin American economy. The implications on labour market outcomes are ascertained not only individuals but regions as well.

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## Spatial Resilience in Regional Well-Being: Exploring the Impact of EU Cohesion Policy

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❖ [Terceira-S49-S2 Networks in Resilience and Vulnerability, SF3, August 30, 2024, 11:00 AM - 1:00 PM](#)

We investigate the role of the main regional policy of the European Union, the EU Cohesion Policy (CP), in countering the economic and financial crises that hit the EU in 2008 and 2011, enhancing regional resilience interpreted in terms of well-being. Using counterfactual distributions, the impact of CP on the dynamics of well-being and its dimensions (economic performance, education level, and health conditions) is estimated. Moreover, to explore the adaptive resilience of EU regions, we account for spatial spill-over effects across regions by using the spatial extension of the Blinder (1973) and Oaxaca (1973) decomposition. This way, we are able to disentangle the nuanced impact of regional characteristics on well-being dynamics during and after the crisis, highlighting variations in the extent to which EU regions recover from recessionary shocks. Our study contributes not only to the understanding of the direct impact of the EU Cohesion Policy on regional well-being but also sheds light on the intricate spatial dynamics that shape the resilience and recovery patterns across European regions during times of economic upheaval.



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## Land-Use Adaptation to Climate Change in Europe

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❖ [Terceira-S64 The Role of EU- and Regional-Policy in Sustainable Land Use Management, S05, August 28, 2024, 2:30 PM - 4:15 PM](#)

This study addresses the pressing issue of land use adaptation to climate change. With unprecedented shifts in temperature, precipitation patterns, and extreme weather events, understanding how human activities, particularly land use change, will respond and adapt is essential. We assess how land use changes in Europe adapt to climate change both in the short term and long term using panel data models and long-differences analyses respectively. The study integrates data from Corine Land Cover changes observed between 1990 and 2018 and ERA5-land sub-daily climate reanalysis data spanning from 1660 to 2019. Using these detailed data at very fine spatial resolution (10km\*10km) and over a long time period (1990-2018), we examine the impacts of climate on changes on land allocation between agriculture, forest, urban and other uses. Simulations of climate change scenarios will provide how the land sector will react in face of new climate conditions.

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## Firm location in mountain areas: the case of Bardland

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❖ [Terceira-S85 Sustainable Cultural Tourism in Urban and Rural Areas, S12, August 30, 2024, 2:30 PM - 4:15 PM](#)

The paper analyzes the spatial distribution of economic activities in medium mountain areas. We extend the Hotelling model by incorporating two crucial characteristics of such territories: the presence of a sparse population and significant tourist flows. The theoretical findings indicate that both features significantly influence the location of firms:

- a) Economic activities exhibit asymmetric distribution, with some situated near the center of the village and others closer to the borders;
- b) A higher concentration of the population in the village center increases the likelihood of finding certain economic activities centrally located, although others may still remain on the periphery;
- c) Increased tourist presence raises the probability of finding some economic activities located near the village center;
- d) In situations of high competition, firms tend to relocate away from the center.

We gather data from the medium mountain area of the Aosta Valley, which we refer to as Bardland, sourced from the Bard Fortress. Econometric analysis validates the theoretical results. In a broader context, our analysis suggests a crucial policy implication: as tourism interacts with other economic activities (as explored in our analysis concerning location and profitability), the sustainability of tourism activities should be pursued with consideration for the overall economic system's sustainability.

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## The diffusion of digital services in the Public Administration: patterns and drivers among Italian Municipalities

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❖ [Terceira-G16-O1 Cities, Regions and Digital Transformations, S16, August 29, 2024, 2:30 PM - 4:15 PM](#)

Digitalization has proved to have a critical impact on firms and society. Geography has emerged as a key factor in understanding the diffusion of innovation, facilitating direct communication and thereby enhancing the adoption and spread of digital technologies. Alongside geographical factors, organizational factors, specifically organizations' resources, innovativeness and systems, are pivotal in driving the diffusion process and adoption decisions. This paper aims to analyze the geographic spread of digitalization within Italian Municipalities' public administrations and the effect that organizational factors, specifically the human capital of the public administrations' workforce and the characteristics of the mayor, have on digitalization's speed. By using Bayesian spatial survival models with time-varying data on the use of the e-payment service provider (PagoPA) for 6911 Italian municipalities between the years 2012 and 2021, we find evidence of strong geographical heterogeneity in the diffusion of digitalization and in the factors that affected it. The findings reveal that digital technologies initially permeate larger cities, following a hierarchical diffusion model, before gradually diffusing to smaller neighboring centers. While factors related to human capital show in general limited influence on adoption decisions, the proportion of full-time public administration personnel and workforce age prove to be influential only in slower-adopting regions. Moreover, a change in mayoral leadership, marking the start of a new term, tends to accelerate digital adoption, except for slower-adopting regions. These results highlight the insufficient level of training in the workforce of Italian municipalities' public administration, especially in the slower-adopting regions, making them rely on intrinsic characteristics of their personnel, such as age, to facilitate the digital transformation and hampering the proactive efforts of newly appointed mayors.

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## Applying the hypothetical extraction method to investigate the GHG emissions, water and land use caused by Californian household food consumption

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❖ [Terceira-YSS6 Regional-Economic Development - EPAINOS, S04, August 29, 2024, 11:00 AM - 1:00 PM](#)

The global food system is a driver of water scarcity, land use change, and climate change. The linkage mechanism between the negative externalities caused by household food consumption and household income levels have not been extensively studied. Previous studies have emphasised the strong influence that socioeconomic status has on the quantity, quality and type of food products consumed. The argument for including socioeconomic variables when investigating the links between household consumption and environmental impacts is that both climate change and the food system can be viewed as socio-ecological, and both affect cultural values and identities which drive behaviour. The hypothetical extraction method (HEM) is a popular method for measuring inter-sectoral environmental linkages. The HEM involves comparing the hypothetical scenario where an endogenous sector is extracted from an economic system to the actual economic system. In this paper, we utilise the HEM on an environmentally extended input-output model for California to measure the backward linkages of the food sector's greenhouse gas emissions, water withdrawals and land use caused by the consumption of nine different household income groups for the years 2010 and 2019. The findings reveal that: (i) the highest income group are the most vital from a consumption perspective as a minor change in their consumption levels could have significant impacts on the environmental indicators; (ii) the income-level growth experienced in the aftermath of the Great Recession was insufficient to reduce the gap between low- and high-income households in terms of their contribution to the three environmental indicators; and (iii) despite its significant share of total food-related expenditure, the hospitality sector had a low impact per dollar for all three environmental factors, which suggests that tailored policies should focus on promoting 'burden-shifting' through the consumption of food-away-from-home.

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## Mapping and analysing the economic and social geography of 'green' citizenship social attitudes, behaviours and impacts

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❖ Terceira-S81 Spatial Effects of the Green Deal, S08, August 28, 2024, 2:30 PM - 4:15 PM

This paper considers the spatial effects of the Green Deal from the perspective of the economic and social geography of relevant social attitudes at intra-urban levels. In particular, the paper presents outputs of the EU Horizon 2020 project PHOENIX (The rise of citizens voices for a Greener Europe , which is a Horizon 2020 EU-funded project <https://phoenix-horizon.eu/>) with a particular focus on the development and application of social simulation models of green citizenship social attitudes and behaviours. The paper demonstrates an application of spatial microsimulation and agent-based modelling in a field which to the best of our knowledge there have been very limited research efforts to date. In particular, the paper demonstrates the stepping stones in developing a novel multi-method as part of the PHOENIX project with a focus on understanding citizens participation in Democratic Innovations (Dis) by taking socio-cultural, environmental and different geographical administrative levels into account. First, we present a spatial microsimulation model that combines data from the European Social Survey with small area data in one of the key pilot areas of the PHOENIX project, the city of Bologna. The results of spatial microsimulation models are then used as input for an spatial agent-based social simulation model which is used to for the analysis and mapping of pro-environmental behaviors. The paper concludes by discussing the next steps in the development and application of the models, which area currently further developed as well as tested and co-created with partners in the PHOENIX consortium and local practitioners, citizens and other stakeholders.

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## Constellations of technologies in a green universe: technological patterns of the twin transition

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❖ [Terceira-G19-O3 Energy and Ecological Transitions, S10, August 30, 2024, 2:30 PM - 4:15 PM](#)

The twin transition could possibly represent a new energy and technological revolution. The extant literature has framed past technological revolutions as evolving along long waves or constituting "development blocks". On the one hand, we may presume that the twin transition evolves along waves, building on the exploitation of cheap and widely available core inputs (renewable energy sources as hydrogen, solar and wind power, minerals) on which several constellations of technologies have been developed (solar panels, wind turbines, hydrogen technologies, batteries for electric vehicles); in leading sectors (energy and transport) and in induced branches (as the production of components, services, infrastructures for public mobility) and co-evolving organizational innovations (circular economy), social innovations (in consumption and living), and institutional changes can be identified. At the same time, the surge of different constellations of technologies together with complementary organization, social and institutional innovations seem to respond to the transformation to close with old sources of energy and shaping a new development block more than constituting a new long wave. This paper embraces an evolutionary and historical perspective to analyse the evolution of technological patterns, adopting the definition of constellations of technologies. The analysis focuses on the core clusters of technologies of the twin transition and the evolution of their technological patterns over time, identifying the co-occurrences with clusters of different technological domains, the most relevant knowledge they build on, the pervasiveness and diffusion across sectors.

We use patent data from 1976 to 2021 from the US Patent Office classified as climate change mitigation and adaptation technologies and twin technologies (ICT for improving the electrical power generation, transmission, distribution, management or usage and ICT aiming at the reduction of their own energy use). A selection of key words has been identified for a more comprehensive selection on twin technologies. We assess the existence and a classification of green and twin -green with digital traits- technologies; the pervasiveness by the identification of their sectoral penetration; the advancement by

weighting for the "greenness" of the technologies by looking at the CO<sub>2</sub> emissions by sector using input-output tables of the OECD's Inter-Country Input-Output (ICIO) dataset. Looking at the sectoral diffusion across sectors can help us to understand the possible outcomes of the transition in terms of impacts on territories with respect to production activity distributions and on the labour market, to better frame and guide the policy interventions needed.

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Before and after COVID-19 pandemic: how the Italian propensity to buy online and its geography has changed?

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❖ [Terceira-G16-01 Cities, Regions and Digital Transformations, S16, August 29, 2024, 2:30 PM - 4:15 PM](#)

The rise of digitalisation and the growth of Business-to-Consumer (B2C) e-commerce have transformed the distribution of goods. This has prompted cities, regions, and logistics providers to develop strategies for more efficient, cost-effective, and environmentally friendly home delivery systems. Besides, the COVID-19 pandemic has greatly increased the Business-to-Consumer (B2C) e-commerce, and some countries, more than others, have experienced a huge rise.

The propensity to consume is correlated with the customers' gender, income, and educational attainment, as has been shown since the 2000s. Additional spatial and geographical information is needed to completely comprehend their profile. There are two primary theories about this matter, which have left the scientific debate open: (i) the efficiency hypothesis and (ii) the innovation diffusion hypothesis (Anderson et al. 2003). According to the first, the reason e-commerce is more widespread in cities is that people who earn more money and have more education are more receptive to new ideas. Conversely, the second one confirms that e-commerce usage is more widespread in rural areas.

Within this context, the present study explores the geographical dynamics of B2C e-commerce consumers in Italy in the period before (2019) and during (2020, 2021) and after (2022) the COVID-19 pandemic, when the B2C e-commerce consumers grew significantly (+57%). To reach this goal, the “Aspetti della vita quotidiana” survey by the Italian Institute of Statistics (ISTAT) for the years 2019, 2020, 2021 and 2022 is analysed and descriptive statistics and geo-referenced mapping are developed. This annual survey covers a total of more than 50.000 residents in private households.

The results of the descriptive statistics and geo-referenced mapping, comparing the consumer propensity of Italians before and during the COVID-19 pandemic, show the changing geography of the B2C e-commerce consumers in Italy, outlining the renewed attractiveness of non-urban areas.

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## The Uneven Impact of Covid-19 on Local Competitiveness: The Case of Italy

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❖ [Terceira-S21-S2 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S03, August 28, 2024, 2:30 PM - 4:15 PM](#)

This paper analyses the impact of the COVID-19 pandemic on enterprises in Italy. By leveraging the Aida Italian business microdata from Moody's, along with firm census data from the Italian National Institute of Statistics covering the period 2019-2022, we explore the varied performance of Italian enterprises and the competitiveness of territories at the provincial level in relation to restriction policy measures. Utilising a weighted multi-way fixed effect estimator, we analyse the uneven impacts of COVID-19 containment measures on firm performance across different Italian provinces. Additionally, we construct two hypothetical alternative closure scenarios at the provincial level and microsimulate their impacts on firms. Our findings provide an analysis of the uneven impacts of COVID-19 containment measures on business performance across different Italian provinces. By exploring the sectoral dimension of these impacts, we offer evidence on which provinces were most affected by closure policies, thereby contributing to the literature advocating for local and sectoral-based policies to support firm and regional competitiveness. Our simulation exercise demonstrates how varying provincial-level closure management strategies could have differently impacted firm performance. Our findings illustrate that different combinations of closure days could have mitigated some economic losses during 2022 but would have exacerbated them in 2021.



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## Climate-adaptive urban design: on energy needs, bioclimatic solutions, and the limits of techno-centred approaches. Some thoughts and applications

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❖ [Online-S62 Urban and Territorial Resilience: From Measuring to Building Planning Solutions, August 27, 2024, 9:00 AM - 10:30 AM](#)

Urbanisation and energy requirements are projected to keep growing in the next decades, when, though, resource scarcity and the climate crisis are likely to become more and more tangible, with the potential to drastically change the world as we know it, including cities. Discourses on sustainability and resilience have multiplied in recent times, yet with frequently different and watered-down interpretations, and with techno-centred - if not technocratic - approaches. Spatial design is not exempt from similar issues, with urban districts expected to be climate resilient and to be "energy positive", i.e. to allegedly produce (or, better, transform) more energy than they need, when urban areas are consumer systems, requiring large hinterlands, which are often planetary. The idea that is discussed here starts from the discussion of potentially changing variables: no longer looking for improbable technologies to pursue endless requirements, but rather making cities requiring less energy, both absolutely speaking and specifically to adapt to the climate crisis. This is done by resorting to political-economic philosophical approaches on the one hand, and to bioclimatic and ecosystems-inspired urban design solutions, with some applications in (especially Southern) Europe.

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## Urban Climate Change Mitigation, Adaptation, and Disaster Risk Reduction – a Review on their joint use for Spatial Resilience

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❖ [Online-S62 Urban and Territorial Resilience: From Measuring to Building Planning Solutions, August 27, 2024, 9:00 AM - 10:30 AM](#)

An increasing number of catastrophic events was recorded in the first two decades of the 21st century compared to the previous twenty years. The ongoing climate crisis suggests more disasters will happen, while other existing crises (ecological, energy, resources, socio-economic, geo-political, etc.) cannot be disregarded while trying to anticipate and handle them, both as possible causes and as crucial factors in tackling them over time. Among different models and paradigms to address an uncertain era, Disaster Risk Reduction (DRR) and Climate Mitigation and Adaptation (CMA) represent two major categories aimed at inspiring urban and regional strategies, planning, and design options to pursue (climate-related) spatial resilience. A novel systematic literature review is here offered to understand how DRR and CMA are dealt with together in spatial planning, governance, and design, with an overall attention for: publication authorships; time, geographical, and disciplinary distribution; editorial collocation; keywords, contents, and highlights. The literature review is ultimately aimed at providing new knowledge to strengthen DRR and CMA joint use for spatial resilience.

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## Does inter-municipal cooperation reduce the intensity of tax competition? - Evidence on inter-local industrial parks in Germany

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❖ [Terceira-S25-S2 Counterfactual Methods for Regional Policy Evaluation, S14, August 30, 2024, 9:00 AM - 10:30 AM](#)

We ask whether inter-municipal cooperation serve as a platform by which municipalities coordinate tax policies and reduce the intensity of tax competition. Specifically, we focus on inter-municipal cooperation in form of inter-local industrial parks. We apply the case study-oriented synthetic control method (SCM) to analyze the causal impact of 12 inter-local industrial parks on municipal tax-setting behavior using data on municipalities from West-German states of Hesse and North Rhine Westphalia between 2000 and 2018. We find significant overall effects of inter-local industrial parks on local tax-setting behavior in the majority of the cases. An ex post analysis suggests that tax coordination only takes place in specific political constellations.

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Is a municipal socio-economic ranking more influential than vaccination on daily growth in COVID-19 infection rate?

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❖ [Terceira-G08-O2 Covid-19 and regional and urban resilience, S13, August 29, 2024, 9:00 AM - 10:30 AM](#)

Numerous studies have attempted to identify potential risk-factors associated with COVID-19 infection, including inter alia: age, diet, higher population density, and the quality and availability of health services. The objective of the current study is to analyze the weight of four covariates on a daily infection rate from SARS-CO V2 virus.

The method used is regression analysis, where each variable is converted to the standard normal distribution function. Results demonstrate that of the four investigated covariates, vaccination and population size have the highest weights. Given the empirical analysis, the most efficient way to achieve a reduction in the spread of the pandemic is via appropriate vaccination programs.

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## Improving the measurement of the economic impacts of tourism for policymaking

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❖ [Terceira-S41-S1 Assessing the economic impacts of tourism, S08, August 29, 2024, 9:00 AM - 10:30 AM](#)

The demand for robust data and evidence on the economic impact of tourism has never been stronger. Despite significant work on tourism economics, notably with the Tourism Satellite Account, measures that quantify the direct and indirect impacts of tourism remains challenging. The nature of tourism as a complex, service-based sector built on the movement of people makes it hard to measure, and the timeliness of tourism data overall remains a challenge.

Providing access to tourism data has become a key priority for many countries and the sector to enable better decision making for government, business and the local community. The ability to measure the economic impacts of tourism provides policy makers with the evidence necessary to ensure that future policies are targeted to meet strategic objectives. As resource and capacity constraints continue to play a role, there is a need to consider what data is meaningful to portray the tourism context and enable decision making.

The rapid succession of recent crises has highlighted the importance of having timely, granular and comparable data to effectively inform policy and business decisions, and ensure policies are well targeted, have the desired impact and meet strategic objectives. More progress is needed to better measure the economic, environmental and social dimensions of tourism, and develop timely and robust indicators and tools to monitor the effectiveness of tourism policies and the resilience and sustainability of tourism development. Digitalisation has opened up new opportunities to support data-driven policy decisions and meet the policy demand for new, more granular and more timely data in a rapidly changing world. This is putting pressure on statistical agencies and organisations to exploit new sources of data.

This paper will build on ongoing work undertaken by the OECD to improve the economic measurement of tourism, including a recent survey on using new data sources and tools to measure tourism, and tailored support to countries to implement Tourism Satellite Accounts and improve the evidence base for sustainable tourism development.

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## Clusters agglomeration as an accelerate employment creation way

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❖ [Online-S47 Leave No One Behind! The Role of The EU Cohesion Policy in a Changing World, August 26, 2024, 11:00 AM - 1:00 PM](#)

The new policy priority of sustainability means firstly social inclusion across all regional zones, meaning not only the increase of employment but also, the quality of employment, such as more equitable income and wealth distribution, in the context of more competitive and productive enterprises. A cluster is formed by a group of companies, related economic actors, and institutions located in geographical proximity, and which have reached a necessary level of specialized expertise, services, skills and suppliers. The cluster can play as a catalyst for economic development but also for social development. Thus, a cluster favours the multiply and the specialization of enterprises and consequently of the workforce in a better manner than in the case of isolated and not connected enterprises in a same region. So, analysing in time and space the cluster development it's possible to prove the simple theoretical assumption that a cluster can be an employment accelerator.

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## Integrating Human Rights and Sustainable Development Goals: an Economic Perspective

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❖ [Online-S50 Territorial Disparities and the Achievement of the SDGs?](#), August 26, 2024, 4:45 PM - 6:30 PM

This paper explores the economic implications of integrating human rights and Sustainable Development Goals (SDGs) and their relationship. The study employs a comprehensive approach that considers theoretical frameworks and empirical analysis to uncover how human rights impact economic development and the attainment of SDGs. The findings of this study offer crucial insights for policymakers, businesses, and international organizations navigating the complex intersection of human rights and sustainable development.

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On the smooth operationalization of transformative innovation policy and its role in engaging marginalized communities to facilitate a just transition.

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❖ [Terceira-S75-S1 Collective Action and Territorial Transitions, SF2, August 28, 2024, 11:00 AM - 1:00 PM](#)

The paper delves into the realm of transformative innovation policies (TIPs) as a framework to address grand challenges such as climate change and achieve societal prosperity. In contrast to traditional innovation approaches, TIPs prioritize social and environmental objectives, aiming for economic growth by enhancing overall welfare. Executed through diverse instruments, TIPs often function within a multi-level governance structure, spanning supra-national, national, regional, and local levels. Despite their intended inclusivity and engagement with marginalized communities, practical insights into these aspects of TIPs remain limited.

This study, set in Belgium, focuses on the European Green Deal as a TIP and the Just Transition Fund as a specific instrument. Through semi-structured interviews, challenges within multi-level governance hindering local engagement are revealed.

The paper proposes an emergent model advocating for bottom-up participation and the inclusion of marginalized communities in TIP implementation. Additionally, it discusses the potential integration of the participatory governance school of thought to enhance the existing TIP literature.



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## Estimating risk preferences from field data with an application to PES programs

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❖ [Terceira-S23 Tropical Deforestation – Measurement, Economic Drivers, and Human Consequences, S04, August 28, 2024, 4:45 PM - 6:30 PM](#)

This paper presents novel evidence from a dynamic discrete choice model on entry and exit rates for Payment for Ecosystem Services (PES) programs. (PES) have been put forward as a promising and economically efficient instrument to reign in deforestation in tropical rainforests, complementing traditional command-and-control measures. The rising number of PES programs indicate that they have become an integral part of the policy to tackle (inefficient) deforestation. In this project, I present evidence from a reduced-form model on the determinants of participation in PES schemes. Second, I propose a model for the dynamic choice process of farmers for (i) entry and exit to PES programs and (ii) land-use choice that allows for heterogeneity in risk attitudes. These choices have direct consequences for deforestation. I estimate the models' structural parameters using data from a prominent PES program in Brazil and find that the median farmer is risk-averse. I characterize the entire distribution of risk preferences of eligible farmers and find that this distribution has strong implications for the payment design for PES programs. In doing so, I also recover land-use elasticities and show that both land-use choices as well as entry and exit decisions to PES programs depend on expected opportunity costs as well as the risks associated with each particular choice. By the time the conference takes place, I hope to be able to present results from several counterfactual exercises. For example, the estimated model allows me to characterize optimal payments schemes to achieve critical participation rates for a given ecosystem such that ecosystem service provision is guaranteed. I also plan to quantify the costs of information asymmetry between farmers and PES program designers and subsequently present evidence on the costs of this inefficiency.

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## Transition of the city structure towards Sustainable Innovation Zones: The case of the Poznań university campus

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❖ [Terceira-G15-O1 Spatial Sustainable Development, S15, August 28, 2024, 2:30 PM - 4:15 PM](#)

The functional and spatial structures of cities are undergoing constant changes related to the adaptation of urbanized areas to changing socio-economic, spatial and institutional conditions. On the one hand, these changes are primarily driven by climate change and the introduction of the zero-emission policy, and on the other, they are caused by growing competitiveness of cities. In turn, cities concentrate innovations, especially eco-innovations. They do not, however, appear naturally in these areas in a dispersed manner but they tend to concentrate in specific places. In large cities, one of such places is the university campus. It is characterized mainly by defined borders, a concentration of diversified and high-quality human capital, scientific and educational infrastructure, and high environmental standards. A concept that describes such a way of city transition well is the idea of a Sustainable Innovation Zone (SIZ).

The purpose of the presentation is twofold; on the one hand, it discusses the role of SIZ in contemporary concepts defining the functional and spatial structures of cities. On the other hand, it demonstrates the pilot results of the research conducted on the Morasko University campus in Poznań (Poland), determining to what extent this area meets the climate challenges of modern times and the creation of eco-innovations. A student survey and a detailed field inventory were used in this regard. The pilot study results indicate that the current use and development of the Morasko campus in Poznań provide opportunities to implement the idea of SIZ. This is determined primarily by the high quality of social capital. However, some limitation is provided by the underfunding of science in Poland and the lack of a vision for university development.

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## The Spatial Scope of Human Capital Externalities and Firms' Location in Brazil

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❖ Terceira-G14-O1 Institutions, Political and Decisional Processes, S17, August 29, 2024, 9:00 AM - 10:30 AM

This paper investigates the effects of human capital concentration on firms' locational choice in Brazilian cities considering that such effects may vary with distance. We empirically explore the effects of agglomeration economies as a conditioning factor of the locational choice of new establishments, assuming that these effects may differ within the same city and be attenuated with distance. Our focus is on human capital spillovers, which are expected to act on a shorter geographical scale (e.g., at the neighborhood level) when compared to other Marshallian externalities that may act at the metropolitan region level (e.g., labor pooling) or even in larger regions (e.g., input sharing). Besides contributing to the scarce evidence on developing countries, some Brazilian particularities make the study of the country's spatial attenuation of agglomeration economies appealing. First, unlike other big developing countries such as China and Russia, Brazil has no restrictions on the mobility of workers. Free workers' mobility is essential for studying the human capital spillovers generated by the concentration of highly qualified workers. Related to this freedom to move, the country is highly urbanized (around 85%) in comparison to other developing countries (Chauvin et al., 2017). Second, as recently highlighted by Almeida et al. (2022), the manufacturing activity is more concentrated in Brazil than in China (Brakman et al., 2017), Russia (Aleksandrova et al., 2019), and developed countries (Duranton and Overman, 2005; Koh and Riedel 2014; Behrens and Bougna 2015). Moreover, in Brazil, high-tech industries are more concentrated at short distances than low-tech industries, and spatial concentration is correlated with the share of college-educated workers in the former sector (Almeida et al. 2022). Taking advantage of unique micro-geographic data for all Brazilian manufacturing activities, the main results show that the positive effects of human capital spillovers are stronger up to 1 km from the location chosen by the firm and disappear completely beyond 5 km. Thus, our set of evidence is consistent with the idea that locations with more skilled workers are more attractive for new establishments due to human capital spillovers deriving from face-to-face worker interactions. The set of evidence also indicates that agglomeration effect is more localized for high-tech industries (occurring only up to 1 km) than for less technology-intensive industries (where it reaches up to 5 km).

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## The rural-urban dimension of Italy's decline: evidence from real wages (1500-1861)

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❖ [Terceira-G12-O3 Economic development in rural places, SF2, August 29, 2024, 2:30 PM - 4:15 PM](#)

The “Little Divergence” in real wages between Northwestern and Southern Europe is one of the most prominent features in the evolution of living standards over the pre-industrial period (Allen 2001). While the concept of a Little Divergence is now a well-established “stylized fact” among many economic historians, its timing and pattern remain an open challenge (Allen 2003; 2009; De Pleijt, and Van Zanden 2016). One key feature of the debate is that comparisons of living standards are overwhelmingly urban based as they are on samples of leading European cities (Allen 2001; Ridolfi 2019). The experience of individual cities, however, is potentially unrepresentative of national trends in living standards.

This study breaks new ground into the debate by providing new evidence on the evolution of living standards in urban and rural areas across a sample of Italian regions (including Tuscany, Veneto, Piedmont, Lombardy and Emilia) over an unprecedented long period of time covering the years from 1500 up to the Unification of the country. The first part of the study deals with the construction of new series of regional welfare ratios following Allen's (2001) approach. In the second, the relationship between urban and rural living standards as well as the size and potential determinants of the rural-urban wage gap is analyzed from a regional perspective. The effect of institutional and demographic factors and their role in the integration/disintegration of labor markets is investigated.

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## Analysis on the effective measure of encouraging senior people skill-compensatory driving in Japan

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❖ Terceira-G11-O1 Transport and Accessibility, S13, August 28, 2024, 2:30 PM - 4:15 PM

In Japan, traffic collisions involving the senior driver have become a social problem. Government has been encouraging older drivers to surrender their driver's licenses. However, a study that compare the frequency of going out and subjective well-being between the senior people who surrendered their driver's license and those who renewed their license and continue driving showed that the latter were more active and had a higher subjective well-being. In order to help the senior people stay active and well-being, this study focuses on "skill-compensatory driving (SCD)," which is the practice of refraining from driving at night, in bad weather, and over long distances as an alternative of the surrendering driver's license. We will present two case studies focusing on this approach and discuss effective measures to promote SCD.

(1) What kind of people and what motivations drive SCD?

In June 2023, a web-based survey was conducted among 1,000 drivers aged 65 and older in Japan. The survey revealed that 30-40% of senior drivers are skill-compensated drivers, and among drivers who are not skill-compensated drivers, about 50% have never considered the pros and cons of SCD. It was also found that men tended to accept SCD when encouraged SCD by their peers, while women tended to do so when encouraged it by their spouses.

(2) Will senior driver training courses promote SCD?

A survey was conducted in Autumn 2023 at driving schools in Ibaraki Prefecture among those who had taken courses for senior drivers. The survey was administered twice before and after the course to examine changes in attitudes towards SCD. The results showed that there was no significant difference in all participants who took the course. However, senior people who drive every day significantly changed their attitude of avoiding night driving and driving in bad weather when they received instruction in the actual driving course. This indicated that older people with more driving experience will be encouraged to the SCD only when they got suggestion from instructors during the actual driving course.

These studies suggest that SCD is not common among senior drivers in Japan, and training courses for them may not have much effect to promote SCD. If society wants to reduce collisions involving senior drivers, it needs a comprehensive senior citizen communication program.

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## Assessing the impact of universities on European regional TFP

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❖ [Terceira-S08-S1 University Impacts on the Local and Regional Economy, S02, August 28, 2024, 11:00 AM - 1:00 PM](#)

Recognized as key drivers of regional economic development and innovation performance, universities operate through two primary channels: the generation of highly qualified human capital and the creation and dissemination of knowledge. This paper aims to enhance our comprehension of universities' regional influence from a relatively unexplored perspective: the impact of university activities on regional total factor productivity (TFP). To this end, the paper builds on the groundwork laid by Marrocu et al. (2021), which established a framework for measuring universities' effects on TFP across European regions. This ongoing research endeavour seeks to expand upon the initial study by placing significant emphasis on the knowledge generation and transfer initiatives undertaken by universities. Additionally, the project aims to investigate the incremental impacts of specific university characteristics, such as quality, research intensity and collaboration with industrial partners.

The study assesses the impact of universities on total factor productivity across 220 European NUTS 2 regions from 2000 to 2019. We use data from the JRC EU Commission's Knowledge4Policy (K4P) platform to compute the indicator of regional TFP. Our main variable of interest is the number of university patents at regional level. We retrieve this information from OECD, REGPAT database, August 2023. Data from the RISIS-ETER database are used to identify some university characteristics, such as scientific publication, participation in EU-FP projects (notably those in collaboration with industrial partners), proportion of third-party funding, as well as the share of STEM graduates (Lepori et al., 2015).

Preliminary results tend to suggest that higher number of university patents are associated with a significant increase in the regional TFP. Interestingly, this impact appears to be greater for regions where second tier universities are located. This conclusion is in line with previous studies from Atta-Owusu et al. (2021) and Barra et al. (2020). Some policy implications are proposed.

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## Experimental model for rebalancing cultural tourism flows: the case of low-visitation UNESCO sites

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❖ [Terceira-G35-O1 Tourism and Overtourism Issues, S17, August 28, 2024, 4:45 PM - 6:30 PM](#)

### Experimental model for rebalancing cultural tourism flows: the case of low-visitation UNESCO sites

The concentration of tourist flows in a few locations determines two forms of degradation: congestion and speculation in the most visited centers, the impoverishment of areas with high tourist potential but rarely visited. Consider that in Rome, 86% of visitors concentrate their visits to cultural sites in 14% of the surface area of the historic center.

The reduction of over tourism is possible if a part of the flows, especially in the second visit to a regional territory, is oriented towards going to lesser-known locations. For this reason, an experimental model was tested for Italian UNESCO sites with low tourist attendance.

The strong discontinuity caused by Covid-19, political crises and conflicts places even greater urgency on the definition of models aimed to put in value potentially valid resources under different profiles (cultural, employment, economic, entrepreneurial etc.), but which require initiatives, investments, skills and active subjects in order to fully deploy its propulsive function for development. For these reasons, it seems useful to start a systematic reflection on which factors could be decisive for raising the "firepower" of the different territories with high cultural and natural values.

Experimental model includes a recognition and identification (also quantitative) of the value represented by the Unesco sites included in the project, a survey of opinion leaders, community leaders, stakeholders and entrepreneurs of the territories concerned. Project sheets were defined on the basis of the results of the survey and the involvement of the community organizations.

Starting from these basic assumptions, it will be necessary to proceed to define a more complex value proposition by identifying which reasons can increase the motivation and interest in relating to territories as visitors, as investors or as entrepreneurs.

In addition to the original promotional objectives oriented towards the development of conscious and sustainable tourism, as well as the greater diffusion of local products especially linked to the food chain, it is now appropriate to identify complementary objectives.

It is necessary to prepare a series of tools aimed at obtaining multiple results: from greater visibility and growing bargaining power towards political institutions, to the increase in flows of visitors, new residents, investors, to the improvement of infrastructure, connections and services, to support the business world, especially the most fragile, small and medium-sized ones, and innovative start-ups.

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## Diving into the “Digital Age”: a new task-based approach to inter-groups wage inequality in Italian provinces

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❖ [Terceira-G16-O2 Cities, Regions and Digital Transformations, SF1, August 29, 2024, 9:00 AM - 10:30 AM](#)

Nowadays, we live in a "Digital Age"; if in the past robotics and automation were the bugbears in front of which the fear of losing jobs materialized, today digital technologies seem to be the main suspect to bring unprecedented changes to our society - the real "disruptive" innovation. For the first time, such a major innovation is not only labor saving but also very complementary, thus polarizing the labor market and increasing inequality among groups of workers. Moreover, this impact is not equally distributed across the territory; on the contrary - like most innovations -, it is more concentrated in urban centers, because of cumulative processes and agglomeration economies effects, as much as the different speed of penetration with which digitalization hits cities and “non-cities”. Hence, space does not simply "host" an unequal distribution of resources but plays an active role in promoting inequalities (cities become a “multiplier” of inequalities).

Within this conceptual framework, this paper pursues a threefold scope: firstly, we reframe the debate on technical change around digitalization rather than robotization, empirically building a new taxonomy of groups of workers divided by the tasks performed (cognitive, manual, routine and non-routine) in Italian NUTS3 regions; secondly, we conceptually define the role of territories in promoting wage inequalities under the pressure of new digital technologies, and we empirically test our expectations; lastly, thanks to the merge of multiple datasets from Inapp (ICP) and Istat (ICT and RFL), we estimate the impact of digital technologies (proxied by cloud computing) on wages distribution across different groups of workers among Italian provinces in the 2012-2019 time span.



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## Decoding the Landscape: Spatial Analysis of Factors Behind Photovoltaic Plants Locations in Continental Portugal

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❖ [Online-G37 Ecological Transition, August 26, 2024, 4:45 PM - 6:30 PM](#)

Solar photovoltaic technology is the fastest-growing worldwide (IRENA, 2023). As the energy transition unfolds, the selection of sites for solar power plants (SPP) has emerged as a pressing issue. Previous studies have highlighted controversial siting decisions resulting in land cover changes in agricultural areas and impacts on protected zones (Hernandez et al., 2015; Valera et al., 2022). Due to the substantial spatial requirements of these installations (van de Ven et al., 2021) and the emergence of opposition movements against renewable energy initiatives (Susskind et al., 2022), careful consideration of SPP locations is crucial.

Formulating land-use policies conducive to a sustainable energy transition, integrating critical ecological concepts (Moore-O’Leary et al., 2017), requires a comprehensive diagnostic. In this study, we analyzed the relationship between planned SPP projects and potential drivers in continental Portugal. Our primary objective was to discern the factors influencing SPP spatial patterns and measure their relative distributions. To achieve this, we considered variables such as topography, land cover, environmental protection zones, power production potential, among others.

We utilized a presence-only regression (with cross-validation) to identify significant factors explaining the distribution of planned SPP facilities. Subsequently, we calculated a location coefficient to assess their relative to the reference area across different variables.

The regression analysis, with a precision of 73.4% ( $\pm 1.8$  at the 95% confidence level), showed that distance to transmission lines, photovoltaic potential power output and slope are the most significant factors. The location coefficient revealed that developers have prioritized areas characterized by low slopes ( $< 5^\circ$ ), proximity to transmission power lines ( $< 2000$  m), photovoltaic power potential ( $> 1500$  kWh), facing south and southwest, agricultural, pasture lands, areas without vegetation as well as eucalyptus plantations. Additionally, it was observed that most projects are expected within the immediate fringes ( $< 2000$  m) of national agricultural and ecological reserves.

This study contributes valuable insights into the interplay of factors shaping the spatial dynamics of SPP deployment. As the expansion of SPP continues, it becomes evident that technical and economic considerations predominantly dictate site selection. This growth highlights the likelihood of land use conflicts, particularly in relation to economic activities like agriculture and forestry.

Future research should focus on understanding how the growth of SPP impacts local communities and economies. Exploring ways to balance renewable energy expansion with traditional land uses could help minimize conflicts and ensure a smooth transition towards sustainable energy.

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## Estimation of urban wage premium for Russian cities of different market sizes

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❖ [Online-YSS1 New methods in Regional Science - EPAINOS, August 27, 2024, 11:00 AM - 1:00 PM](#)

A large body of work in urban economics is dedicated to the study of urban wage premium – a variation of wages in relation to the labor market size. While many scholars have contributed to the study of the premium and its sources, only a few have turned their attention to that of post-socialist regions. Estimation of the premium in the post-socialist cities appears to be vital as it helps to get insights about urbanization specifics in the not so long-ago established market economy. This study aims to take a first attempt of estimation of urban wage premium for Russian cities with consideration of individual worker and job characteristics using RLMS HSE (2014-2019) data. Average estimates of urban wage premium were obtained from regression analysis, and findings show that there is a large Moscow premium, which far exceeds that of other cities with population over 1 million people. Estimation of the Moscow premium is about 52% (in comparison to non-urban areas), that might explain long-lasting high growth rates of Moscow economy and population. Whereas premium in cities over 1 million people is at the level of 22%, which allows us to support the monocentric development hypothesis of Russian subregions. The presence of the premium allows us to make conclusions about transformation in the market economy of Russian urban labor markets as post-socialist ones.

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## A multi-level governance model for green missions within regions: The case of the Basque Country

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❖ [Terceira-S42 Local Mission Approach as a Challenge Based Multi-Level Building Block for Sustainable Development, S08, August 29, 2024, 2:30 PM - 4:15 PM](#)

The urgent need to address grand societal challenges has led to the emergence of new transformative innovation policy approaches. Among these, mission-oriented innovation policies (Mazzucato, 2018) have gained significant popularity among policymakers. Despite its rapid diffusion, the concept remains fuzzy and still needs further research (Janssen et al, 2023a), specially at regional level, since this approach lacks the consideration of the role of places and geographies for transformative change (Coenen, et al., 2015; Coenen & Morgan, 2020).

Regional innovation policy approaches, for their part, have been widely shaped by the notion of Smart Specialisation Strategies (S3) in the last decade. Despite the experimental roots of S3, the wide adoption by European regions has shown some weaknesses, especially for coping with grand societal challenges (Aranguren et al., 2023; Benner, 2020; Hassink & Gong, 2019). In particular, they have largely failed in facilitating broader forms of social innovation and incorporating the voice of society, which is particularly important for addressing grand societal challenges. Therefore, the challenge for implementing a mission approach at regional level relies not only on giving directionality to existing regional innovation policies, but developing new governance models that facilitate this transformation, following a multi-actor, multi scalar perspective (Pontikakis et al., 2022, Serger et al., 2023).

The role of entrepreneurial state (Mazzucato, 2015) in regions can be performed by different governments at different territorial scales. This role depends on the development of several capacities (McCaan, 2023, Kivimaa & Morgan, 2023; Wazenbok et al, 2020, Janssen et al., 2023). Following a multi scalar perspective same missions can be enacted differently in different local contexts (Brent et al, 2023) and governance contexts and structures are particularly relevant for shaping how regional innovation policies are designed and implemented (Janssen et al, 2023b).

This paper focuses on the multilevel dimension of regional missions-oriented policies by exploring the role that governance approaches and institutional capacities play on defining and articulating missions. The paper argues that subsidiarity can naturally emerge and also be purposefully designed to articulate a multilevel approach that enables the mobilisation of regional resources, instruments and communities. It analyses subsidiarity and governance mechanisms implemented for developing a green mobility initiative in the Basque Country region in Spain by the regional government and the mirror mission implemented at sub-regional level focused on new mobility, to learn about the relevance of institutional capacities on how the strategies are enacted in a multilevel regional context.

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## The challenge of understanding the logic of urban changes

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❖ [Terceira-S39-S2 From Neglect to Nuance: Exploring the Diversity of Second-Tier Cities, S06, August 29, 2024, 2:30 PM - 4:15 PM](#)

The three second-tier cities, namely Gdansk, Dublin and Glasgow are presented according to their urban transformation in specific time frames and contexts. The comparative studies first undertaken to analyze the main stressors of urban changes from 1990 to 2010 were revisited in 2024. The Gdansk Dublin study (2010) concluded with the smart city approaches in city planning. The Gdansk Glasgow study (2013) explored the spotted difference between place-oriented and people-oriented planning. Therefore, the selected second-tier cities are perceived as the characteristics to depict familiar real-world phenomena.

The second-tier cities' logic of transformative change observed through the model scenarios explains the spectrum differences in transform/transition capacity in Gdansk, Dublin and Glasgow. Neoliberal placemaking complements contextual and processual human creativity and affects the urban transformation capacity. The simulation-based studies required building a mathematical model representing the theory that could depict empirical observations.

The theoretical Creativity Action Probability model presents the approach to understanding the creation by analyzing the decision-making process in the urban environment. The objective was to define the theoretical chances of creativity to >exist< through a logical model.

Built upon the 4 C concept by Kaufman, the CAP model rethinks the identified interactions between the creative process and the external stimuli sourcing from, among others, a socioeconomic space with a specific value system that shapes and motivates individuals and communities to act. The representative sampling method adopted for the distribution of potentials at the beginning makes it possible to differentiate the flows of potentials through the creative process, their mutual interactions, certain deviations, non-evident issues, and changes, which results in the Creative Action Probability with specific potentials. Moreover, a mathematical model (or a whole family of such models) illustrates the creative process and calculates the probability based on the interactions between the creative process and the urban environment. Such insight into the process permits a better understanding of the phenomena, followed by interpreting the urban transformation capacity scenarios in selected cities.

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## Beyond the Storm: Analysis of the Economic Impacts of Cyclone Bomb Events in the Southern Region of Brazil in 2020

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❖ [Terceira-S07 Navigating the Storm: Exploring the Socio-Economic and Behavioural Impacts of Natural Disasters on Communities, S04, August 29, 2024, 9:00 AM - 10:30 AM](#)

In recent years, there has been a significant increase in the frequency and intensity of natural disasters worldwide, which has had profound effects on communities and economies. In Brazil, the southern region of the country is particularly vulnerable to such events due to its location in a corridor that is conducive to the formation of tornadoes and cyclones. An example is the Cyclone Bomb that hit the region in 2020. This event is characterized by rapid intensification, commonly known as bombogenesis. The damage and disruption it caused left an indelible mark, claiming at least 12 lives and affecting more than a million people. This article aims to analyze the economic impact of one of such economic disasters, namely the Cyclone Bomb, on agricultural, industrial, and service production, going beyond the immediate direct effects to uncover the complex chain reaction of impacts and their resulting spatial spillovers on various aspects of society. A comprehensive understanding of the effects of natural disasters on the regional economy is crucial to formulating effective mitigation and adaptation policies that promote sustainable development and economic resilience. Improving understanding of the intricate interplay between natural disasters and the regional economy will equip Brazil's southern region to confront imminent climate challenges with greater efficacy. To assess the effects of the event, we utilized spatial econometrics and employed the Spatial Lag X (SLX) model, which considers the spatial dynamics of the event and accounts for direct, indirect, and total effects.

This study uses publicly available data to examine the economic impact of Cyclone Bomb events in Brazil. The outcomes of interest measure the value added and employment in the agricultural, industrial, commercial and services sectors. These variables, along with population information, are obtained from the annual reports on the website of the Brazilian Institute of Geography and Statistics (IBGE). Data on the municipalities affected by the Cyclone Bomb can be obtained from the Ministry of Integration and Regional Development. Control variables related to voting behavior and political orientation are extracted from the Brazilian Electoral Justice. The panel data covers the years 2019 and 2021 for all municipalities in the southern region of Brazil. By enhancing our understanding of the interplay between natural disasters and regional economies, this research aims to equip Brazil's southern region with knowledge for resilient and sustainable development in the face of imminent climate challenges.

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## Loneliness and Urbanization: Insights from the QOL Survey in European Cities

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❖ [Online-G24 Human - Environmental Interactions, August 26, 2024, 4:45 PM - 6:30 PM](#)

Loneliness is a personal experience, distinct from the objective circumstances of being alone or lacking social connections. It can have negative impacts on health, including increased risks of anxiety, depression, obesity, and a weakened immune system (Cacioppo et al., 2015). Although older adults are more prone to experiencing it, due to life transitions like retirement, studies have indicated that the young population is also affected. The Covid-19 pandemic may have heightened the rates of loneliness among young people, as the JRC indicates that the number of 18–25-year-olds feeling lonely more than doubled between 2016 and 2020 (Baarck et al., 2021; Berlingieri et al., 2023). However, the JRC's analysis reveals that out of 328 projects aimed at addressing loneliness, only 8.4% are designed for young people, while 53% target older individuals. Thus, it is crucial to prioritize interventions to prevent consequences on their health, well-being, education, and productivity outcomes.

About the socioecological perspective on loneliness, as not only limited to individual characteristics but also regional ones, there is a considerable interest in loneliness and urbanization, due to the increase of people living alone (MacDonald et al., 2020). Research suggests that the risk of depression is 20% higher for citizens than those who live outside the city (Sundquist et al., 2004). However, urban centres are more likely to provide entertaining activities, positively affecting mental well-being. The aim of this study is to gather the perception of citizens on loneliness and his moderators or predictors, having assessed that, among the respondents to the Survey on Quality of Life in European Cities, 2024 edition, 38% those in the age class 15-34 reported feeling lonely all the time within the previous 4 weeks. Established individual predictors of loneliness, like gender, education, and household composition test as significant empirically and age is negatively associated with feeling lonely. Results show that higher levels of deprivation are linked to increased feelings of loneliness. Indeed, Eurostat (2022) data claim that people under the age of 18 are more affected by severe material and social deprivation. Moreover, the empirical analysis confirms that features of the built environment, like green and public spaces, together with the quality of the neighbourhood are negatively associated with loneliness. It may be likely that the greater tendency towards youth loneliness is because policies and interventions are lacking, thus government are asked to engage in reducing this phenomenon, envisaging the factors to be levered.

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## The sectorial impacts of ageing: a demographic extended input-output model for the Portuguese regions

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❖ [Terceira-G02-O3 Demographic change, Population and Migration, S10, August 29, 2024, 9:00 AM - 10:30 AM](#)

Population ageing will lead to profound changes in our societies. According to the official statistics, Portugal is one of the countries where this problem has been worsening. The central projection scenario done by Statistics Portugal predicts that between 2020 and 2050, the population will fall from 10.3 to 9.6 million and the working-age population (15 to 64 years old) from 6.6 to 5.1 million. It also projects an increase in the Ageing Index from 167.7 to 297.2 elderly per 100 young people. Significant regional heterogeneity is associated with ageing, with some regions observing a more severe increase in the elderly population than others.

A central issue concerning the effects of ageing is the change in household consumption patterns. As average age increases, consumption patterns will create additional demand for commodities that are relatively more consumed by elderly citizens (e.g., medications, health services, and social support for elderly households). In contrast, the consumption of other products is expected to decrease relatively. Such changes in household consumption patterns will impact the region's economic structure, GDP, employment, and productivity.

This work proposes an innovative methodology that applies a multi-regional input-output model - applied to the five Portuguese mainland NUTS II regions - extended to estimate the sectorial consequences of ageing. The most innovative feature is that this framework disaggregates household consumption according to different age groups and estimates the effects of changes in the region's age pyramid, combined with the assumption of distinct productivity scenarios.

The results highlight that regions will observe distinct impacts and that additional demand and employment will emerge, particularly on nontradable services associated with health products. At the national level, industries that produce inputs for the health industry will also observe positive impacts and generate higher employment levels.

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## A systematic literature review of industry 4.0: drivers and barriers to implementation

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❖ [Online-G03-O1 Innovation and Regional Development, August 26, 2024, 11:00 AM - 1:00 PM](#)

Initially focused on the digital transformation of manufacturing processes, Industry 4.0, also known as the fourth industrial revolution, has expanded its presence to different areas of organisations. The literature reflects this expansion and growing interest as demonstrated by an explosion in the number of articles on Industry 4.0 and the diversity of disciplines that have studied it. This large amount and variety of information requires a systematic literature review to clarify ideas on the concepts and definitions of Industry 4.0, as well as deepen the analysis of the barriers and drivers to implement Industry 4.0 in a sustainable and efficient way. The objective of this work is to carry out a systematic review of the literature with the aim of achieving a rigorous and objective summary of the Industry 4.0 phenomenon, through the identification of already existing trends and practical implications of the barriers and drivers of the industry 4.0 and analyse the different types of benefits that they represent for companies in terms of competitiveness, economic benefits and sustainability. As well as the costs that its implementation implies for companies, since an inappropriate implementation leads to an increase in costs and a reduction in the benefits obtained.

Our study conducts a systematic literature review of articles published in the field of Industry 4.0, focusing on its barriers and drivers until December 2023. The study presents theoretical and practical implications, identifies gaps in the literature, and suggests future research directions. Based on this systematic literature review, we propose a sectoral diagnosis tool to facilitate the implementation of Industry 4.0. The tool aims to minimise the impact of barriers and maximise the effectiveness of drivers, thereby facilitating the integration of technologies into the organisation.



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## Bibliometric and Content Analysis of Hotels and Restaurants Sustainability: a Comprehensive Review

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❖ [Terceira-S71 Sustainability in Tourist Destinations: A Multidimensional Approach](#), S08, August 28, 2024, 4:45 PM - 6:30 PM

In response to the growing global concern about the indiscriminate use of natural resources and its profound environmental implications, our study explores the domain of sustainability within the tourism sector, specifically focusing on hotels and restaurants. The research, conducted through bibliometric and content analysis, scrutinizes publications spanning from 2001 to 2023 in Web of Science (WoS) and Scopus databases, being the first time such a long period is analyzed concerning this thematic. Motivated by the growing concern on the diminishing quality and quantity of available resources, our research aims to shed light on the evolution of investigation conducted and debate kept regarding sustainability in the tourism sector. We claim that sustainability in the context of hotels and restaurants extends beyond mere ecological considerations, incorporating culturally acceptable and economically fair practices that advocate for the rational utilization of resources. This research not only provides a comprehensive overview of the existing literature on the issue but also serves as a critical resource for stakeholders of the hospitality industry seeking to understand and implement sustainable practices. By addressing the complex relationship between environmental concerns, cultural acceptability, and economic viability, our study contributes to the ongoing discourse on sustainability, offering valuable insights for the sustainable evolution of hotels and restaurants in the years to come.

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## Perception of social and work integration of ethnic minorities and foreigners in Slovakia

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❖ [Terceira-S26-S2 Social Innovation for Sustainable and Inclusive Regions, Communities and Neighborhoods, S06, August 29, 2024, 9:00 AM - 10:30 AM](#)

Social cohesion, integration and inclusion narrative is now in European strategies and regional development initiatives more frequent and stronger than ever. Due to migration movement and territorial cohesion efforts, integration aspects and factors of ethnic minorities and foreigners are considered.

Nationality structure of the Slovak territory population has changed considerably during the last hundred years. The most numerous nationalities were Slovaks and Hungarians, in 1921. The representation of no other minority in any region did not reach 5%. In 2021, for the first time, the inhabitants of Slovakia had the opportunity to state their first and second nationality. Slovak nationality (as a sum of first and second nationality) was stated by 84,84%, Hungarian by 8,37%, Roma 2,87%, Ruthenian 1,17% and Czech by 0,84% inhabitants. More than 10% of Hungarians live in 14 southern districts, the share of Roma across this border is in 7 districts in the south and east, and the share of Ruthenian in 5 districts in the east of Slovakia.

The districts of southern and eastern Slovakia are the most ethnically heterogeneous. Relatively high proportions of Slovak, Hungarian and Roma live in the most heterogeneous districts in the south, and Slovak, Ruthenian and, to a lesser extent, Roma in the east.

The integration of minorities in Slovakia takes place in different ways and with varying degrees of success. Some minorities integrate into the majority population naturally with little or no political interference. Others require intervention. Several social innovations were introduced in the process. Another situation is in case of social and work integration of foreigners. Since accession to the EU in 2004, the number of foreigners legally living in the Slovak Republic has increased almost twelvefold (mostly from neighboring countries – EU members). Most foreigners from third countries come from Ukraine, Serbia, Vietnam, and the Russian Federation. The number of employed foreigners in the Slovak Republic has increased more than 26-fold since 2004, of which 65% are nationals of non-EU countries (mostly from Ukraine, Serbia and Vietnam). Each of them has specific features and varying degrees of natural or artificial integration.

The paper is contributing to the scientific discourse about social and work integration of ethnic minorities and foreigners legally living in Slovakia. Authors estimate how is the integration and its ways perceived by ethnic minorities, foreigners, and majority population. Generalized Q analysis is the principal statistical method used in the work.

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## Assessing the Impact of Higher Education Institutions' Third Mission: Bridging Theory to Practical Tools

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❖ [Terceira-S08-S2 University Impacts on the Local and Regional Economy, SF3, August 28, 2024, 4:45 PM - 6:30 PM](#)

While not a novel dimension, the third mission holds significance beyond a mere hierarchical order, following teaching and research. Their denomination as university extension, interinstitutional and community cooperation, university-industry relationships, technology transfer, support for regional development, and social and community assistance cover a wide spectrum of institutional activities. But it underscores its evolution, relevance, and broad scope. The university organisational models and contexts are also immensely diverse, accommodating relationships between the university and the region in their full extent and meaning. As Laredo (2007) notes, “it recalls the role of our evolving understanding of knowledge diffusion and circulation, contributing to its growth”. This diversity holds consequences on its evaluation: project evaluation methodologies focus on end-of-project results with qualitative and quantitative indicators compiled during or immediately after the project. The third mission, however, requires consideration of medium and long-term indicators to assess its impact on the society.

This paper is grounded in the outcomes of the European project Erasmus+ IMPALA - strengthening IMPAct of Latin American universities. Running from 2018 to 2022, it brought together 19 partners, including five European universities from Belgium, Spain, Italy, and Portugal; an international quality assurance agency; twelve universities in Latin America from Colombia, Panama, and Cuba; a Colombian association of 23 public and private business schools; and the Cuban Ministry of Education. The grand objective of the project was to develop appropriate and innovative methodologies and tools for monitoring the third mission.

Drawing on existing theoretical knowledge and a substantial empirical base, IMPALA developed a new impact assessment model. Based on a value chain approach and anchored in the concepts of product, effect and impact as distinct levels of project results, the Impact Assessment Framework (IAF) provides an evaluation tool to evaluate the third mission activities of the university. This paper presents the results of applying the IAF and discusses its applicability and complementary IMPALA methodologies in assessing the impact of the Third Mission.

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## How Do Places' Characteristics Matter? Evidence from AI Location Quotients of LSOAs and TTWAs in Great Britain

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❖ [Terceira-S45 AI and Other Digital Technologies: Old Wine in New Bottles or Transformative Tools for Urban and Regional Economies?](#), S05, August 28, 2024, 11:00 AM - 1:00 PM

Productive economic actors tend to adopt artificial intelligence (AI) technologies selectively since AI improve companies' or industrial productivity to some extent. Limited studies investigate local neighborhood effects on spatial concentration of AI adoption. My research examines how places' characteristics heterogeneously influence AI location quotients (i.e., the proxy of relative concentration levels), using data of AI online job vacancies between 2016-2021. Our two-level (random) regression model finds significant compositional and contextual effects over time at the LSOAs and TTWAs level, respectively, in the UK. For one thing, intensive AI online hiring activities hinge on places' characteristics, for instance, urban infrastructure, intellectual resources, social capital, and productivity. For another, more developed regions (i.e., larger travel to work areas) manifest labor demands for AI skills to a relatively greater extent on average across the UK. At the early stage of AI adoption, new yearly AI online jobs become more and more spatially concentrated in specific local areas in each year, indicating potential inequality issues of urban and regional economic development. These research findings should provide local policy makers with place-based and people-based policy recommendations to cultivate places' characteristics for widespread AI adoption.

Keywords: Compositional effects; Contextual effects; Spatial Heterogeneous; AI online jobs; AI divide

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## Russia's strategy of leadership in the global Liquefied Natural Gas (LNG) industry: strengths and weaknesses

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❖ [Online-S53 Maritime Regions: Europe Hot Spots, August 26, 2024, 9:00 AM - 10:30 AM](#)

An interim between 2007 – 2012, was marked by Russia's beginning strategic re-orientation towards Asia-Pacific region. This process was greatly accelerated with the outbreak of the Ukrainian crisis and the economic-political debacle in relations between Russia and its western counterparts. In pursuit of this "Pivot to Asia" strategy Russia primarily relies on its vast natural resources – primarily non-renewable energy – located in Arctic region and High North. This article examines Russia's plans in the realm of commercialization of its Arctic-based LNG project as both the means of state budget revenue and a geo-political tool. The article argues that whereas Russia has several competitive advantages in pursuit of this strategic goal, however there is a number of serious limitations that could impede Russia's ability to be able to fully capitalize Arctic vast LNG deposits.

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## Municipal tourist tax regulations: the fourteen Portuguese cases

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❖ [Terceira-S71 Sustainability in Tourist Destinations: A Multidimensional Approach](#), S08, August 28, 2024, 4:45 PM - 6:30 PM

Our research explores the intricate landscape of Municipal Tourist Tax Regulations within Portuguese municipalities that currently impose a tourist tax on overnight stays. The first experience of a tourist tax in Portugal took place Aveiro (2013). However, its application and collection did not have the expected impact, so it was “discontinued”. There are now fourteen Portuguese municipalities that charge the tourist tax, including prominent destinations such as Porto, Lisbon, and Faro, that offer a unique opportunity to assess the evolving regulatory landscape and its implications on local economies.

This study aims to provide a nuanced understanding of the successes and challenges faced by municipalities in designing and implementing tourist taxes. By scrutinizing the regulatory frameworks and collection mechanisms, we aim to recognize the factors contributing to the effectiveness of these policies and their impact on tourism sustainability. Insights from this study will not only contribute to the scholarly understanding of municipal tourist tax dynamics but also offer practical implications for policymakers, local authorities, and the broader tourism industry in Portugal.

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## Labor Mobility of Portuguese Graduates: Towards a measure of Higher Education stratification

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❖ [Terceira-G27-O1 Regional and Urban Labour Markets and Entrepreneurship, S18, August 29, 2024, 2:30 PM - 4:15 PM](#)

Higher Education systems are deemed to be very stratified, with some institutions perceived as being better placed in the systems than others. Even if we assume that Higher Education Institutions are equal, the perception of reputation still affects decisions through two channels of events: Firstly, in access to Higher Education, as future students aim at enrolling in better institutions; and secondly, at the entry to the labour market, where high-level employers seeks future graduate workers from high-tier institutions.

Benefiting from a dataset of 18000 graduates in the Portuguese HE system, the paper has the objective of analyzing the labor market trajectories of the students to understand the role of stratification in the Portuguese labor market. Through a regression analysis, the quality of the job placement of each graduate is analysed and the effect of the origin of each higher education institution is the central explanatory variable. Important control variables are used such as the grades of the student in high school, in higher education to control for the ability of the student before entering, and variables such as satisfaction with the degree control for the quality of the degree. The analysis is complemented with field-level fixed effects. Then, the role of graduates mobility in explaining this result is addressed, as more mobile graduates are probably more capable of exploiting more their stratification advantages better than non-mobile graduates.

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## Floods in Italy: a research on best practices of risk learning.

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❖ [Online-G18-O1 Climate Adaptive and Resilient Regions and Cities, August 26, 2024, 4:45 PM - 6:30 PM](#)

The city of Genoa in Italy has been flooded at least 11 times since 1970. Messina and Turin have been affected 5 times. More or less severe episodes of extreme rainfall followed by flooding by rivers and torrents affect other major national metropolitan areas almost every year. In terms of victims and economic losses, the damage caused by these events is dramatic.

Global warming has increased the severity and frequency of these events, but the cause of these tragedies is not only the increase in cumulative rainfall, but also the legacy of urbanisation processes close to the banks of watercourses, poor maintenance of canals, lack of risk awareness among the population and other socio-economic and infrastructural factors.

Although important progress has been made in terms of preparedness, particularly with regard to weather forecasting, the socio-technical systems responsible for risk prevention and management have not always proved capable of learning from past mistakes. There is therefore an urgent need to reflect on what contextual factors and patterns of action enable such systems to be resilient or, on the contrary, to fail.

The purpose of this paper is to present the results of a comparative analysis of flood risk management in three Italian cities that have been affected by at least two severe floods in the last twenty years: Genoa, Messina and Turin. The research, carried out by an interdisciplinary team, produced two main results: the construction of a method for identifying cases, based on a composite index of environmental, meteorological and socio-economic data; and the identification of good and bad practices of risk learning, as well as factors that facilitate or hinder such learning.

The research was carried out in the framework of the RETURN Extended Partnership, funded by the Italian Government and the European Commission, and aimed at improving the management of natural, environmental and climate risks.



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## Portuguese exports during the Great Recession: the heterogeneous impact of domestic demand shock between regions

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❖ Terceira-G09-O2 Regional Competitiveness, Innovation and Productivity, SF2, August 28, 2024, 4:45 PM - 6:30 PM

Few countries experienced the consequences of the global downturn of the late 2000s as intensively as the peripheral Southern EU economies. In the Portuguese case, the real GDP decreased 1.6% annually from 2009 to 2013, with a peak in 2012, at -4.1%, after austerity measures implemented by the 2011 IMF-ECB-EU Troika. Despite this severe domestic slump, exports demonstrated a remarkable resilience. After tumbling 8.1% during the global trade collapse of 2009, exports quickly recovered and grew, on average, by 7.5% annually between 2010 and 2013.

Our aim is to investigate, firstly, whether productivity growth or the reduction in profit margins explains the export boom during the collapse in domestic demand and, secondly, whether the behaviour of firms differs between regions. The reason is that the negative shock in domestic demand, which freed up production capacity, may have pushed producers to sell their products in foreign markets. This survival-driven exports strategy, which is not due to an increase in competitiveness as postulated by the self-selection hypothesis, was perhaps only possible by lowering markups (“vent-for-surplus” hypothesis).

Our sample covers all firms with more than 10 employees of the manufacturing and service tradable sectors, over the period 2010–2014. It comprises 34,410 firms, making up 117,782 firm-year observations. To test our hypotheses, we will first focus on continuing exporters increasing their exports (intensive margin) and then on entering the export market (extensive margin).

The empirical results show that firms respond to a negative shock in domestic demand by engaging in foreign markets and increasing their exports, which supports the hypothesis of substitutability in times of crisis. We confirm that more productive firms tend to export, which is consistent with the self-selection hypothesis. However, we also observe that firms increase exports by lowering markups during recession (“vent-for-surplus” hypothesis). Location plays an important role in determining firms’ propensity to export. In particular, the mark-up effect is higher in the North region than in the other regions (the elasticity is twice as high), while the productivity effect has a greater impact on firms in the Centre. Firms in the Alentejo appear to be less exposed to the slump in domestic demand, so that they also reduce the markup less.

This study is the first to analyse the differences between Portuguese regions in terms of the determinants of the export decision or propensity to export, particularly the role of profit margins in times of negative shocks.

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## An Empirical Model of Illicit Payments at Checkpoints Across West Africa

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❖ [Online-G07 The geography of corruption, August 26, 2024, 2:30 PM - 4:15 PM](#)

Encompassing much of West Africa is a market for illicit payments at road checkpoints that is spatially defined by seaports and regional networks of road haulage corridors. This paper focuses on the functioning and evolution of this market and costs related to illicit payments. The negative effects on West African prosperity, food security, and democracy have been repeatedly highlighted in surveys of the private sector and in political initiatives to reduce checkpoints over the last 50 years.

The mixed methods used in this paper draw together case studies related to Niger's export of onions, standardized road checkpoint data, historical anecdotes, and expert interviews since the 1990s on road checkpoints across West Africa. A proposed model is used to identify theoretical expectations and interpret the empirically observed historical record on outcomes and parameter magnitudes. Distinct historical periods are classified to create a sample of years with diverse price versus non-price determinants of onion export volume from Niger. Comparative statics scenarios based on these time periods and geographies examine the effects of supply-side versus demand-side shifts.

A key finding is that supply-side changes explain most of the longitudinal variation in market outcomes within geographic domains in the short and long term. Important demand-side differences are identifiable across geographic domains. This suggests that demand-side changes have been less important over time since the 1990s, but also that initiatives to reduce checkpoints within specific geographic domains have had successes. Empirical evidence measuring short-term as well as long-term changes in model parameters are broadly consistent with expectations. Theoretical market interactions, inconsistency between the model and observations, and data gaps inform priorities for future research.

The key conclusion is that Illicit payments at checkpoints can be analyzed as a spatial-temporal market with their own evolving geography, market institutions, and market performance outcomes. This preliminary synthesis of theory and evidence shows that non-price and demand-side causes of change in illicit payments can be identified across geographies and timeframes. This means that learning from previous checkpoint demand-reduction efforts can empirically move beyond case studies using before-and-after comparisons at a narrow point in time. Further research comparing the effects of the diverse initiatives to reduce these illicit payments at checkpoints on West African roads is needed to improve policies and actions to address this long-standing regional development challenge.

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## Using Travel Times for Measuring Domestic Distances

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❖ [Terceira-G10 Trade and Global Value Chains, SF3, August 29, 2024, 9:00 AM - 10:30 AM](#)

When investigating on territorial connectivity and market access issues, the main element that provides information on the territory and the accessibility conditions it imposed is the simple geographic distance with its geodesic or linear measure. Also, a simple geographical measure is used when implementing the gravity model for assessing the amount of trade between countries. However, great circle distances, although simple to obtain and intuitive to interpret, present the drawback of being crude, as in Ozak (2010). Geographic distance, as the distance between two points on the earth's surface, is quite simplistic as it fails to account for the significant variations in geographical and technological factors that influence similar great circle distances across different types of geographies and periods.

In this paper, we develop and apply new procedures for providing evidence on how the same geographic distance varies in different territories. We use novel data on travel times between Italian NUTS4 units and territorial typologies (local administrative units at level 2). Measuring how much time is needed to move from one unit to another allows us to capture better technological advances or favourable geographic conditions that can reduce a fixed geodesic measure. The first implication is that internal measures commonly used in the literature are biased, in the best case, if not incorrect. In this work, we provide novel evidence by using data on the Italian road network and travel times needed to connect distinct types of territorial units. We also consider traffic congestion, an element not considered when measuring travel times.

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## Land Abandonment in the Alpine Region: The Role of Subsidies for Sustainability

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❖ [Terceira-G06-O5 Regional and Urban Policy and Governance, S12, August 30, 2024, 11:00 AM - 1:00 PM](#)

Alpine pastures hold significant economic and agricultural importance, playing a pivotal role in the livelihoods of communities in mountainous regions. They provide a unique environment for grazing livestock, making them crucial for dairy and meat production. Moreover, alpine pastures support local economies through tourism and recreational activities, and contribute to ecosystem services such as water regulation, erosion control, and carbon sequestration, enhancing their wider environmental significance.

The Alpine region is at increased risk of land abandonment compared to other regions with agricultural activity in Europe. This research aims to examine the drivers of this process together with implications of subsidies on land use in the Alpine region. The paper looks at the effect of policy related payments (stemming from the Common Agricultural Policy and Cohesion policy) on land use, controlling for socio-economic variables (income, sectoral gross value added, employment shares, population density, and education), geophysical variables (slope, altitude, soil type), climatic variables (temperature, precipitation), and cost structures of farms (producer prices, input costs, land rents).

The paper looks at changes in land cover from the CORINE land cover survey. This is overlaid with data from the land parcel identification systems (LPIS) from Alpine regions to identify abandonment of pastures and meadows. Information regarding costs and output comes from the farm accountancy data network (FADN), information on demographic indicators from the farm statistical survey (FSS). Using a spatial autoregressive panel specification, I will show how farmers cultivating alpine pastures respond to subsidies.

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## Examining critical factor for the implementation of Industry 4.0 in the Spanish ceramic tiles industry

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❖ [Online-G03-O2 Innovation and Regional Development, August 26, 2024, 2:30 PM - 4:15 PM](#)

Industry 4.0 refers to the technological advancements in various industries, particularly in manufacturing, that enable flexible production and cost reduction. While these technologies offer significant benefits to companies, adapting to them poses a major challenge, especially for traditional sectors like the ceramic tile industry. The objective of this paper is to analyse the drivers and barriers faced by companies in the ceramic manufacturing sector in Spain when implementing an Industry 4.0 strategy. A qualitative research approach is adopted, based on interviews with general managers of ceramic manufacturing companies, ceramic machinery suppliers, and public institutions that support this sector. In addition, sector reports are used to gain an understanding of the industry's overall maturity in implementing 4.0 technologies. The aim is to diagnose the situation and identify key factors for successful implementation of Industry 4.0 in ceramic manufacturing companies. The results of this study can be used as a guide for the implementation of a Industry 4.0 strategy in companies from this industry. Furthermore, this study also analyses the degree of technological maturity of the main machinery suppliers and the existing differences between the vision of the manufacturer and the technological supplier, in this case, the ceramic machinery supplier. Finally, the main limitations and future lines of research are presented.

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The three M's: More Internationalization – More Knowledge – More Productive? Knowledge advantages from internationalization in urban and non-urban areas.

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❖ [Online-G38 Industrial dynamics and spatial development, August 27, 2024, 9:00 AM - 10:30 AM](#)

Urban areas have been investigated as national and international nodes for the sharing of knowledge (e.g. Simmie, 2003). The function and flow of knowledge among firms in different contexts may then depend differently on national and international flows. This paper focusses particularly on the effects of international flows of knowledge and information from internationalization in firms. This stance of the literature is taken together with the literature suggesting that internationalization affects firm productivity. Effects of offshoring on productivity are unclear (Wagner, 2011; Monarch, Park and Sivadasan, 2017) and may at some point even reverse for SMEs (Kreuzer and Berger, 2022).

We consider different motivations of firms to pursue internationalization through offshoring. Specifically, we ask if knowledge sharing in international supply chains are differently valuable for firms in urban versus non-urban locations. One hypothesis is that such motivations are particularly valuable in urban areas due to scale effects in knowledge production. The alternative hypothesis is that scarcity is a more important factor pointing to higher returns in terms of productivity in non-urban areas. This motivation is compared with more standard motivations for internationalization in terms of wage costs. We test this hypothesis based on Danish panel register data for firms considering time-specific events of offshoring and the motivation indicated by the firm for this event. As such, we consider a difference-in-difference model setup for the effects of offshoring by motivation on productivity across region types. Our results point to important differences in the manner in which offshoring motivated by knowledge sharing affects productivity for firms located in urban versus non-urban contexts.

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## Central Asian countries economic integration: a model of regionalisation obstructed by foreign powers

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❖ [Online-G10 Trade and Global Value Chains, August 26, 2024, 11:00 AM - 1:00 PM](#)

This paper focuses on the model of regionalism exhibited by the Europe-Caucasus-Asia (ECA) cooperation in Eurasia with the main focus on Central Asia. The countries in the region follow multi-vector foreign policies by seeing to balance relations with the EU, Russia, China, the US, but also Turkey and Iran. Thus, ECA provides a unique case study of overlapping regionalisms pursued by different core actors, among which we consider China, Russia, and the EU. This article will seek to answer the following research question: What are the distinctive roles of the core powers - EU, Russia and China - in re-shaping the region? The result of our analysis seems to confirm that the different foreign powers have hindered regional economic integration among Central Asian Countries

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## Politics of hydrogenated path development

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❖ [Online-S46 Building Just Futures for Regions in Green Industrial Transitions, August 27, 2024, 9:00 AM - 10:30 AM](#)

This paper uses an empirical investigation of regional hydrogen investments and strategies in Northern Europe to further conceptualisation of path development. It foregrounds politics and power as central explanatory factors in understanding the logics, processes and outcome of path development.

This conceptualisation is a departure from evolutionary economic geography approaches to industrial change through focusing on path development as political process. We build from – and advance - Geographic Political Economy approaches to path development to outline a multi-faceted conceptualisation of path development politics encompassing institutional, material, cultural and civic-welfare politics which entwine to shape and produce different path development processes and outcomes. We argue this represents a significant expansion of existing scholarship in the field.

The paper also makes an important empirical contribution through an original international analysis of hydrogen developments in Europe, a highly topical area of research which has not yet been treated to detailed international comparative case study analysis. It finds that the four modes of politics identified are critical to understanding how ‘hydrogenated path development’ is taking shape.



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## Exploring adaptive change of small and open economies: the case of the Baltic States

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❖ [Online-G03-O3 Innovation and Regional Development, August 26, 2024, 4:45 PM - 6:30 PM](#)

The changing balance of international power in Europe and other regions of the world, along with global shocks such as financial crises and COVID-19, significantly impact the development of regional economies. In the context of these external shocks, there is a pressing need for scientific knowledge on how emerging challenges can be leveraged for adaptive changes in regional economies. This involves reorienting them toward new promising business and technology areas and discovering pathways for economic growth. While changes in economic structures are constant, they may intensify in the presence of certain economic or geopolitical shocks.

Our objective is to explore the case of small and open economies, evaluating how various global events, among other factors, influence the adaptive changes in their economic structures. Drawing from the literature on evolutionary economic geography and economic complexity, and using export and patent data, we aim to answer questions such as whether the scale of an economy matters, whether a country's/region's neighbors matter, what aspects to focus on in the economic policies of small open economies to increase the production of high-value-added output, and whether a more balanced approach is needed. Additionally, we examine whether focusing on the resilience of the economy is the key to this process.

The small open economies of the Baltic States have a unique experience, transforming from planned economies to open market economies and joining the European Union market. Over the last few decades, all three states have faced three major shocks – the Russian financial crisis, the global financial crisis, and the COVID-19 pandemic. All three countries implemented European and national industrial policies, emphasizing structural and technological changes in the economy. While maintaining relatively high growth rates compared to the rest of the EU, the Baltic States face the challenge of having more competitive and resilient economies.

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## Looking for vulnerabilities in health security: the need to integrate regional-level and world-scale connectivity networks of disease transmission

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❖ [Terceira-S49-S1 Networks in Resilience and Vulnerability, SF3, August 28, 2024, 11:00 AM - 1:00 PM](#)

The COVID-19 pandemic has unequivocally demonstrated the vulnerabilities of global interconnections and their impact on local communities. The staggering number of deaths (7+ millions) and economic costs (estimated at around \$14 trillion by the end of 2023) highlighted the utmost importance to project scenarios for the spread of emerging infectious diseases (EIDs) well before a possible next “Disease X” pandemic may occur. To prevent the potential spread of EIDs, it is crucial to model how diseases can be able to spread within the (typically pantropical) source regions and, from there, how they can reach remote connected nodes in sink regions, through large-scale networks (i.e., airlines). A key task for modellers becomes then to quantify and map how the hazard of potential pathogen emergence interplay with the exposure of people at source, due to local-scale human mobility, so as to assess the risk of disease transmission over longer distances toward sinks. A wealth of data can now be available to perform accurate analyses and to develop movement/network models that can serve as excellent bases for identifying vulnerabilities for global health security. As a prototypical example to illustrate the functioning of our operational framework, we show how the potential risk of pandemics could be estimated in the case of Indonesia by integrating two sets of data-driven information: a simple ecological mapping of the risk of pathogen emergence and a data-driven exposure mapping of human mobility derived from GPS and mobile phone connections. Integrating different regional-scale network models with potentially global-scale mobility network models is challenging, yet crucial to identify the nodes and the connections of greatest vulnerability and thus to work on strategies for assessing the pandemic risk. And to avert, or at least devise methods for monitoring, preventing or even controlling, any upcoming pandemics.

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## Analysing correlation between diversity and risk in fisheries

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❖ [Online-G03-O3 Innovation and Regional Development, August 26, 2024, 4:45 PM - 6:30 PM](#)

This paper focuses on alternative theoretical and empirical specifications of risk and diversity in the fisheries domain, and the empirical correlation among them. Theoretically, risk and diversity are expected to be negatively correlated. The lower the diversity, the higher the concentration, dominance and dependency of that fishing sector to the evolution of the dominant fish species. Therefore, the higher the risk of a potential collapse in the fishing sector. Firstly, we study the country-level diversity of the EU fishing countries, using conventional diversity indices, namely Berger Parker, Concentration ratio, Simpson's index and Shannon index. Notice that each member-state has an individual marine sub-ecosystem ( $\Omega_{jt}$ ) comprised by different fish species, that besides, may change over time. Accordingly, special attention will be paid on checking whether there are potential differences between the diversity patterns of EU fishing countries by means of parametric and not parametric tests such as ANOVA and Kruskal Wallis. Secondly, based on financial risk analysis, we estimate the left-tail risk of landings in the EU fishing countries, a country level proxy variable for the risk inherent to the fishing activity itself, i.e. an empirical and probabilistic measure of the worst-case loss. Thirdly, we investigate the correlation between risk and diversity. However, surprisingly, our results reveal that risk and diversity patterns are positively correlated. This is because the risk of a country may be potentially determined not only by the diversity itself, but also by the specific distribution of the fish landings. Accordingly, it may well happen that it is the fish species risk shares what mainly determines the overall risk of the fishing countries.

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## Strategies for Adapting to Climate Change in Summer Glacier Skiing in Switzerland, a Systemic Perspective

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❖ [Online-S56 Regional Transitions: Adaptation and Transformations in the Tourism Sector, August 26, 2024, 2:30 PM - 4:15 PM](#)

In Switzerland, high mountain areas have undergone extensive development for tourism, with mountain tourism primarily centered around outdoor activities such as hiking, mountaineering, and skiing. However, these activities are intricately tied to the environment, and the current impact of climate change is reshaping their foundational elements. Notably, reduced snow availability during winter poses a challenge to ski tourism, while glacier retreat raises concerns about the future of glacier tourism and alpinism during the summer season. Addressing these challenges necessitates a focus on destination adaptation to climate risks, particularly when the destination relies on vulnerable activities. This presentation shares initial findings from a research project aimed at comprehending the adaptations required to mitigate climate change impacts on summer glacier skiing in Saas-Fee and Zermatt, the last two remaining summer glacier ski resorts in Switzerland. Given the complexity of interactions between multiple stakeholders in these glacier summer ski resorts, the project aims to construct a systemic adaptation framework. The methodology involves conducting semi-structured interviews with tourism stakeholders (n=10) and skiers/ sports team managers (n=14), the primary customers of this activity. Preliminary results indicate that climate change affects both the demand and supply sides, resulting in increased operating costs, the risk of summer closures, and heightened uncertainty about operational viability. This, in turn, impacts the demand side, particularly professional skiers who face uncertainties in glacier availability for summer training, leading them to explore alternative options such as traveling to the southern hemisphere or utilizing artificial ski domes. The study expands and discusses these findings to uncover interrelationships among the diverse stakeholders involved.

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## Bright and green? A global view on density and the trade-off between economic activity and greenspaces for over 1000 cities

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❖ [Terceira-G01-O2 Peace, Regional and Urban Sustainable Development, SF4, August 28, 2024, 4:45 PM - 6:30 PM](#)

As the world urbanises rapidly, cities have grown substantially in the last decades. In this paper, we study the important trade-off in the use of urban land that comes with urban growth, namely between green areas and needed living and working space. We do so by building a novel and unique panel dataset combining gridded data on population, area, built-up area and volume, urban greenness, and nighttime lights (as a proxy for economic activity). Our global sample covers over 1000 cities between 1985 and 2020. We identify key global stylised facts as well as main differences across world regions. Relying on panel-data econometric techniques, we provide estimates for the elasticity of economic activity, building volume and greenness to population density, and explore heterogeneities across income levels and different city sizes. Finally, we provide a stylized theoretical framework for the dependence of optimal urban greenness on population growth.

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## Linking Financial Ecosystem and the Growth Of Young SMEs. Evidence from Spanish Regions

Mrs Manuel Vega-Pascual<sup>1</sup>, Mr Filippo di Pietro<sup>1</sup>, Mrs Maria-José Palacín-Sanchez<sup>1</sup>, Mrs Rafaela Alfalla-Luque<sup>1</sup>

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❖ [Terceira-S36 Entrepreneurship and Public Policy, S14, August 30, 2024, 2:30 PM - 4:15 PM](#)

This study analyses the effect of the financial ecosystem on the growth of young firms at a regional level. This subject is relatively innovative in entrepreneurial finance research, since the majority of the studies carried out have failed to take into account all the alternative sources of external financing to which young firms have access. This study highlights the relevance of other alternative resources and actors in the financial environment beyond traditional banks, such as crowdfunding, business angels, peer to peer lending, accelerators, incubators, or venture capital. Specifically, our research incorporates a proxy of the development of the financial ecosystem based on survey data from the Global Entrepreneurship Monitor (GEM). Moreover, our investigation uses a sample of young small and medium-sized enterprises (SMEs) representing every Spanish region between the years 2008-2015. The empirical analysis applies panel data methodology. The results show that the growth of young enterprises depends on the development of a regional financial ecosystem, evidencing that better access to external finance favours the growth of young firms. This relation is even more relevant among early-stage firms, suggesting the moderating effect of firm age on the relationship between the regional financial ecosystem and the growth of young SMEs

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## Does flood risk affect development? Evidence from Irish planning permissions

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❖ [Terceira-S01-S2 Building Sustainable Cities, S01, August 29, 2024, 9:00 AM - 10:30 AM](#)

This paper focusses on the supply-side effects of flood risk. We ask – Is development policy giving enough consideration to flood risk? Is housing delivery being prioritized over scientifically assessed risk in the context of a increased population and no recent major flood events? A unique dataset of individual planning permissions and detailed flood risk maps allows us to explore this issue. Preliminary results suggest that the rate of development in flood risk zones is almost the same as outside risk zones – 2.5% of applications inside risk zones vs 3.1% of Eircodes. Further data work will allow deeper analysis into the reason for these developments

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## Tariffs and industrial location in Ecuador

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❖ [Terceira-G03-R Innovation and Regional Development, S11, August 30, 2024, 11:00 AM - 1:00 PM](#)

The theoretical literature has reached no consensus on whether international trade liberalization increases concentration of economic activities within a given country or whether dispersion occurs as the country progressively opens to trade. This paper contributes to this literature by analyzing the experience of Ecuador in the first decade of the 21st century. This country is an interesting case study because it has two economic centres of similar size (Quito, the capital, and Guayaquil) which is different from other Latin American countries. At the same time, the trade liberalization policies followed a similar path as those in other Latin American countries that dismantled the import substitution regime. Our econometric results based on a sample of 20 provinces and 20 industrial sectors in two periods of time, 2000 and 2010, suggest that trade policy did not substantially modify the patterns of location of manufacturing in Ecuador during this period. If anything, it only reinforced, a little, the concentration of economic activities in Quito.



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## Drought effects on agricultural productivity across EU regions

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❖ [Terceira-G18-O1 Climate Adaptive and Resilient Regions and Cities, S16, August 28, 2024, 4:45 PM - 6:30 PM](#)

Regional agricultural sectors are particularly vulnerable to the impacts of drought events, resulting in significant economic losses in Europe each year. Therefore, it is essential to have a thorough understanding of how drought affects crop productivity in order to make informed decisions and plans. We obtained data on crop yields and characteristics of regional farming systems from the Farm Accountancy Data Network (FADN) and linked this information with the Combined Drought Indicator (CDI) produced by the European Drought Observatory (EDO) using crop masks. This allowed us to analyse the yield effects of drought on wheat and maize at a regional level across the EU from 2013 to 2021. Our analysis reveals that severe drought led to an average reduction of around 0.5% in wheat yield per additional 10-day of drought in the period. Additionally, we found that severe droughts particularly impact crop yields during the last period of the cropping season. In the case of maize, we observed that the estimated reduction in yields due to drought was limited to drought of medium severity, with an estimated decrease of between 0.16% and 0.19% of average regional maize yields per additional 10-day of drought. Similarly, our analysis indicated that the last period of analysis had the most significant effect on maize yields. The results of this paper have implications for future policy development, as the assessment of potential drought effects on these two main crops could guide the creation of policies to strengthen the resilience of agricultural regions across the EU. This study's methodology could also be extended to other agricultural activities in order to create thorough climate change scenarios that account for the direct and indirect effects of drought, in the agricultural sector and in the wider economy, through simulation tools.

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## From Knowledge to Action: The Paradigm of the Local Resilience Units in the Post-Pandemic Context

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❖ [Online-S62 Urban and Territorial Resilience: From Measuring to Building Planning Solutions, August 27, 2024, 9:00 AM - 10:30 AM](#)

As the 2030 deadline for the Sustainable Development Goals (SDGs) nears, a focus on resilience in urban planning intensified. This is evident in efforts to achieve SDG11. The urgency of these goals is underscored by challenges such as pollution, quality of life, and climate change adaptation.

Covid-19 pandemic further complicated these issues, revealing urban vulnerabilities. European cities, which largely implemented similar containment strategies, experienced significant changes in their urban dynamics during pandemic. Lockdowns led to reduced traffic, offering a glimpse into the impacts of urban congestion, including noise reduction, increased public space availability, and lower emissions.

The pandemic also highlighted urban shortcomings, such as the lack of quality public spaces and disparities between different city areas. This emphasized the importance of neighborhood-level planning, focusing on accessibility, public space quality, and sustainable, equitable urban development.

In response, researchers from the Responsible Risk Resilience Centre (R3C) at the Politecnico di Torino worked on Post-UnLock project, aiming to advance territorial resilience research and explore the role of planning in achieving sustainability and resilience in the context of ecological transition.

A key outcome of this research is the concept of Local Resilience Unit, an operational framework at the neighborhood level that combines planning actions with community empowerment. This concept aims to enhance city responsiveness, resilience, and liveability. Such planning concepts are vital given the challenges faced by urban areas.

The Local Resilience Unit paradigm resulted in the book "Post Un-Lock - From Territorial Vulnerabilities to Local Resilience." A PhD thesis funded by this project further explored this concept in Turin, Italy, offering a methodology for identifying city areas suitable for Local Resilience Units, focusing on transformative actions and citizen participation.

The methodology emphasizes pedestrian proximity to essential public and private services. This approach moves beyond traditional administrative boundaries, aligning with concepts like the 15-minute city and the Supermanzana, but with a unique focus on resilience.

Technical mapping in Turin involved calculating accessibility basin overlays using isochronous curves from Points of Interest (POIs), including neighborhood businesses, green spaces, schools, and health services. This approach, leveraging open-source tools like Openrouteservice and QGIS, identified areas suited for resilience-building processes.



The Turin case study revealed the city's predisposition for implementing Local Resilience Units, particularly in neighborhoods like Borgo San Paolo, Santa Rita, and Valentino. These findings suggest potential planning and design initiatives involving citizens to transform identified areas into Local Resilience Units, enhancing urban resilience.

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## Air Pollution and Time Use: Evidence for Avoidance Behavior

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<sup>3</sup>Indian Institute of Management Bangalore, Bangalore, India

❖ [Terceira-G24-O2 Human - Environmental Interactions, S16, August 30, 2024, 2:30 PM - 4:15 PM](#)

We investigate how air pollution impacts outdoor activity avoidance, leveraging changes in local wind direction in an instrumental variable setup for causal identification. Our findings reveal a substantial reduction in time spent outdoors during polluted days, mainly driven by decreased engagement in employment-related activities. This effect varies significantly across age, education level, usual principal activity status, consumption expenditure, and residential location. Moreover, reduced outdoor time due to air pollution can potentially promote a more equitable allocation of unpaid caregiving responsibilities within households via increased male involvement. Our results remain robust under various sensitivity tests.

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## Peace of Mind: Examining Election-Induced Anxiety among Minorities in India

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❖ [Terceira-YSS4 Spatial Structure and Delineation - EPAINOS, S02, August 29, 2024, 11:00 AM - 1:00 PM](#)

We examine if the national elections held in India differentially affected minorities after the ruling party's landslide victory in 2019. Using nationally representative survey data, we find a significant increase in sleeplessness among minorities, particularly within the Muslim community. Muslims experience a 124.94% (2.87 minutes) increase in sleeplessness intensity relative to the pre-election mean, while Christians exhibit an increase of 262.72% (0.29 minutes). Moreover, our results uncover significant heterogeneity in the main effect, with a more pronounced impact in districts characterized by high electoral competitiveness. We establish the credibility of our research design through a battery of empirical tests. Backof- the-envelope calculations suggest sleeplessness-driven daily wage loss of approximately \$3 million.

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## Socioeconomic Typologies for Portugal: a look at the present and the future through the lens of social and environmental development

Mr Gabriel Batista<sup>1</sup>, Mr Jose Victor Borges<sup>1</sup>, Prof. Eduardo Haddad<sup>1</sup>

<sup>1</sup>Universidade de São Paulo (USP), São Paulo, Brazil

❖ Terceira-G17-O2 Cooperation and Local / Regional Development, S15, August 28, 2024, 4:45 PM - 6:30 PM

This work aims to generate an “X-ray” of Portugal’s economy with metrics for each of its sectors and regions considering social, regional and environmental aspects. Provided with the interregional input-output matrix of the country for 2017, we developed a typological analysis based on indicators calculated at the regional and sectoral levels - 7 regions of Portugal (NUTSII) and 65 sectors (CAE Rev.3). These indicators were designed to allow a description of the economy in five dimensions: present economic growth, future economic competitiveness, social inequality, regional inequality and sustainable economy. The main contribution of this work is to generate a multidimensional view about the advantages of each region and each sector in Portugal in the predefined dimensions of analysis, revealing potential trade-offs policymakers may face. In a world where economic development that takes into account social and environmental aspects is gaining increasing importance, a stylized description of how sectoral and regional stimuli affect socio-environmental indicators is of utmost value for strategic planning in both the public and private sectors. The results are the five-dimension indices for Portugal’s 7 regions and 65 sectors. They show how the interconnections of the country’s productive structure affect some aspects of the Portuguese economy and society.

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## Energy efficiency, rebound effects and regional development: a RHOMOLO application

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❖ [Terceira-G19-O2 Energy and Ecological Transitions, S15, August 30, 2024, 11:00 AM - 1:00 PM](#)

We assess the macroeconomic impact of energy efficiency to regional development and cohesion for 235 NUTS2 EU regions. To do so, we introduce energy as a production input in the production function of a spatial dynamic general equilibrium model (RHOMOLO) and analyze the implications of energy efficiency shocks with a particular focus on total energy rebound effects.

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## Domestic value-added content of gross exports in Hungary and Mexico, 1995-2018

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<sup>1</sup>HUN-REN CERS, Budapest, Hungary

- ❖ [Terceira-S52 Sustainability Challenges in GVC-Dependent FDI Development Path: Assessing Regional Development within Global Production Networks, S03, August 30, 2024, 11:00 AM - 1:00 PM](#)

Hungary and Mexico are highly integrated into global value chains, mainly as ‘factory economies’, i.e. specializing on backward global value chain participation with mostly in manufacturing and production activities with low to medium value added and in certain sectors (automotive and electronics industries). They rely (at least in the analysed period) on one leading, main partner in their global value chain participation: Hungary on Germany and Mexico on the United States. Furthermore, their economic growth is highly dependent on their insertion in global value chains. Their growth model can be characterized as one relying to a great extent on global value chain participation. The objective of this paper is to analyze the contribution of manufacturing exports to total domestic value added in Mexico and Hungary from 1995 to 2018 distinguishing between the direct and indirect domestic value added to recognize how the two countries with similar insertion in regional value chains, generate national income. Data from the Trade in Value Added (TiVA) database was employed in this paper and various statistical techniques are used for the analysis. The results show similarities between the two countries regarding export profiles and regional value chain positions, but differences in terms of the contribution of manufacturing exports to domestic value added and its source.



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## Title abstract: From the "Intelligent Buildings" program to the new "Intelligent Cities" urban design methodology

Ms Giacomina Tiziana Gallo<sup>1</sup>

<sup>1</sup>Studio Arch. G. Tiziana Gallo, Pesaro E Urbino, Italy

❖ Online-S57 Government of Anthropization Processes: Domain of the Territories and Cities, Climate Changes, August 26, 2024, 11:00 AM - 1:00 PM

Title abstract: From the "Intelligent Buildings" program to the new "Intelligent Cities" urban design methodology

### TOPIC

Special Session themes:

S57 Government of Anthropization Processes: Domain of the Territories and Cities, Climate Changes;  
S77 Collective Smartness to Foster Sustainability Transitions of Places: Smart Cities, Regions, and Energy Communities

General themes

G06 Regional and Urban Policy and Governance

G18 Climate Adaptive and Resilient Regions and Cities

Policy and Project: "Città Intelligenti" method for urban planning and design

Abstract

My work starts by the creation of "Intelligent Buildings" program that is a strategic urban regeneration plan for adaptation and mitigation to climate change with 0 land use.

For further information, below is the link to my report at the VII RUN of Urban Planning in Riva del Garda, 2019: <https://www.youtube.com/watch?v=LMIANJ-XbXQ>

The "Intelligent Buildings" program for Fano, that is the first real use of the plan, it has just been included among the best practices in the position paper "Urban settlements in the national plan for adaptation to climate change", year 2023, ASVIS1, and if applied systematically capable it can attract around 250 million euros extra budget, over the next 7 years.

Later I drew up the technical-economic feasibility plan for the sustainable variant project of the PRG of via Canellina, Municipality of Gradara, awarded as best practice in October 2023 during the States General of Smart Cities, held in Padua: [http://www.greencitynetwork.it/portfolio\\_page/gradara-sviluppo-area-a-ridotta-carbon-footprint/](http://www.greencitynetwork.it/portfolio_page/gradara-sviluppo-area-a-ridotta-carbon-footprint/)

I'm currently in charge of drafting a PUG on the model of the E.I. program at the Municipality of Crispiano, with the aim of attracting citizens and investors to a sustainable southern village, guaranteeing the respect and valorisation of the cultural and environmental heritage and the maximum feasibility of interventions.

The entire PUG, designed in compliance with the ESG 2030 agenda, was designed as a CER (Renewable Energy Community): <https://www.econopoly.ilsole24ore.com/2022/05/31/rinnovabili-urbanistica-crispiano/>

It is precisely in the development of this new planning approach I identify the "Città Intelligenti" method that I present you.

Note

1:[https://asvis.it/public/asvis2/files/Pubblicazioni/PositionPaper/2023/PositionPaperASviSGoal11\\_Pnacc\\_Insedimenti\\_Urbani\\_nov2023.pdf](https://asvis.it/public/asvis2/files/Pubblicazioni/PositionPaper/2023/PositionPaperASviSGoal11_Pnacc_Insedimenti_Urbani_nov2023.pdf)

5 Keywords: Urban Regeneration, Climate Change, energy community, sustainable urban planning, integrated actions

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## Spatial Concentration, Diversification and Economic Potential of the Branches of Global IT Corporations in Poland

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❖ [Terceira-G20 Creative Industries and Regional Development, S16, August 28, 2024, 11:00 AM - 1:00 PM](#)

Socio-economic development is linked to the progressive processes of globalisation, in which a fundamental role is played by transnational corporations, which strongly influence the global economic, social and cultural space through various systems of spatial and production networks. Among the world's leading corporations, corporations of the IT sector play a significant role, with their branches located in various areas convenient from the corporation's point of view.

The aim of this paper will be to show the areas of concentration of branches of IT corporations located in Poland, their differentiation and economic potential. I will aim to indicate their role on the scale of entire corporations.

The global space creates highly differentiated conditions for the location of branches of modern companies associated with the information phase of social development. This means the operation of polarisation processes that lead to spatial differentiation in the number of branches of corporations, as well as their economic potential and the resulting indicators. According to the research carried out, Poland is the most attractive country in Central Europe for the location of branches of IT corporations from all over the world, but, as the research indicates, branches of corporations with different business profiles that originate from the United States predominate. The best conditions for locating these innovative enterprises, especially those dealing with research and development, but also widely understood services, are created in the country's largest cities, including above all Kraków, Wrocław and Gdańsk. Warsaw is an attractive location especially for service branches. The economic potential of branches of IT corporations located in Poland varies greatly

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## From the "Intelligent Buildings" program to the new "Intelligent Cities" urban design methodology

Ms Giacomina Tiziana Gallo<sup>1</sup>, From the "Intelligent Buildings" program to the new "Intelligent Cities" urban design methodology Giacomina Tiziana Gallo

<sup>1</sup>Studio Arch. G. Tiziana Gallo, Pesaro E Urbino, Italy

❖ [Online-G18-O2 Climate Adaptive and Resilient Regions and Cities, August 27, 2024, 2:30 PM - 4:15 PM](#)

### POSITION PAPER FOR THE ERSO 2024

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5 Keywords: Urban Regeneration, Climate Change, energy community, sustainable urban planning, integrated actions

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## The role of energy communities in accelerating sustainability transitions

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❖ Terceira-S77-S1 Collective Smartness to Foster Sustainability Transitions of Places: Smart Cities, Regions, and Energy Communities, S07, August 28, 2024, 11:00 AM - 1:00 PM

Accelerating sustainable and just transitions is a crucial challenge at the European level, and energy-related practices, activities, organizations, and ecosystems can play a pivotal role in achieving this objective. Energy communities, as a means to organize collective energy actions around open, democratic participation and governance, and the provision of benefits for members or the local community, emerge as critical instruments in this framework. They represent a way to develop energy efficiency, finance the transition, increase social acceptance, and stimulate people to adopt virtuous sustainable behaviors.

While various models of energy communities have been proposed, often based on singular case studies, the literature remains heterogeneous on the role energy communities play in sustainability transitions and associated changes.

This contribution seeks to address the following research question:  
What roles do energy communities play in sustainability transitions?

To answer this question, a systematic literature review informed by a two-step process is conducted. First, a bibliometric analysis is conducted using contributions from the ISI WEB OF SCIENCE and SCOPUS databases, resulting in a collection of 541 papers. Second, an original content analysis is proposed to examine patterns, themes, and relationships within the existing contributions on the topic.

Preliminary findings suggest that, in addition to energy efficiency, as the less surprising contribution of energy communities to the energy transition, other effects are observed in places where energy communities are located, including:

- a) Social change and innovation towards inclusion, socio-economic regeneration and innovation, and improved living conditions for vulnerable and low-income households.
- b) Empowerment of citizens and the formation of local social capital, promoting environmentally benign lifestyles.
- c) Technological innovation, such as the development of new clean energy technologies and platforms to facilitate operational compatibility and communication across community members, as well as the transition to a decentralized electricity system.
- d) Different supporting activities based on renewable energy sources, including new developments in aggregation, mobility, energy sharing, self-consumption, and district heating and cooling.

Our work contributes to the theoretical understanding of the relationship between energy communities and sustainability transitions. Our analysis, in fact, singled out three main components of the intellectual structure of the literature on energy communities and sustainability transitions: energy policies and normativism (mainly at the European level); social aspects of energy communities (such as energy democracy and citizenships); and technical aspects of energy communities' implementations.

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## Reshaping the economy? Place-based policies and regional reallocation in Italy

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❖ [Terceira-S25-S1 Counterfactual Methods for Regional Policy Evaluation, S05, August 28, 2024, 4:45 PM - 6:30 PM](#)

EU Cohesion Policy - the European Union's place-based policy amounting to one-third of its budget - is designed to equalize outcomes across and within countries in the EU. Despite five periods of funding for EU cohesion policy, spatial disparities are large and the long-run efficacy of the policy is still poorly understood. Recent empirical work has documented the positive effects of this investment policy on growth in less developed regions, but these effects may not be long-lived. In order to understand the medium- to long-term effects of this place-based policy, we study its impact on reallocation, including firm entry and exit in local economic areas in Italy. New firms are a key driver of local economic growth, and subsidies may drive entry through improved provision in public goods and/ or more skilled labor supply. Alternatively, the policy could suppress entry if the subsidies were to keep non-viable firms in declining industries in business.

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## The impact of Russia's invasion of Ukraine on the European borderland universities

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<sup>1</sup>University of Warsaw, Warszawa, Poland

❖ [Terceira-S21-S4 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S05, August 29, 2024, 9:00 AM - 10:30 AM](#)

The paper investigates the impact of the Russian invasion of Ukraine on universities in the regions neighbouring Ukraine, Russia and Belarus, examining how geopolitical challenges have affected existing inequalities in higher education and science. The study addresses a research gap by focusing on the war's impact on universities in European countries bordering Ukraine, Russia and Belarus, i.e., Finland, Estonia, Latvia, Lithuania, Poland, Slovakia, Hungary, Romania, and Moldova. The methodology relies on in-depth interviews and a subsequent survey targeting corresponding authors of scientific articles affiliated with these countries' institutions. Preliminary findings reveal varying impacts on research and teaching activities across institutions, with positive effects observed in areas neighbouring Ukraine and adverse outcomes in regions bordering Russia and Belarus. The study identifies other factors modifying the impact of war, such as the strength and importance of collaboration with Eastern scientific partners, the dependence of scholars and institutions on such collaboration, experience in providing education opportunities for international students, and the strategic orientation of the specific university or the specificity of the represented scientific disciplines. The paper presents the initial results of the ongoing study. The finalisation of the in-depth analysis of survey results is needed to validate the hypothesis on existing inequalities among universities regarding the scale and dimension of the impact of the war in Ukraine on their functions.



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## Location Determinants of Happiness: An Urban Analysis for the Spanish case.

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❖ Terceira-G26 Urban-Rural Relationships, SF1, August 28, 2024, 2:30 PM - 4:15 PM

The definition of such a concept like “happiness” is not an easy task, for being both heterogenous and complex. What does influence on it? Is only our decision as individuals or does our environment, our cities, and its location influence on it too? It may sound unrelated to traditionally pure economic topics but the growing concern of translating the socioeconomic reality to adequate levels of well-being has given rise to the so-called “economic of happiness”. Within this line of literature, efforts have been made on identifying the main factors that influence in the subjective perception of happiness. In this paper, we use a wide set of variables at the Spanish local level to estimate a “happiness production function”. This function is used to study how urban and spatial characteristics of each location (i.e. hours of light, pluviosity, distance to big cities, among others) as well as economic variables (i.e. unemployment rate, average salary), for which we also control, influence on the production of happiness. This analysis allows us to determine which urban and location elements are most relevant when it comes to explaining how individuals produce happiness and what this depends on. Our results provide a new approach and useful conclusions to the urban economic literature specially to the so-called “geography of happiness.”

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## Competitive factors in maritime clusters: A literature review

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❖ [Online-S53 Maritime Regions: Europe Hot Spots, August 26, 2024, 9:00 AM - 10:30 AM](#)

Maritime clusters are industrial agglomerations that have a direct relationship with the sea in their economic activities. Given the recent increase in literature on strategy and maritime clusters, especially on the competitiveness characteristic of clusters, this study aims to group the dimensions of competitiveness present in the literature, checking the number of publications, main journals and which dimensions of competitiveness most explored in the literature, considering the search in titles, keywords and abstracts. A systematic review of the literature was carried out in accordance with the research gap identified by Stravroulakis, Papadimitriou & Tsirikou (2021), which suggests mapping the competitiveness factors of maritime clusters, grouped according to Porter's (2017) classification. Used the Ebscohost, Web of Science and Scopus databases. As a result, it appears that despite the theoretical distinction between port cluster and maritime cluster, Ports are the main research unit of maritime clusters, in all competitiveness factors, contributing to the literature by reducing the relevance, in terms of scientific production, among the expressions. There is a predominance of publications on macroeconomic factors and an increase in the number of publications on the topic over time investigated, with the main origin of publications being Asian, with little academic production from Latin America. It innovates by consolidating the three main databases, complementing previous studies that use the databases separately.

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## How can Mission Oriented Innovation Policies be applied in Nordic regions?

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❖ Terceira-S42 Local Mission Approach as a Challenge Based Multi-Level Building Block for Sustainable Development, S08, August 29, 2024, 2:30 PM - 4:15 PM

Mission-Oriented Innovation Policies (MOIPs) have gained significant attention in political and academic discussions. MOIPs represent a supposed shift in innovation policy, focusing on addressing grand societal challenges and promoting transformative change. While there is support for MOIPs to be implemented at different geographical levels, it remains unclear how to apply place-sensitive perspectives. Substantial criticism to MOIPs is linked to the risk of place blindness. A core argument is that applying one-size-fits-all policies to innovation efforts risks affecting regions by disregarding existing regional specificities and capacities (Tödtling & Trippl, 2005). Thus, several scholars argue for basing MOIPs in local contexts (Wanzenböck et al. 2020). Morrison et al. (2023) advocate for the adoption of Small Wins-strategy, focusing on small-scale bottom-up initiatives, to empower less-developed regions and involve them in mission-oriented efforts to address place-specific challenges. Tödtling et al. (2022) call for reviewing the Regional Innovation System (RIS) approach and introduce the concept of 'challenge-oriented RISs' (CoRISs), centred on the direction of change, inviting stakeholders at various territorial scales, and prioritizing practical application and scaling up of innovations within and beyond regional boundaries.

Furthermore, Brown (2021) advocates for a differentiated approach based on countries contexts. They suggest that a "diffusion-oriented" approach is better suited to break the "low productivity, low innovation equilibrium" in Scotland due to its incremental nature and stronger focus on the Doing-Using-Interacting (DUI) innovation mode (also common in Nordic countries). Instead, he argues that the radical, scientific and technologically-based (STI) innovation mode, widely adopted in the US and England, is better suited for MOIPs.

Empirical research is necessary, first, to identify what characterizes existing innovation policies in different countries and regions; and second, to assess whether missions can be considered as an extension of, rather than a substitute for, conventional regional innovation policy as Hassink et al. (2022) suggest. In Nordic countries, mission-approaches are now being more actively adopted e.g., the Swedish innovation agency, Vinnova, has published roadmaps and handbooks for implementing missions, and has launched pilot programmes. Missions in other Nordic countries are more implicit e.g., Finland governmental organizations VTT and Sitra are considered mission-oriented (Lankinen & Järvensivu 2022).

Preliminary findings show the importance for country-specific variations to successfully implement MOIPs, and stakeholder involvement locally. Empirical evidence shows discrepancy between goals set at national and sub-national levels and insufficient instruments to align innovation efforts at different scales (e.g. Vinnova's pilot programmes give no guidelines for implementation at sub-national levels).

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## The effect of working from home on commuting time: Evidence for Portugal using worker microdata

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❖ [Online-S59 Telework in Post COVID Times: Trends and Challenges for the Future, August 26, 2024, 4:45 PM - 6:30 PM](#)

This paper intends to estimate the impact of working from home on commuting time in Portugal. Given the recent increase in the number of individuals working from home (i.e. about 17.5% of the total workforce, according to the latest information for the third quarter of 2023), this analysis holds significant value from transportation and regional policymaking perspectives. The impact is estimated using worker microdata from the Inquérito ao Emprego (i.e. Employment Survey) for the period between the second quarter of 2022 and the third quarter of 2023, while controlling for both individuals' socio-demographic and job characteristics.

The preliminary results suggest a non-linear relationship between commuting time and the number of days working from home. Commuting time progressively increases with the number of days working from home until reaching four days, where the maximum difference in commuting time is observed compared to individuals not working from home. Subsequently, for individuals working from home five days a week, the difference in commuting time continues to be positive but considerably lower, while the difference is not statistically significant for individuals working from home six or seven days a week.

These results bear important and potentially negative consequences for the sustainability of the urban mobility system, particularly in urban regions where house prices in urban centres have risen sharply, further encouraging people to relocate to areas further away from their workplaces. In future iterations of this work, different estimators will be employed, including estimators such as propensity score matching, to address potential endogeneity between commuting time and working from home.

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## Gendered landscape: a theoretical framework and a tool for policy making

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❖ [Terceira-S19 Gender and Diversity in Cities, S05, August 30, 2024, 9:00 AM - 10:30 AM](#)

We present a theoretical framework to both underpin and provide a tool to understand and replicate the emerging gender landscape approaches to policy making developed in cities across Europe. We develop three pillars allowing separate consideration of the institutional, city living and collective welfare landscape and show how to consider and measure the corresponding features at city level, with an application to the cities of the IN-HABIT consortium whose aim is to increase inclusive health and wellbeing

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## Deprivation Undercurrents: Mapping the Impact of Rapid Urbanization on Flood Vulnerability in Grand Tunis

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❖ [Online-G04-O1 Segregation, Social and Spatial Inequalities, August 26, 2024, 11:00 AM - 1:00 PM](#)

In the aftermath of the 2011 Tunisian revolution, the Grand Tunis metropolitan area has experienced rapid urbanization, marked by uncontrolled urban sprawl and the proliferation of informal settlements. Covering 24% of the total Tunisian population, this region faces escalating flood risks due to the altered landscape. The absence of effective urban planning exacerbates vulnerabilities, demanding a closer examination of the intricate dynamics at play.

Despite evident risks, a critical gap exists in comprehending the connections between accelerated urbanization, land-use changes, and resulting flood vulnerabilities. This dearth of knowledge impedes the formulation of targeted risk management strategies and informed urban planning policies.

This study aims to bridge this knowledge gap by investigating the nexus of rapid urbanization, land-use alterations, flood vulnerabilities, and socio-economic disparities in the Grand Tunis. The primary goal is to unravel how specific land-use decisions post-2011 have influenced the population's exposure to flooding risks.

Utilizing Geographic Information Systems (GIS) and Spatial Autocorrelation methods (LISA), the study will map flood-prone areas and correlate this data with socio-economic indicators. The spatial analysis will discern vulnerable zones, identify distribution patterns of risks, and assess spatial correlations between flood exposure and socio-economic conditions.

Anticipated outcomes include mapped areas highly exposed to floods and the identification of regions experiencing elevated socio-economic deprivation. The spatial analysis is expected to reveal significant trends, shedding light on the complex interplay between rapid urbanization, flood risks, and socio-economic disparities.

In conclusion, this study will provide critical insights into the impact of rapid urbanization on flood vulnerability in the Grand Tunis. The findings will inform targeted urban planning policies and risk management strategies, emphasizing the need for sustainable urban development to mitigate the socio-economic impacts of flooding in the face of ongoing urban expansion. By addressing these issues, the study contributes to a more comprehensive understanding of the challenges posed by rapid urbanization in the context of post-revolutionary societal shifts in the Grand Tunis metropolitan area.

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## Following Roman roads: Travel times in Italy

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❖ [Terceira-G11-O2 Transport and Accessibility, S15, August 29, 2024, 9:00 AM - 10:30 AM](#)

This paper analyzes the role of the historical Roman transport network on modern travel times in Italy. Roman roads were constructed by the Romans with a clear design, strong engineering, and the ability to overcome geographical barriers. After 2,000 years, the modern transport infrastructure still relies on them. The Roman Empire's influence extended across the entire Italian territory, with its core located in Italy. As a result, all regions in Italy are intersected by the historical Roman road network. Italy is also unique for another reason: the majority of trade takes place overland. Three fourths of intra-EU trade depends on road freight transport, within Italy it is 87 percent. Time is a crucial aspect that reflects the efficiency of a transport infrastructure and the accessibility of a region. By exploiting the information at two different territorial levels, the paper explores whether modern roads and railways constructed following the path of the old Roman road network affect the reduction of travel times - geographical features and distance being equal. On the one hand, the Italian territory is decomposed into small grid cells to examine the role of Roman roads, modern roads, and travel times inside artificial areas of 1 km x 1 km in size and to explore the variability within territorial units with different geographies, urban developments, and infrastructural endowments. On the other hand, NUTS4 municipalities are selected to account for the between connectivity: shortest paths in terms of Roman roads and modern transport infrastructure between pairs of Italian administrative centers are used to investigate how much current paths conform to old ones. The results of this paper indicate that territories crossed or linked to other areas by modern transport infrastructure following the path of the old Roman roads have lower travel times today compared to territories where the modern infrastructure disregards the historical routes.

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## Accounting for productivity heterogeneity in subnational interregional input-output accounting

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❖ [Terceira-G31-O1 Methods in Regional Science or Urban Analysis, S17, August 28, 2024, 2:30 PM - 4:15 PM](#)

The accuracy of subnational input-output (IO) accounts tends to suffer from data scarcity. Literature on how to construct subnational IO accounts proposes several ways to estimate the magnitudes of intersectoral linkages within regions as well as for interregional trade flows. In some cases, data scarcity is so severe that information on industry productivity levels across regions of a nation is totally absent. Subnational data in certain countries/regions (e.g., the European Union, the United States, and Japan) are increasingly accessible, yet their integration into subnational IO account estimates often does not use all information available from statistical agencies. Introducing such superior data comes with trade-offs, e.g., it consumes more time and requires more funding. In this paper, we assess how much more accurate and meaningful interregional accounts might be after introducing subnational information on value-added by industry when using an interregional IO account. To do so, we propose a simple experiment that uses four sets of alternative accounts. We start by aggregating a subset of an accepted global input-output (GRIO) account to produce an EU-wide account. We try to replicate the EU's true interregional accounts (the first of the four sets of accounts) via three (3) preferred approaches for estimating subnational accounts: (1) an integrated gravity model, (2) Flegg's location quotient, and (3) a set of econometrically derived regional purchase coefficients. In the two latter approaches, we allocate excess supply and demand for each region using a gravity model. We ensure final coherence of the interregional accounts via biproportional balancing. For each approach, we evaluate three different scenarios to estimate regional supply and demand: (a) spatially invariant value-added/output by industry, thus using regional employment as a proxy to share out "nationwide" data (b) knowledge of only more-aggregated level regional value-added (i.e., for 11 sectors rather than for 63 industries) and (c) full knowledge of value-added including by component for each industry (in which case, we assume compensation/output only is industry-wise spatially invariant). We then assess the relative accuracy of the different approaches and scenarios.



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## Assessing Inequality in Access to Health Services in Milan

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❖ [Terceira-S17 Tackling Territorial Inequality: Challenges, Research, and Policies, S04, August 30, 2024, 9:00 AM - 10:30 AM](#)

This paper investigates inequality in infrastructure for health across neighborhoods in the city of Milan. Neighborhoods provide the immediate environment where people live, work and play, and for many more vulnerable groups, such as older people and those with low income, most of their lives are spent in the neighbourhood. The aim is to assess whether some categories of the population, such as the elderly, have a difficult access to health care because of distance.

We utilize data from open map services to gather information on the locations of residential buildings and health amenities within city. Employing geographical information systems, we generate an accessibility index for health amenities, including hospitals, pharmacies, and doctors, based on the data from each residential building. Subsequently, for each neighbourhood, we compute the inequality in accessibility to health services.

Our findings reveal that inequalities in access to healthcare contributes substantially to magnify socioeconomic disparities. In some neighborhoods, social segregation coexists with a poor endowment of health infrastructures.

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## The Contribution of Circular Economy Best Practices For Electrical and Electronic Equipment to the Sustainable Development Goals

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❖ [Online-S50 Territorial Disparities and the Achievement of the SDGs?](#), August 26, 2024, 4:45 PM - 6:30 PM

This paper presents a mapping of best practices (BPs) related to the circular economy in the Electrical and Electronic Equipment (EEE) sector in the European and Italian contexts. The BPs are collected from two online platforms, the European Circular Economy Stakeholder Platform (ECESP) and the Italian Circular Economy Stakeholder Platform (ICESP), and analyzed according to their lifecycle phase, economic sector, geographical location, and contribution to the Sustainable Development Goals (SDGs). The results show that most BPs focus on the waste management and end-of-life stages of the product lifecycle, indicating a lack of systemic and holistic approaches that consider the entire value chain. Moreover, the BPs are mainly aligned with SDGs 8, 9, and 12, which emphasize the need for sustainable production and consumption models, decent work and economic growth, and innovation and infrastructure. The paper aims to enrich the literature on sustainability and circular economy in the EEE sector, as well as to provide insights for managerial decision-making and policy-makers. The paper suggests that managers can leverage the circular economy platforms to learn from other experiences, collaborate with stakeholders, and identify opportunities for innovation and eco-design. The paper also recommends that policy-makers align their strategies with both the global sustainability goals and the regional development priorities, fostering a holistic approach to sustainable growth.

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## Diffusion of Women's Political Empowerment: A dynamic spatial panel

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❖ [Terceira-G04-O3 Segregation, Social and Spatial Inequalities, S01, August 30, 2024, 2:30 PM - 4:15 PM](#)

Women have made significant progress in gaining representation in political decision-making bodies over the last decades. This increased political power for women has sparked academic interest in examining its effects on social spending, economic development and income inequality, and the quality of the institutions and corruption, among other topics. Moreover, with its inclusion in the Sustainable Development Goals, women's political empowerment seems to be of high priority in international development cooperation. While consequences of women's political empowerment (WPE) have been amply investigated, studies examining its spatial and temporal dependencies are still scarce. The idea that inclusive institutions in countries develop in isolation is unrealistic given the contemporary landscape of growing policy interdependence and globalization across cultural, social, and economic spheres.

Considering this, our paper examines the influence of spillovers on the diffusion of WPE across 140 countries from 1990 to 2022. To that end, the analysis utilizes a dynamic spatial panel data econometric approach, incorporating common factors. For the correct identification of cross-country spillovers, we control for the possibility of common factors since interdependence in political empowerment could be due to common factors or aggregate shocks that affect different units differently. In addition, we employ a hybrid spatial weights matrix which is created by combining different concepts of proximity other than geographical distance that may affect the spatial distribution of women's political empowerment. Our results reveal that WPE in a country has a positive and statistically significant effect on its neighbors, which highlights the relevance of spatial effects in this context. Finally, we employ a Spatial Bayesian Model Averaging (SBMA) analysis to verify which the robust set of time invariant socioeconomic factors driving the observed spatial spillovers and levels of women's political empowerment.

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## Specialization or diversification of local production systems - Size matters?

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❖ [Terceira-G50 Sustainability, Smartness and Festivals, S14, August 29, 2024, 2:30 PM - 4:15 PM](#)

Specialization or diversification? The theoretical and empirical literature on the economic growth of regions and local production systems has studied the links between a region's economic development and the structural characteristics of its specialization pattern. Several analyses have shown how gradual diversification of a region's economic structure can sustain its growth and reduce its vulnerability to external shocks. Others continue to emphasize the importance of specialization consistent with the region's comparative advantages. This study aims to contribute to this empirical literature by exploring the idea that the choice between diversification and specialization may depend on the economic size of the production system. The underlying hypothesis is that an effective diversification process requires a minimum endowment of productive resources, which makes the "critical mass" necessary to expand the region's basket of comparative advantages. Our results show that provinces that have concentrated their production structure in specific areas of comparative advantage over the years have improved their export performance. The same results also appear when controlling for the economic size of the provinces, with some difference in the significance of the results for the class of larger provinces.

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## The Effects of Coastal Amenities on the Social Structure of Cities

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❖ [Online-G04-O1 Segregation, Social and Spatial Inequalities, August 26, 2024, 11:00 AM - 1:00 PM](#)

One branch of urban economics shows that amenities affect a city's sociospatial structure, leading to social segregation. Coastal cities are known to comprise a large proportion of the world's population and possess a high level of natural amenities. With this in mind, it is important to explore the link between natural coastal amenities and residential segregation. We propose a theoretical model to explain this relationship and compare our results with those in French coastal cities. We find an American social structure that we explain theoretically by the small difference between the transport cost ratios of the two social categories.

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## Is the bicycling environment healthy? Urban form, and air quality, and the implications for planning for bicycling cities

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❖ [Online-G18-O1 Climate Adaptive and Resilient Regions and Cities, August 26, 2024, 4:45 PM - 6:30 PM](#)

Cycling is a healthy and sustainable mode of transportation. But urban environments are not always healthy nor sustainable. This research examines the relationship between where cyclists choose to ride, the physical environmental characteristics, and air quality. We do this by combining data collected from bicycle-mounted sensors with Google Street View imagery. The bicycle sensors, called Sniffer Bikes, were attached to bicycles in Utrecht, The Netherlands, logging riders' routes and sampling air quality along the routes. Street view imagery has rapidly ascended as an important data source for geospatial data collection and urban analytics, deriving insights and supporting informed decisions.

To establish a comprehensive dataset, Global Positioning System (GPS) points were generated at 100-meter intervals along a walk-bike infrastructure network shapefile. At each GPS point, four Google Street View images, capturing views at 90-degree angles, were automatically retrieved using a Google Application Programming Interface (API) key. Advanced computer vision techniques were employed to capture the detailed features of the built environment at each location. By fusing the air pollution data with the detailed built environment information, regression methods were then applied. These regression techniques allowed for a thorough examination of the relationships between air quality, route choice, and the urban environment.

This study presents a novel approach for evaluating the correlation between urban environmental quality and travel behavior utilizing street view images and machine learning techniques. Traditional methods of air quality assessment often rely on stationary sensors and complex models, which can be expensive and logistically challenging. The approach offers a scalable, cost-effective, and geographically comprehensive means of understanding complicated interactions between people and place. The findings from this work can enable urban planners and policy makers to create healthier urban environments that in turn foster healthier travel behavior in cities.

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## Portugal and tourism as an economic development strategy: the limits of input-output methodology in the context of labor shortage

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❖ [Terceira-G35-O1 Tourism and Overtourism Issues, S17, August 28, 2024, 4:45 PM - 6:30 PM](#)

Before the COVID-19 pandemic, Portugal was observing an exponential increase in tourism activities, particularly pressured by the increase in the number of guesthouses and a steady growth in traditional hospitality. In 2022, the trend continued, with international visitors rapidly returning to pre-pandemic levels (and even surpassing them in certain regions). This means that overall, between 2016 and 2022, the increase in international visitors observed a surge of approximately 100% during this period, representing a relevant shock that was particularly critical in the context of an increasingly inelastic labor market and shortage of workforce supply.

In methodological terms, many regional economists and practitioners rely on Input-Output models to simulate the impacts of tourism on regional economies. However, such a huge shock, particularly in regions where tourism, in 2016, already formed the economic base, represents a critical shock that questions the assumption that there is unlimited availability and constant elasticity in the labor market, an assumption that is a foundation element of the traditional input-output models.

In this work, we use multi-regional input-output models for the Portuguese economy (PReMMIA - Portuguese Regions Model for Multi-Impact Analysis), with a tourism extension, to estimate the indirect and induced effects of an increase in international tourism. Subsequently, the results of the impact are compared to current labor market data to assess how the increase in tourism and increase in employment led to regional changes, namely, labor reallocation between industries, with workers shifting from traditional industries to others related to tourism; and the need for in-migration, specifically hiring seasonal migrants to address the tourism peak season.

Our results highlight how an economic development based on tourism, a labor-intensive activity, will amplify some of the structural challenges the Portuguese society has faced, namely the workforce reduction (through aging and the out-migration of skilled workers), the increasing relative importance of non-tradable activities and the modest economic growth during the last decade.

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## Creative Tourism in the Creative City of Barcelos - progress towards sustainability?

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❖ [Terceira-G15-O1 Spatial Sustainable Development, S15, August 28, 2024, 2:30 PM - 4:15 PM](#)

Given the current challenges associated with mass tourism, the need to practice it in a sustainable way is increasingly a concern. In response to mass segments, Creative Tourism emerged 24 years ago. In the late 1980s and early 1990s, discourses on creativity in urban spaces and concerns about destructive tourist practices called for sustainable tourism practices. In 2004, the UNESCO Creative Cities Network was created. In 2017, the municipality of Barcelos was awarded in the category of crafts and popular arts.

Barcelos is associated with tradition and creativity due to the activities carried out in the municipality, such as pottery, figurative work, embroidery, weaving, wood, iron, basketry, paper pulp and recycling of various materials.

This article aims to analyze the creative activities developed in the city of Barcelos since 2017, and their impact on the city. It is a mixed study in nature and primary and secondary sources were used. At the end of 2023, we started an analysis using the Creative Tourism Network and the website of the Creative City of Barcelos. This was complemented by a focus group with 8 stakeholders. This is the first study about Barcelos Creative City.

Regarding the activities of Barcelos in the Creative Tourism Network and Creative City of Barcelos it was concluded that the existing activities are not limited to handicrafts and popular arts, including green wines, culinary arts, chocolate, and pilgrimages. Throughout the focus group discussion, it was highlighted that:

- The UNESCO award was the most attractive factor and that the touristic and economic impacts are positive.
- Creative Tourism is not widely welcomed by artisans as a means of generating more income. Those who promote their work through Creative Tourism do so because they are encouraged by the city government. Those who welcome tourists said the tourists are motivated to participate in their galleries in the creative process.
- The gallery of artisans is a space of sustainability and it is the way it is organized that attracts the interest of tourists.
- Not all arts are easy for tourists to perform, such as iron art, where the easiest task for tourists is to learn how to weld. Artisans must define which tasks can be carried out by tourists, making the experience creative or whether they can do all the creative activity, as in the case of pottery or figurative work in which clay or painting pieces are made.



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## European Universities and Regional Innovation: An In-Depth Analysis of Patent Contributions

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❖ [Terceira-G03-O1 Innovation and Regional Development, S11, August 28, 2024, 11:00 AM - 1:00 PM](#)

This article focuses on examining the contribution of universities to the creation of regional innovations in Europe. Regional innovation production is a key factor in the long-term economic growth of regions, making it crucial to understand how universities influence this process. While the majority of innovations originate from businesses, universities play an increasingly active role in the commercialization of their research results and collaborate more intensively in the innovation activities of firms. The article builds on existing research, highlighting the growing role of universities in commercializing research and fostering closer collaboration with businesses. Studies demonstrate that university research contributes to regional innovations not only through direct effects but also through indirect effects in the form of knowledge spillovers benefiting proximate firms.

One of the major challenges in researching regional innovations is the availability of indicators for the patent activity of universities in Europe. Differences in legislation regarding ownership rights to academic patents among countries significantly complicate data collection. While some patents resulting from university research are owned by the universities themselves (university owned), there are cases where ownership rights remain with the researchers (university invented).

This study explores the contribution of universities to regional innovation in Europe by utilizing a comprehensive database of university-owned and university-invented patents identified within the OECD RegPat database. The authors focus on the development of academic patenting in Europe and its geographical dimension. The second part of the article analyzes the significance of research and development expenditures and knowledge stocks of universities in the production of regional innovations using the knowledge production function. The modeling utilizes data on patent applications in European NUTS 2 regions from 2008 to 2016. This article contributes to a better understanding of the role of universities in the regional innovation ecosystem in Europe.

## 810

### The evolution of Italian medium-sized cities in relation to metropolitan cities. An analysis starting from real estate values.

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❖ [Terceira-G03-O5 Innovation and Regional Development, S11, August 30, 2024, 9:00 AM - 10:30 AM](#)

Cities are the foundation of states, but their growth paths are not uniform. In Italy, fourteen metropolitan cities have been identified that, with few exceptions, have not taken the lead in the country's development. The research focuses on Italian medium-sized cities to determine whether their evolution is correlated with that of metropolitan cities, particularly after the economic crisis of 2008-2012 and the Covid-19 pandemic of 2020.

In Italy, a much higher percentage of the population lives in medium-sized and suburban centres compared to the European average. The research analysed a ten-year period and considered eighteen medium-sized cities, as well as the second largest city in each region and a number of particularly important cities.

To evaluate the evolution of cities over time, this research analyses real estate values alongside demographic, economic, and infrastructural factors. The statistical method used for the analysis is non-hierarchical cluster analysis.

The results of the research reveal three distinct spatial developments.

In the first, cities that demonstrate positive property and economic values across all sectors tend to experience growth in relation to metropolitan cities. For example, Brescia-Monza with Milan, Modena with Bologna, and Latina with Rome.

Similarly, in the second spatial development, medium-sized cities follow a similar trajectory to metropolitan cities, but with lower economic and demographic signals, especially in the south and central suburbs.

In the third development model, there are medium-sized cities that exhibit significant and positive growth, well above average. These cities are located along well-defined infrastructure axes, such as the Milan-Padua axis, the Via Emilia, and the Brenner axis.

In conclusion, medium-sized cities tend to grow in relation to metropolitan cities. When metropolitan cities do not grow, as in the case of southern cities, medium-sized cities do not take on a substitute role but follow the same trajectory as larger cities.

This research makes an original and innovative contribution to the study of the development of medium-sized cities. It provides a clear analysis of concentration patterns in the Italian urban environment, identifying opportunities for the implementation of sustainable development strategies and for the full utilization of resources crucial to urban growth, such as cognitive and social capital and physical infrastructure.

811

## The future of libraries in a digital era. Social innovations, networks and policies in France and Quebec Province (Canada).

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❖ [Terceira-S03 Digital Geographies: Spacelessness, or New Mode of Space-Making and Space Relations, S02, August 29, 2024, 9:00 AM - 10:30 AM](#)

The paper deals with a preliminary study in the framework of a European research program called Horizon Europe LibrarIN (2023-2026). LibrarIN focuses on the future of libraries in the digital age. Magazines and books are increasingly accessible online. Social networks are a growing source of (fake) information and digital platforms offer a large access to TV films or TV series. Libraries in cities or in the rural areas have to adapt their offer to survive in the digital era. Is it possible for librarians to be useful for the society, citizens and marginalized people ? What types of innovations are necessary to create new services online and to attract users in the libraries in their «physical» dimension? Considering public budget restrictions, what innovations are necessary from a managerial point of view? What skills and competencies are necessary for librarians to adapt their role to the new demand such as digital training, (social) entrepreneurship, inclusive services (for poor people, migrants, elderly people, children and so on), transition to a new social and ecological economy ? The LibrarIN research program is focused on value-creation and innovation in academic or community libraries at the digital era. The paper presented at the ERSA congress addresses the emergence of social innovations (new demand of the people) linked to technological innovations (digital tools) in a geographical perspective (metropolitan or non-metropolitan area).

Methods and Data: Based on a literature review realized by colleagues of the project, the paper presents the first conclusions of a preliminary study in public libraries in two countries : France and Canada (Montreal and the Quebec province). French professional literature dedicated to librarians often cites examples of innovations experimented in Montreal (Quebec) such as Fab Labs, Living Labs, services for entrepreneurship or to disadvantaged people, in particular migrants from different countries. So we made some qualitative interviews and visits (may, september 2023) in Montreal and about 10 in France (october 2023-january 2024): in Paris, three metropolises and in medium and little cities of non-metropolitan areas. Qualitative data will be presented to compare different types of libraries considering the case studies in different geographical contexts. The aim is to analyse the tensions between some concepts: (digital or physical) proximity, networking, (traditional or innovative) public policies, innovation and value co-creation.

812

## The generational repopulation of depressed community areas among European rules, constitutional principles and sustainable regional anthropization

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❖ [Online-S70-S2 The role of young people in building up sustainable development practices for inner and rural areas, August 26, 2024, 11:00 AM - 1:00 PM](#)

The generational issue is the crucial point on which public and sustainable development policies (at European, State and regional level) will have to focus in the future.

The reasons are:

- the birth rate;
- the concentration of human settlements in the respective depressed and non-depressed areas;
- the type of uneven economic growth in the community area;
- the political models of national states and internal regions;
- the differentiated tax structures within the European Union;
- the 2030 Agenda which must be respected;
- the pressing climatic dimension;
- the quality of life at working, environmental and psychosocial level.

These combined factors (not exhaustive) are metrics of the current human condition and echo a fundamental problem: how to restore qualitative hope of life to the new generations.

In the concept of "qualitative hope" at least three conditioning elements must be taken into consideration:

- the density of land occupation (determines, in fact, the ecological quality of a territory environmentally experienced by human beings);
- the ability to (non) exploit energy (means rethinking the "domestic survival" model of consumption and development underlying it);
- psychosocial tension in regional dimensions (is the one to pay attention to in terms of "beginning-end relationship" in the sense that these tensions must be taken into due consideration as they are the basis of the choice of public policies which, at the same time, implies developing a new model of economic development on a very ontological direction: the homogeneous capacity of growth to become truly communal).

In this evaluative set of things, the new generations are protagonists of the programmatic nature of the European rules and of the most widespread constitutional principles in the territory of the European Union.

There is, however, a void of legislative activism with respect to the programmatic action mentioned above: first of all the repopulation of depressed and not yet developed areas with the same scope in the European Union area.

Main reason why the repopulation of territories must be rethought with the idea of a double track: birth rate policies and facilitation of settlement.

In all this, a complementary piece should not be forgotten: how to effectively integrate the migratory masses who, generationally speaking, can only be directed towards a social dimension that smacks of a challenge to the future.

Data OECD, OEC, etc. they will support the whole topic.



## 813

### The impact of natural disasters: how the 2009 earthquake transformed the economy of L'Aquila labour market area\*

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❖ [Terceira-S67 A World of Shocks: Multi-Layers Multi-Shocks Resilience, S06, August 28, 2024, 2:30 PM - 4:15 PM](#)

We investigate the economic impact of the 2009 earthquake in L'Aquila labour market area (Italy) through a synthetic difference-in-differences method over the period 2004-2013. The shock immediately disrupted local economy with a 27.3% and 38.2% reduction in employment and firms number. However, these effects are not statistically significant as measured 5 years after the earthquake suggesting a rebound process in terms of employment and number of firms. Such findings are the result of heterogeneous dynamics across the manufacturing and services sectors: the former exhibited a permanent contraction in the number of employees and firms, whereas the latter experienced a strong recovery after a short-term negative effect. Such dynamics induced an increase of sector dissimilarity of L'Aquila with respect to other labour market areas in Abruzzo.

814

## PISA Insights: Mapping educational disparities across EU and EEA member states

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❖ [Terceira-G02-O3 Demographic change, Population and Migration, S10, August 29, 2024, 9:00 AM - 10:30 AM](#)

In the last decades education has begun to receive a paramount importance, due to its primordial role in the economic progress and development (Rodríguez-Pose & Tselios, 2011) of a society. Education impacts the poverty level of a nation (Tilak, 2002), helps increase welfare (Patrinos, 2016) and improves living conditions. The disparities that could be found among the EU Member States and the new issues they faced (demographic aging, unemployment and a lack of skilled labor force) bring into question the quality and efficiency of the Member States' education systems. Among the others, one measure of Europe's education systems quality may be the comparative analysis of the results of PISA assessments. While multiple studies carry out an analysis at country level or a cross-country analysis, only a limited number of studies have been conducted for (all) both EU and EEA member states and using the results of several assessments.

This study aims to inquire how the European states (EU and EEA) performed in the 2012, 2015, 2018 and 2022 PISA assessments. Using spatial and descriptive analysis, inferential statistics the study seeks to achieve results concerning: i) the trend in PISA test scores over the period 2012-2022; ii) how PISA assessments results shape educational disparities among EU and EEA member states. The preliminary results reveal that the scores obtained by students in the Member States have been decreasing over the period analysed, with a sharp decline of the percentage of students which are above the minimum proficiency level.

Further, it can be considered that the performance of an education system is driven by a complex of several determinants. The culture of a people, better adapted policies to the needs of the students, priority funding for education, a society where meritocracy is paramount are all determinants that can contribute decisively to increase the quality of the educational systems across Europe.

In order to drive meaningful policy changes and reduce gaps at European level, member states should improve their governance, efficiency and transparency, and identify the exact funding needs of each region. Exploring the implementation of cohesive strategies and shared policies at the EU level may prove instrumental in elevating the standards of education across member states.

Patrinos, H. (2016) 'Estimating the return to schooling using the Mincer equation'

Rodríguez-Pose, A. and Tselios, V. (2011) 'Mapping the European regional educational distribution'

Tilak, J.B.G. (2002) 'Education and Poverty'

815

## Assessing the Impact of Policy Interventions on Poverty Reduction through the RHOMOLO Model

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❖ [Terceira-G15-O1 Spatial Sustainable Development, S15, August 28, 2024, 2:30 PM - 4:15 PM](#)

Poverty remains one of the most pervasive challenges of our time, and its eradication is the foremost aim of Sustainable Development Goal 1. Despite extensive research using various economic models to analyze poverty, there remains a significant gap in literature regarding the spatial economic impact of policy interventions on poverty within the European Union regions. Our study addresses this gap by utilizing the RHOMOLO model, a Computable General Equilibrium Model for EU Regions and Sectors, to assess the implications of policy measures on poverty rates.

The methodology allows for a comprehensive assessment of poverty at a granular regional level, addressing the call for innovative approaches in evaluating SDG achievements. Furthermore, our research provides a tractable analysis of the relationship between policy instruments and poverty reduction, revealing that the integration of socio-economic variables within RHOMOLO can produce critical insights into the effectiveness of SDG-oriented strategies. By linking the SDG framework to RHOMOLO's robust regional economic data, we present an innovative methodology that significantly advances the existing body of knowledge. The approach outlined here sets a precedent for future research and offers a scalable technique for assessing other SDGs, thus enhancing the policy toolkit for regional development and planning.

This paper proposes a novel approach that facilitates a deeper understanding of the regional impact of policies, thereby filling a critical void in the existing literature. Our findings not only contribute to academic discourse but also offer practical guidance for policymakers dedicated to reducing poverty in Europe.



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## Regional innovation poles and knowledge diffusion in Italy: The case of the Abruzzo region

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❖ Terceira-S74 Entrepreneurial Ecosystems and Regional Development: Dynamics, Evolution, and Implications, S08, August 30, 2024, 2:30 PM - 4:15 PM

This paper is motivated by the significant slowdown in the growth of GDP and productivity which has characterized the Italian economy in the last three decades. Following the competitive selection brought about by globalization and the recent economic crises, the Italian entrepreneurial system shows growing signs of polarisation: some (few) SMEs innovate, export and ensure good working conditions, while many "laggard" companies manage to survive only thanks to low wages, poor jobs, large margins for tax avoidance and evasion, and public subsidies. These gaps are intertwined with the widening of territorial inequalities in the Italian socio-economic system.

The Abruzzo region can be described as a case of a possible "development trap". Until the early 1990s, its economy showed a notable convergence of per capita income towards the national average, above all due to structural changes which led to an increase in productivity. In recent decades this process has been interrupted by a number of adverse factors. The resilience of the regional economy to shocks is mainly based on externally controlled large firms and the spillover effects on local firms have so far been weak. The social diffusion of the benefits of globalization has remained limited, particularly in internal areas. Earthquakes and other natural disasters have made the situation worse.

The regional innovation system is therefore facing major challenges. Since 2008, the regional administration has promoted a number of 'Regional Innovation Poles' and most recently its 'Smart Specialization Strategy' has been reorganized into five domains, namely Automotive, ICT/Aerospace, Life Sciences and Pharmaceuticals, Food, Fashion and Design. The process of entrepreneurial discovery implemented to build this strategy has led to the idea of making Abruzzo the "region of sustainable industry", enclosed in the so-called «Pescara Charter» (2016).

This paper aims to evaluate the experience of the regional innovation poles in Abruzzo, drawing on the data available at firm level on employment, productivity and innovative activities. Companies participating in regional innovation hubs will be matched with an appropriate control group on non-participating companies, in order to better understand the effectiveness of this policy framework in stimulating innovation and growth.

The policy implications of the paper may be particularly relevant to the ongoing attempt to use the National Recovery and Resilience Plan and the new cycle of European cohesion policies to stimulate the development of various forms of 'innovation intermediaries' linking universities and other research centres to SMEs.

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## Intra- and inter-national trade of EU regions. Implications for economic growth

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❖ [Terceira-S21-S5 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S03, August 29, 2024, 2:30 PM - 4:15 PM](#)

The role of trade openness in enhancing growth has always been one of the most important and debated economic issues. The last decades have undoubtedly seen a tendency towards open economies, resulting in any form of (even partial) autarchy having become less and less prevalent in most of the world. One could easily see how organisms of any type - from the International Monetary Fund to the Organization for Economic Cooperation and Development and from the World Trade Organization to the European Union - strongly act in accordance to the belief that more openness leads to higher economic growth. However, scholars have not reached a consensus on the matter yet, and evidence has so far produced mixed results. As regional economists, we believe that such indecision might depend to the large geographic scope that one is forced to deal with when the focus is on country, rather than regions.

In this paper, we use the Joint Research Committee's own RHOMOLO database to investigate how trade impacts growth when it is integrated in a standard Solow model, consisting of GDP, capital stock and human capital. RHOMOLO database allows us to differentiate trade with other domestic regions from trade with other countries that belong to the European Union and from the rest of the world. This distinction immediately appears necessary when one acknowledges that about 60% of out-of-region trade in Europe originates from or is directed to other regions that belong to the same country. Our results indeed indicate that not only this type of trade is not as conducive to growth as trade with other countries is, but that it might actually be detrimental to the region's economic welfare. Even trading outside of one's own country is not homogeneous in its effects on growth, and trading with countries outside the European Union seems to have a much stronger impact than trading with fellow members. These results are robust when import and export are analyzed separately and when the temporal range is extended, even covering peculiar times such as throughout the pandemic acute phase in 2020 and 2021.

818

## The Effect of Schooling on Parental Integration

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❖ [Terceira-YSS5 Drivers of Inequality - EPAINOS, S03, August 29, 2024, 11:00 AM - 1:00 PM](#)

Exploiting the age-at-enrollment policies in 16 German states as exogenous source of variation, I examine whether the schooling of the oldest child in a migrant household affects parents' integration. My analysis links administrative records on primary school enrollment cutoff dates with micro data from the German Socioeconomic Panel (GSOEP). Using a regression discontinuity design around the school enrollment cutoff and an instrumental variable approach I show that children's schooling improves the integration of parents along several dimensions, such as labor market outcomes, financial worries, and German language skills. Labor market outcomes are most positively affected for mothers. Additional analysis of underlying mechanisms suggests that results are driven by gains in disposable time and exposure to the German language and culture.

819

## The post-Covid-19 gender gap in the division of household labor

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❖ [Terceira-G04-O2 Segregation, Social and Spatial Inequalities, S11, August 29, 2024, 2:30 PM - 4:15 PM](#)

This study provides a thorough examination of the evolving gender gap in time allocated to housework in the aftermath of the Covid-19 crisis. Analyzing data from the American Time Use Survey (2015-2022), our findings reveal a significant trend towards greater equality in the distribution of household tasks among couples, extending beyond the initial stages of Covid-19. Although the immediate response post-pandemic was not substantial, the subsequent period witnessed a notable decrease of 57% in the gender gap related to housework time. Our research demonstrates an increase in men's domestic contributions, particularly in tasks related to interior cleaning. The pandemic's impact on housework time varied across personal characteristics, with younger individuals without a college degree and those without school-aged children making significant strides in closing the gender gap. Further findings indicate that parents maintained a similar share of childcare responsibilities as before the pandemic. A supplementary analysis highlights the intensity of Non-Pharmaceutical Interventions (NPIs) as a potential mechanism for changing gender roles. We show a more significant closure of the gender gap in household labor in areas with more intense NPIs. Our study presents suggestive evidence indicating that the ability to telework is also reducing the gender gap in domestic labor among couples.

821

## Understanding the Regional Engagement of Universities from a Stakeholders' Perspective: The Case of Confucius Institute at the University of Thessaly, Greece

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❖ [Terceira-S08-S2 University Impacts on the Local and Regional Economy, SF3, August 28, 2024, 4:45 PM - 6:30 PM](#)

In the knowledge era, it is evident that universities have acquired a vital role in fostering sustainable regional development. In many instances, universities are seen as capable actors for promoting the goals of the regions where they function, and for this, traditional teaching and research activities are steered towards the fulfillment of local needs and targets. Through knowledge generation, universities can ensure the sustainable development of regions and can affect various instances of the social, economic, and cultural life as well as the environment of their hosting regions. Therefore, there is a shift in knowledge production from the traditional Mode 1 type to Mode 2, in which research is more closely related to regional needs. In order for universities to fulfill their role as drivers of regional development, they should engage with the region and should establish networks and partnerships with other regional actors, both public and private, who are working in the same direction. This more active role in promoting regional targets can be seen as the third mission of universities. The present paper builds on the pool of regional stakeholders, and through a dedicated survey, it seeks to record and codify their perceptions regarding the overall engagement of the university with the region. The case study is performed in the region of Magnesia (NUTS III region; Greece) and focuses on Confucius Institute at the University of Thessaly. Confucius Institute at the University of Thessaly was established in 2019, under an agreement between University of Thessaly and Confucius Institute Headquarters (Hanban), in co-operation with Central University of Finance and Economics (CUFE) in Beijing. It aims to serve as a bridge between Greece and China in the domain of education, culture, and business. It is in the region of Magnesia, and in the city of Volos in particular. Even though further research is needed, since the regional engagement of universities is in full swing, especially as regards the particular case study, the paper offers valuable insight into both theory and policy making.

822

## Just Transition and Smart Specialization in the coal phasing-out regions of Bulgaria

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❖ [Online-G03-O2 Innovation and Regional Development, August 26, 2024, 2:30 PM - 4:15 PM](#)

A just transition must be realized after the cessation of coal mining and electricity production to the creation of alternative opportunities for new jobs. This is a change in the socio-economic situation (transition), the management of internal and external migrations of the population, and respectively, the preservation of the functions and significance of the settlements located in the territories in transition. The thesis advocated in the article is closely related to the concept of "industrial reconversion", in which existing industrial objects have exhausted their social utility and must receive a completely new application and/or new social value. At the same time, those of them that are not subject to conversion (land, tailings, mines, industrial buildings, etc.) must be utilized (restored, forested, drained, destroyed, etc.) and brought to a state that is conflict-free with new businesses and climate neutrality. This can only be realized through a well-thought-out strategy for smart specialization that will justify and prove the transformative sectors, as well as through the creation and implementation of plans for the transition to a climate-neutral economy. The article articulates the topics of just transition and intelligent specialization in the regions of Stara Zagora, Pernik, and Kyustendil as the most affected in Bulgaria. Apart from them, due to significant labor migrations, the issue of transition and smart specialization also affects other commuter donor regions. For Bulgaria, the topic has several levels of significance - social, energy security, technological shift, climate neutrality transition, and spatial organization concerning some significant regional and municipal settlement centers.

823

## Territorial intelligence and circular economy: a twinning that enhances the sustainable development of territories? An analysis based on statistical indicators

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- ❖ [Terceira-S54 Territorial Intelligence, a Key for a Sustainable Future? New Challenges and New Prospects for Regional Development and Growth: Data, Methods and Solutions, S07, August 28, 2024, 4:45 PM - 6:30 PM](#)

The circular economy is a systemic model that aims to limit the production of waste and the use of resources and to reduce the environmental impact of resource extraction right through to the end of a product's life. The transition requires a cultural and structural change, a real territorial intelligence: a profound revision and innovation of production, distribution and consumption models are the cornerstones of this change, passing through new business models and the transformation of waste into resources with high added value.

Cities and local territorial areas are strategic places in the development of circular economy approaches capable of making the management of resources (materials, water, energy, soil) more efficient. Urban areas, in particular, play a crucial role in driving sustainability in the production and consumption of goods and services since they are home to more than half (55%) of the world's population, generate more than 80% of GDP, are responsible for 75% of natural resource consumption, produce 50% of global waste and 60-80% of greenhouse gas emissions. As indicated by the 2030 Agenda, cities are the engines of innovation and sustainable economic development, but also the battleground for the new challenges of this century, such as population growth, urban sprawl, climate change, waste generation and environmental degradation.

Cities are laboratories for the development of circularity approaches and can be places of experimentation and catalysts for circular transition.

The transition of cities and territories towards economic models capable of ensuring economic, environmental and social sustainability requires a step change in collaboration between sectors and between territories themselves, the dissemination of new models of consumption (sharing, reuse, etc.), the involvement of key players in the design and implementation of innovative solutions, as well as the development of technologies, the implementation of sharing platforms and integrated projects, and greater involvement of citizens. In addition, focusing circular development models on local specificities makes it possible to enhance the resources present in the area, nurture virtuous circles of knowledge development and dedicated technologies, and leverage the participation and involvement of local stakeholders.

The purpose of this work is therefore to provide tools for measuring the circular economy through the construction of ad hoc indicators based on official statistical data.

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## Measuring Social Effects of Deforestation Exposure

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❖ [Terceira-S23 Tropical Deforestation – Measurement, Economic Drivers, and Human Consequences, S04,](#)  
August 28, 2024, 4:45 PM - 6:30 PM

A large literature documents the positive relationship between forest ecosystem services and socioeconomic well-being in forest-proximate communities, in particular in lower income contexts. How deforestation affects these synergies, however, is less well understood. While aggregate forest loss metrics over any given administrative subdivision or area are widely used in social science research, measuring exposure to deforestation from an individual's or household's perspective is not commonplace. We combine geo-referenced data from a nationally representative survey in 34 sub-Saharan African countries with spatially explicit land use and land cover data at 10 by 10-meter resolution. For every survey location in our sample, we compose locally centred metrics of forest cover change. For robustness, we vary the detection sensitivity, circle radius, and recall period length of our exposure metrics to test how each of these parameters influence the final product, and we compare our local exposure metrics to traditional deforestation metrics. We conclude by envisioning applications for which localised exposure metrics might prove relevant in future research.



826

## Geography, Agricultural Suitability and Diversity in Cultural Values

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❖ [Online-G41 Modelling spatial analysis, August 27, 2024, 9:00 AM - 10:30 AM](#)

We empirically investigate how historical patterns of agriculture have shaped contemporary diversity in cultural values in different parts of the world. We provide systematic evidence that regions of the world characterized by greater spatial variation in suitability of land for agriculture exhibit greater diversity in cultural values. We document this pattern for a broad range of cultural values both across countries and across regions within countries. This pattern is visible even when we control for ethnolinguistic and other dimensions of societal diversity, and is robust to the potential endogeneity of agricultural conditions to economic development. We also demonstrate the relevance of the hypothesized mechanism, that relates to variation in cultivation patterns of different crops, relative to other mechanisms that relate variation in cultural values with geographic conditions. Our findings provide broader support for the agricultural origins of contemporary variation in cultural values. Unlike previous contributions to this literature, though, we focus not on the prevalence of particular cultural values, such as individualism, long-term orientation or egalitarian gender norms, but on interpersonal diversity in such values within a given geographic entity. Our findings, thus, suggest that the link between geography and culture may be more general than previously understood.

827

## Enhancing Mental Well-being in Older Adults across Europe: The Vital Contribution of Social Capital to Building Resilience

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❖ [Online-G04-O2 Segregation, Social and Spatial Inequalities, August 26, 2024, 2:30 PM - 4:15 PM](#)

**Objective:** Exploring and disentangle the role of social capital in the probability of suffering from depression among older adults in Europe. We hypothesize that both forms of social capital are positively associated with mental health.

**Methods:** We utilized data from the 4th, 6th, and 8th waves of the Survey of Health, Ageing and Retirement in Europe (SHARE), comprising 13 countries that were consistently present in all survey waves. Our assessment of social capital was based on a diverse set of variables, allowing the construction of two distinct scales to measure bonding and bridging social capital. Additionally, we incorporated individuals' assessments of their satisfaction with both their social networks and their engagement in bridging social capital activities. We control for personal and socioeconomic characteristics (paying special attention to the role of gender and marital/cohabitation status) and health-related variables. To reach our goals multilevel logistic growth models were performed.

**Results:** Our models prove that higher levels of social capital reduced the probability of reporting depression even when we control for personal and health characteristics. The protection from the bonding social capital would be higher than the one from the bridging one (14,1% and 9% reduction in the depression level respectively) We also found differences in the protective effect of social capital depending on the gender and marital /cohabitation status. More precisely, we found that women are more vulnerable to depression and social capital is not as protective for them in comparison to their male peers.

**Discussion:** The last decades have witnessed significant developments in the field of mental health care for people over 50 in Europe especially in the social awareness and political responses. Nevertheless, there is still effort to be done in several fields such as country cooperation or paying more attention to prevention and early intervention programs. At this regard, social capital (both bridging and bonding) could reduce the odds of suffering from mental problems such as depression. Our analysis can be used to better design new policies and programs that specifically address the main challenges and the most vulnerable people.

828

## Restructuring of Workforce Skills: adapting to automation technology in the wake of economic crisis

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❖ [Terceira-S43-S1 Skills on Local Labour Markets, S17, August 30, 2024, 9:00 AM - 10:30 AM](#)

The purpose of the current paper is to augment the literature by investigating the timing and triggers of effects from the introduction of new automation technology. We do this by looking at individuals employed in manufacturing firms. These firms may or may not invest in automation technologies in a certain period. We then observe the outcomes for individual workers after an external shock. The external shock we will exploit is the great recession of 2007-2010. More succinctly put, we will examine the probability of job loss for workers in automating compared to non-automating manufacturing firms in the wake of the crisis in 2007. The hypothesis we aim to test is that the effects on employees of different skill levels from investing in automation technology may not be evident until there occurs a sizable pressure on the firm financially or otherwise. One important benefit following this design is that the economic shock comes much faster and is external to both firms and workers. This is in contradiction to investment programs of firms that may unfold in a much more gradual and piecemeal fashion. Thus, effects are more readily identified to a shorter time window.

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## Navigating the data morgana: integrating urban datasets and ideals for sustainable city monitoring

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❖ [Online-G01-O2 Peace, Regional and Urban Sustainable Development, August 26, 2024, 2:30 PM - 4:15 PM](#)

The authors of the paper explore the difficulties cities face in assessing and evaluating sustainable development. To communicate future goals, national and city governments generally employ abstract concepts. Meanwhile, city governments develop monitoring systems to track a multitude of metrics and indicators. By using 'Ideals', actors can collaborate towards important objectives and share a unified understanding of the concepts employed. However, the absence of an overarching strategy in the city's collection of monitoring frameworks and the incompatibility between various datasets and indicators can result in fragmented approaches. The authors propose using Ideals to bridge different disciplines and achieve more comprehensive insights through indicator-based monitoring systems. The city of Amsterdam is used as a case study to demonstrate how a domain ontology that combines the examination of coalition agreements, urban datasets, and monitoring systems can determine whether the city is effectively monitoring the Ideals it aims to achieve.

The creation of a shared classification and taxonomy is imperative for urban sustainability monitoring. It facilitates a common language that links diverse models, frameworks, and definitions. Therefore, our study has created an ontology encompassing over 1140 indicators drawn from 11 monitoring frameworks of Amsterdam, classifying them into dimensions, themes, subthemes, types of impact, and the city's seven Ideals. The establishment of a repository, including both the data and the applied methods behind the monitoring, would enhance transparency and reproducibility for citizens and academia. This paper marks the initial step towards developing a robust and reproducible urban sustainability monitoring system. The model developed for Amsterdam will be made open-source, promoting the democratisation of urban data and insights through the lens of each city's unique Ideals.

831

## AI-driven entrepreneurship : " A new era has begun "

Dr. Salma Hichri, Dr. Foued Ben Said

❖ [Terceira-S69 The Promise of Transition Via Innovation for Sustainable Regional Development, S07, August 28, 2024, 2:30 PM - 4:15 PM](#)

### Purpose

In recent years, the potential of artificial intelligence (AI) has received increasing attention in various fields of research and application, but it has not received much attention in contemporary entrepreneurship research. AI equips companies and individuals with powerful tools that enable them to do more and act with superhuman capabilities (Giuggioli and Matteo Pellegrini, 2023). It also makes it possible to automate complex processes and process diverse sets of unstructured data using complex algorithms to perform tasks that normally require human intelligence and considerable human effort (Chalmers and Mackenzi, 2020). The advent of AI therefore has critical consequences and profound implications for individuals, companies and entrepreneurial practices. These consequences also affect entrepreneurs who continue to operate in the traditional way, as they risk being disintermediated in an AI-driven economy. This research aims to explore the impact of AI on entrepreneurial processes and practices, as well as the considerable challenges that new businesses will face. Our analysis will focus on the adaptations needed for new businesses and entrepreneurial players to ensure a smooth transition to this new technological era, and to better prepare future entrepreneurs.

### Methodology

The methodology adopted in this research is based on the application of bibliometrics, a quantitative approach that enables the systematic analysis and evaluation of scientific production articulating entrepreneurship and artificial intelligence (AI). First, we exhaustively identify relevant bibliographic corpora, drawing on renowned academic databases. We then apply strict selection criteria to select only the most relevant and influential works, thus guaranteeing the quality and representativeness of our analysis. The use of advanced bibliometric techniques will enable us to explore trends, patterns and articulations that lie at the intersection of entrepreneurship and AI.

### Findings

This research aims to demonstrate that AI exerts a significant influence on entrepreneurial processes, conferring transformative power on its various aspects and practices. Our approach aspires to enlighten entrepreneurs on the implications of AI in their field, prompting strategic thinking and proactive adaptation to technological developments. By highlighting these dynamics, we aim to contribute to a deeper understanding of the opportunities and challenges associated with integrating AI into the entrepreneurial context.

### Practical implications

The practical implications arising from this pioneering research may be of crucial importance to entrepreneurs and researchers alike. Indeed, this study provides innovative insights likely to guide strategic decisions in a rapidly changing entrepreneurial context.

832

## What if my parents allow me to consume alcohol, tobacco, or vape? Consequences of (non) parental monitoring among teens

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❖ [Online-G04-O1 Segregation, Social and Spatial Inequalities, August 26, 2024, 11:00 AM - 1:00 PM](#)

**Objectives:** Adolescence is a period between childhood and youth that implies important biological, psychological, and social changes. They start consuming alcohol, tobacco, and other drugs in an attempt to prove new life experiences and seek peers' approval. In this context, we aim to analyze how parental monitoring and permissiveness influence on alcohol drinking, smoking, and vaping among Spanish teens.

**Methods:** Using the 2021 wave of the Spanish School Survey on Drug Use that collects information about students aged between 14 and 18 years, we examined the relationship between four different health-risky behaviors and parental monitoring and permissiveness.

**Results:** We found that mothers' permissiveness increased more the probability than fathers' of smoking tobacco (coeff. 1.10 vs. coeff. 0.22), pipe (coeff. 0.95 vs. coeff. 0.39), vaping (coeff. 0.92 v. coeff. 0.21) and drinking alcohol (coeff. 0.95 vs. coeff. 0.21). High parental monitoring out of home reduced teens' odds of engaging in any health-risky behavior. Particularly, establishing rules out of home reduced the consumption of tobacco (coeff. -0.13), pipe (coeff. -0.28), alcohol (coeff. -0.28), and vaping (coeff. -0.19). Parents' knowledge about teens' nightlife also reduced health-risky behaviors among teens.

**Conclusion:** A high level of parental monitoring is negatively associated with alcohol drinking, smoking, and vaping among teens, whereas a high level of parental permissiveness leads to higher odds of pursuing health-risky behaviors. This is reinforced when mothers are most permissive. Our results highlight the importance of focusing health educational programs on teens but also on parents to avoid health-risk behaviors at early ages.

833

## Multi-layered Resilience of Russian Regions: Dynamics of Industries and their Impact on Regional Economy and Quality of Life

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❖ [Online-G38 Industrial dynamics and spatial development, August 27, 2024, 9:00 AM - 10:30 AM](#)

This study explores the resilience of Russian regional economies by examining the interactions between individual industries, overall regional economic stability, and the quality of life indicators for local populations. Utilizing a modified version of R. Martin's method (Martin, 2012) to calculate resilience, we measure the relative changes in total output within industries, Gross Regional Product (GRP), and incomes across three major crises: the 2008-2009 financial crisis, the 2014 economic downturn, and the COVID-19 pandemic.

Employing data spanning these crises, we employ the shift-share method to dissect the influence of industry structure on resilience, identifying factors that shape resilience beyond industry boundaries. Through rigorous analysis, we uncover patterns of resilience that transcend sectoral distinctions, providing insights into the broader economic landscape.

Furthermore, we examine the hierarchical influence of each layer of resilience on subsequent layers, elucidating the cascading effects within regional economic systems. This comprehensive approach allows us to untangle the complex web of factors influencing resilience, encompassing internal and external forces.

Our findings carry implications for policymakers and regional stakeholders, offering guidance on targeted interventions to bolster resilience and promote sustainable development across Russian regions. By understanding the intricate interactions between industries, economies, and quality-of-life indicators, stakeholders can devise effective strategies to navigate future crises and foster long-term resilience.

834

## Exploring the Local Stakeholders' Perspectives on Digital Transition Challenges in Public Administration: A Novel Q-factor Analysis on the Digital Divide in Italy

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❖ [Terceira-G16-O2 Cities, Regions and Digital Transformations, SF1, August 29, 2024, 9:00 AM - 10:30 AM](#)

Italy's struggle with digitalization, particularly in e-government, highlights a notable digital divide between the North and South. Recent case studies have emphasized the critical role of stakeholders in implementing Information Systems (IS), underscoring the need for inclusive strategies in e-government service delivery. To better understand the factors associated with the barriers to e-government implementation in Italy from different perspectives, we employed the stakeholder approach, mainly focusing on government agencies. Employing a Qmethodology approach, we explore stakeholders' perceptions of e-government issues. Our aim is to gain insight into how local authorities view these challenges and uncover the obstacles encountered by public administration. While Italy grapples with a notable digital divide between the North and South, our findings reveal a more nuanced picture. Although a general divide exists, stakeholders' perceptions of the challenges of digital transition do not significantly differ between the two regions. Instead, we uncover a digital divide within the government itself, primarily attributed to a lack of digital skills and capacity among public employees. This internal divide poses a significant barrier to effective e-government implementation and underscores the need for targeted training and development programs to bridge the skills gap.



835

## Assessing the impact of Special Economic Zones on Italian firms' behaviour and performance

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❖ [Online-G04-O2 Segregation, Social and Spatial Inequalities, August 26, 2024, 2:30 PM - 4:15 PM](#)

Scientific literature has defined Special Economic Zones (SEZ) as economic policy tools to attract productive activities in a limited geographical area and empower local economies. The first special economic zone in Europe took place in Ireland in 1959. Starting from this first experience, the demand for establishing SEZ has grown globally, particularly in those territories characterized by emerging and transition economies.

Nowadays, the number of SEZs established has grown significantly compared to previous years. From 845 SEZs registered worldwide in 1997, today there are around 4,300 distributed across 135 countries. Among these, Italy represents one of the last countries to have introduced SEZs. These zones, located in the southern regions, offer fiscal and administrative advantages to existing or potential companies operating in those areas in order to attract foreign direct investments and facilitate the economic growth of a territory.

In these scenarios the aim of this paper is to assess the possible impact of the SEZs on the behaviour and performance of Italian companies, focusing on the favourable tax regime, implemented in 2020 through a 50% reduction in corporate income tax and the introduction of tax credit on investments in structural goods, implemented in 2018.

The sample of the analysis consists of the listed firms located in a SEZ region and belonging to the manufacturing sector, this being the sector generating most of the employment and value added of the Italian economy (around 70%). The data have been collected from AIDA, the Bureau Van Dijk database, and cover the period 2016-2022.

Using policy evaluation techniques, the purpose of this work is the identification and subsequent analysis of the effects of the SEZ favourable tax regime on firms' behaviour and economic performance. In particular, the treated group will consist of all the firms that are located in a SEZ area, while the control group will take into account firms that are located in the same region as the SEZ ones but not in a SEZ area. To identify those firms, the georeferenced data from the Agenzia del Territorio have been analyzed and compared to the geographical coordinates of the registered office of the firms of the sample.

This study represents one of the initial efforts to understand the impact of the SEZ industrial policy in Italy. The results of this work can be a support tool and provide input related to the necessity of an extended and unique SEZ area.

837

## The development of energy communities in European regions: identifying drivers and barriers

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❖ Terceira-YSS3 Sustainable Development - EPAINOS, S01, August 29, 2024, 11:00 AM - 1:00 PM

Energy communities, foreseen in European legislation as Citizen Energy Communities and Renewable Energy Communities, play a significant role in a just energy transition that leaves no one behind. Citizen participation must be present in the energy sector if the social dimension of sustainability is going to be covered, and the development of energy communities is a contribution to this purpose. Even though progress is observed in this aspect during the recent years, especially after the adoption of the Renewable Energy Directive and the Internal Market of Energy Directive, strong differences exist between different regions.

The objective of the analysis is to explore said differences in greater depth from a quantitative approach, in order to identify the main factors that may be boosting or hindering the development of energy communities in the European regions.

For doing so, the following methodology is followed. First, a review of the academic literature and the regulation on the matter is conducted, exploring the conceptual aspects of energy communities and the reasons that have been observed through qualitative research for their different geographical development. Based on the conclusions extracted from this first analysis and using data at NUTS2 level, a multiple linear regression analysis is carried out, focusing on the relationships that exist between several factors and the expansion of this figure. This results on a description of the current context regarding energy communities and the identification of the main factors that favor their creation.

838

## Contribution of the competitive insertion of small agricultural producers in GVCs to the quality of employment in Tolima (Colombia)

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❖ Terceira-G09-O1 Regional Competitiveness, Innovation and Productivity, S13, August 28, 2024, 11:00 AM - 1:00 PM

Public policy to promote the achievement of the Sustainable Development Goals focuses on the significant reduction of poverty and the productive and social inclusion of vulnerable sectors of the population. Coffee is a leading product in Tolima's economy in terms of generating employment and income and contributes significantly to regional exports. Ninety-six percent are small coffee farmers (smallholder and peasant) and occupy 84% of the coffee cultivated territory in the department of Tolima (Comite de Cafeteros del Tolima, 2016). With respect to avocado, Tolima has ranked as the first avocado producer both in planted area and production, with 11,526 ha planted and 60,704 ton, (MADR, 2017). In relation to the cultivation of cocoa, it is one of the most projected in Tolima. It produced about 4,500 tons of the fruit in 2019, thus concentrating, together with the Department of Huila, 13% of the total production of Colombia (Fedecacao, 2020).

Historically, small farmers in these sectors have been constrained by the power of local intermediaries, receive low levels of income from informal employment and generally live in some level of poverty. In this context, the objective is to study the contribution of the competitive insertion of small and medium-sized agricultural producers in global value chains (GVCs) to the quality of employment in three agro-industrial chains in Tolima (specialty coffees, cocoa, avocado).

The theoretical framework of the research is supported by two fields of literature, GVCs and employment and labor studies, in particular the area associated with human resource development. In terms of the methodological approach, the study is carried out in the main avocado, specialty coffee and cocoa producing municipalities of Tolima with producer associations. Mixed techniques are used to collect information. On the one hand, the research incorporates the collection of documentary information, DANE microdata and databases of national and international sectoral organizations and FAO. On the other hand, two main instruments will be used for the field work: first, a structured questionnaire to survey the cooperatives where the producers are affiliated. Second, in-depth interviews will be conducted with key informants in the chains, as well as with experts and institutional actors, using a semi-structured questionnaire.

The expected results are a proposal for a policy intervention in human resource development to improve capacities, as well as the quality of employment and social inclusion of small-scale Hass avocado, cocoa and specialty coffee producers and their insertion into global value chains.

841

## Caring practices in and beyond coworking spaces

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❖ [Terceira-S80-S1 New Work Horizons: Geographical, Social, and Economic Dimensions of Collaborative Working Spaces, S09, August 29, 2024, 2:30 PM - 4:15 PM](#)

Coworking and coworking spaces have proliferated over the last decade, and research has shown how these flexible, shared workspaces provide crucial resources for freelance and self-employed workers. This paper aims to understand how care is practised in and through coworking spaces. Drawing on interviews with female hosts in different spaces across Europe, we apply Joan Tronto's ethics of care framework (Tronto, 1993, 2013) to analyse caring practices in coworking spaces. These practises are applied by often-female coworking hosts and community managers who perform affective and emotional labor as part of their work. This paper adds to the literature on how coworking hosts and community managers provide care to "maintain, continue, and repair" (Fisher & Tronto, 1990, p. 40) community in the everyday practices that develop around coworkers' needs and the hospitable atmosphere in trying to meet these needs in European coworking spaces. With this specific focus, we aim to contribute to a better understanding of the social relationships that coworking can facilitate the gendered dimensions of these new workspaces and recent debates on care in geographical research.

842

## Digital platforms for participatory smart cities: some insights from the institutional approach

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❖ [Terceira-S03 Digital Geographies: Spacelessness, or New Mode of Space-Making and Space Relations, S02, August 29, 2024, 9:00 AM - 10:30 AM](#)

The lockdowns and restrictions conditioned by the pandemic, on the one hand, have deepened the separation of nodes of many supply chains and, on the other hand, accelerated their shift to digitalisation. However, digital transformations in various sectors are aggravated by their degrees of fragmentation and remaining dependency on physical supply chains. Business transactions, relations, networks and activities were enabled by and occurred on digital platforms. The “new normal” is characterised by the permanence of these new arrangements and by a mesh of traditional and novel digital supply chain setups. Digital multi-sided platforms promise to increase the efficiency of transactions, to optimise logistics, to decrease the environmental impact caused by the transit of people and goods.

Digital multi-sided platforms promise to increase the efficiency of transactions, to optimize logistics, to decrease the environmental impact caused by the transit of people and goods. Moreover, ‘smartness’ in smart cities and regions is built upon, among other technologies, digital platforms which integrate tools and technologies for data management and e-participatory planning. To put in other words, a major part of smart cities’ infrastructural capacities is based on the use of digital platforms. Although, only their use for participatory activities, which engage various groups of actors by transforming them into stakeholders, can serve the idea of participatory smart cities.

The institutional approach to platform urbanism and integration of digital platforms focuses majority on the role of institutions and institutional mechanisms to transform the existing practices. institutions play a twofold role in the technological transition towards digital platforms in particular and smart cities in general: on the one hand, they frame the implementation and effectiveness of the novel principles and innovations. On the other hand, the existing institutional environment is changing under the new conditions.

Our project focuses on the digital transformations in general and digital platforms in particular, their benefits and challenges within the idea of smart cities and general ‘smartness’ in the Italian context. The research methodology is based on systematic literature review, qualitative document analysis, and interviews. The objective is to identify and systematize the system of institutions and institutional factors, formal and informal, which frame the integration of participatory digital platforms in the context of ‘urban smartness’. The vision of the project is that an effective, accessible and fair platform is a crucial new tool for open policy-making and citizen-responsive urban planning.

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## Recovery and Renewal: A Retrospective Analysis of Spanish Regional Resilience

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❖ [Terceira-G08-O1 Covid-19 and regional and urban resilience, S12, August 28, 2024, 2:30 PM - 4:15 PM](#)

In the past fifty years, European economies have faced three economic crises: 1976-1983, 1992-1994, and 2008-2014, in addition to the recent COVID-19 pandemic.

The regions' responses to these shocks and their level of resilience are influenced by their previous growth paths. Resilience is a dynamic and path-dependent process. When analysing regional employment behaviour during crises, it is crucial to consider the adaptation processes that have occurred in different regions in response to various shocks. This necessitates taking into account the regional context and history. Relevant sources for this topic include Martin (2010), Boschma (2015), Evenhuis (2017), Henning (2019), and Webber et al. (2018). The aim of this paper is to analyse and compare the employment performance of Spanish regions during the last four crises, in order to deepen our understanding of path-dependence.

Additionally, we aim to incorporate spatial spillover into this framework. To achieve this, we have modified the standard analysis commonly used in the literature by using the behaviour of neighbouring or similar regions as a counterfactual, instead of the national behaviour. This approach enables a more accurate comparison of regional performance in terms of employment levels, GDP per capita, and other relevant factors. Following Duran and Fratesi (2023), we have included regional-specific cycles and turning points in our analysis instead of relying solely on national data.

844

## Ecological social work, environmental justice and social farming for the betterment of the communities

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❖ [Terceira-S26-S1 Social Innovation for Sustainable and Inclusive Regions, Communities and Neighborhoods, S04, August 28, 2024, 11:00 AM - 1:00 PM](#)

This article presents the theory of environmental justice and environmental/green/ecological social work, discusses these concepts through the lens of social farms, and explains how social farm participants contribute to ecological social work. In addition to presenting and discussing the theories, mixed research methods such as focus groups, in-depth interviews and questionnaires are used to analyse the perspective of understanding the concept of ecological social work on social farms. It seems that the important and often mentioned perspective of the social farm workers is that the participants with difficult living conditions are enabled to feel that the importance of keeping the environment healthy is the core value of human existence and that by working on a social farm they fully participate in these safeguarding actions. Social farms become neighbourhoods and communities responsible for nature and future generations. Apart from the economic impact of the social farm on the interconnectedness of local ties and needs, which multiplies the locally generated profit, this research shows, above all, positive environmental and social impacts at several levels, both at the general level of the underlying assumptions and at the level of the social farm participants themselves. It reverses their role in relation to society, in which they become active agents of sustainable ecological change that positively impacts local communities and regions.

846

## Small (island) economies - conceptual thoughts and new understandings

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❖ [Terceira-S30 Small \(Island\) Economies – Approaches and Perspectives, S04, August 28, 2024, 2:30 PM - 4:15 PM](#)

### Small (island) economies - conceptual thoughts and new understandings

Small (island) economies have always been a curse and blessing for its regions and locales. Advantages of strategic trading hubs, gateway islands and cities, offshore financial centers, tourism and niche economies, the blue economy or the exploitation of continental shelves, were contrasted by being land-locked, remote, peripheral, and dependent as work benches, accompanied by strong out-migration and ageing society, high unemployment, rentier capitalism, remittances and dutch diseases. To give some examples: whereas the Caribbean Island Anguilla currently capitalizes on the hype surrounding artificial intelligence (companies are spending huge sums on web addresses that end with ‘.ai’), land-locked and remote economies are highly dependent on remittances (e.g. Tajikistan (51 % of GDP), Tonga (44%), Lebanon (36%)). Against this background, the session (re-)visits small (island) economies based on old and new realities and invites theoretical, methodological, and empirical papers with regard to the aforementioned themes and/or beyond.

The conceptual paper tries to frame the proposed special session by portraying former and analysing current spatial economic forces induced by small (island) economies. Methodologically, it uses a descriptive and scoping literature analysis of small (island) economies against the novel realities of deglobalisation, digitalization and telework. Preliminary results are that understandings of borders, value chains (shoring processes), and peripherality amongst others need a reevaluation in this context due to novel contradicting spatial forces. It concludes with first ideas how to approach these new realities.



847

## A Bayesian downscaling approach for European gross land-use change

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❖ [Terceira-G31-O1 Methods in Regional Science or Urban Analysis, S17, August 28, 2024, 2:30 PM - 4:15 PM](#)

The land-use sector plays a crucial role in achieving the EU's ambitious carbon neutrality targets. However, local land-use change can bring about many other potentially conflicting implications, including effects on, for example, food security, biodiversity, and ecosystems health. Therefore, understanding and effectively addressing local land-use changes becomes paramount for politicians and policy makers to achieve these goals. This paper presents a Bayesian downscaling approach designed to inform about future high-resolution land use patterns and help taking crucial restoration and protections decisions. The contributions to the existing literature are twofold. First, a novel Bayesian estimation approach for estimating gross land-use changes on a high-resolution grid spanning across Europe is proposed. For the estimation a multinomial logit model is formulated that relates observed land use changes to a rich set of drivers of the land allocation decision. These drivers mainly consist of economic, demographic, biophysical, and policy variables. Second, an efficient downscaling routine to relate the high resolution maps to regional targets is presented. It is based on a bias correction optimization technique to enhance the accuracy and reliability of local predictions. It is used to incorporate more detailed information from other models, which are more suitable to predict the magnitude of country-wide gross land-use changes and additionally allow to add scenario based trajectories (e.g. SSP scenarios). As a result high-resolution land use projections in line with various scenario assumptions can be generated with the proposed method helping to understand the future challenges that local authorities will face.

848

## Firm level investments and public capital expenditures in Italian regions.

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❖ [Terceira-G18-O2 Climate Adaptive and Resilient Regions and Cities, S11, August 30, 2024, 2:30 PM - 4:15 PM](#)

The motivation of this work is to highlight the relationship between public and private investments at a granular level, by using the EIBIS survey and the Kohesio database. We find that EU public investment and capital transfers promote private investment and this relationship is traceable at firm level. In addition, and going more in details, EU public investment intended to tackle climate change (including mitigation and adaptation) has a positive impact on a firms' planned investment with the same objectives.

This paper examines the impact of EU funds spent in the Italian regions (at Nuts3 level) in the form of public investment or capital transfers. In particular, this analysis analyses the role of EU funds spent locally in stimulating private investment and hence facilitating economic growth and development, with a specific focus on climate-related investments. While research on the impact of public expenditures on private sector decision-making has a long history, it is still challenging to find subnational data on public investment that allows for an analysis with microdata. This is especially true when considering public and private investment related to climate change. Preliminary results suggest that the usual explanatory variables for firm level investments are significant and with the expected sign. The variable representing public investment demonstrates a positive and significant impact on firm level investment. Capital transfers also prove to be effective in promoting private investments. Our results underscores the importance of Structural Funds in fostering private investment, particularly in less developed regions, and particularly when there is an improvement in local institutional quality. By utilizing data from Kohesio for climate-related public investment and data from EIBIS for climate-related private investment, we were able to delve deeper into the analysis. The overall positive impact of climate-related public investment on climate-related private investment is also reaffirmed with this data.

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## Are generative models for synthetic populations enough?

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❖ [Terceira-S05-S2 Machine Learning in Regional Science: Perspectives, Methods, and Applications, S03, August 29, 2024, 9:00 AM - 10:30 AM](#)

In this paper we discuss how both established methods and new machine learning approaches to the process of creating synthetic populations solve part of the problem very well but fails to address a crucial policy relevant part. We briefly outline the state of the art and touch on some recent research of our own to establish what existing methods do well. In the extended abstract we then argue that these methods is less help than we might think when it comes to analysing counterfactual och future scenarios. A forthcoming paper adds examples from computer simulations to establish this. This conference contribution can be viewed as a call for future research into the intersection of population synthesis, land-use and transport interaction, and planning decision support.

851

## What Demand and Supply Forces determine the location of off-farm points of sale in Short Food Supply Chains

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❖ [Online-S76-S1 Places for Sustainable Food: What's Behind and Beyond the Relocation of Food Systems?](#),  
August 27, 2024, 9:00 AM - 10:30 AM

If the characteristics and location of farms and consumers involved in short food supply chains (SFSCs) are well studied, especially for on-farm sales, the location of off-farm points of sale - as interaction point between supply and demand – has not been much analyzed, especially from a quantitative perspective. Though, a better understanding of the factors favoring and impeding the emergence of such points of sale could be valuable for producers (farmers), sellers (farmers or intermediaries), consumers (through consumers driven initiatives) but also for policymaking. To fill this gap, we have compiled an original database from local, regional, and national websites for the year 2020 and geolocalized more than 500 points of sale (pick-up point for sale by internet, pick-up point for community supported agriculture, producers' collective stores, markets and retail stores) in two French departments (Nord and Pas-de-Calais). We account for the local environment of each point of sales, both in terms of potential supply of agricultural products and potential food demand, by relying on distance-weighted variables (inspired by the concept of market potential). We then estimate a count model at the municipal level to distinguish the demand and supply factors explaining the creation of points of sale. Even though this first model is already estimated at the smallest administrative geographical scale, leading to potential policy recommendations, we also wanted to go as far as possible in the understanding of the location of off-farm points of sales and we thus estimate a model explaining the existence of a point of sales at the INSEE-grid scale (200 square meters). After discussing our finding, the paper closes on policy recommendations and future research opportunities.

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## Unravelling the digital divide: An in-depth examination of trust, acceptance, and inequalities in the digitalization landscape

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❖ [Terceira-S82 The Technological Turmoil of the XXI Century: Spatial Dynamics and the “No Person and No Place Behind” Approaches, S10, August 29, 2024, 2:30 PM - 4:15 PM](#)

The digitalization has been regarded as a process allowing all territories and socio-demographic categories equal access and opportunities in an ever-connected world. During the past decades, it has become an integral part of the contemporary society, being elevated as top priority in the majority of European countries and regions. While its positive transformative potential is acknowledged, there is a growing concern, that the digitalization process will increase the current inequalities. Traditionally, research efforts have primarily focused on understanding these disparities at a macroscale, usually at a regional (NUTS 2) or national (NUTS 0) levels. However, this overused approach falls short in providing a comprehensive understanding of the nuanced dynamics at play. Our study argues for the necessity of examining digitalization-induced inequalities at the individual level, shedding light on the multifaceted dimensions that contribute to the persons and places left-behind.

To achieve this goal, a comprehensive survey was conducted in Romania on a representative national sample. The findings reveal intriguing insights into the digital inequalities. Despite the widespread assumption of major rural-urban differences, the research suggests that such contrasts are not as stark as anticipated. Instead, the study identifies notable divergences in the acceptance and utilization of digital tools among distinct socio-demographic categories. Particularly intriguing is the observed difference in terms of trust towards the institutions using digital platforms, or towards the sensible issue of data protection.

The results highlight that the risk of being left behind in the digitalized world can be applied rather to socio-economic categories than to “places” (i.e. regions), as the adversity or the openness towards digital innovation is more connected to the individual or community features than the macrospatial context, despite the undeniable contribution of the later. However, our research suggests that the key to fostering a more homogeneous digitalization process lies in cultivating higher levels of trust in the institutions implementing these initiatives. In a landscape often dominated by technical aspects, the pivotal role of institutional trust is frequently overlooked. The institutions are playing the role of a trusted filter through which the digitalization process must pass. Consequently, fostering a more inclusive and equitable digitalization process necessitates addressing the perceptions and attitudes toward the institutions driving the digital transformation. The study opens the door for in-depth discussions and further analyses regarding public perceptions of digitalization and its broader societal impact.

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## Ecosystem Influence of Gender-inclusive Investment Networks

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❖ [Terceira-G49 Entrepreneurship and Digitalization, S14, August 29, 2024, 9:00 AM - 10:30 AM](#)

As gender differences persist in the access to funding for female-led ventures, and affect the diversity of entrepreneurial experiments available to growth-seeking regions, we investigate how a gender-inclusive investment network in the Netherlands contributes towards building an ecosystem that enables the development of female entrepreneurs. We use a mixed-methods approach to uncover the effects of gender-inclusive strategies, dynamics, and decision-making processes that prevail in a gender-inclusive ecosystem, operationalized within the multitude of relevant stakeholders. We will use video content analysis of footage of successful entrepreneurial pitches (visual, vocal, and verbal dimensions), content analysis of entrepreneurial pitch decks, and interviews of different stakeholders of the local entrepreneurial ecosystem. We aim to detect differences in terms of behavioral and emotional patterns in contrast with stereotypical male-dominated established judgment models dominant in gender-biased ecosystems. This paper contributes to the entrepreneurial ecosystem literature, more specifically to the research on the gender gap in early-stage venture funding. We aim to uncover the potential impact of a gender-inclusive investment network in addressing gender-related funding challenges affecting female entrepreneurs in The Netherlands. Moreover, our paper takes a systems perspective on the impact a gender-inclusive investment network can have on a non-gender-inclusive entrepreneurial ecosystem. Our results will allow for a more clear theoretical perspective on the influence of non-conformant behaviors within ecosystems.

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## Eco-System Services of Forests and Labour Market Effects - a Statistical Counterfactual Analysis

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❖ [Terceira-G26 Urban-Rural Relationships, SF1, August 28, 2024, 2:30 PM - 4:15 PM](#)

Forests provide many ecosystem services, spanning from productive outputs like timber to recreational amenities and preventative services such as shielding settlements from rockfalls, landslides, and avalanches. Industries situated in these protected areas reap these benefits without direct financial contributions. While rural regions are primary beneficiaries, intermediate and urban areas also enjoy these services, albeit to a lesser extent.

However, the protective capacity of forests faces escalating threats due to climate change, resulting in more severe storms, increased forest fires, and heightened bark beetle infestations. Simultaneously, economic development and population growth amplify the demand for these services. Our interdisciplinary research project explores the economic advantages of protective forests, focusing on potentially protected rural areas susceptible to hazards. Maps pinpoint potential threats and aid in identifying economically valuable assets, like infrastructure and jobs, vulnerable to these perils. The study examines Austria, an ideal case due to its rural regions contributing significantly to manufacturing and services jobs, with protection forests playing a pivotal role due to the country's topography. Utilizing protective forest maps, area information, and employment data, we analyze the potential job displacement if firms in less location-bound industries relocate to less vulnerable regions. Assuming agglomeration benefits drive relocation decisions, our model envisions firms selecting the nearest intermediate or urban region with the relevant industry employment share.

In this scenario, employees face the dilemma of either trailing their firms or seeking new job opportunities in a more limited job market. Commuting or relocating becomes a necessity, with longer distances to workplaces in the counterfactual scenario we analyze. Our primary interest lies in understanding the labor market dynamics, quantifying the number of jobs directly reliant on ecosystem services, and predicting potential job displacements if protective forests no longer offer these benefits. The results hold implications for industries like agriculture, forestry, quarrying, and tourism, which are less likely to relocate, further shaping the labor landscape and commuting patterns.

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## Far away and excluded: citizens on OR. Outermost regions' citizens: the challenge of inclusion

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❖ [Online-G44 Remotness in the EU, August 27, 2024, 9:00 AM - 10:30 AM](#)

The modern world acknowledges the societal fabric built by tradition and emergency with hints of brightness and shade. A dialectical framework like this opens the door for continued investigation into the social, cultural, and economic effects. Specifically, a thorough discussion about humanitarian issues that opens up fresh perspectives on justice, citizenship, and peace. This inspiration fostered the creation of a new idea called “plenipheral” citizenship (just translated into English from its original Portuguese definition). The concept unfolds semantic, political, and ideological movements, from the periphery to the centre. With a great deal of promise for the future, the so-called Outermost Regions of the European Union and their population, express a desire to be acknowledged as European Geographic locations by the EU and its institutions. This research celebrates the utopic movement of a regional paradise that is centred on justice and peace and looks toward deeper integration between the European Union and, ideally, other continents.



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## What is inequality, and how can we best deal with it? The experts' views

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❖ [Terceira-S21-S1 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S03, August 28, 2024, 11:00 AM - 1:00 PM](#)

Inequality can be approached from different academic perspectives, but it allows for both positive and normative approaches. The subjective nature of inequality can lead to conflicting priorities among members of society, creating challenges for collective action. Academia can play a significant role in providing clear evidence of the types of inequalities prevailing in each country and drive essential policy interventions.

Considering these remarks, the present paper draws on experts' knowledge and incorporates the Delphi method to shed light on many different research questions around the phenomenon of inequality. Essentially, the analysis addresses the question of "What is inequality, and how can we best deal with it?". The Delphi method was implemented with a questionnaire instrument of 47 questions on a sample of 189 experts indicated by the partners of the ESSPIN Horizon EU Project.

The preliminary results revealed many interesting insights with both theoretical and policy implications. One key finding is that the experts primarily conceive an equal society as providing equal treatment to everyone, ensuring that equal opportunities are provided to all members of society, and eradicating any existing exclusion mechanisms. Therefore, experts prioritize inclusion and opportunities over other forms of inequality.

Moreover, when experts were faced with actual and hypothetical distributions of wealth and income, they showed a pro-egalitarian attitude, as they preferred national income allocations that are far more equal than those in the real world. It could be said that the experts accept some inequality but only when this is limited within reasonable thresholds.

In addition, experts recognize the unleashed power of capitalism and the inability of the state to secure an equal distribution of societal outputs as the main drivers of income inequality and the agglomeration dynamics, with the unequal concentration of human capital and large firms as the most important drivers of regional inequalities.

Finally, on the policy side, experts mostly agree with policies that eradicate exclusions and level the playing field for all citizens, and their greatest support goes to pre-market policies, which call for a state able to provide necessary conditions for personal development, such as health and education, to all society members. This is the case for the policies against income inequalities but also for the eradication of regional inequalities.

The research is complemented by factor and correlation analyses whose preliminary results are used to gain fresh insights into the dimensions of inequality and feed relevant policy recommendations.

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## The Port of Sines. A lever for the sustainable development of Alentejo Region?

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❖ Terceira-S53-S2 Maritime Regions: Europe Hot Spots, S08, August 30, 2024, 9:00 AM - 10:30 AM

This work project is being done in the context of the PhD in Geography and Territorial Planning – NOVA FCSH - UNL with the objective to investigate the role of the Port of Sines as a potential driver of sustainable development in Alentejo region, Portugal. The study as the aim of assessing whether the Port of Sines effectively contributes to the sustainable development (economic, social and environmental dimensions) of Alentejo.

The proposal suggests a mixed methodology (qualitative and quantitative), since it is considered relevant to analyse impact from a comprehensive perspective and based on both top-down and bottom-up data collection. The application of Porter Diamond Model by Benito et al (Benito, 2003) with the Norwegian Maritime Cluster and by Salvador (Salvador, 2016) in the case of the Portuguese Maritime Cluster are recognized as useful to understand Maritime Clusters, as well as the mixed methodology used for the analyse of the impact of Port Clusters (Santos et al, 2018) using the case of the Port of Lisbon.

Contextualising the infrastructure (Port of Sines) in time (referring to its history, origin and evolution) and space (how it occupies space), and focusing on the impact it has (or doesn't have) on the sustainable development of the region, we believe this study could contribute to a better understanding of the impact of a Port Cluster on the territory in which it is located, through a dual perspective, both from the point of view of the Port (and its cluster) and from the point of view of the Territory.

There are currently two situations that lead us to wonder about the possible evolution of the Port of Sines Cluster towards becoming more influential and interrelated with its main Hinterland. On the one hand, the port's growing movement of containerised cargo (both transshipment and as a port of entry and exit for goods) is a consequence of its characteristics (a natural deep-water port and geostrategic position on the world's maritime trade routes), and on the other hand, the expected completion of the Sines - Poceirão - Caia rail freight section (with work in progress), which will strengthen the competitiveness of the intermodal transport offer in the interior of the Iberian peninsula and consequently its connection to Europe. This new situation could lead to greater development in the Alentejo region's export sectors, and consequently create a leverage effect for regional development.

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## Fish farming participated in the economic growth of rural areas in Brazil

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❖ [Terceira-G12-O3 Economic development in rural places, SF2, August 29, 2024, 2:30 PM - 4:15 PM](#)

Fish farming production increases every year in Brazil (50% in the decade) at the same time that the supply chain and product offering to consumers also expands. We are currently the fourth largest producer of Tilapia in the world. Although it represents little in the agricultural economy of this country (1%), fish farming adds value in the form of animal protein in places with great availability of water in rivers and hydroelectric dams. The production of these fish is distributed throughout the Brazil and far from medium and large cities. Brazilian fish farming, like agriculture and livestock farming, is concentrated in clusters of well-defined cities (agricultural clusters). This local specialization is associated with a structuring of the supply chain, processing, distribution, cooperation, interaction and innovation. Thus, this work evaluates the participation and relative importance of fish farming in the economy of rural places in Brazil. We used the locational quotient-LQ ( $\geq 2.0$ ) as an indicator to measure the participation and specialization of 15 main rural fish-producing places out of 138 that exist. The sampled places correspond to 54% of the values generated by fish farming. The variables used in the calculation ('value of fish farming production' and 'gross value added at current agricultural prices') were obtained from secondary databases from the Brazilian Institute of Geography and Statistics (IBGE) for the year 2021. The results with locational quotient of rural places and other economic indicators were grouped using the multivariate Block Clustering technique in the STATISTICA 14 software. Among the 15 rural places analyzed, 9 of them presented a locational quotient  $\geq 2.0$ , with emphasis on 'São Francisco Pernambucano' (LQ= 14,19) located in the Northeast region and with low social and economic indexes. In the rural places of 'Norte Maranhense' (7.90), 'Leste Rondoniense' (6.65) and 'Oriental do Tocantins' (2.45) located in the Amazon biome also have low development rates. Another 06 rural places didn't present a significant LQ because they are very large producers of agriculture and livestock (corn, soybeans, cotton, sugar cane and beef). The Block Clustering type grouping showed that there is an inversely proportional relationship between GDP and 'agricultural added value' in relation to LQ, confirming the participation of fish farming in the economic growth of rural places. Only two rural places are the exception to this rule and formed an isolated cluster, because they are the main producers of fish farming in Brazil in more developed locations.

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## Going the distance? A meta-analysis of the deterring effect of distance in tourism

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❖ [Terceira-G35-R Tourism and Overtourism Issues, S18, August 28, 2024, 4:45 PM - 6:30 PM](#)

There is a large and growing body of literature modeling tourism flows using gravity models. This meta-analysis summarizes and explains the variation in the deterring effect of distance on tourism flows by analysing 762 estimates from 119 primary studies utilising data covering the last two decades. We find substantial heterogeneity amongst studies that mostly correlates with (unobserved) study characteristics, estimation methods, and locations of origin and destination. We make the following five contributions to the literature. First, we confirm previous findings that the mean distance-decay effect is close to unit elasticity in absolute value ( $-0.92$ ). Second, we argue that this is a total effect as we find that, controlling for mediator variables, the direct effect between distance and tourism flows is substantially lower ( $-0.68$ ). Third, we document a wide range of mediator variables yielding significant associations with the total effect of distance, such as adjacency, world heritage sites, exchange rates and island destinations. Fourth, we do not find changes in the distance-decay effect over the last two decades. And, finally, we point out that our findings indicate a positive relation between distance and the total amount of tourists.

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## The spatial diffusion of coworking spaces to non-metropolitan areas in France. A critical analysis of coworking as an organizational innovation

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❖ [Terceira-S80-S1 New Work Horizons: Geographical, Social, and Economic Dimensions of Collaborative Working Spaces, S09, August 29, 2024, 2:30 PM - 4:15 PM](#)

Coworking spaces have emerged for more than ten years in major cities around the world but more and more collaborative workplaces are nowadays created in all types of cities and even in rural areas. As part of a French national research programme called Péri#Work (ANR), the spatial dynamics of coworking spaces (CWSs) towards non-metropolitan territories was analyzed in three French regions: Brittany, New Aquitaine and Hauts-de-France. Following the theory of the geographer T. Hägerstrand about the spatial diffusion of innovations, we consider the spatial spread of CWSs as a spatial diffusion process of an organizational innovation (collaborative work in shared spaces). According to this theory, CWSs are experimented through different waves of “innovation” from the largest metropolises to the rural areas. The objective of the communication is to explore the strengths and limits of this theoretical approach.

Method and data: From a quantitative point of view, a national inventory of third places in France realized for the government (including CWSs but not limited to that type of collaborative spaces) is the only national data base available. These data suggest a process of hierarchical spatial spread of CWSs, from large cities to smaller cities. To test the validity of this approach, we realized a qualitative analysis in three French regions through interviews in 36 CWSs (66 founders or users). The aim was to understand the vectors and channels of this spatial diffusion.

The results of these comparative case studies show that the methods of diffusion vary according to: 1) the demographic and economic structure of the three regions studied; 2) the pioneering role of private actors. Different channels of diffusion are essential to make known coworking methods and coworking spaces as innovative processes. In France, local and regional policies sustain the creation of CWSs, to improve local innovation or telework, and the national government launched in 2019 a new policy dedicated to CWS and other types of third places. Nevertheless, our study shows that the role of public policies is not so essential in the spatial diffusion of CWSs, even in fragile territories far from metropolises.

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## Innovation on the margins: Uncovering the dynamics of exit and arrival in Left-Behind small cities.

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❖ [Terceira-S11-S1 Left Behind Areas: Past, Present and Future, SF2, August 28, 2024, 2:30 PM - 4:15 PM](#)

The periphery is both a condition and a situation or geographical setting. The latter is determined by the physical distance from the center, which, in turn, may be the reason for the peripheral condition. The peripheral condition, however, is a stage in an evolution and is marked by inherent vulnerabilities. It's essential to note that vulnerability, in this context, isn't necessarily a negative attribute but signifies an instability that can evolve in various ways. Therefore, being in a peripheral condition is not an inescapable fate.

The wording has changed and the most popular term in the most recent bibliography is undoubtedly that of left-behind regions or places. Most studies on left-behind places implicitly blame public (development) policies, suggesting that these territories have been abandoned by the very policies designed to improve them. It is important however, to ask: left behind by whom, how, since when and for what reasons? This is the main content of this paper. Long time series of several indicators to assess the decline and depletion of resources of those territories and a snapshot of the present conditions.

The central argument of this paper, however, is that those peripheral regions have not been abandoned solely by policies but, more significantly, by their inhabitants, particularly the younger generations. Following on from previous studies, the article analysis the inflow of higher education students into small towns on the Portuguese periphery, for a long time series of more than twenty years, with the aim of assessing the potential of these flows. We want to switch the perspective; not just looking at outflows but identifying inflows and their magnitude and their potential as drivers of socioeconomic change.

It is an exploratory study to test some hypotheses and methodologies that would break with traditional approaches from the centre.

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## Territorial distribution and structural indicators of the consumer price index; Comparison of the concepts of existential and subsistence minimas

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❖ [Online-G45 Sustainability of local policies, August 27, 2024, 9:00 AM - 10:30 AM](#)

The consumer price index, and its one-dimensional version: inflation, is one of the most important financial indicators in the world (based for example on ILO, EUROSTAT). The concept of a subsistence minima in the USA is tied to this official stability measure, and the size of the domestic pension is also indirectly linked to the pensioner's version. Therefore, it is particularly important to examine the price level according to age and territoriality (this is not the same as inflation) and the change in price level (this is inflation) using one- and multi-dimensional models. The lecture primarily examines depression as a factor shaping consumer habits and society, its greening and creative and cultural industries (Hungary and Korea examples). In our research, we examine the existential minimum instead of the subsistence minimum, which is an extension of the former concept that is easier to interpret from the point of view of the development of society, based on Konüs's work. Non-salaried benefits, for example, can be examined from an "inflationary" point of view, thus the financial aspects of social welfare are questioned as a buffer zone between the axiomatism of Debreu's neowalras theory of general equilibrium and Konüs's theory of optimum. The lecture reflects on the insights of Dusek and Szakolczai, at the level of price index theory aspects of their debates, in accordance with regional science.

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## Spatially Explicit Resilience Evaluation Framework for Effective Planning

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❖ [Terceira-S62 Urban and Territorial Resilience: From Measuring to Building Planning Solutions, S07, August 30, 2024, 11:00 AM - 1:00 PM](#)

Resilience, a concept that is gaining traction across disciplines, remains fragmented in urban and regional studies and planning, lacking a comprehensive assessment framework. This paper explores the evolving resilience discourse and proposes a spatially explicit approach to evaluating urban and territorial resilience. A literature review highlights a shift from resilience as resistance and recovery to a transformative perspective that embraces positive change in the face of disruption. This transformative approach requires a holistic planning approach that integrates physical, environmental, institutional and social resilience dimensions. To address current assessment limitations, our research aims to develop a systematic framework using spatially specific indicators. This framework categorises indicators based on resilience dimensions and capacities, ensuring a comprehensive assessment. The proposed framework will be applied to the Po River in Turin, Italy. Incorporating transformative resilience and using spatially explicit indicators enables holistic and place-based approaches to planning and resilience enhancement in complex urban contexts.



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## Azores Blue Economy: measuring the importance of Azorean maritime-related activities for Portugal's economy through the partial hypothetical extraction method

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❖ Terceira-S30 Small (Island) Economies – Approaches and Perspectives, S04, August 28, 2024, 2:30 PM - 4:15 PM

The economic activities related to marine and coastal resources, referred to as the blue economy, hold significant importance in coastal regions such as Portugal. Between the years 2016 and 2017, the contribution of activities linked to the blue economy to the national Gross Value Added (GVA) increased from 3.7% to 3.9%. The Azores archipelago has a historical inclination towards transportation and fishing, with a small population living in the region, combined with limited resources and geographic isolation. However, the relative increase in the importance of the blue economy, through the development of activities such as ecotourism and aquaculture, has the potential to establish a new source of growth for the Azorean economy.

Considering the economic and cultural significance of activities related to the blue economy for Portugal, especially for the Autonomous Region of the Azores, and the growing academic relevance of the topic, this article aims to estimate the size of the maritime economy in the Autonomous Region of the Azores and measure its importance for Portugal. To achieve this, a hypothetical partial extraction method of the Azorean blue economy is applied using an inter-regional input-output matrix of Portugal for the year 2017, assessing its significance in the overall Portuguese economy.

The initial results indicate that the Azorean blue economy impacts 0.25% of Portugal's gross production value, with a relevance of almost 12% in the Azores region. The importance of the Azorean maritime economy is also estimated for the 65 economic sectors in the input-output matrix. The sectors in Portugal most dependent on the Azorean blue economy are Fishing and aquaculture (6.9%), Water transport (4.11%), Travel agency, tour operator reservation service and related activities (2.05%), Retail trade, except for motor vehicles and motorcycles (1.05%), and Warehousing and support activities for Transportation (1%).

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## Immigrant entrepreneurship beyond the cities in Austria and Sweden: a policy analysis

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❖ Terceira-S36 Entrepreneurship and Public Policy, S14, August 30, 2024, 2:30 PM - 4:15 PM

**Background.** An alternative to being employed is to be an entrepreneur, both for natives as for immigrants. In remote, peripheral, and mountainous areas far away from the main population centres, this is especially so. For immigrants, self-employment and entrepreneurship appear closely related to the failure of establishing themselves on the labour markets. Although self-employment is a common strategy among immigrants to avoid unemployment, the level of immigrant entrepreneurship is low in many of the places beyond the European cities. However, as the knowledge about rural immigrant entrepreneurship is also low, this paper addresses this literature gap and contributes to the European Commission's aim to foster migrant entrepreneurship.

**Aim and questions.** This paper discusses how policies, both in terms of design as well as content, try to stimulate (or prevent) immigrant entrepreneurship beyond the major population centres in Austria and Sweden and how they go along with EU policies such as the EU "Entrepreneurship 2020 Action Plan" or the EU "Action plan on the integration of third country nationals". A special focus is given on policies implemented since the big refugee immigration from Afghanistan and Arab countries in 2015 and afterwards as well as the newer immigration of Ukrainian displaced persons.

**Data and methodological considerations.** This paper is based on a literature review of implemented policies in a multilevel governance system and existing interdisciplinary research findings. The analysis is conducted by using a structured observation system; the material is coded following an iterative, grounded theory approach.

In this paper, we define "beyond the cities" are areas not in the vicinity of cities, metropolitan areas, and urban agglomerations with  $\geq 250,000$  inhabitants. Particular attention is paid to rural areas with low population density. As immigrants are non-EU citizens defined.

**Findings.** The findings in Sweden imply that Sweden has not tried to stimulate immigrant entrepreneurship in general. Unemployed immigrants are encouraged to start small businesses in labour intensive and low-productive sectors, especially so in areas beyond the cities. The rationale for the public authorities appears to reduce the unemployment rate for immigrants, not to stimulate the entrepreneurship. The results for Austria show that entrepreneurs and business start-ups are politically supported and that there is a large number of institutionalised initiatives available. However, the majority of information is primarily available in urban areas. In addition, many migrants rely on their informal, ethnic networks to inform about starting a business, which often provide only semi-correct information.

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## Unraveling the Global Impact of the EU Deforestation Regulation through a Zero-Inflated Poisson Structural Gravity Model

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❖ [Terceira-G10 Trade and Global Value Chains, SF3, August 29, 2024, 9:00 AM - 10:30 AM](#)

International trade in agricultural and forestry commodities has been extensively documented as a cause of decline in natural vegetation and subsequently biodiversity, particularly in tropical and subtropical regions of the world. Naturally, a considerable portion of trade in these commodities is directed to high-income economies and – contrary to stated sustainable development objectives – exacerbates their impact on biodiversity. For instance, part of the EU Deforestation Regulation (EUDR), which entered into force mid-2023, constitutes a concrete trade policy intervention to mitigate the global biodiversity footprint of the European Union by constraining imports of notorious products in this sector to not originate from recently deforested land or having contributed to forest degradation.

In this context, the present study aims on empirically investigating international trade in agricultural and forestry products well evidenced as major drivers of biodiversity loss in their regions of origin, e.g. cattle, wood, cocoa, soy, palm oil, coffee, rubber. More specifically, we model bilateral trade flows of our selected products as arising from a structural gravity specification, while simultaneously adjusting for spatial dependence. The model will be estimated via a hierarchical Bayesian framework, which allows for uncertainty over its spatial structure as well as modelling of excess zero observations via zero-inflation. The data entering our model covers yearly observations from 1995-2019 of bilateral trade flows at the product level from the BACI database, importer & exporter macroeconomic indicators at the product level from FAOSTAT, and classical distance & trade cost related variables as sourced from CEPII and UNCTAD TRAINS.

Accordingly, our zero-inflated Poisson (ZIP) structural gravity model is able to estimate conditions of trade genesis as well as trade cost & expansion elasticities specific to our products of interest. Furthermore, through its structural form our gravity model object captures importer & exporter specific multilateral resistance and thereby allows us to analyze unilateral trade policies, such as the EUDR, and their effects on warping global trade patterns, which carries the potential of blurring the intended mitigation of the EUDR on deforestation and biodiversity loss on a global scale.

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## "So You Think I'm Biased?" On the Limitations of the Context-Insensitive Bounded Rationality Paradigm in Development Economics

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❖ [Online-G31 Methods in Regional Science or Urban Analysis, August 26, 2024, 4:45 PM - 6:30 PM](#)

For years, the experimental method of Randomised Controlled Trials (RCTs) has been presented as a gold standard in public policy evaluation and causal assessment of interventions in development economics, particularly at local and regional levels.

Although presented as "a-theoretical" and "agnostic", this counterfactual method nevertheless often relies on the paradigm of bounded rationality, particularly with regard to the interpretation of agents' economic choices as "biased" and "inefficient". This article attempts to shed light on how apparently irrational choices (such as preference for "temptation goods", inter-personal transfers, spending on social relations to build informal social insurance, or taking min-max approach for farmers during the weakest harvests to ensure an incompressible production floor instead of seeking to maximize the marginal productivity of their land - the context making them legitimately and rationally risk-averse) may in fact represent rational decisions taken in a context of multidimensional and often endogenous constraints in low-income countries. These constraints include not only financial and informational limitations, but also social, cultural and psychological factors that are often not taken into account by interventions that advocate normative rationality and claim to be able to dispense with priors on the intervention context. A small-scale micro-theoretical model comparing normative and contextual rationality will be proposed to reconsider the notion of effectiveness in a development context.

This behavioral focus leads this category of RCTs to participate in the dynamic of orienting public development interventions and policies towards a micro, market-oriented, private-good-oriented scale, and thus to potentially overshadow the importance of macroeconomic dynamics and structural investments necessary for sustainable and inclusive development. This can lead to an underestimation of the need for generalizable macroeconomic and macroinstitutional interventions and development governance policies. This historical evolution in the economic analyses carried out and the economic policies they inspire, particularly in developing countries, will be examined. In particular, the case of microcredit, a theme much favoured by RCTs, will be used to illustrate this evolution, and the consequences in terms of the treatment of poverty by public policies.

Thus, this article calls for a reevaluation of how we conceptualize rationality and related interventions in development economics as well as the related micro-macro articulation, advocating for a more inclusive and context-sensitive approach including local knowledge systems, subjectivities and agency, and offering new pathways for a more epistemologically robust empirical research such as "actor-oriented" approach, mixed methods designs, iterative learning and community-based participatory research.

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## Innovation capacities for sustainability transition pathways in EU rural areas

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❖ [Terceira-G03-O2 Innovation and Regional Development, S11, August 28, 2024, 2:30 PM - 4:15 PM](#)

There is considerable academic research and growing policy interest in sustainability transitions. There is, however, less focus on specific challenges and opportunities of transition pathways for rural areas. A research gap exists in how we conceptualize transition pathways in rural settings and measure transformative innovation capacities in European rural regions. This paper brings together various systemic perspectives on sustainability transitions relevant to rural settings, such as social-ecological resilience, socio-technical transitions, climate adaptation, and sustainable approaches to spatial planning, land use, and agriculture. It addresses the research gap by first consolidating and synthesizing existing research on sustainability transitions in rural regions and then by developing a conceptual framework that links transition pathways with rural innovation and place-based innovation capacities. This framework can serve as a tool to help regions understand the innovation capacities required to embark on alternative transition pathways. It focuses on three key elements: (i) characteristics and dynamics of rural transition pathways, firmly rooted in socio-technical system thinking and social-ecological resilience, (ii) the role of innovation in rural sustainability transitions, and (iii) innovation capacities that predispose rural territories to benefit from transition opportunities and adapt to emerging and future societal challenges.

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## New land governance for food projects Guaranteeing use beyond land ownership on the outskirts of metropolises The case of Paris

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- ❖ [Online-S76-S1 Places for Sustainable Food: What's Behind and Beyond the Relocation of Food Systems?](#), August 27, 2024, 9:00 AM - 10:30 AM

In a region marked by tenant farming (nearly 90% of land area, with a very high number of owners per farm) and even more so by forms of land tenure insecurity linked to precarious leases (Dabo, 2022; Aragau, 2022), building food projects requires securing land as a production tool. This is the aim of our proposed communication. However, the Paris conurbation, which extends over a large number of administrative areas (a region, 7 départements and 1,929 communes involved in inter-municipal groupings), is not covered by a uniform land regulation system, which leaves room for specific arrangements. These cover a wide range of procedures, sometimes involving governance, such as territorial cooperation through the associative structure of AgriParis Seine to mobilize public land, or the labeling of agri-urban territories by the Ile-de-France region (De Biasi et al., 2005; Toublanc and Moquay, 2021) to promote planning that favors agriculture and food production, and experimental schemes that provide leverage for future development, such as the TIGA (Territoire d'innovation et de grande ambition) Sésame pour une transition agricole et alimentaire. What they all have in common is that they seek to ensure the sustainability of agricultural uses in order to contribute to the functioning of a food system that is wholly or partially connected to the urban markets of Greater Paris.

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## Enhancing Sustainable Development through Wine Tourism: Challenges and Opportunities

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❖ [Terceira-S29 Savoring Sustainability: The Intersection of Wine Tourism, Heritage, and Eco-Friendly Growth in Wine Regions, S07, August 29, 2024, 9:00 AM - 10:30 AM](#)

Wine tourism is a vital component in driving economic development, particularly in regions facing socioeconomic challenges. Despite its potential benefits, understanding and optimizing the tourism value chain in specialized and fragmented areas present significant hurdles. This study introduces a comprehensive methodology tailored to identify and evaluate specialized wine tourism ecosystems within designated study areas, with a primary focus on wineries and their production processes. The proposed methodology enables policymakers to navigate the complexities of wine tourism by facilitating the selection of appropriate measures—both hard and soft—in alignment with the principles outlined in the United Nations' New Urban Agenda. By adopting this strategic framework, which places sustainability and community well-being at the forefront, stakeholders can effectively address the unique challenges and opportunities inherent in wine tourism development. Through an integrated approach, this research provides valuable insights into strategic decision-making processes for territorial governance. By emphasizing the importance of coordination and collaboration across various sectors, the study underscores the need for cohesive strategies that integrate economic, environmental, and social considerations. Ultimately, this paper contributes to the ongoing discourse on wine tourism by offering a holistic perspective on its role in fostering local economic growth and resilience, particularly in disadvantaged regions. By leveraging innovative methodologies and strategic frameworks, policymakers and practitioners can harness the full potential of wine tourism as a catalyst for sustainable development and community empowerment.

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Current practices using Agent Based Models as a tool for policy assessment, simulation of complex circular systems in urban context.

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❖ [Terceira-G06-O6 Regional and Urban Policy and Governance, S02, August 30, 2024, 2:30 PM - 4:15 PM](#)

In the contemporary urban landscape, cities are increasingly turning to Agent Based Modelling to simulate and analyze complex problems, such as the optimization of waste collection practices. ABM provides a comprehensive approach to model the interactions between various factors influencing plastic recycling, allowing decision-makers to test and evaluate different scenarios. By leveraging ABM, cities can gain valuable insights into the effects of technological advancements, social engagement, and policy changes on the overall efficiency of waste management systems. This approach facilitates evidence-based decision-making, enabling cities to tailor their policies to the dynamic needs of the Circular Economy while promoting sustainable practices in plastic recycling. This study aims to take a look into different types of urban management challenges that can be solved with the use of ABM and dive into real life examples. Nonetheless it will certainly stress solutions concerning plastic waste collection policies and their assessment. Effective policies are essential for generating high-quality recycled plastic granulate, a critical component in subsequent recycling processes. However, the transition to these policies necessitates significant resources and timely implementation based on quantitative evidence. A critical knowledge gap exists, encompassing technological, social, environmental, and financial aspects affecting plastic recycling and their intricate interplay. This knowledge deficiency hinders decision-makers from making evidence-based choices, impeding efforts to optimize current city management systems and align policies with the principles of the Circular Economy.



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## the rising importance of migrants for childbearing in Portugal: contributions to regional demographic sustainability

Prof. Dulce Pimentel<sup>1</sup>, Prof. José Teixeira, Prof. Cristina Gomes

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❖ [Online-G02-O2 Demographic Change, Population and Migration, August 26, 2024, 2:30 PM - 4:15 PM](#)

Migration is an important component of demographic change, especially for countries with a persistent negative natural balance due to low fertility and population ageing (Coleman, 2006; Bagavos, 2019). This paper analyses the contribution of migrants to the total number of births and compares their impact on demographic change in Portugal at a local level. Our analysis uses data from municipal databases, the Portuguese Statistical Office (INE) and Foreigners and Borders Service (SEF). Between 2017 and 2022 the foreign population living in Portugal increased by 85 per cent, totaling around 800,000 people last year, approximately 8 per cent of the total population (SEF, 2023). The influx of immigrants has made it possible to strengthen the younger age groups - of childbearing and working age -, thus mitigating the ageing of the Portuguese population (Oliveira, 2023). It should be noted that more than 77 per cent of foreign citizens living in Portugal are in the 25-44 age group, meaning they are of working age and starting a family. The proportion of births to immigrant women provides a basic indication of immigrants' childbearing importance (Sobotka, 2008; Toulemon, 2004; Alderotti et al., 2023). During the last decade, immigrants have contributed substantially to the total number of births, and their share of total births has also increased in Portugal. In 2022, around 17 percent of the total number of births were to mothers of foreign nationality (14,003, almost the double than ten years earlier), reflecting an increase of 6 percent in live births to foreign mothers since 2010 in contrast to the downward trend in the total number of live births in the country (-17.5 per cent between 2010 and 2022). The geographical distribution of immigrants shows a concentration on the coastal areas, particularly in the Lisbon metropolitan area, as well as the south regions of Alentejo and Algarve. However, in other regions further from the major urban centres, the increase in the foreign population could help mitigate the depopulation and ageing process.

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## Caught in the Crossfire : Natural Resources, Energy Transition, and Conflict in the Democratic Republic of Congo

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❖ [Terceira-YSS6 Regional-Economic Development - EPAINOS, S04, August 29, 2024, 11:00 AM - 1:00 PM](#)

The global shift towards clean and sustainable energy sources, known as the energy transition, is compelling numerous countries to transition from polluting energy systems to cleaner alternatives, commonly referred to as green energies. In this context, cobalt holds significant importance as a crucial mineral in facilitating this energy transition due to its pivotal role in electric batteries. Considering the Democratic Republic of Congo's reputation for political instability and its position as the largest producer of cobalt, possessing over 50% of the world's reserves, we have conducted an assessment of the potential conflicts that may arise as a result of the rapid increase in cobalt demand. The results show that cobalt does not appear to be a determinant contributing to past conflicts in the Democratic Republic of Congo (DRC). Gold, on the other hand, stands out as one of the coveted metals for rebel groups engaged in rampant exploitation, increases the likelihood of conflicts occurring. However, according to our predictive model, cobalt has the potential to emerge as a contributing factor, similar to gold, if appropriate measures akin to those outlined in section 1502 of the Dodd-Frank Act are not effectively implemented to regulate the utilization of these minerals in the supply chains of corporations.

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## Analyzing the evolving dynamics of new working spaces in urban ecosystems: A comparative analysis of Lisbon and Bratislava coworking spaces

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❖ [Terceira-S80-S2 New Work Horizons: Geographical, Social, and Economic Dimensions of Collaborative Working Spaces, S09, August 30, 2024, 11:00 AM - 1:00 PM](#)

The rise of coworking spaces (CWS) have been significantly influenced by shifts in work paradigms in the broader context of globalization and technological advancements. Digitalization has reshaped all aspects of our lives, namely the production and service delivery processes, making work activities more flexible in temporal and spatial terms. This shift has resulted in new tasks, occupational profiles, and work arrangements, emphasizing efficiency and adaptability over traditional and rigid work structures.

Especially in the aftermath of the COVID-19 pandemic, hybrid work models have quickly emerged as the predominant work arrangement for a growing number of remote and mobile workers looking for a greater work-life balance and greater job satisfaction [1].

CWS has been gaining increasing visibility as a flexible, and often more affordable, collaborative spaces. They position themselves within the framework of a contemporary knowledge-based economy. The development of CWS is strategically aligned with broader trajectories of city development and planning [2]. These spaces are embedded in the fabric of urban economies and position themselves at the intersection of intersectoral and international flows of goods, services, and specialized labour [3]. As these spaces continue to evolve and attract a diverse spectrum of users, businesses, and operators, their nature has also become increasingly hybrid, combining a variety of activities, sectors, functions, and/or spatial configurations [4, 5].

This presentation examines the existing literature's nexus between emerging workspaces, labor transformations, and urban development trends. It explores the shifts in work paradigms, driven by globalization and digitalization, shaping working practices and workplaces.

By comparing two European cities, Lisbon and Bratislava, it seeks to identify the multifaceted factors that influence the development, location, and characteristics of these workspaces in the context of distinct local urban ecosystems, as well as the urban policies and strategies that impact their development. Both cities, while geopolitically peripheral, offer valuable lessons on integrating CWS into the urban fabric, revealing patterns and strategies that reflect wider regional and international trends in the transformation of workspaces.

Our methodological approach combines spatial analysis of CWS locations, in-depth stakeholder interviews, and comprehensive site visits. In addition, we examined local and national urban policies that influence CWS development. This methodology allows us to explore how coworking spaces integrate into and impact their urban ecosystems, as well as the changing dynamics of work and city life, in the interplay between local and global.

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## Analyzing the occurrence of AI convergences: Regional Perspective

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❖ [Online-G03-O1 Innovation and Regional Development, August 26, 2024, 11:00 AM - 1:00 PM](#)

Focusing on technological innovation and convergence is important for the AI domain, one of the emerging areas. This paper examines the technological capabilities in a region that could foster the occurrence of AI related technological convergence by using triadic patents. Graph analysis and survival analysis are conducted to discover AI associated convergences and their occurrences over periods. Findings from this research indicate that the active exchange of diverse but original technologies could facilitate the occurrences of technological convergence with AI in a region. This research could shed light on the establishment of R&D strategy for AI convergent technologies. This study could contribute to the dissemination and utilization of AI technologies in terms of the regional innovation system.

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## EU Cities as drivers of the ecological transition to address climate change. Policies, strategies, practices

**Prof. Gabriella Pultrone**<sup>1</sup>

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❖ [Online-S57 Government of Anthropization Processes: Domain of the Territories and Cities, Climate Changes, August 26, 2024, 11:00 AM - 1:00 PM](#)

The challenge of climate change and of mitigation and adaptation measures aimed at addressing its causes and effects occupies an important space in the objectives of the UN 2030 Agenda, in the Green Deal and in National Recovery and Resilience Plans. Although a large part concerns environmental matters, many other sectors are affected, considering that the negative effects of climate change also have serious repercussions on human rights, as well as on economic aspects. Local administrators of municipalities, cities and metropolitan areas must act to address climate change, making their territories more resilient. Actions that must be framed within climate governance and national and international objectives, and which require project partnerships and tools that can be activated in the different phases that characterize a correct climate policy of local authorities, according to a proactive and systemic approach, and no longer dedicated solely to the management of emergencies or to combating extreme events, but aimed at qualifying local development in a more general and lasting sense. Managing climate impacts requires responses from many actors, coherence, and public sharing. Cities are in fact an area with high resilience potential connected to the presence of advanced (ecological) and innovative (smart and digital) services capable of contributing to safety and the improvement of adaptation capabilities, such as advanced monitoring and alert systems in case of emergencies and the presence of assets to be used for adaptive purposes, such as natural, “blue” and “green” networks. Local governments can often be more innovative and more sensitive to environmental aspects than regional and national governments, anticipating trends capable of extending to the rest of society, such as laboratories for experimenting with eco-friendly cultures. Ultimately, local authorities are in a privileged position to involve citizens and communities in the design and implementation of climate policies, not only by working to promote new behaviors but also by committing to the widespread application of green technologies, advanced devices capable to enable fundamental prevention and planning services and strategies. In this framework, capitalizing on the ecosystem services that nature can provide, urban authorities take a leading role in developing green and blue infrastructure programs to mitigate, manage and prevent such effects. Therefore, the paper proposes some significant case studies – such as Amsterdam, the Great Manchester, Barcelona, Paris and Sevilla – under the EU Urban Innovative Actions, concerning the 2014-2020 programming period, and with reference to the topic of climate adaptation.

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## Regional differences in the use of digital technologies. Firm characteristics and local contexts.

Dr. Torben Dall Schmidt<sup>1</sup>

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❖ [Online-G36 Digitalization from a regional perspective, August 26, 2024, 4:45 PM - 6:30 PM](#)

The use of new technologies and innovation has been emphasized as an important for growth generally and regional development in particular. Recently, digitalization has been set forth as essential for applications in of new technologies. Information and communication technologies may for example be essential for the use of artificial intelligence (Xiao and Boschma, 2023). Also, the use and diffusion of Industry 4.0 depends on capabilities and regional potentials (Corradini, Santini and Vecciolini, 2021; Balland and Boschma, 2021). While new technologies in terms of Industry 4.0 may be important for regional development, this may depend on local contexts.

This paper considers the factors important for using different technologies associated with Industry 4.0. The point of departure is the decision to use a technology at the firm level, as different structures in firms may shape the abilities to exploit opportunities in new technologies. Secondly, the paper considers the importance of local contexts and capabilities in using such technologies. These comprise agglomeration measures, general socio-economic structures and infrastructure supporting the use of technologies. The analysis is based on the SOEP-LEE2 data for Germany matched with data for regional structures of the firm location. Results show that there are important differences in factors at firm and regional level promoting the use of different technologies, which points to spatial heterogeneity of successful implementation.

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## Towards a renewed and strengthened EU Integrated Maritime Policy

Mr Carlos Ribeiro Medeiros<sup>1</sup>

<sup>1</sup>Fcsh/unl, Lisboa, Portugal

❖ [Terceira-S53-S2 Maritime Regions: Europe Hot Spots, S08, August 30, 2024, 9:00 AM - 10:30 AM](#)

The Integrated Maritime Policy is one of the most underestimated EU policies. Its budget is small compared to other horizontal policies, and it is also difficult to communicate because its components are scattered: environment, transport, fisheries, research, security, tourism. By presenting itself as a comprehensive approach to sea-related policies, it has not achieved the political and institutional relevance that, for example, cohesion or environmental policies have already achieved. The priorities of the political guidelines of the President of the European Commission, Ursula von der Leyen, focused on the sea only in the security and environmental dimensions, and there was no reference to seas and oceans in the Strategic Agenda for the EU for 2019-2024 adopted by the European Council. Nevertheless, the IMP has had some successes. The sustainable blue economy or the European Marine Observation and Data Network (EMODnet) and, in particular, the introduction of strategies for European sea basins or macro-regions. The results of the EU elections on 6-9 June this year can provide an important impetus by putting maritime affairs back on the EU priority list: to consolidate the successful model of macro-regional strategies (MRS) or, on the contrary, to continue to focus solely on the sustainable blue economy, the path taken so far, limited to being part of the European Green Deal.

However, the future of the EU's Integrated Maritime Policy is both promising and challenging: the marine energy sector, the fight against marine pollution and the creation or extension of Marine Protected Areas (MPAs). Sea basin and macro-regional strategies could function as regional or national IMPs, helping to effectively integrate policies and create a vision for their common way forward in the form of a strategy.

Through documentary analysis, this presentation aims to provide alternative views and options on what this policy could look like in the future.

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## The 21st. Century Revolution in Smart-Port Cities. Review of some European Case Studies

Prof. Maria Regina Salvador<sup>1</sup>

<sup>1</sup>Nova Lisbon University, Lisbon, PORTUGAL

❖ [Terceira-S53-S2 Maritime Regions: Europe Hot Spots, S08, August 30, 2024, 9:00 AM - 10:30 AM](#)

The role played by maritime transport and ports as ‘hubs’ of logistics chains determine the importance of port cities.

Ports and cities are historically linked. However, the link between port and city growth has become weaker.

Many economic benefits are associated with well-functioning ports: they lower the cost of trade, generate value added and employment, and attract investments. Moreover, ports are associated with innovation in port-related sectors: 9 out of 10 world regions with the largest amount of patent applications in shipping are home to one or more large global ports.

Cities concentrate population and production, with environmental, economic, social, and governance challenges. Strategies must be SMART (Specific, Measurable, Attainable, Relevant and Timely).

Smart ports reduce pollution, and embrace automation, encompassing innovations, such as AI, Blockchain, or ‘Digital Twin’.

The vision of a smart city incorporates Shared, Secure and Scalable infrastructures that enables human possibilities in a Smart, Safe, and Sustainable manner.

The paper summarises the strategies followed by the European port-cities of Antwerp-Bruges, Barcelona, Havre, Hamburg, and Rotterdam, as well as by the ‘Smart Cities Marketplace’ – in what can be considered a true revolution of the 21st century.



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## Leveraging Remote Work as an Opportunity to Boost Rural Economies and Sustainability

Mr Giovanni Spatola<sup>1</sup>

<sup>1</sup>Mercatorum University, Rome, Italy

❖ [Online-S70-S2 The role of young people in building up sustainable development practices for inner and rural areas, August 26, 2024, 11:00 AM - 1:00 PM](#)

This study aims to explore how greater adoption of remote work can help revitalize employment levels and economic prospects in rural areas while supporting sustainability goals.

While rural communities have faced challenges of depopulation and lack of opportunities, the rise of remote work during the pandemic opened new possibilities. By analyzing current remote work trends and barriers/enablers, this research contributes insights on how rural regions can better position themselves to attract more digital nomads and remote employees.

Both primary and secondary data will be collected and analyzed. An online survey will gather perspectives from current remote workers on location preferences, lifestyle desires, and employer/community support needed. Publicly available statistics on broadband access, housing costs, and existing remote-friendly initiatives in sample rural communities will also be reviewed.

Preliminary findings indicate many remote workers value lower costs of living and closer proximity to nature found in rural settings. However, lack of reliable high-speed internet and social isolation are key deterrents. By addressing these gaps, rural communities may see remote work as a path to sustainability by increasing and diversifying their employment base without major infrastructure development—reducing environmental impacts while boosting local economies. Potential policy recommendations and best practices for rural regions will be discussed.

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## Evaluating overtourism vulnerability of tourist destinations: a multidimensional empirical approach

Dr. Alessandro Buongiorno<sup>1</sup>, Prof. Angela Stefania Bergantino<sup>1</sup>, Prof. Mario Intini<sup>1</sup>

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❖ Terceira-S32 On the Dynamics and Consequences of Short-term Rentals, SF3, August 28, 2024, 2:30 PM - 4:15 PM

Tourism has been increased its weight and importance in the European economy in recent years more than other economic activities and has registered the highest growth rates compared to previous periods.

However, tourism activities present numerous negative impacts that various destinations are already experiencing, which is grappling with growing problems of land exploitation, pollution, production of waste, increased consumption of energy and water, as well as inconvenience for the local population which can result in feelings of annoyance and antagonism towards tourists on the part of residents.

With the renewed desire to travel (especially abroad) the theme of overtourism has revived in those destinations which have long suffered from tourist diseconomies linked to overcrowding.

The current way of measuring tourism, through monitoring tourist flows and their trend over time, is not much adequate to evaluate the risk of overtourism at destination level. Many other dimensions would be considered as the causes of overtourism are numerous and complex and the perception of the impacts of tourism can vary from destination to destination and over time.

The essentially quantitative nature of the phenomenon would require the identification of a series of indicators (yet to be identified) associated both with the volume and growth of tourists and the typologies and characteristics of their visit. Unfortunately, today the lack of a shared set of indicators makes it impossible to clearly qualify and quantify the number of destinations in a "state of overtourism". The objective of this study is to provide a useful control system, developing a multidimensional approach, able to respond to this central issue for all destination managers and policy makers.

Started from the review of the main causes which have contributed to an uncontrolled increase in international tourist flows in recent years, we have identified the main determinants of overtourism at local level and then selected cause-related and relevant indicators that describes all principal dimensions of the phenomenon linked to tourism spatial and temporal concentration of tourist flow.

The control system include a set of benchmarks with eight key metrics, covering arrivals, presences, air travel, economic value of tourism, phenomenon of short-term rentals and the proximity of UNESCO sites, useful to diagnose or predict the risk of vulnerability for tourist destinations, in specific contexts.

Through a simple color scale representation system with the heat map, it is possible to highlight the variables that signal the most worrying risk situations.

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## Why did regions fall into the development trap?

Prof. Maria Rego<sup>1</sup>

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❖ [Terceira-S11-S2 Left Behind Areas: Past, Present and Future, S03, August 30, 2024, 9:00 AM - 10:30 AM](#)

Throughout the end of the 20th century and the beginning of this century, the regions of the European Union member countries have been experiencing different challenges, many of which are related to differences in development as well as the different ways in which the regions have evolved in economic and social terms. Recently, a European Commission working document entitled “The geography of EU discontent and the regional development trap”, written by Andrés Rodríguez-Pose, Lewis Dijkstra and Hugo Poelman, draws attention to the fact that different regions are facing what is defined as a trap for regional development, in addition to reiterating the fact that, in many regions of the European Union, citizens are expressing their discontent, following a loss of quality of life, voting for populist parties with an anti-system matrix.

The regional development trap has been defined as "the state of a region unable to maintain its economic dynamism in terms of income, productivity and employment, while at the same time underperforming its national and European peers in these same dimensions" (Diemer et al., 2022, cited in Rodriguez Pose et al., 2023: 14). A region thus falls into a development trap if the prosperity of its inhabitants “does not improve in relation to its past performance and the economic conditions prevailing in national and European markets” (Diemer et al., 2022, cited in Rodriguez Pose et al., 2023: 14).

If the cohesion and structural reform policy has been devoting particular attention to regions with low levels of economic growth, according to the GDPpc Index measure, the regions that face, more intensely, the development trap have, in many cases, characteristics distinct from the first and cannot continue to “be left behind”.

In this communication, and using the concept of “development trap” as a framework, it is proposed to evaluate, in detail, the socioeconomic characteristics of Portuguese regions, and the way in which they have evolved over the last two decades, in order to understand the intensity and duration of this phenomenon. This communication will be the first essay on this topic, with detail on the study of Portuguese regions, which is intended to evolve in order to propose public policy measures with a view to both creating conditions for improving citizens' quality of life and reducing of inter-regional asymmetries.

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## Public administration's digitalization in Romania: a perception-based analysis and the relevance for the European's digital transition and sustainable development ambitions

Ms Gabriela Carmen Pascariu<sup>1</sup>, Ms Alexandra Gheorghiu<sup>1</sup>, Mrs Valerică Greavu-Șerban<sup>1</sup>

<sup>1</sup>Alexandru Ioan Cuza University of Iasi, Iasi, Romania

❖ [Terceira-S13 Regional Development and Sustainable Peace, SF2, August 29, 2024, 9:00 AM - 10:30 AM](#)

The digitalization has been regarded as a process allowing all territories and socio-demographic categories equal access and opportunities in an ever-connected world. During the past decades, it has become an integral part of the contemporary society, being elevated as top priority in the majority of European countries and regions, a key dimension of the development strategies and policies over the world. While it's positive transformative potential is vast (and acknowledged), there is a growing concern, supported by recent data, that the digitalization process accentuates existing inequalities. Our paper is centered on the perceptions analysis (a survey applied at national level: 558 institutions replied to the invitation to fill in the questionnaire) of the drivers and barriers of digitization in the public administration in Romania. We took into account the low level of digitization of the public institutions in Romania compared to other European countries and the negative impact on citizen-based governance. We were interested in our analysis on a regional perspective and highlighting urban-rural differences. The paper has a high normative dimension, with an emphasis on recommendations for evidence-based policies in the digital transition process.

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## EU cohesion policy in the era of green and just transition: the case of decarbonization in a Greek region

Prof. Dimitris Foutakis<sup>1</sup>, Prof. Elisavet Thoidou<sup>2</sup>

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❖ [Online-G06 Regional and Urban Policy and Governance, August 26, 2024, 11:00 AM - 1:00 PM](#)

Following significant efforts worldwide towards combating climate change, the EU has adopted a green deal that affects all its policies and budgetary decisions since 2021. By setting climate targets that are legally binding, the EU is mainstreaming its green and climate agendas in all policies, and especially in cohesion policy. The whole effort has been described as a process of transition towards reducing greenhouse gases, decoupling economic growth from resource use, and no leaving behind any person and any place. This process has significant territorial dimensions that involve all places and scales, from neighborhood to superregional. Evidently decarbonization that is a key means of reducing greenhouse gases has a strong territorial impact, especially in coal regions that have long based both their development and employment patterns on coal mining and thermal power stations. Such impacts include a rise in unemployment and a fall in incomes as well as environmental and landscape degradation. Accordingly, the just transition mechanism / fund has been established by the EU in 2020 with the aim to ensure that the “leaving no person and no place behind” target will be attained.

In Greece decarbonization process is focused on two coal and carbon-intensive regions namely the region of Western Macedonia and the municipality of Megalopolis in the region of Peloponnese, the development of which during the last four decades has been based on coal-fired power plants. Now that they must re-orientate their development pattern the question arises as to which this new pattern should be. Elaboration and implementation of the so-called Territorial Just Transition Plans is a prerequisite for their receiving EU economic aid, which might be considered an opportunity for their transition towards a new carbon-neutral path. Especially for the region of Western Macedonia emphasis is placed on Renewable Energy Production (photovoltaics and wind farms) which however is not capable of effectively replacing previously mining and industrial activities in terms of employment and economy. Hence, an integrated approach to regional development is crucial, e.g. by utilizing EU funds deriving from the Regional Operational and Sectoral Programmes. This paper examines the above issues in connection with EU cohesion policy, and seeks to identify obstacles, challenges, and potentialities for such regions' transition.

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## Going Beyond Entrepreneurial Ecosystem Boundaries

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❖ Terceira-S74 Entrepreneurial Ecosystems and Regional Development: Dynamics, Evolution, and Implications, S08, August 30, 2024, 2:30 PM - 4:15 PM

Entrepreneurial Ecosystems (EE) have emerged as a fundamental concept to understand the complex system of interconnected actors and factors, within a particular location, that promote entrepreneurship, innovation (Mason and Brown 2014), and ultimately foster local socioeconomic development (Cho et al., 2022).

While, traditionally conceptualised as being rooted in a single location or environment (Stam and Spigel 2016; Mason and Brown 2014), recent research highlights that EEs may encompass wider and more permeable borders than originally conceived, not being isolated and limited to just one specific area, since “entrepreneurship, like nature, does not always recognize boundaries drawn on maps” (Muldoon et al. 2023). Besides, the advances in digital technologies have also pushed the discussion on digital EEs, where the geographical barriers are lowered and the interactions between stakeholders from different EEs are significantly different (Fischer et al. 2022; Muldoon et al. 2023; Autio et al. 2018). Thus, researchers have been calling for more holistic approaches that include multi-layered dynamics and relationships that go beyond geographical barriers (Fischer et al. 2022; Schäfer 2021). However, there is no consensus in the current literature on the EE boundaries (Wurth et al., 2022) and there is a lack of empirical analysis to understand the network boundaries of EEs (Qian and Acs 2023), leading to an inadequate understanding of how entrepreneurial networks are distributed across different geographies (Fischer et al. 2022).

In this study, we discuss the need to establish multi-level cooperation across stakeholders from different EEs and at different spatial levels and how these relationships help mitigate local resource bottlenecks, related to finance, mentors, human capital and knowledge. In addition, we identify the main types of actors involved, the cooperation mechanisms and the role of local network brokers, such as the local government, incubators and entrepreneurs.

Our findings, expand the understanding that EE relationships with other ecosystems are important as the EE grows (Qian and Acs 2023), arguing that opening the boundaries of the EE was a critical success factor during the emergence and transition phases. This study also draws important implications for researchers and policymakers to consider EEs as multiscalar in nature and its boundaries open and dynamic, rather than delineating EEs according to fixed administrative boundaries.

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Teleworking and office location, are there any emerging impacts in post-covid times?

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❖ [Terceira-S59 Telework in Post COVID Times: Trends and Challenges for the Future](#), S04, August 30, 2024, 11:00 AM - 1:00 PM

The emergence and proliferation of teleworking, accentuated by the COVID-19 pandemic, have profoundly reshaped the landscape of work arrangements. This paper investigates the impacts of teleworking on the spatial dynamics of companies, particularly regarding their post-COVID location preferences. Despite the acceleration of teleworking trends during the pandemic, its long-term effects on the locations of companies remain underexplored. Through semi-structured interviews conducted with a diverse range of companies, but also business and sectorial associations, this study examines the adoption of teleworking practices and its implications for office space utilization and location. Findings reveal a significant shift towards teleworking, especially among younger employees who increasingly prioritize flexible work arrangements. Companies have adapted to this trend by adopting hybrid teleworking models, although resistance to full remote work perseveres due to concerns about the creation of a company culture and time spirit. While teleworking has led to a reduction in office space requirements, relocation decisions appear to be influenced by factors unrelated to teleworking. However, the trend towards smaller and more flexible office spaces emphasizes the cost-saving potential of teleworking strategies. Overall, teleworking is poised to remain a fixture of post-pandemic work environments, influencing talent recruitment and office space management. Though its impact on office relocation may be limited, teleworking is reshaping the spatial dynamics of companies and challenging traditional notions of workplace organization and location. This study emerges from the REMOBIL project and tries to contribute to a better understanding of the evolving relationship between teleworking practices and company spatial strategies in the post-COVID era.

895

## A new model to assess local economic impacts of large-scale solar: a state-of-the-art and the need for best practices

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❖ [Terceira-G31-O2 Methods in Regional Science or Urban Analysis, SF4, August 29, 2024, 2:30 PM - 4:15 PM](#)

In the case of large-scale solar facilities (LSS), some practices associated with economic impact assessment have become methodologically outdated. This is particularly true when researchers or consultants attempt to estimate local impacts at the county or city level using local input-output multipliers in three key ways. First, as the regional scale decreases and the underlying input-output tables cover smaller geographical regions, the models produced are more sensitive to the use of national data and rely on strong assumptions in estimating the local consumption of inputs, the local provision of labor and commuting flows, the leakage of capital to other regions, or the local fiscal policy and its complementary effects on local government expenditures. Secondly, most studies have simply neglected the impact of trade-offs with other land-intensive activities (like agriculture or forestry) that support the economic base of many rural economies. Finally, since solar development is still a relatively new technology in a phase of rapid expansion, national production technology data might not accurately reflect the impacts of the operation phase and instead overestimate the need for labor and other inputs primarily used in the construction phase. Unfortunately, many of the aspects above are absent from studies that use standardized applications of IMPLAN, REMI, or other top-down regional input-output models.

Given this, we start by summarizing the recent literature that addresses the local economic impact of solar development and highlight how they have been overestimating the impacts both at the state and local levels, with the impacts of solar sometimes representing almost 10% of the total employment of some US states or local counties. Next, we highlight the potential methodological aspects that lead to these results and suggest different ways to improve the estimations and the data sources that can be used for this purpose. For example, in the case of IMPLAN, one particular aspect is that the coefficient of employment per unit of output is significantly outdated and ignores the differences between the construction and operation phases. Finally, we will list several areas where best practices should be implemented to increase the accuracy of local impact assessments.



## Multidimensional Analysis of the Sea Economy: A Case Study for the Autonomous Region of Madeira, Portugal

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❖ [Terceira-S53-S1 Maritime Regions: Europe Hot Spots, S09, August 29, 2024, 9:00 AM - 10:30 AM](#)

The maritime economy has been the subject of distinct studies focused on measuring its importance for the economy of a given region or country, especially in the context of island economies. This study aims to define the systemic contribution of the Autonomous Region of Madeira (IOM) to the blue economy by integrating the Satellite Account for the Sea with an interregional input-output table and performing a hypothetical extraction of the sector.

In order to do so, we established a novel approach to integrate the SAS with IOM, which is to distribute the values of the satellite account based on proxies as we would do if all possible information was available. Taking the data of production from the National Institute of Statistics (INE) to each activity and considering the distribution of the proportion of blue economy in each US industry, we can approximately identify the use of sea by subclass and finally aggregate it into 65 sectors. Based on this data, new Technical Coefficient and Leontief Inverse Matrices are calculated and, along with the coefficients, new vectors for the interested dimensions, which are added value, employment composition and CO2 emissions.

We found that the impact of the blue economy on the Madeiran economy itself is 16% of the added value and 750 million euros (0.37%) of the Portuguese economy. Regarding the composition of labor, about 50% of the direct and indirect jobs linked to the sea are for young people aged 15 to 24. Almost 50% of the total effect relates to women's employment, mainly in the RAM itself.

This result suggests that the Madeiran blue economy has relevance in promoting jobs with greater gender equality and contributing to regional development by retaining young people in the RAM, mitigating the effects of demographic transition in the region. We intend to improve the estimation with access to microdata and also construct indicators regarding CO2 emissions relative to cross-sectoral and cross-regional with the aim of assessing the contribution of the blue economy to low-carbon development.

899

## Governance and technology for tourism resilience: the perspectives of key stakeholders in South East Nigeria

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❖ [Online-S38 The conflict between tourism expansion and sustainability: The case of Less Developed Countries, August 26, 2024, 9:00 AM - 10:30 AM](#)

Resilience is the ability of a system to absorb disturbances and to learn and adapt in times of turmoil. This concept helps to understand how the tourism industry can effectively respond and adapt to external shocks. This communication focuses on the resilience of tourism in Nigeria after the severe economic downturn caused by successive closures during the Covid-19 pandemic. In particular, it focuses on governance and technology orientation as moderating factors of the region's adaptive capacity. The study has four main objectives: to explore the level of resilience in the tourism sector in Nigeria, to examine institutions and tourism governance in Nigeria, to analyse the role of technology orientation in resilience, and to discuss the key challenges facing tourism in Nigeria. The study presents a reflexive literature review to provide insights into key concepts and the actual situation of tourism in Nigeria. The data collection tool used in the empirical study was a semi-structured interview, covering a group of 30 key stakeholders in the South East region of Nigeria (Abia, Imo, Anambra, Enugu, Ebonyi). The study uses thematic analysis and content analysis to analyse the information from the interviews. The findings suggest that tourism is one of the key sectors offering opportunities for accelerated growth in Nigeria. It also shows that the Covid-19 pandemic has severely affected the tourism industry due to movement restrictions. Collaborative governance raises the level of public awareness of the importance of tourism resilience and sustainability, bringing to the discussion notions such as efficiency, effectiveness, fairness, transparency, accountability, cooperation and legitimacy, fundamental for decision making in both the public and private spheres.

901

## Regenerative tourism and path development: a political economy perspective for a just transition in the Algarve (Portugal)

Prof. Hugo Pinto<sup>1</sup>

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❖ [Online-S46 Building Just Futures for Regions in Green Industrial Transitions, August 27, 2024, 9:00 AM - 10:30 AM](#)

Tourist regions were particularly vulnerable to the socio-economic consequences of the pandemic. Restricted mobility has led to recession and severe job loss in the tourism sector. Many tourist regions with limited economic diversification are overly dependent on this sector as their main economic driver. Before the pandemic, many destinations were already facing the negative effects of overtourism. By causing a temporary reduction in tourism, the pandemic has made it possible to reflect on these issues and consider the need for more sustainable practices for the future. This has led to a growing debate on tourism and possible alternatives in the sector. This communication, based on the case study of the Algarve (Portugal), a sun and sand destination and one of the most tourism-intensive regions in the European Union, highlights the vulnerability of tourism regions to external shocks and internal sustainability challenges, such as water governance or the need to degrowth. Using a political economy perspective, it presents regenerative tourism as a potentially useful concept for path development. By focusing on a symbiotic relationship between a wide range of stakeholders, tourists, the industry and the destination, regenerative tourism can contribute to regional transformative resilience. The study uses quantitative information and a focus group with key stakeholders to assess sustainable path development and just social, economic and environmental impacts of tourism. Findings provide insights into the difficulties of implementing a transformation agenda, such as a smart specialisation strategy, in a tourism-intensive region.

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## Challenges and Determinants of the Implementation of Certifications in Cocoa Crops in Colombia for Insertion in global value chains

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❖ [Online-G10 Trade and Global Value Chains, August 26, 2024, 11:00 AM - 1:00 PM](#)

Certifications are quality standards that allow farmers to add greater value by accessing international markets, inserting themselves into global value chains. In the particular case of cocoa, a crop that has broad growth prospects given its high consumption in developed countries, its use has spread in several exporting countries, such as Ecuador in Latin America or Ghana and the Ivory Coast in Africa. Its implementation involves several challenges, since, since production occurs in developing countries, the farms are cultivated by low-income farming families. In the particular case of Colombia, its cocoa sector has grown in recent years primarily to serve a domestic market, but it has great potential to grow for export. Exporting faces several challenges, one of them being to position the grain in specialized markets that require certifications. However, there are no studies in the country currently that examine the challenges that cocoa farmers face in implementing certifications in their crops. This article will explore the main factors that can explain the challenges that cocoa farmers face in adopting certifications. To achieve this, it will use the Q methodology, a qualitative method that seeks to understand the different perceptions of national expert actors in the value chain (academics, researchers, growers, members of the government, among others), to group the main challenges through factor analysis. that cocoa farmers face to implement certifications in their crops. The findings will make it possible to better guide public policies and interventions carried out by support and technical assistance organizations in the country.

903

## Informality, Underemployment or both? The role of minimum wage policy in Ecuador

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❖ [Online-G06 Regional and Urban Policy and Governance, August 26, 2024, 11:00 AM - 1:00 PM](#)

The objective of the article is to explore the effects of the (real) minimum wage on the probabilities of mobility of workers from marginal employment to another labor status with better quality of employment. To do this, we use cross-sectional data with information on workers who only appear once in the period 2007-2019 and, likewise, a multinomial logistic model with a dependent variable of four categories of labor statuses. Among the results, the research allows us to intuit that the mechanisms that explain better quality of employment for workers in marginal jobs is the increase in bargaining power. Also, in the possibility that the minimum wage leads firms to replace labor with high hourly wage with labor with low hourly wage. For those with high wages, the persistence of underemployment would be compensated with labor formalization.

908

## Heterogeneous Causal Impacts of Highway on Regional Economic Growth: Evidence from Japan

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❖ [Terceira-G31-O2 Methods in Regional Science or Urban Analysis, SF4, August 29, 2024, 2:30 PM - 4:15 PM](#)

This study aims to examine the heterogeneity in the causal impact of highway development on regional economic growth. To this end, we employ causal forests, that is a machine learning algorithm for causal inference, to data on Japanese municipalities from 1971 to 2011 and estimate the conditional average treatment effect (CATE) of highway interchange openings on the growth of value-added per employee in manufacturing sector. We then find evidence that an opening of highway interchange improves regional labor productivity by an average of 9.9% from 1971 to 1991, while there is no significant average effect from 1991 to 2011. This result is consistent with the fact that Japan experienced rapid growth in the former period and long stagnation in the latter period. We also identify regional characteristics that affect the heterogeneity in the causal effects for each period, and reveal that those differ between periods of economic growth and stagnation. This regional and temporal heterogeneity is likely to improve the efficiency of transportation infrastructure policies by targeting regions where significant benefits can be expected. Finally, by comparing the result of causal forests with those of regression models and propensity score matching DID, we demonstrated the usefulness of the non-parametric method.

911

## Revitalizing Rural Economies: Innovative Strategies for Economic Development in Remote Regions

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❖ [Online-S47 Leave No One Behind! The Role of The EU Cohesion Policy in a Changing World, August 26, 2024, 11:00 AM - 1:00 PM](#)

The paper aims to address the critical yet often overlooked aspect of economic development in rural areas. This paper seeks to explore the unique challenges and opportunities that rural regions face, particularly in the context of sustainable development and regional economic growth.

The primary objective of this study is to identify and analyze innovative economic strategies that can stimulate growth in rural areas, which are typically characterized by limited resources, lower population densities, and restricted access to larger markets. The paper looks at different models of rural economic development, focusing on how these areas can harness their unique attributes to achieve economic benefits. This includes the examination of successful case studies where rural regions have successfully revitalized their economies through approaches such as agritourism, digital connectivity, local entrepreneurship, and the promotion of regional products.

Methodologically, the research adopts a mixed-methods approach, combining quantitative data analysis with qualitative case studies. Data was drawn from a range of sources, including economic performance indicators, demographic trends, and case studies of successful rural economic initiatives. This approach allows for a comprehensive understanding of the economic dynamics at play in rural areas, as well as the effectiveness of various development strategies.

The contribution is expected to offer valuable insights into the economic development of rural places, providing policymakers, academics, and practitioners with a deeper understanding of the mechanisms that can drive sustainable growth in these regions. Furthermore, the paper aims to contribute to the broader dialogue on regional science, highlighting the importance of inclusive and sustainable development strategies that encompass all geographic areas, not just urban centers.

912

## How can sport act as a catalyst for regional development in the outermost regions of the European Union?

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❖ [Online-G44 Remotness in the EU, August 27, 2024, 9:00 AM - 10:30 AM](#)

From the "Adonnino Report" by the Citizens' Europe Committee in 1985 to the adoption of the Lisbon Treaty in 2009, the European Union has gradually recognised the importance of sport in society. As a result, EU public policies on sport target multiple dimensions, supporting the role of sport in society and social inclusion (Thiel, Petry, Parker, 2012), evaluating the economic impact of sporting events and the management of sports organisations (Downward, Dawson, 2000), or examining the issues of regulating sportspeople or transnational cooperation (García, Houlihan, 2017).

In the specific context of the EU's outermost regions, which are characterised by distinct geographical, economic and environmental challenges, the question of whether sport can genuinely contribute to economic development is of particular importance. These regions, often remote from the European mainland, face unique challenges linked to geographical isolation, environmental vulnerability and socio-economic disparities. This issue raises crucial considerations about the capacity of sport to act as a vehicle for economic, social and environmental development in these peripheral territories of the EU.

Following the contributions of Herod and Wright (2009), (see also Bale, Christensen, 2004; Giulianotti, Nicholson, 2012), it has been widely recognised that sport is no longer solely about performance but can influence regional development by playing a non-negligible role in the economic growth of many countries (Sobry C., Hozhabri K, 2022; Rekdal & McDowemm, 2013; Gásquez & Royuela, 2014). However, the literature has not addressed this dimension in the ORs (Naria, 2013). Our study aims to scrutinise the different facets of sport as a propellant of regional development, focusing on how it can be mobilised to mitigate particular challenges and stimulate sustainable change in these island territories. Through this exploration, we will seek to unveil the opportunities and challenges inherent in integrating sport into a sustainable development strategy for the ORs.

In order to answer these questions, we first propose a review of the state of the art, which presents the relevance of sport in the development of these remote territories. Then, using an econometric study, we will take an empirical approach to the situation in the outermost regions in order to measure the influence of sport on the growth dynamics of the economy of these remote territories. We have identified 6 key areas in which sport seems to influence the development of these remote areas, such as the economy, health, education, social cohesion and tourism.



913

## The impact of improving the Esg score in banking in the new economical context

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❖ [Online-S47 Leave No One Behind! The Role of The EU Cohesion Policy in a Changing World, August 26, 2024, 11:00 AM - 1:00 PM](#)

**Abstract:** This paper assesses the opportunities and ESG risk factors relevant to the banking system through selected environmental and social key issues as defined by the Global Industry Classification Standard (GICS). The research process involves analyzing the impact of banks' exposure to ESG factors using different methodologies and tools, including integrated ESG risk analysis, ESG stress testing, and ESG risk rating. The objective is to identify optimal strategies for improving ESG risk ratings in the banking sector, highlighting their role as accelerators in transitioning to a zero-carbon economy. Despite the initial high investment costs, this model aims to mitigate financial risks over the medium and long term.

915

## Lack of snow and small low-altitude Snow Tourism Destinations and Communities in the Alps. Vulnerability tips from the BeyondSnow project.

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<sup>1</sup>Eurac Research, Bolzano, Italy

❖ [Terceira-S84 Navigating Climate Transitions: Main Challenges to Communities Towards Sustainability, S08, August 28, 2024, 11:00 AM - 1:00 PM](#)

In recent years, the snow tourism sector has been dealing with various and in some cases highly challenging trends. Above all, climate change effects, especially increasing temperatures and decreasing snow-reliability, have been already observed and are expected to intensify in the future. This, accompanied by social and demographic changes, can lead to a potential decrease in the attractiveness of snow tourism destinations (hereinafter STDs) and, in particular, the smaller, lower-altitude ones, and a consequential weakening of their local economies. However, adaptive solutions, such as the inclusion of ecosystem services, can act as meaningful tools to counteract potential impacts of climate change and reduce the vulnerability of STDs. Within the Alpine Space Project “BeyondSnow”, authors explored the topic of the vulnerability in STDs. As a result, a first draft of a Vulnerability Map for the whole alpine space area was elaborated, aiming at exploring the complexity of vulnerabilities and providing a comprehensive overview that integrates both biophysical and socio-ecological and -economical dimensions. Authors intend to deepen the selection of indicators, their weighting, but also to reflect on opportunities to refine the analysis and give a better result to communities. They therefore want to bring some insights concerning the interrelation between data, vulnerability map and the strategic future development of these communities even in the (potential) absence of snow in the coming future.

917

## The impact of regional development policies on tourist attractiveness and firms' performances

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❖ [Online-G35-O1 Tourism and Overtourism Issues, August 26, 2024, 11:00 AM - 1:00 PM](#)

Regional development policies (RDPs) and related public funding opportunities are crucial for economic

and social development and for eliminating economic and social disparities within EU territories.

Studies

to date have focused on analysing the territorial impact of all funded projects, concentrating mainly on the regional and/or provincial level. However, it is important for policy-makers to have evidence of the economic impact of these investments not only at a disaggregated geographical level but also with reference to different sectors, considering that heterogeneous levels of local development can be achieved

depending on the economic activity to which RDP funds are allocated. The hypothesis is that the tourism

sector, which is so deeply rooted in the territory, can have significant spill-over effects. Indeed, RDP investments have a potentially significant impact on the attractiveness of tourist destinations and the profitability of businesses. Moreover, this sector absorbs an important part of these investments. In Italy,

for the 2017-2013 and 2014-2020 programming cycles, EUR 13.9 billion were dedicated to enhancing territorial tourism attractiveness. However, among the studies that focus on the impact of RDPs, few concern the tourism sector and none analyses their impact taking into account the municipal level.

This paper aims to assess the effects of RDP investments on territorial economic development and on the

performance of tourism firms in Italy. To this end, we focus on tourism projects financed (thematic objective 6) or on projects of other thematic objectives that, however, refer to keywords strongly connected

to the tourism theme, using data from Open Cohesion (2007-2013 and 2014-2020 programming cycles).

The sample consists of 11,700 projects for more than 5,000 beneficiaries, of which 60% public and 40%

private, amounting to a total of 6.2 billion euro of public funds from the European Regional Development

Fund (ERDF), the National Fund for Development and Cohesion (FSC), the Action Plan for Cohesion (APC) and the National Operational Programme (PON).

The analysis will be conducted at two levels. One is at the municipal level, aggregating the investments

related to tourism projects for each Italian municipality to quantify their impact on territorial development and attractiveness (in terms of number of tourists, presences, length of stay, average tourist

expenditure, etc.). The second is at company level, investigating whether these funds improve

performance in terms of increased revenues or reduced costs for beneficiary tourism firms. For this

analysis, individual company profiles and performance indicators will be collected. Policy evaluation techniques such as difference-in-differences, propensity score matching, and synthetic control will be used

to estimate the possible effects of the RDP at municipal and enterprise levels. Furthermore, spatial analysis will be carried out to assess territorial leakages of the investments in neighboring regions/areas.

In particular, heterogeneity between territories with different territorial capital endowments and between sets of firms with comparable characteristics will be analysed.

This analysis can provide information on more targeted and effective regional and territorial development

policies, thus enhancing the attractiveness and development of the Italian tourism sector and the performance of tourism firms.

918

## Migration Opportunities and Human Capital Investment Decisions: Evidence from Ukraine

Mr Davit Adunts<sup>1</sup>, Mrs Bohdana Kurylo<sup>2</sup>

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❖ [Terceira-G02-O1 Demographic change, Population and Migration, S10, August 28, 2024, 11:00 AM - 1:00 PM](#)

This paper examines the impact of international migration opportunities on origin-country skills composition by exploiting changes in migration opportunities induced by visa liberalization between EU countries and Ukraine. We use individual-level data from the universe of centralized test results and subject choices from end-of-high-school exams held from 2016 to 2019 in Ukraine. We exploit regional variation in aspirations to migrate to EU countries prior to the introduction of the visa liberalization policy and rely on the Difference in Difference approach to identify the causal effects of the policy. Our results suggest that greater opportunities to emigrate to EU countries increased the probability students will choose subjects that are more likely to lead to internationally transferable skills in Ukraine. We find no evidence that greater opportunities to emigrate to the EU significantly affect student performance or the probability of failing exams in subjects that are likely to lead to more internationally transferable skills. This suggests that the observed increase in the share of students choosing more internationally transferable subjects was not accompanied by a decrease in student performance or in the competitiveness of the study programs.

919

## Modern academic publishing with Quarto, R, GitHub and friends: The publisher's view

Prof. Gunther Maier<sup>1</sup>

<sup>1</sup>Modul University Vienna, Vienna, Austria

❖ [Online-G41 Modelling spatial analysis, August 27, 2024, 9:00 AM - 10:30 AM](#)

In recent years, substantial improvements have been made in the open science/open source community toward integrated analysis and publishing tools. These developments are particularly important for academic publishing of all types. This includes the writing and publishing of articles, books, research reports, web-sites, presentation slides, etc. Key elements of this environment of software and IT-infrastructure are Quarto, R, and GitHub.

In this paper, I want to review these tools and how they can contribute to the production of academic output. The full benefit of these tools, however, will only be achieved, when the publishers adapt their requirements and procedures to them as well. Therefore, I want to put the main focus of this presentation on the publishers' role in this transition. I will discuss how publishers can streamline their workflow with these tools, and show what they will have to develop and provide to authors. I will discuss the proper integration of these tools into the open source publishing software "Open Journals System".

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There are no longer the young people of the past

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❖ [Online-S70-S2 The role of young people in building up sustainable development practices for inner and rural areas, August 26, 2024, 11:00 AM - 1:00 PM](#)

When we examine the development of the South, we are faced with a mysterious conundrum, especially when it comes to sustainable development, as it implies a strong responsibility to future generations to maintain a complex ecosystem for years to come.

Despite the progress achieved in recent years, there remains, on closer inspection, a large regional performance gap.

The levels of expenditure earmarked for investment in key sectors are always significantly higher in the Centre-North than in the South. The most significant gaps between the two macro-areas concern essential services: social policies, labour, health, infrastructure networks, mobility, to which must be added the critical issues related to the efficiency of the administrative-institutional system.

These aspects strongly influence overall productivity and in their analysis lies one of the keys to solving the development conundrum.

Additional resources, large funds and projects to close the large productivity gaps will not be sufficient to produce lasting effects for future generations without the accumulation of civic capital, cooperation, institutional efficiency and effectiveness, and without manoeuvres specifically dedicated to reducing the unemployment rate.

Youth unemployment in Italy and the European Union continues to be a significant challenge, especially following the outbreak of the COVID-19 pandemic.

In 2020, the proportion of unemployed young people reached an all-time high of 29.3 per cent.

Since then, the government has implemented various initiatives and programmes to curb the problem, but despite the efforts undertaken to improve the situation, young people still continue to face difficulties in entering the labour market and building a solid career.

Tackling youth unemployment requires an integrated and targeted approach involving governments, institutions, the private sector and civil society.

It is necessary to start as soon as possible with programmes that include investment in training and vocational education, promotion of youth entrepreneurship, facilitation of the school-to-work transition and access to apprenticeships and in-company internships, and increased supply/opportunities for quality work.

More and more young people are leaving Italy in search of work abroad.

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## Bring Together What Belongs Together. The Case of Divided Cities in Europe\*

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❖ [Terceira-S20 Central and East European Regions on the Common Path - 20 Years of Integration With European Union, S02, August 28, 2024, 2:30 PM - 4:15 PM](#)

Do spatial concentrations of economic activities have deep historical roots in Europe? This paper explores a unique quasi-natural experiment of opening borders within cities that were historically a single urban entity and were divided due to border shifts following major historical conflicts. After inter-city borders were opened, I find that local economic activities, measured by remotely sensed nightlight, became more concentrated close to the pre-division city centers. This raises an important question, what type of border opening is more important in spurring agglomeration, the free movement of goods or of people? When looking into potential mechanisms behind the impact, using national business register databases, I find that proximity to former historical centers is more prominent, particularly after allowance of the free movement of people as a part of the Schengen agreement in 2008, whereas gaining broader market access following the 2004 EU enlargement is less important. I account for two main channels. First, I show that firms in the consumption sectors are more exposed to the free movement of people and are more likely to start operating closer to historical city centers than are firms in the production sectors, which are less affected by local market potentials. Second, I show that cities in which cultural and language differences are not barriers to cross-border cooperation are more influenced by the free movement of people than cities where these barriers still exist. Hence, spatial agglomerations near pre-division city centers are more apparent in almost borderless cities.



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## Checkmate! Losing with Borders, Winning with Centers. The Case of European Integration

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❖ [Terceira-S20 Central and East European Regions on the Common Path - 20 Years of Integration With European Union, S02, August 28, 2024, 2:30 PM - 4:15 PM](#)

This paper studies two major stages of European integration, the expansion of the European Union (EU) in 2004 and the Schengen Area in 2008, and their impacts on economic performance in subregions of Central and Eastern European (CEE) countries. Using European regional data at the NUTS3 level and disaggregated synthetic control method, I construct counterfactuals for sub-regions of CEE countries. This approach allows me to assess regional treatment effects (RTEs) and to study the heterogeneous effects of European integration. I find that the benefits of EU and Schengen memberships to annual GDP per capita are approximately 10% less in border regions, relative to interior areas. The results expose regional economic disparities, as border regions lose relative to interior regions since European integration. Furthermore, integration facilitators in border regions such as fewer geographical barriers, more service employment, and positive attitudes toward the EU did not reduce economic disparities. The results show that the gap persists, regardless of some complementarities. Thus, the main implication of this paper is that sub-regions of CEE countries are far from being fully converged, and that European integration instead seems to have spurred sub-regional divergence.

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## Exploring Gender Equality in the Labor Market: A Novel Gendered RHOMOLO Model

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❖ [Terceira-S19 Gender and Diversity in Cities, S05, August 30, 2024, 9:00 AM - 10:30 AM](#)

This research presents a groundbreaking approach to analyzing women's participation in the labor market through a novel gendered version of the RHOMOLO model. Despite significant advancements in gender equality, disparities in labor market participation and opportunities continue to exist. This study aims to bridge this gap by offering a detailed analysis of the impact of the Cohesion policy on gender equality within the EU labor market.

Previous studies have used the RHOMOLO model to understand regional economic dynamics but have not addressed the gender disparities in labor markets. This research fills this critical gap by integrating a gender perspective into the RHOMOLO model. This integration is not only innovative but also essential for developing policies that are inclusive and address gender-specific challenges in the labor market. To achieve this, we have developed a modified version of the RHOMOLO model, differentiating between male and female labor participation across three skill levels. This granular approach allows for a more nuanced understanding of the labor market dynamics and the distinct impact of the Cohesion policy on different gender and skill groups. The model's calibration and validation involve comprehensive data from EU labor statistics, ensuring accuracy and relevance in our findings.

The gendered RHOMOLO model is a pioneering tool that significantly enhances our understanding of gender dynamics in the labor market. By specifically focusing on the impact of the Cohesion policy, our research offers valuable insights into how policy interventions can be optimized to promote gender equality effectively. This model's ability to disaggregate data by gender and skill level provides a unique opportunity to identify targeted strategies that can mitigate gender disparities in the labor market.

Preliminary findings suggest that gender-specific interventions in the Cohesion policy can significantly influence women's participation and advancement in the labor market. The outcomes of this research are expected to provide policymakers with concrete, data-driven recommendations to design more gender-inclusive labor policies.

This research marks a significant step forward in modeling gender dynamics in the labor market. The gendered RHOMOLO model not only fills a critical gap in the existing literature but also offers practical tools for policymakers to promote gender equality in the workforce. As such, this study is poised to make a substantial impact on both academic research and policy formulation.

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## Quality of life in the Czech countryside in times of economic turbulence and possibilities of innovative approach

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❖ [Terceira-S26-S2 Social Innovation for Sustainable and Inclusive Regions, Communities and Neighborhoods, S06, August 29, 2024, 9:00 AM - 10:30 AM](#)

Quality of life in the Czech countryside in times of economic turbulence and possibilities of innovative approach.

After the accession of the Czech Republic to the European Union, in addition to local and regional initiatives, projects supported by EU funds appeared. They support not only rural development at national level, but also cross-border cooperation. In particular, the LEADER initiative has had a significant impact on the formation of cooperation in rural areas. The paper is based on statistical data and is supplemented by examples of good practice in different geographical conditions of rural municipalities in the Czech Republic. It deals with the opportunities that are offered in rural society and the barriers to the development of civic initiatives.

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## Redefining value creation in the circular economy: an examination of intangible benefits in local implementation

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❖ [Terceira-S04 The Spatial, Regional and Urban Dimensions of Circular Economy, S01, August 28, 2024, 11:00 AM - 1:00 PM](#)

While the circular economy's (CE) tangible economic and environmental advantages have been well-documented in ecological economics, this study investigates intangible value created from CE projects by conducting 40 semi-structured interviews with 25 stakeholders in the Kamouraska region of Quebec, Canada. Using the economy of proximity as an analytical framework, this study identifies different types of intangible value created, e.g., collective learning, co-creation of socioeconomic networks, boosts in creativity, and improvement in stakeholder relations. Our paper also indicates that creation of both tangible and intangible value in this region has generated a third type of value—territorial value—which emerges when local players, resources, and practices interact synergistically to strengthen the region's resilience, sustainability, and prosperity as a whole.

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## Cities that never sleep. Spatial distribution and economic dimension/contribution of the night economy in Turin

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❖ Terceira-G20 Creative Industries and Regional Development, S16, August 28, 2024, 11:00 AM - 1:00 PM

In the last decades, several scholars and policymakers have focused on the opportunities and risks of the night economy. A vibrant night scene is vital to the urban economy, stimulating commercial activities, jobs, and investments. Moreover, it has proved to be a powerful lever of tourism, attractiveness, and regeneration. Nevertheless, the night economy is also a complex, contradictory phenomenon. Night-time recreational activities tend, in fact, to cluster in specific areas within the urban fabric, the so-called Movida neighborhoods, determining tensions with residents. These neighborhoods are thus extensively studied because of their contribution to the creative economy and the conflicts accompanying them in terms of alcohol abuse, foulness, vandalism, criminality, noise violations, and disturbance of public peace. Institutional, social, and cultural contributions represent the majority of the literature on the night economy. In contrast, little attention is paid to its quantification in terms of local units, employees, and turnover and the dynamic analysis of its effects on the sectoral diversification of the local economy. The paper aims to fill this gap assuming the city of Turin and its Movida quartiers (Italy) as case study. Using data from Istat database ASIA at years 2018 and 2021 the paper runs an economic analysis of how the night economy of Turin changed composition and dimension in the pre- and post-covid period, classifying the local units according to both the type of service they provide and their opening time.

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## A closer lens on Resilience and Innovation used by slum communities during Disasters

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❖ [Terceira-S87 Environmental Justice: the Need for Community-based Strategies for Resilience and Access, S09, August 28, 2024, 2:30 PM - 4:15 PM](#)

### Abstract

High population density, subpar housing, and a strong association with poverty are characteristics of urban slums, which are complex environments subject to socioeconomic forces. The Calcutta Municipal Corporation, now renamed Kolkata Municipal Corporation since 2001, has played a crucial role in categorising and overseeing these settlements, differentiating them as either registered or unregistered depending on land ownership. Since 1980, the management has implemented an initiative to provide registered slums to inhabitants through rental or leasing agreements. However, unregistered slums tend to arise on unauthorised property. The research explores the ever-changing environment of slum communities, with a specific focus on their strong determination and resourceful approaches while dealing with disasters. Disasters, which refer to abrupt or significant calamities causing widespread destruction, are classified into two categories: natural and societal. The study offers a thorough analysis of how slum dwellers effectively handle calamities, highlighting their resourceful tactics and innovative solutions. The research employs a comprehensive approach to examine many factors that contribute to community resilience and the distinct innovations that emerge in response to difficulties. The research paper aims to enhance comprehension of the capacities and possibilities for constructive transformation of these groups by clarifying their narratives. This highlights the importance of acknowledging and strengthening the innate capacity of slum communities to recover and adjust in the face of calamities, thus creating a path towards a more inclusive and resilient urban future.

Keywords: urban slums, socio-economic forces, community resilience, disaster management.

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## Tourism in Iceland and tolerance with respect to local social and industrial structure

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❖ [Terceira-G35-O2 Tourism and Overtourism Issues, SF3, August 29, 2024, 2:30 PM - 4:15 PM](#)

For many centuries Iceland was an economy of farmers where fisheries were their secondary resource to rely on. It has been argued that wealthy farmers in Iceland resisted the development of fisheries into an independent branch, at that time, to avoid competition of the input factors. Tourism is a relatively new industry in Iceland. Is there any such tendency to be found against tourism? The number of tourists has increased rapidly in Iceland and increased intolerance against tourism has been detected among the locals in particular places. Is that because of increased competition? Is opposition to the increase in the number of tourists greater among particular industries and perhaps those who have been dominant in the relevant business areas? The consumer and regional qualities will also be addressed as specific aspects in this regard. Whether intolerance is greater in areas where there are many tourists, but no less whether demographic, economic or social factors such as age, origin, income and form of cohabitation have any effect on people's attitudes concerning tourists and tourism in general. An attempt will be made to answer these questions, as various statistical methods will be applied to the data of the 2023 Population Survey of the regions, in which more than 10,000 people participated throughout the country.

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## Territorial servitisation in Italy: towards territorial recoupling

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❖ [Terceira-G09-O1 Regional Competitiveness, Innovation and Productivity, S13, August 28, 2024, 11:00 AM - 1:00 PM](#)

The integration between manufacturing and service activities currently represents a core source of competitiveness for firms and territories. A fast-growing literature analyses the phenomenon of territorial servitisation, namely the co-location in the same production system of manufacturing and KIBS (Knowledge Intensive Business Services) activities.

The paper aims at investigating the process of territorial servitisation in Italy throughout the analysis of the diffusion of KIBS activities in the different types of local production systems captures by geographical units of analysis called Local Labour Systems (LLSs). We distinguish between Professional-KIBS and Technological-KIBS.

The dimension and the growth of KIBS activities and their co-location processes with manufacturing sectors are analyzed by means of firm employment, location quotients (LQs) and co-location maps, the latter revealing the spatial relation between the specialization of LLSs and the specialization of neighbouring LLSs.

Firm employment data is extracted from Italian Statistical Archive of Active firms (ASIA) provided by Italian National Institute for Statistics (ISTAT). ASIA data is matched with ISTAT territorial identification and classification of Italian LLSs. The analysis is carried out over the period 2012–2018. Italy is still experimenting a decoupling process between manufacturing and KIBS activities. Nevertheless, a dynamic recoupling process primarily involving high tech manufacturing and fast growing Professional-KIBS and Technological-KIBS, seems to be underway.



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## Destination management and regional development: differences and implications

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❖ [Online-G01-O1 Peace, Regional and Urban Sustainable Development, August 26, 2024, 9:00 AM - 10:30 AM](#)

Tourism has emerged as a driving force for regional development, exerting a profound impact on the economic and social landscape of regions where tourism activities are prevalent. It catalyzes integrating less developed regions and ensuring their equitable participation in the benefits of economic growth. This research delves into the contribution of tourism to regional development in Macedonia. Specifically, the study examines and compares eight planning regions from a tourism perspective, emphasizing the importance of incorporating tourism planning into development strategies. The analysis is based on stylized facts extracted from secondary data spanning a decade but focusing from 2018 to 2022. The findings reveal that the South-West region emerges as the leading statistical region in Macedonia as a tourism destination. However, in terms of its contributions to the GDP and employment rates, it has lost ground. This work underscores the need for a robust framework to address modest results and formulate sound economic and tourism policies. Additionally, enhancing competitiveness and quality of tourism at regional and local levels, as well as fostering sustainable and balanced tourism development, are identified as critical challenges.

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## Bringing Trentino's productivity growth back on track. A comparison with OECD "peer" regions

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- ❖ [Terceira-S54 Territorial Intelligence, a Key for a Sustainable Future? New Challenges and New Prospects for Regional Development and Growth: Data, Methods and Solutions, S07, August 28, 2024, 4:45 PM - 6:30 PM](#)

The Autonomous Province of Trento (Trentino) is among the most productive regions in Europe. However, in recent years the productivity gap of Trentino widened by over 20% compared to regions with the same productivity level in 2000. The benchmarking of the drivers of productivity in Trentino with those of “peer” regions point to several policy priorities. They include: reviving productivity in tradable sectors, including through increased internationalisation; increasing the share of the labour force with a tertiary education, and getting more out of public R&D while boosting private sector R&D.

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## How Does Fiscal Decentralization Lead to Environmental Sustainability?

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❖ [Online-G01-O2 Peace, Regional and Urban Sustainable Development, August 26, 2024, 2:30 PM - 4:15 PM](#)

Fiscal decentralization can play a significant role in reducing CO2 emissions and lead to environmental sustainability by empowering local governments with the necessary autonomy and resources to implement targeted policies that address unique environmental challenges within their jurisdictions and foster sustainable practices. The study aims to identify the role of fiscal decentralization in reducing CO2 emissions based firstly on a literature review and secondly, using econometric modeling. The results show that local governments are committed to environmental stewardship and have the necessary capacity to implement effective policies.

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## Glaeser meets Ellison: coagglomeration and consumption amenities

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❖ [Terceira-G27-O1 Regional and Urban Labour Markets and Entrepreneurship, S18, August 29, 2024, 2:30 PM - 4:15 PM](#)

The nature of agglomeration economies has been mostly analyzed in terms of the productive advantages accruing to firms deciding to locate in major urban areas. However, over the past couple of decades large cities, especially those located in developed countries, witnessed a substantial relocation pattern whereby productive plants fled urban areas, seeking to minimize high rent costs, and relocated productive activities to areas characterized by lower wage bills. Therefore, the usual empirical toolbox to explain the nature and rationale of large cities appears to a degree outdated, and, most importantly, incapable of capturing the determinants and effects of agglomerative patterns we still observe in cities. These, we believe, can be explained by two competing strands of the literature: one, revived after Glaeser et al. (2001) suggests an increasing relevance of consumption amenities; the other, spurred by Ellison et al. (2010), links Marshallian agglomerative forces with coagglomeration of industries. This paper contributes to this literature with new evidence based on the universe of Dutch workers, and very large samples of Dutch firms with the aim to uncover the relationship between consumption amenities and firms coagglomerative behavior. We employ a large data set covering the period 2005 through 2011, explaining the role of consumption amenities in driving coagglomeration of Dutch firms controlling for the classical Marshallian forces of agglomeration, i.e. labor market pooling, input sharing, and knowledge spillovers. Results show that indeed consumption amenities play a major role in driving the coagglomerative behavior of firms, next to the classical Marshallian forces. Moreover, we also find evidence of a decreasing role of input sharing as a driving force of coagglomerative mechanisms, while knowledge spillovers seem to increase in importance over the observed time period.

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## Knowledge externalities from university patenting and technological specialization in European regions

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❖ Terceira-G03-O2 Innovation and Regional Development, S11, August 28, 2024, 2:30 PM - 4:15 PM

It is well known that the specialization trajectories of regions follow non-ergodic path-dependent evolution processes: new industrial sectors, technological fields, and scientific domains do not emerge accidentally in a geographical area but are closely tied to the pre-existing mix of locally available economic activities and knowledge (e.g., Neffke et al., 2011; Boschma et al., 2013; van den Berge and Weterings, 2014). The recent empirical literature on the dynamics of technological specialization has found that the entry of universities into a new sector is positively correlated to the corresponding subsequent specialization of companies that are located within the same region (e.g., Acosta et al., 2009; Braunerhjelm, 2008; Calderini and Scellato, 2005; Caviggioli et al., 2022; Coronado et al., 2017). Nevertheless, the presence of a causal nexus between the technological activities of higher education institutions and the specialization of the local system of innovation has not been fully documented yet.

In this study, we aim to fill this research gap and provide a twofold contribution to the extant literature. First, specific econometric techniques will be employed to empirically test whether the specialization of innovative activities performed by firms in a region is caused by the novel scientific and technological knowledge that has been previously generated by local universities. To this aim, the empirical analysis will also consider the potential indirect effect of innovation-related positive externalities propagating from spatially contiguous geographical areas. The second element of novelty lies in the use of an improved characterization of the technological space: patent fields are not treated as equally distant from one another; instead, we consider the heterogeneity of the reciprocal proximities between them. This approach operationalizes the concept proposed by Hidalgo et al. (2007) and provides a more accurate definition for the topological structure and properties of the networks that constrain innovation processes. Within such a theoretical framework, it is possible to control for contiguity not only in geographical terms but also technologically and incorporate the construct of relatedness (e.g., Boschma et al., 2015; Essletzbichler, 2015; Kogler et al., 2013; Rigby, 2015) to measure the relative affinity of between a region and a technology field.

The empirical setting is quantitative and relies on a rich dataset of patents geo-localized in European regions at the third level of the NUTS system. The results will be discussed in light of the policy implications for stimulating and supporting innovation activities of universities and firms at the regional level.

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## Social innovation in social farming regional policy: modes of governance in comparative perspective

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❖ [Terceira-S26-S1 Social Innovation for Sustainable and Inclusive Regions, Communities and Neighborhoods, S04, August 28, 2024, 11:00 AM - 1:00 PM](#)

The crisis of the welfare systems of European countries has prompted reform processes to face new social challenges. In a context marked by the contraction of financial resources, innovative practices of involving non-public actors in the policy-making process have been initiated at the territorial level, following the new principles of new public governance. This paper aims to investigate governance practices in social innovation processes in the field of Social Farming policies in two Italian regions, Tuscany and Marche. These are two regional contexts that have experienced a significant increase in Social Farming projects in recent years, albeit with different timing and modalities. The objective is to question social innovations processes in the social farming policy area, highlighting the characteristics of the different governance processes and their challenges.

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## Impacts of cohesion funds on local tourism supply. Counterfactual analysis and Machine Learning approaches

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❖ [Terceira-S25-S1 Counterfactual Methods for Regional Policy Evaluation, S05, August 28, 2024, 4:45 PM - 6:30 PM](#)

This paper provides a comprehensive evaluation of the impacts of cohesion fund projects on local tourism development within Italian municipalities. It applies an ex-post counterfactual methodology alongside advanced machine learning techniques to assess the effectiveness of these projects in enhancing the tourism sector. By using granular data on cohesion policies, the study compares municipalities that received funding for tourism projects from the 2007-2013 and 2014-2020 programming cycles with those that did not. Then the diff-in-diff estimate identifies whether different types of tourism projects had a positive outcome on tourism supply, controlling for a wide set of demographic, socio-economic, and institutional variables. Furthermore, predictive analysis using machine learning offers insights into future tourism trends and the potential impacts of ongoing and future cohesion projects. The findings reveal that targeted investment in tourism infrastructure, cultural heritage, and sustainable tourism practices can significantly boost local economies. However, the effectiveness of such investments varies based on regional specifics, suggesting the need for tailored approaches in policy planning and implementation. The study underscores the importance of integrating technological tools and data analytics in policy evaluation and development, paving the way for more informed and strategic decision-making in the tourism sector. Future developments in the field should focus on refining predictive models and exploring the long-term sustainability of tourism-related projects, ensuring they contribute to equitable and inclusive growth across regions.

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## Labour market effects in the free enterprise zones in Hungary

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❖ [Terceira-G27-O2 Regional and Urban Labour Markets and Entrepreneurship, S17, August 30, 2024, 11:00 AM - 1:00 PM](#)

Regional development and planning aim to promote social and economic growth and reduce significant economic and infrastructural disparities. Its role is to support Community initiatives to this end, by helping lagging regions to catch up, reducing unemployment and supporting the renewal of industrial and agricultural enterprises. This legislation made it possible to create free enterprise zones in Hungary in 2013. The list, which has been extended twice since then, now includes 1202 municipalities. Municipalities in the zones create a favourable environment for investment, and businesses investing and creating jobs in the area can benefit from corporate tax relief and employer contributions and are also eligible for EU support. One of the hypotheses of our research is that the number of jobseekers in the municipalities in the FEZ (compared to other municipalities) has decreased significantly in the post-classification period. To prove this, we examined labour market developments in the FEZs because of the inclusion in the zones. Relying on regional statistics on the official labour market and on enterprise statistics, our analysis takes a regional perspective and tries to focus on temporality. Our database contains data at the municipal level (registered jobseekers, public employment, active enterprises, number of employed persons, subsidies) for a period of more than 10 years. In addition to labour market processes, we focused on the role of enterprises in terms of mutual positive effects. It was found that the positive impact on labour market processes was detectable but not clearly demonstrated, while for active enterprises, the inclusion in the zone induced positive effects. There is a statistically proven positive effect in terms of average number of employees. The results show that the use of development aid is more efficient for enterprises in FEZ areas than in other parts of Hungary.



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## How Does the COVID-19 Pandemic Affect Employment Outcomes Differently for College Graduates with Diverse Characteristics

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❖ [Terceira-G08-O3 Covid-19 and regional and urban resilience, S03, August 30, 2024, 2:30 PM - 4:15 PM](#)

The 2020 COVID-19 epidemic significantly impacted economic development, leading to reduced recruitment by small and medium-sized enterprises amid a growing number of college graduates, thereby creating an unprecedented employment situation for these graduates. This study, based on data from universities' graduates from 2018 to 2021 in Hunan, China, examines the impact of the COVID-19 epidemic on graduate employment. Key findings include: (1) a post-epidemic increase in graduates returning to hometowns for employment, with eastern region cities remaining popular work locations; (2) significant influence of individual characteristics, family background, and social environment on employment paths; and (3) notable employment heterogeneity among graduates, based on gender, urban/rural background, and major, both pre- and post-epidemic. This research sheds light on the profound effects of the pandemic on graduate employment trends and provides valuable insights for policymakers and educators seeking to adapt and improve talent training and employment strategies in response to significant global events.

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## The Impact of the War in Ukraine on SMEs in Czechia and the Role of State

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- ❖ [Terceira-S52 Sustainability Challenges in GVC-Dependent FDI Development Path: Assessing Regional Development within Global Production Networks, S03, August 30, 2024, 11:00 AM - 1:00 PM](#)

This paper discusses the multifaceted impacts of the War in Ukraine on the internationalization strategies of Czech small and medium-sized enterprises (SMEs) within the context of GVCs disruptions. The study particularly scrutinizes the state's dual role in this context, acting as both the regulator imposing sanctions and as a pivotal actor providing support mechanisms to alleviate the adverse consequences of the conflict on SMEs. The sustainability of existing and future trade linkages among stakeholders can be undermined by various threats, including high energy prices, export sanctions, unavailability of critical raw materials and components, ongoing supply costs, and challenges in financing, namely accessing credit and loans. Conversely, potential opportunities have arisen from the influx of Ukrainian refugees as a new labor force, an increase in arms exports, and prospects for participating in the reconstruction of Ukraine, potentially enhancing the international reputation and business ties of Czech SMEs with Ukrainian counterparts.

The research methodology employed incorporates trade data analysis, firm-level data, and interviews with representatives from relevant Czech institutions and associations. By employing a multi-dimensional approach, the paper aims to offer a comprehensive understanding of how Czech SMEs navigate challenges and leverage opportunities arising from the conflict in Ukraine. This investigation contributes to the broader discourse on the dynamic interactions between geopolitical events, state interventions, and the strategies adopted by SMEs in their internationalization endeavors.

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## Assessing Urban Mobility Resilience in Medium-Sized Cities

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❖ [Terceira-S49-S2 Networks in Resilience and Vulnerability, SF3, August 30, 2024, 11:00 AM - 1:00 PM](#)

Developing inclusive, sustainable, and resilient urban areas, as part of the United Nations (UN) initiatives, aims to address a variety of environmental, social, and economic challenges, such as air and noise pollution, traffic congestion, and inequities in access to facilities (United Nations, 2017). In this context, urban resilience is being implemented as a transformative strategy to improve cities' ability to respond and adapt to these challenges (Kochskämper et al., 2024).

The urban agenda addresses urban mobility as one of the main dimensions of urban resilience (European Commission, 2020). This is also a significant concern after the COVID-19 pandemic, aiming to create comprehensive approaches and techniques to evaluate the resilience of transport modes (Martins et al., 2019). The pandemic impacted urban mobility, namely in travel patterns (Kakderi et al., 2021) rather than individual travel preferences (De Palma et al., 2022). These changes resulted in modal shift, impacting traffic congestion and air pollution (Thombre & Agarwal, 2021). Some cities adapted deeper and faster, showing how urban resilience is not widely implemented. Thus, planning urban resilience becomes a vital objective on the urban agenda, adding to the previously mentioned challenges (Datola, 2023). Although some research highlighted the importance of resilience in the context of urban planning and urban mobility (Amirzadeh et al., 2023; Sharifi, 2019; Zeng et al., 2022), Martins et al. (2019) stressed that there is a lack of literature addressing urban mobility resilience measurement straightforwardly. This lack of literature is critical for small and mid-sized, car-dependent cities, that act as regional nodes and territorial cohesion enhancers.

The objective of this study is to assess the urban mobility resilience of two inner Iberian medium-sized cities, Coimbra (Portugal) and Cáceres )Spain(. The assessment considers urban environments that promote inclusivity, characterised by pedestrian- and cyclist- friendly public spaces) Liu& Liu, 2023( , green spaces )Huma et al., 2021( ,accessibility to facilities and services )Logan &Guikema, 2020) and convenient access to public transport (Azolin et al., 2020). This study employs a comprehensive approach that integrates quantitative and qualitative analysis, considering GIS urban indicators (proximity to destination, urban green space (UGS), connectivity, and accessibility to collective transportation) and decision support methods (like AHP) to rank the factors that can assist city planners in identifying solutions to create resilient urban strategies.

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## Spatiotemporal analysis of income inequality: an application of the Generalized Pareto Curves to the Greek regions

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❖ [Terceira-G04-O2 Segregation, Social and Spatial Inequalities, S11, August 29, 2024, 2:30 PM - 4:15 PM](#)

This paper aims to trace the evolution of income inequality by quantiles of income distribution within the Greek regions during the first two decades of the new century by employing both parametric and nonparametric methods of statistical analysis. In order to examine inequality for all quantiles across different regions, nonparametric tests, such as the Kolmogorov-Smirnov test adapted in a multiple testing framework will be used. The comparative analysis by quantile makes it possible to provide empirical evidence regarding the degree of differences in income distribution between regions, to examine how the Great Recession has impacted on the income distribution and how the evolution of income inequality of Attica could be compared with the volume and evolution of income inequality for the rest regions of the country. Furthermore, by employing estimators based on the Generalized Pareto distribution and its extensions, this paper aims to examine the adequacy of these models when applied both to Greece as a whole and to individual regions. Consideration will be given not only to the top incomes, since these seem to fit better to Pareto curves, but also to low and mid-income classes trying to fit a different distribution in this case. The results provide a different view of inequality across space and over time and call for appropriate and more targeted policies in order to address the spatiotemporal interregional and intraregional income inequalities.

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## Digital and environmental disparities in the post-pandemic world. What is the influence of institutions in alleviating them?

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❖ [Terceira-S81 Spatial Effects of the Green Deal, S08, August 28, 2024, 2:30 PM - 4:15 PM](#)

Recent global challenges have reinforced the need for countries to channel their efforts towards certain pressing problems that, without immediate actions, can lead to serious consequences for humanity. Thus, in the present study the focal point is on digital and environmental issues, put in connection with the institutional quality of countries. Building a link between digitalization and a green environment was a concern of governments even before the outbreak of the COVID-19 pandemic, but after this unforeseen shock, there was a growing interest of different institutions to address social inequalities, climate change, environmental degradation and economic resilience. Reducing the discrepancies recorded at various territorial levels included, among others, encouraging a digital and green economy. Although the need for investments in these two directions is recognized, their implementation could be quite unequal between states. The capacity of institutions to engage responsibly in this process is of overwhelming meaning.

When discussing green transformation, there are specific priority fields where digitalization could generate advantages compared to other domains, especially in terms of reducing environmental impact and improving sustainability. Meanwhile, the negative environmental effects of technology also deserve to be discussed. We investigate if, as a result of different approaches in different parts of the world, the digital and green transformations are evolving in the same direction, showing reciprocity. They are also analyzed in relation to a broader scale of development and institutional quality indicators. Assuming these, in the paper, we measure the digital and environmental performance at the level of 150 states, using a multitude of secondary data sources: Digital Development Dashboard, Global Footprint Network, Yale Center for Environmental Law & Policy, World Bank, Penn World Table, International Institute for Democracy and Electoral Assistance, The Economist Intelligence Unit, The Fund for Peace, Fraser Institute and Heritage Foundation. The data are collected dynamically so that we can differentiate the performance gaps between countries pre- and post-COVID crisis, but also ascertain whether the institutional quality can compose the explanatory factor of the readiness for digital and environmental transformations. The assorted research methods used (e.g., geographically weighted regression, multiple correspondence analysis, fuzzy k-means, SEM and so on), point out the pivotal role of institutions in digital and environmental performance, even though the less developed countries struggle to recover the gaps accumulated over time. At last, some practical insights are exposed to reduce the digital and environmental disparities between states and to produce long-term productive transformations.

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## Complex Network Analysis as an Identifier of Critical Paths in Shocks and Threats in Disaster Management

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❖ [Terceira-S49-S2 Networks in Resilience and Vulnerability, SF3, August 30, 2024, 11:00 AM - 1:00 PM](#)

Over the past years, the Blessing in Disguise (BiD) hypothesis has been a focal point of applied and quantitative research in disaster resilience studies, both on a case study basis and on a global comparative basis. This hypothesis suggests that actual natural or manmade perturbations or shocks (e.g., extreme events that can transform into disasters) may induce active responses in communities or society if catastrophes heavily affect them. Such a highly responsive attitude and related action-oriented policy may, in the long run – under favourable conditions to be identified - generate new and sometimes unexpected innovation benefits for the economy that would not have been realised without such disasters. In the spirit of the BiD hypothesis, a new challenging research question has emerged, namely whether societies or regions prone to risks or threats are able to develop pro-actively a range of preventive strategies and actions, including the necessary public investments, that would also generate long-run high revenues for the economy, even in the absence or non-occurrence of such disasters (the ‘no-regret principle’). This variant of the BiD hypothesis is also increasingly addressed and investigated, with a major emphasis on the economic, technological, physical-geographic or institutional support conditions. Both versions of the BiD hypothesis have enjoyed much interest in the recent past and will likely attract much attention in the future, certainly in light of recent geo-political conflicts, climate change, and natural catastrophes. This research will be supported by worldwide open-access disaster databases, which can be encapsulated by digital data analytics, complex modelling experiments, spatial cluster analysis and advanced geoscience techniques. These new advances have led to a wide array of quantitative, statistical and econometric modelling studies, which have also generated important policy guidelines, both as ‘late warning’ lessons and ‘early warning’ messages. It turns out that institutional quality, solidity of public agents, flexibility in prevention policy and political morality are key factors. The above propositions are tested by employing a new complex data approach inspired by Complex Network Analysis, as inter alia developed by Barabasi. This methodology will be applied to a range of global databases, both at the level of disaster incidents/events and at the level of disaster threats in risk-prone areas worldwide. The main emphasis of the study will be on identifying distinct and characteristic clusters of areas (‘clubs’) whose outcomes support (or contradict) the BiD hypothesis to unveil their critical success factors.

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## Anticipating Delays in Cohesion Infrastructure Projects by Machine Learning

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❖ [Terceira-S05-S2 Machine Learning in Regional Science: Perspectives, Methods, and Applications, S03, August 29, 2024, 9:00 AM - 10:30 AM](#)

Regional fragilities in incorporating the benefits of cohesion policies are partially due to difficulties in allocating the resources programmed. The efficiency of the allocation mechanism depends on several factors: project-related features, territorial characteristics, and institutional features such as coordination among public authorities. This paper proposes a machine learning model for predicting lags in cohesion project execution. Lags in policymaking are measured on cohesion projects monitored by [opencoesione.gov.it](#). We measure execution times in different phases: (i) planning, (ii) execution, and (iii) conclusion. Results show that potential lags can be predicted and that institutional factors matter.

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## Income Support Policies and Voting Behavior in a Dual Country. Evidence from Italy

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❖ [Terceira-S25-S2 Counterfactual Methods for Regional Policy Evaluation, S14, August 30, 2024, 9:00 AM - 10:30 AM](#)

This work offers a novel contribution on the relationship between economic policy interventions and electoral outcomes and on how economic policies can shape the political landscape. By leveraging a counterfactual approach and a unique dataset, this work investigates the causal link between a large income support measure introduced in Italy (i.e. Italian Citizenship Income) and votes for the incumbent party, taking into account geographical and institutional factors. Our results show that the introduction of an income support program does not affect citizens' voting behavior in favor of the ruling party. What drives the consensus are local socio-economic conditions in which the measure is implemented vis-à-vis the measure per se on the pocketbook.



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## Spatial–Temporal Differentiation and Driving Factors of Cultivated Land Use Transition in Sino–Vietnamese Border Areas

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❖ [Terceira-G15-O3 Spatial Sustainable Development, S15, August 30, 2024, 9:00 AM - 10:30 AM](#)

Understanding the transformation of cultivated land use is crucial for advancing sustainable development goals related to food security. However, in mountainous regions, there is a lack of comprehensive studies that fully account for the diverse factors influencing cultivated land use transformation. This study aims to elucidate the temporal and spatial dynamics of cultivated land resource transformation in the mountainous Sino–Vietnam border area, uncover its underlying driving mechanisms, and offer insights for safeguarding cultivated land, promoting economic development, ensuring homeland security, enhancing ecological security, and bolstering border stability and prosperity. To investigate the cultivated land use transformation pattern in the Sino–Vietnam border area from 2000 to 2020, we employed kernel density estimation and geo-information spectra. Additionally, we developed a comprehensive driving force system tailored to the unique characteristics of cultivated land use in the border region. We applied a spatial econometric model to dissect the driving mechanisms governing cultivated land use transformation. Our findings revealed several key insights: (1) The density of cultivated land in the Sino–Vietnam border area exhibited an initial increase followed by a decrease. Notably, the transformation of cultivated land was most prominent in the eastern plains, intensifying over time. (2) The predominant type of transformation in the Sino–Vietnamese border area revolved around the mutual conversion of cultivated land and woodland, with the mutual conversion of cultivated land and grassland ranking second. (3) Against the backdrop of urban rural integration, the transformation of cultivated land use at the border progressed from a phase of rapid decline to a phase of slower decline. (4) The transformation of cultivated land was influenced by a complex interplay of socio-economic factors, natural environmental conditions, policy management, and transportation infrastructure. The relative importance of these factors in driving cultivated land use transformation varied significantly across different time periods. In light of these findings, we recommend promoting agricultural modernization and industrialization in the Sino–Vietnamese border areas. It is essential to consider the region's distinct cultivated land characteristics, implement tailored land policies, and develop diversified strategies for the utilization and management of cultivated land. Furthermore, harnessing land resources to stimulate economic development should be a focal point of future initiatives in the area.

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## Promoting Local Food for Sustainable Tourism - Case Study Darjeeling City

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❖ [Online-G48 The role of tourism in regional development, August 27, 2024, 2:30 PM - 4:15 PM](#)

### Abstract

Gastronomy tourism provides an opportunity to generate benefits that can improve the local economy, socio-cultural aspects, and environmental protection. The purpose of this study was to examine the Gastronomy tourism activity in Darjeeling City and its contribution to the development of a sustainable tourism experience. The selection of this issue is based on the possibility of a culinary tourist boom in the hilly regions of Northern West Bengal, specifically in Darjeeling, and Kalimpong districts. The study employed qualitative approaches and utilised the triangulation data collection method. By engaging the local population, gastronomy tourists, the food business, and local government. The SWOC data analysis approach and flow model analysis technique were employed to produce the findings. The study reveals that the gastronomy tourism identity in Darjeeling City is shaped by the acculturation of Chinese, Tibetan, Nepali, and Indian cultures. This fusion of cultures, along with factors such as the availability of food ingredients, culinary skills, societal norms, religious beliefs, and the distinct flavours influenced by cultural and social influences, contribute to the gastronomic experience in the city. Gastronomy tourism activities in Darjeeling city provide tourists a sustainable and enriching experience. These products have the ability to serve as symbols of Darjeeling as a tourism destination. This study aims to make a valuable contribution to the advancement of tourism and can serve as a useful reference for building effective tourism development strategies in the city of Darjeeling.

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## The twin transition in Chinese regions: joining green and digital transformations

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❖ [Terceira-G21 Urban Challenges and technological transformations, S06, August 30, 2024, 2:30 PM - 4:15 PM](#)

The era of the global economy, marked by challenges such as economic recession, income inequality, and environmental issues exacerbated by the COVID-19 pandemic, also presents an opportunity for transformative change. This change, known as the 'twin transition,' combines digital and green technologies to shape a more sustainable and inclusive future. The digital transition leverages cutting-edge technologies like AI and big data, while the green transition focuses on reducing fossil fuel reliance and adopting circular practices. In China, this transition resonates with the government's vision of "common prosperity." However, empirical evidence integrating digital and green transitions remains scant, particularly in emerging economies. This study aims to bridge this gap by scrutinizing the trajectory of innovation for the twin transition across various Chinese regions. Leveraging patent data, it discerns green and digital innovations at the city level, meticulously examining their spatial distribution and temporal trends. Moreover, the research delves into the determinants steering regional diversification in these technologies, encompassing variables such as population density, research and development (R&D) expenditure, and environmental metrics. Regression analysis serves to corroborate the significance of existing capabilities in innovation while elucidating the hurdles entailed in diversifying into sophisticated technological realms. Through a nuanced examination of these dynamics, this study seeks to contribute to scholarly discourse on technological transitions, offering insights that may inform policy frameworks and strategic initiatives aimed at fostering sustainable development and mitigating regional disparities.

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## The significance of tourism in cross-border cooperation: The experiences of the borderlands in Poland.

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❖ Terceira-G17-O1 Cooperation and Local / Regional Development, S16, August 28, 2024, 2:30 PM - 4:15 PM

The importance of tourism in fostering cross-border relationships has been a topic of significant interest in recent years. This is because border areas often offer substantial potential for tourism development, and cross-border cooperation is considered a vital element in shaping borderlands and promoting European integration. This study is designed to investigate the role of tourism in cross-border relationships, focusing on the borderlands of Poland. Research is based on an assessment of all cross-border cooperation projects co-financed by EU funds implemented in the borderlands of Poland in the years 2007-2013 and 2014-2020. The study covers various types of borders, including internal and external EU borders, mountain borders, and river borders. The analysis also compares tourism-related projects with other cross-border projects in terms of their spatial distribution and the organizations involved from Poland and neighboring countries. Additionally, the study examines the thematic scope of the tourism projects in detail. Almost 1600 projects implemented by over 2300 organizations located on both sides of the border were included in the study. The research also incorporates interviews with chosen organizations, the purpose of which was to ascertain the rationale behind establishing collaborations, selecting partners, identifying obstacles, and recognizing advantages of such collaborations.

The study concludes that tourism is one of the most important thematic fields of cross-border cooperation, with its role being relatively stable during successive programming periods of the EU cohesion policy. At the same time, its significance varies in Poland's borderlands due to the diversity of conditions (including natural, geopolitical, and socio-economic). Moreover, although tourism was an important subject of cooperation, based on the qualitative study, it was found to be undertaken mainly when it demonstrated a connection with individual organizations' own priorities. Importantly, cooperation in tourism has proven to be an important factor in encouraging local communities to develop cross-border cooperation.

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## Job Teleworkability and Labour Outcomes in the Time of COVID-19

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❖ [Terceira-S59 Telework in Post COVID Times: Trends and Challenges for the Future, S04, August 30, 2024, 11:00 AM - 1:00 PM](#)

- **Purpose.** This study investigates the effect of teleworkability on labour outcomes across local labour markets, education, marital and parental statuses during COVID-19 in Russia.
- **Design/methodology/approach.** Based on the Russia Longitudinal Monitoring Survey (RLMS-HSE), three classifications of telework are tested. Telework is associated with 1) work from home, 2) workplace digitalisation and 3) the suitability of professional occupations for telework. The methodology includes a difference-in-differences approach combined with propensity score matching, inverse probability weighted regression adjustment and dose-response function with the generalised propensity score.
- **Findings.** We find a positive effect of teleworkability on working hours for men and employment status for women, especially women with higher education. The effect of teleworkability was more salient in large labour markets, where it manifested in an increase in working hours for both genders. The results indicate that parental status did not remarkably affect the magnitude of the effect of teleworkability for women. However, for fathers, teleworkability was associated with an increase in working hours.
- **Originality.** This is the first thorough analysis of the effect of telework on labour outcomes for the Russian economy during the COVID-19 pandemic.
- **Research limitations/implications.** Limited data did not enable an exploration of the effect of teleworkability across industries and professional occupations. We take the use of the Internet for work in 2019 and the suitability of occupation for telework as a measure of teleworkability.

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## The four waves of regional policy: Towards an era of trade-offs?

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❖ [Online-G06 Regional and Urban Policy and Governance, August 26, 2024, 11:00 AM - 1:00 PM](#)

The conceptual bases and political motivations on which regional policy is implemented, as well as its objectives have evolved in time, although with a certain degree of continuity. Understanding this evolution helpful to understand the reasons why, nowadays, regional policy is applied, and what might come next. For this reason, this paper reviews the conceptual developments of regional policy from the second world war until present times.

It shows that three waves have followed to each other, each with different theoretical underpinnings and practical deployment, namely a “disparities”, a “competitiveness” and a “potentials” one. The evolution is shown to depend on the theories developed at that time, on the results of previous policy attempts and on the political objectives of policies. The three phases, as always happens with complex concepts, are not fully consecutive and elements of the one are present in the other, so that there is no precise date for the passage from one to another, although, conceptually, there is a clear distinctiveness of each one.

The paper also shows that a fourth phase, one of “trade-offs” might be starting, based on the recent evolution of empirical and conceptual evidence. This stems from the practical and conceptual difficulties in reconciling conflicting objectives, so that choices on which objective to favour will be needed, even if some room for two-way policies still exists.

The aim of the paper is not to provide a history of regional policy, illustrating what has been done and where, nor it is to refer to a history of the political thought on regional policy. Instead, the aim is to provide a stylized historical description of the conceptual advancements and of the justifications and objectives which were developed in time.

While there is a sequential logic of the four phases, these are not disjoint from each other. The ideas developed during a wave often get lower importance in the next one, but are rarely fully forgotten. Moreover, there were several ideas in a wave which anticipated those of the next ones. This also depends on the fact that different scholars are supportive of different theories and, while the pre-eminence of one against another can change in time, the concepts developed by the papers by one are seldom forgotten once other scholars put forward new theories.

## Inclusive innovation policies for sustainability in agri-food systems

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❖ [Terceira-G15-O1 Spatial Sustainable Development, S15, August 28, 2024, 2:30 PM - 4:15 PM](#)

Historically, the term “rural” has often been construed as an antonym for development and innovation, with the prevailing narrative centring around progress predominantly occurring in urban areas and industries. Sustainable development, too, is frequently associated with industries, cities, and renewable energies. Consequently, actors engaged in rural activities, particularly those within the agri-food sector, such as family farming, have been marginalized and overlooked.

A revision is necessary on two fronts. Firstly, the agri-food sector is crucial for sustainable development, as illustrated by the global ecological footprint. Acknowledging the significant impact of the agri-food sector is imperative, and the active participation of rural actors is essential in formulating solutions. Secondly, inclusiveness and a bottom-up approach in development processes involving a broader spectrum of stakeholders must be emphasised. This approach ensures that a diverse array of experiences contribute to the formulation and implementation of sustainable solutions.

Our objective is to underscore the pivotal role of inclusiveness in fostering sustainable development within agri-food systems. Additionally, the underpinning innovation policies can serve as catalysts for promoting inclusivity, environmental sustainability, and technological advancement. The qualitative research methods used for this aim consist of bibliographic revision in the fields of economic geography and innovation studies and documentary analysis of global trends reports.

Estimates suggest that family farmers form a substantial presence in global agriculture. Representing approximately 90% of the world's farms, totalling over 550 million, occupying 70 to 80% of farmland, and contributing to over 80% of the world's food value. Thus, family farming is crucial in natural resource management, environmental sustainability, and food security. However, despite their pivotal role, it is imperative to acknowledge that in many countries, family farmers struggle with rural poverty.

For this reason, the unity between innovation and socioeconomic inclusion, commonly called inclusive innovations, is essential; two distinct paths emerge for family farmers. The first path involves the creation of innovations for vulnerable groups by entities such as firms, governments, or other institutions, with agri-food start-ups playing a pivotal role in shaping these solutions. The second path involves innovations generated by the very groups they aim to benefit, particularly within domains like agroecology, regenerative agriculture, and similar approaches. In this context, the significance of traditional knowledge becomes evident, stemming from diverse social groups such as indigenous peoples, traditional communities, pastoralists, and others. Meanwhile, the integration of analytical (science-based), synthetic (practical and engineering), and symbolic (creative and cultural) knowledge bases is paramount.

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## Network interactions among emerging art galleries in Manhattan: new data and findings

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❖ Terceira-G20 Creative Industries and Regional Development, S16, August 28, 2024, 11:00 AM - 1:00 PM

The study of the extent and impact of network interactions in the art market has gained importance among researchers and practitioners. This can be justified, firstly, by the growing availability of granular dataset covering different years and providing micro information on art dealers, artists and artworks, and, secondly, by the progressive application of network-based statistical techniques for investigating economic the influence of networks on shaping cultural and creative markets. Investigating network formation, characteristics (i.e. edges, nodes, etc.) and network linkages (i.e. nodal statistics, centrality measures, etc.) among art dealers like art galleries is worth investigating given the potential consequences on art prices. Equally important is the knowledge about the role of networks to sustain the survival of art galleries in the market, and the possible impact of network interactions on the allocation and the success of the artists in the contemporary art market. There is a lack of knowledge on how art galleries develop network interactions across the space, and the possible impact on the performance of artists and the survival of galleries. Geographical factors, such as agglomeration economies and location-specific aspects, can help to explain the presence of locally concentrated networks. A good candidate to study the local and global connections of emerging art galleries working in the contemporary art market is New York City (NYC), where there is a high concentration of artist.

The objective of this study is twofold. First, to present a unique, novel dataset providing information on 47 emerging art galleries located in Manhattan (NYC), and founded over the period 2010-2015, and 437 artists in the contemporary art market. The selection of art galleries is motivated by the importance of Manhattan in the domestic and international art market and the high density of art galleries: NYC emerged as a world art city since the 19th century, by benefiting from worldwide transport connectivity and communication networks, and it has the largest number of galleries of any metropolitan area in the US. Moreover, the large numbers of galleries, many of which have existed for decades, make NYC an ideal setting for quantitative analysis of the retail art market. Second, to develop an exploratory network analysis mapping the network interactions among the galleries in our dataset. We document specific artist- and gallery-patterns and well-defined linkages among galleries based on the exchange of artists through joint exhibitions. We finally set out the next steps of the research project.



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## Extreme Weather Prevention through Energy Efficiency in Buildings: AI-based Approaches towards Pricing Mechanisms

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❖ [Terceira-S15-S2 Flood Risk and Natural Hazard in the Built Environment - From Economic Impact to Regional Resilience, S01, August 30, 2024, 11:00 AM - 1:00 PM](#)

Buildings are a significant cause of carbon emissions and considered a key driver of climate change. These emissions comprise both those locked in the building substance (‘grey energy’) as well as emissions from ongoing energy consumption from building operation during a long-term lifecycle of decades. In recent years, the occurrence of extreme weather events has increased substantially in frequency and intensity and through the greenhouse effect, there is a mediate effect from a building’s energy attributes. Public regulations, including the introduction of carbon taxes, aim to increase the incentive for owners and operators of commercial property to improve energy efficiency. In this paper, we investigate whether there are also market-based mechanisms in pricing patterns, focusing on so called ‘green premiums’. Leveraging experimental machine learning (ML) approaches, we specifically assess the relevance of energy consumption on property prices and whether higher achievements in energy efficiency come with a discernible price premium. Our analysis draws insights from an exemplary dataset comprising approximately 9,200 office property market transactions in Singapore spanning from 1995 to 2022. The identification of such ‘green premiums’ could serve as an additional incentive for market players, aside of saving funds from avoided carbon taxes and damages from lower levels of extreme weather, to invest in upgrading their properties or acquiring more energy efficient buildings, fostering a more sustainable trajectory for the real estate sector.

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## Stay or leave? Residential mobility patterns of allocated refugees in Germany

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❖ [Online-G02-O2 Demographic Change, Population and Migration, August 26, 2024, 2:30 PM - 4:15 PM](#)

Many European countries distribute refugees by law across the country and implicitly assume permanent settlement in those locations. Theory, however, suggests that internal mobility after allocation is a likely outcome, which is – on the one hand – based on individual preferences, but – on the other hand – strongly correlated to the structural environment. This study explores refugees' residential mobility after dispersal in Germany – one of the most receiving countries worldwide. I analyse resettlement histories of refugees who entered Germany between 2013 and 2016 over a six- to nine-year span. Using longitudinal data of the IAB-BAMF-SOEP survey on refugees, I explore, in a first step, relocation intentions and residential preferences (rural / urban) right after allocation. Afterwards, I employ a sequence analysis to study residential histories. Data is drawn from annual observations of the categorised urban degree of the location (large city independent of a district administration, urbanised district, rural district with signs of urbanisation, sparsely populated rural district rural). Residential mobility is thus revealed when it concerns movement to a different type of location. After presenting clusters of typical mobility patterns, I demonstrate in a last step how individual and household characteristics are related to each settlement cluster. In contrast to previous studies, which are mainly based on register data, I contribute to research by analysing the decision for internal mobility based on a rich data set at the micro level. The results of this study support regional policy makers in planning long-term refugee population growth or loss. Preliminary results suggest – in line with literature – that residential mobility is significantly related to individual characteristics and that the type of the allocated municipality plays a crucial role for internal mobility.

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## Analyzing Environmental Pollution, Economic Growth, and Tourism in APEC's Developing and Developed Economies: A dynamic panel data study

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❖ [Online-G35-O2 Tourism and Overtourism Issues, August 26, 2024, 2:30 PM - 4:15 PM](#)

This study aimed to explore the relationship between environmental pollution, economic growth and tourism in APEC developed and developing economies from 1995 to 2020. To achieve this, theoretical perspectives on tourism, pollution, growth economic and public policy, along with evidence from recent studies around the world. The theoretical framework is based on the concepts introduced by Grossman and Krueger (1991), who investigated the link between economic growth and pollution through the Environmental Kuznets Curve (EKC). This theory suggests that as economic growth progresses, environmental pollution decreases after reaching a certain economic growth threshold. Methodologically, two panel econometric models, employing dynamic ordinary least squares (DOLS), were used to analyze developed and developing economies of APEC. The findings supported the hypothesis that both tourism and economic growth positively influenced the increase in environmental pollution in APEC economies during the specified period. Consequently, it is recommended to implement policies that advocate for the preservation of natural areas, the adoption of renewable energies and the promotion of sustainable tourism practices.

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## Evaluating resilience in pandemic time: a geographical approach to interrupted time series

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❖ Terceira-G08-O3 Covid-19 and regional and urban resilience, S03, August 30, 2024, 2:30 PM - 4:15 PM

### Objectives

The resilience of healthcare systems in managing and responding to crises, particularly pandemics, is of paramount importance. This study employs an interrupted time series analysis coupled with a geographic approach to assess the territorial heterogeneity regarding the resilience of hospital supply during pandemic events.

### Methods

By integrating geographic disaggregation and temporal data analysis techniques, this research examines the abnormal supply peaks and the time to return to normality in the supply experienced by hospitals in the wake of a pandemic. The interrupted time series methodology enables the identification and evaluation of temporal patterns in the availability of critical medical resources through parametric approaches (Arima methods) or non-parametrical approaches such as the Extreme Gradient Boosting (XGBoost) algorithm for time series. The geographic approach provides spatial insights into the disparities and vulnerabilities of hospital supply, exploring variations in resource allocation and access across different regions.

### Results

Through the analysis of historical data encompassing pandemic periods, this study aims to offer a comprehensive evaluation framework for assessing the resilience of hospital supply systems in Italy highlighting clear territorial patterns linked both to the administrative dimension of the healthcare system and to factors related to the supply and efficiency.

### Discussion

The findings from this research are anticipated to inform strategies to enhance the preparedness and responsiveness of healthcare institutions during future pandemics, ultimately contributing to the development of more robust and adaptive healthcare systems.

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## Regional devolution and efficiency of the Italian hospital sector: Catching up or falling behind?

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❖ Terceira-G06-O1 Regional and Urban Policy and Governance, S12, August 28, 2024, 11:00 AM - 1:00 PM

This paper analyses the technical efficiency growth in the Italian hospital sector over a period characterized by substantial reforms that shifted the responsibility of both managing and funding, from central to regional governments. While the main focus of the literature on the impact of decentralization on efficiency is on the level of healthcare expenditure, we consider the efficiency in the production of hospital services. Moreover, we wish to assess the long-term performance of healthcare provision, so as to be able to examine the dynamics of the potential difference in efficiency across providers, as well as the dynamics characterizing the best performers.

The specific objectives pursued in the paper are:

- To estimate the technical efficiency of the Italian hospitals over the period 1999-2010 through nonparametric frontier approaches;
- To assess the efficiency growth over time;
- To assess convergence patterns of efficiency, both at hospital and at a regional level, also considering the similarity of time paths of efficiency between regions (club convergence).

We use nonparametric estimators to examine not only the level of inefficiency in each year of our data, but how this varies over time. To avoid the typical biases of nonparametric estimators, particularly the ones related to the ad hoc choice of estimators and to the curse of dimensionality, we use an efficiency estimation protocol recently proposed by O'Loughlin et al. (2021). The protocol is essentially data-driven, minimizing discretion in the choice of the model and the estimator to be used. In particular, it makes use of the diagnostics developed by Wilson (2018) to indicate whether reducing dimensionality (of the input-output space) might be advantageous, and also checks for the convexity of the production set and for the nature of the returns to scale (Kneip et al., 2016), for the choice of the best efficiency estimator. In addition, we carry out an analysis of the convergence of the efficiency time paths, using the Phillips and Sul (2007) approach.

We find that, globally, the Italian hospitals experienced a considerable deterioration in efficiency over the time period under observation, but the trend is not homogeneous at the level of geographical areas. The Center and South of the country have experienced a more pronounced decrease in efficiency than those in the North of the country, even if the latter have also experienced a deterioration of their efficiency.

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## Spatial Inequality and Protests: Evidence from the Global South

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❖ [Terceira-G39-O1 Big Data and Regional Science, SF1, August 29, 2024, 2:30 PM - 4:15 PM](#)

We study the importance of spatial inequality in protest incidence. Leveraging data on micro-estimates of relative wealth index across 2.61 million neighbourhoods, we construct novel measures on spatial inequality for 28,675 regions at Administrative Level 2 within 89 Global-South countries. The measures are linked to 0.67 million georeferenced protest instances observed at a daily frequency between 1 January 2014 and 31 December 2018. By exploiting the variation within months specific to regions at Administrative Level 1, we find that regions characterized by higher levels of spatial inequality experience more frequent instances of protests. We further match the spatial inequality and protest data to a series of country-level characteristics. Our results suggest that the effects of spatial inequality are particularly pronounced in (i) mature democracies where citizens' freedom of expression is well protected and the rule of law is strong; (ii) countries with lower levels of economic development and higher levels of unemployment; as well as (iii) previous British colonies. The evidence suggests that spatial inequality has profound implications for political discontent, but may not be identical across all countries in the Global South.

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## Regional issues in sustainable transition: the importance of organizational agility

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❖ [Online-G46-O2 Sustainability of local policies, August 27, 2024, 2:30 PM - 4:15 PM](#)

In a constantly changing and unstable world, organizations are faced with the growing need to be adaptable and innovative. Organizational agility has emerged to meet these needs, emphasizing flexibility and the ability to adjust quickly to change. Initially limited to the technology and software sectors, this approach has gained popularity in other fields, becoming a preferred management mode for many organizations. At the same time, regions are also having to rethink the way they operate to adapt to a constantly changing environment and the changing demands of their citizens. Socio-economic, climatic and political challenges, amplified by events such as the COVID-19 pandemic, require rapid, flexible and inclusive responses. This transition to a new era in regional development relies on a sustainable approach to organizational transformation. With this in mind, this study sets out to explore the role of organizational agility in sustainable regional transition, using a qualitative methodology based on semi-directive interviews with stakeholders in the Fès-Meknès region. Through our contribution we aim to provide a better understanding of the role of organizational agility in the transition towards regional sustainability, as well as identifying the challenges and opportunities associated with this transition in the Fès-Meknès region.

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## Unveiling the Workforce Puzzle: Assessing Labour Market Supply and Immigration Demand in the Czech Republic

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❖ [Terceira-G02-04 Demographic change, Population and Migration, S16, August 30, 2024, 11:00 AM - 1:00 PM](#)

The Czech Republic has undergone a sustained period of consistently low unemployment rates (less than 3% after 2017) and labour force shortages, even in the face of concurrent and protracted economic downturns (2020, 2022-23). Since 2017, the Czech unemployment rate has been one of the lowest in the European Union. The Czech Republic also recorded one of the highest increases in the share of the population aged 65 years or over in the European Union between 2012 and 2022; today (2022) this share is higher than 20% of the total population. Similarly to other developed countries, the fast ageing of the Czech population is likely to be of major significance in the coming decades. It is going to put a strong downward pressure on the aggregate labour supply. This paper/presentation aims to identify the main factors contributing to the low unemployment rate after 2017 and to the expected decline in labour supply in the Czech Republic, with a particular emphasis on the country's demographic parameters and developments. Additionally, the paper aims to evaluate whether immigration policies and post-COVID migration flows have the potential to alleviate pressure on the labour market, considering the context of the relatively strict immigration policy towards third-country nationals.



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## Evaluation of Pedestrian Accessibility within a 15-minute Walking Circle in the Core Area of Transit-Oriented Development (TOD) in Tokyo

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❖ [Online-G31 Methods in Regional Science or Urban Analysis, August 26, 2024, 4:45 PM - 6:30 PM](#)

In the 2021 "Urban Redevelopment Guidelines," the Tokyo Metropolitan Government Bureau of Urban Development emphasized the importance of visualizing urban spaces and enhancing pedestrian accessibility, particularly around major transit stations, while also advocating for increased urban greenery. This emphasis aligns with academic advancements in urban green space visualization, highlighting the growing interest in streetscape studies through street view imagery.

This research focuses on the pedestrian accessibility within 15-minute walking radii of Tokyo's Transit-Oriented Development (TOD) cores, specifically around rail transit stations with high daily pedestrian traffic. It employs a multidimensional pedestrian spatial indicator system and a spatial multi-scale evaluation approach, prioritizing the pedestrian perspective.

Our methodology involves defining the study area, identifying specific populations, and pinpointing points of interest (POIs). We utilized Python scripts to extract Google Street View data, applying the PSPnet modeling algorithm and the Cityscapes Dataset to identify various streetscape elements such as roads, pedestrians, vehicles, plants, and walls. These elements were then analyzed using ArcGIS.

The study introduces a comprehensive assessment system encompassing four primary dimensions: safety, comfort, activity, and mobility, each further divided into two or three sub-dimensions. The results are visualized to provide a detailed analysis.

We present an in-depth examination of the pedestrian environment around Tokyo's TOD core rail stations, assessing their characteristics, strengths, and weaknesses. The findings lead to well-founded recommendations for future development priorities in the neighborhood environments, contributing significantly to urban planning and pedestrian-centric urban design.

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## Transforming Urban Landscapes in Thailand: The Policy Evolution from the Eastern Seaboard to the Eastern Economic Corridor

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❖ [Online-YSS2 Inequality and Regional Investment - EPAINOS, August 27, 2024, 11:00 AM - 1:00 PM](#)

Thailand's transition from an agriculture-based economy to a semi-industrial one through the Eastern Seaboard policy has notably enhanced employment rates and GDP, marking a significant shift in its economic development strategy (JICA, 2001). Building on this success, the National Council for Peace and Order (NCPO) launched the Eastern Economic Corridors (EEC) initiative in 2017, aiming to further transform the economic landscape of three Eastern provinces. The EEC project is designed to promote comprehensive physical and social development, thereby improving the country's competitiveness on a global scale. Guided by the Eastern Economic Corridor Office of Thailand (EECO), the initiative focuses on sustainable area-based development, infrastructure and connectivity enhancement, and the promotion of advanced technology and innovation.

This evolution mirrors the global trend towards integrating environmental sustainability and modern urban planning concepts into economic development, as emphasized by UNCTAD in 2020. The EEC's incorporation of smart city and aerotropolis concepts, alongside efforts to upgrade the skills of employees and residents, aligns with the Sustainable Development Goals (SDGs) and represents a progressive step towards reconciling development goals with sustainability imperatives. However, this shift also presents challenges, particularly for local communities struggling to adapt to rapid changes, highlighting potential social and environmental gaps introduced by the EEC's implementation.

Identifying and addressing these gaps necessitates a comprehensive evaluation of the EEC's strategy to enhance the socio-economic benefits realized under the Eastern Seaboard policy while mitigating adverse impacts. This study adopts a chronological analysis to explore the policy's evolution, impacts, and the relationship between its implementation and outcomes. By tracing the development from the Eastern Seaboard initiative to the EEC, the research aims to provide an in-depth understanding of the policy shifts, their successes, and the emerging challenges.

Contributing to the discourse on sustainable development within SEZs, this research offers insights into the complexities of integrating sustainable concepts into economic policies. By examining the EEC's approach and identifying the gaps in its policy framework, the study aims to inform future policy formulations, ensuring they more effectively bridge social and environmental disparities. This analysis is crucial for policymakers, scholars, and practitioners involved in economic development, providing a framework for designing more inclusive and sustainable economic strategies in Thailand and similar contexts worldwide.

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## Cash Transfers and Health Outcomes: Evidence from Italian Municipalities

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❖ [Online-G45 Sustainability of local policies, August 27, 2024, 9:00 AM - 10:30 AM](#)

The aim of this paper is to evaluate the impact of a direct and unconditional cash transfer program implemented in Italy in 2014, known as the "80-euro bonus", on health outcomes, particularly mortality rates. Leveraging municipal-level data, we employ a difference-in-differences approach to examine the relationship between the 80-euro bonus and mortality indicators across municipalities over time, exploiting geographic variations in the intensity of the program. Our results reveal a significant reduction in overall mortality rates associated with the magnitude of cash transfers received and with higher concentrations of recipients among the municipal population. These findings remain robust across different specifications and sensitivity checks. To further investigate the impact of cash transfers on health outcomes, we also leverage data at the provincial level, where mortality rates by cause are available. The findings suggest that an increased concentration of cash transfer beneficiaries in the population is associated with a sustained and significant decrease in mortality rates, particularly for cancer and cardiovascular diseases. The observed reduction in mortality rates aligns with existing literature emphasizing the positive effects of increased individual financial resources on improved health outcomes. By contributing empirical evidence through a municipal-level analysis, our study not only supports existing findings but also enhances our understanding of the social determinants of health. Although monetary transfers cannot be regarded as the primary tool of healthcare policies, the results presented in this research show that they can serve as effective instruments in improving health outcomes, recognizing the supplementary role of direct cash transfers in the broader landscape of public health policies.

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## Towards a framework for tackling the possible contribution of new commons to territorial development in mountain areas

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❖ [Terceira-S75-S2 Collective Action and Territorial Transitions, S09, August 28, 2024, 4:45 PM - 6:30 PM](#)

People living in mountain regions face many challenges related to global social and environmental changes. In response, new forms of collective action – that we call “new mountain commons” – are emerging at local level. Commons are defined here as a model of resource management gathering three socio-ecological components: a resource, a community and a set of rules regulating access, use and management of the resource (Ostrom, 1990). More specifically, commons include a collective action by the resource’ users (i.e. the “commoners”) characterized by self-organization allowing the sustainable management of the resource system (ibid.). Following Hess (2008) definition, commons are qualified as “new” by the fact that they are of recent creation (end of 20th century - beginning of 21st century), they appeared “without pre-existing rules or clear institutional arrangements” and they concern the provision of goods and services from resources other than natural. These “new commons” have been studied in various contexts or areas such as cities, often named “urban commons” in the literature (Kebir & Wallet, 2021), but not so much in mountain contexts. Possible cases in the Alps have been identified (project MOUN ), including infrastructure management (ski lifts, energy production), heritage restoration, and community services such as groceries, cafés, a nursery, and a maternity centre (Gros-Balthazard et al., in press). The current research – called ComMount –, funded by the Swiss National Science Foundation, aims to study their possible contribution to territorial development in mountain areas. We examine how these collective actions, through the relationships between the actors and the cumulative knowledge they build up, contribute to the transition towards sustainability. Two challenges mountain regions are facing – transitions in the tourism sector and the supply of proximity services – are investigated. For this end, an analytical framework built on the concept of innovative milieus is developed to explore social innovations and their dynamics, and data from in-depth case studies in two Alpine regions of Switzerland – the cantons of Valais and Tessin – are analyzed.

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## Determinants of wellbeing

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❖ [Online-G06 Regional and Urban Policy and Governance, August 26, 2024, 11:00 AM - 1:00 PM](#)

(1) Background. European social policies have traditionally focused on the material conditions and indicators of well-being and on the foundations of social justice characteristic of the welfare state paradigm. The system of social organisation that ensures a satisfactory standard of living through the provision of social services in areas likely to condition well-being has not sufficiently valued subjective indicators of well-being, making it pertinent to develop international systems of subjective indicators for evaluating well-being.

(2) Objectives and research question. The main objective of this systematic and narrative review of the literature is to substantiate the scientific understanding of the concept of well-being, identifying both the indicators assumed by the literature and by international and national organisations, as well as the relationship with social policy decisions and governance parameters that encourage, affect, and determine well-being. The question this article seeks to answer is this: what can we learn from scientific literature, international guidelines and the cases analysed in the works consulted about the multidimensional relationships established between well-being and governance?

(3) Method. A systematic and narrative literature review was carried out following the PRISMA protocol criteria (search method, screening procedures, document inclusion and exclusion criteria), using the SCOPUS and Web of Science databases, as well as national and international scientific production, articles, research reports, conference proceedings and books, by authors and reference organisations. For bibliometric analysis we used Vosviewer (Rstudio/Bibliometrix software).

(4) Results. The results suggest that: (i) a country's political system, as well as its formal institutions, affect the population's well-being, and the use of well-being indicators in defining public policies is pertinent; (ii) the way political systems are organised can significantly influence citizens' ability to participate in the decision-making process and, consequently, positively affect their well-being; (iii) the use of well-being indicators in politics can fit into a contemporary vision of the role of the state, constituting a promising development that could enable it to fulfil its role in a way that is closer to the interests and real needs of citizens.

(5) Conclusion. This research recognises the importance of using a set of subjective indicators of well-being in addition to income, which are the result of various configurations drawn from the multidimensional relationships that are established between living conditions and well-being.



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## Electric Aviation and Its Implications for the Nordic Region: A 10-Year Future Scenario

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❖ Terceira-G17-O1 Cooperation and Local / Regional Development, S16, August 28, 2024, 2:30 PM - 4:15 PM

A cohesive Nordic region has long been envisioned as the key to future peace and development for the Nordic countries. Yet, this is a complex task in an area with plenty of remote and sparsely populated regions. Geographical accessibility, while playing a crucial role in fostering cooperation and regional development, can be challenged in a context where the presence of geographical obstacles, such as mountain chains and bodies of water, might hinder the possibility of establishing efficient and sustainable connections.

Given its unique geographical conditions and a strong commitment to sustainability, the Nordic region represents an optimal testing ground for transformative changes in transportation, particularly through electric aviation. This innovative approach to air travel has emerged as a promising solution for sustainability, catalyzed by the European Union's certification of the first electric aircraft in 2020. Nordic countries have set ambitious goals to transition, either partially or fully, to electric or sustainable fuel aviation for domestic flights by 2030.

Against this background, our research project portrays a 10-year future scenario of electric aviation by exploring five selected Nordic routes - in Denmark, Finland, Iceland, Norway and Sweden - and identifying the key driving forces behind this transformative shift.

Our focus group discussions with key informants from each of the five Nordic countries revealed that electric aviation is generally perceived positively, albeit with some contextual differences among the Nordic countries. The future scenarios suggest that making electric aviation the primary air transport mode in the Nordic region requires high levels of support from local and national governance bodies and strong political will. Factors such as incentives, taxation policies, technological advancements, and societal trust were identified as pivotal elements in this transformation. Possible regional impacts of electric aviation include fostering regional cooperation, increasing political dedication to financial regulations and incentives, creating new opportunities for tourism and business, improving accessibility to public services, and reducing emissions.

We further delve into possible regional implications of electric aviation and present results from an expert workshop on this topic, supported by a study on environmental impacts, developed in the same research project. We explore the broader implications of adopting more flexible transportation solutions for the overall development of the Nordic region, and the potential for remote regions to shape their own accessibility solutions.

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## The low consumption of wild game meat in one of the world's leading wild game production regions: the Andalusia case

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❖ [Online-G12 Economic development in rural places, August 26, 2024, 4:45 PM - 6:30 PM](#)

The hunting sector in the Andalusian region is developed in areas of the Autonomous Community of Andalusia that are less developed and even with a growing depopulation of the villages that represent them. This is an activity that contributes to the creation of jobs and the maintenance of part of the existing population in these areas. Given this situation, and the fact that the vast majority of game meat production is exported to Central Europe, thus adding little value to the product, we thought it would be a good idea to find out what consumers in the region think about this product.

Information about consumer intentions is highly sought after by producers of goods and services. This information is used to guide production, marketing, and consumer education efforts. It helps consumers make informed decisions about products based on factors such as price, health, and environmental impact. So, they decide whether to consume it.

To determine the reasons for the demand for game meat, a statistically significant survey was conducted among 1,066 consumers in the Autonomous Community of Andalusia.

The survey aimed to gather information on Andalusian consumers' knowledge, thoughts, and behaviours regarding game meat. National consumer surveys have been conducted on this product; however, none have been carried out in the Andalusian region, which is a leader in game meat production.

After analysing the data obtained from the interview questions, it can be concluded that this product has great potential among Andalusian consumers. However, efforts must be made to inform them about its characteristics as a healthy, ecological, and sustainable food. This would provide greater value to the product and support the development of rural areas where game meat is obtained.



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## Social innovation in urban spaces: shifting the human-animal bond into a nature-based solution.

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❖ [Terceira-S26-S2 Social Innovation for Sustainable and Inclusive Regions, Communities and Neighborhoods, S06, August 29, 2024, 9:00 AM - 10:30 AM](#)

In recent decades, the interest in social innovation and nature-based solutions (NBS) has spread in scientific articles and they are increasingly deployed for cities' strategic planning. Meanwhile the attention and the presence of animals in the cities is increasing as well as the attention in the society. In this scenario, it is worth to reflect on the opportunities linked to the promotion of the human-animal interactions as a new nature-based solution and the social innovation processes that are linked to change the sight on this topic to increase health and human well-being in the cities. The paper aims to look at the process of mobilization of the animal resource as a NBS in enhancing the quality of life of people in cities, understanding and designing the related social innovation paths, also in a perspective of replicability in diverse geographical areas and urban spaces. Through the lens of the research-action EU-project IN-HABIT in Lucca (Italy) (that aims to codify an integrated policy to enhance human-animal relationship and their possible positive outcomes to be then transferred and replicated in other cities), the hum-animal city concept and animal NBS has been co-designed with local stakeholders, as well as its translation into real practices and initiatives (within the social sectors, in the cultural and educational environment, in reshaping public spaces, in touristic sector).

The paper reflects on the process focusing on some turning point and key element in the social innovation process offering some first lessons for the replicability in other geographical areas and urban settings aiming at codifying integrated policy solutions based on a new mobilization of the human-animal bond in a social perspective.

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## On the endogeneity and latent factors of Spatial Interaction Models: How do we know the model accounts for spatial structure?

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- ❖ [Terceira-S44 Networks: An Empirical and Conceptual Toolset to Understand and Model Cities, Regions and Their Interactions, S18, August 30, 2024, 2:30 PM - 4:15 PM](#)

Spatial Interaction Models (SIM) have been used in geographical, economic and social science research for over half a century.

One of the significant problems with SIMs is the inability of the gravity equation to account for the spatial structure of the interaction, implicitly related to human behaviour. Much of the research explores what variable should be added to the model to account for the spatial structure that exists in the model's errors. The major limitation of this research is that there is no method or framework to empirically validate whether the selected variables account for the model's spatial structure. This talk addresses this issue by rethinking the causal pathways in SIMs by using Structural Equation Modelling (SEM) to create a framework to validate the addition of independent variables to SIMs.

Thus far,

it was assumed that distance is independent of masses and dependent on flow volume (based on the gravity equation). However, there is an argument to be made for the case of distance being dependent on the masses and endogenous to the flow volume due to the human understanding and use of space, where the already attractive destination may become more attractive with easier access and vice versa. Changing this basic assumption allows us to rethink the SIM equation and define one more appropriate for the bivariate outcome of flow and distance. Compared to the traditional SIM, such new model is no better at predicting spatial interaction. However, it allows for the exploration of the latent space of the SIM and its covariance with any variables added to the base model. In the empirical part of this work, this new validation framework is used to explore the ability of the Competing Destination model (SIM enhanced for accessibility parameter) and network structure SIM (SIM enhanced for network structure measure parameter) to account for the variation that exists in the latent space of the model, possibly the variation belonging to spatial structure. Bayesian modelling framework is used here to provide precise estimates and, thus, a more reliable framework for variable validation in SIM.

This novel method has the potential to help anyone using SIM to identify influential variables for their model. Nevertheless, a broader discussion on the validity and relevance of this method is needed. This talk aims to spark such discussion and collect feedback from a wider audience.

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## Technology Park Policy in Developing Countries: A Proposal for a Logical Evaluation Model

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❖ [Terceira-G06-O2 Regional and Urban Policy and Governance, S11, August 28, 2024, 4:45 PM - 6:30 PM](#)

The current process of economic development, increasingly based on production networks, products of high economic complexity, industrial modernization, and heavy investments in innovation and infrastructure, has spread across territories in a very heterogeneous way. This implies a considerable challenge for regions, which need to draw up tailored public policies in order to create, improve and retain values locally. Within this context, technology parks assume strategic importance inasmuch as they not only stimulate the innovation process, but also boost the economies of the regions in which they are located.

This logic is present in both developed and developing countries. However, the latter conceived technology parks as a tool for the process of economic catching up and, at the same time, to catalyse connections in the current increasingly complex and fragmented global economy. As a consequence, subnational states designed their technology park policies with the clear purpose of pushing their economies and, in this way, contributing to the country's development. However, after just over a decade of existence, uncertainties hover over the real contribution of technology parks to the regions where they operate. These uncertainties arise not only from an apparent divorce between the framework and institutional design of regional policies and the logic of the technology park policy model, which creates serious obstacles for the parks to generate the hoped-for results, but also from the lack of academic studies that investigate the characteristics of public policies for technology parks. In order to fill these gaps in the existing literature, this paper aims to build a logical model to evaluate the performance of technology parks as a public policy aimed at promoting regional development. After an in-depth and broad literature review analysing what science has shown about performance indicators in technology parks, a meta-analysis consistent with this review was carried out. Then the Atlas TI software was used for coding and content analysis, which allowed a constructive theoretical dialogue and, at the same time, enabled the final construction of a logical evaluative model of technology parks. The paper points out that there are seven dimensions in which technology parks would promote: global, economic, innovative, entrepreneurial culture, academic, urban and social. Another significant contribution of the paper is the fact that it provides a set of key performance indicators for technology parks in these seven dimensions.

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## A territorial approach to sustainable transitions

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❖ [Terceira-S75-S2 Collective Action and Territorial Transitions, S09, August 28, 2024, 4:45 PM - 6:30 PM](#)

Sustainable transitions (ST) involve innovations that create new relationships between society, the economy and the environment. ST are processes that reorganize stakeholders, rules, values and activities over time and space. ST articulate different scales (from global to local and vice versa) and relationships between the future and the present.

This article proposes a territorial conceptual framework for ST based on the concepts of referential (Muller 2010) and institutional regimes. It mobilizes valuation theory (see for instance Heinich 2020) to understand how socio-cultural values influence experimentation and innovation and, more broadly, referentials and regimes. In this context, innovation and/or experimentation are seen as socio-cultural processes where technology bears meaning. The valuation approach helps to formalize the tension between societal aspirations towards ecologization and the need for institutional regimes to be economically viable.

The suggested conceptual framework is a generic one that can be applied to different areas: energy, transport, agriculture, etc. The second part of the paper is an application to the agroecological transition (AET). It shows how the proposed conceptual framework allows to elaborate on the weak and the strong versions of the AET and describe their differentiated political referentials and institutional regimes. The tensions between both forms provides a picture of the AET that questions the concepts of transition and of regime.

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## Regional conditional convergence in the European Union: the role of spatial spillovers (2004-2021)

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❖ [Online-G06 Regional and Urban Policy and Governance, August 26, 2024, 11:00 AM - 1:00 PM](#)

In our presentation, we examine the conditional convergence of the real GDP per capita of the European Union in the period 2004-2021. During the analyses, we examine the EU27 230 NUTS2 regions, looking for the answer to which conditions determine economic growth and how spatial interactions contribute to this. Calculations based on cross-sectional regression analyzes are based on the Mankiw-Romer-Weil (1992) model augmented with economic structural characteristics and spatial spillovers.

During the analyses, we use various spatial econometric regressions (Ordinary Least Squares, Spatial Autoregressive Model, Spatial Error Model, Spatial Lag of X, Spatial Durbin Model, Spatial Durbin Error Model, Spatial Autoregressive Combined Model, General Nesting Spatial Model), which are used to determine the appropriate model specification we are looking for it.

Based on our analysis, conditional convergence is an existing phenomenon in the EU27, during which both global and local spillover effects can be discovered. Based on our results, significant spillover effects can be observed in the case of initial income, physical investments and the manufacturing industry. The results can be considered robust in the case of several different spatial weight matrices.

994

## Regional Financial Integration, Financial Development and Economic Growth in the Belt and Road Initiative Countries (BRICs): Does Institutional Quality Matter

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❖ [Terceira-S36 Entrepreneurship and Public Policy, S14, August 30, 2024, 2:30 PM - 4:15 PM](#)

Regional economies seek to promote growth through financial integration and literature suggests that developing the financial system, integrating the financial system within a sound institutional framework can promote economic growth (Pradhan et al., 2023, 2020). This study fills the gap by examining the impact of institutional quality on financial development-regional financial integration-economic growth nexus on BRICs. This study assesses whether regional financial integration and financial development have a stronger effect on the economic growth of BRICs that have high level of institutional quality than it does in countries with lower level.

In this paper, we examine the Granger causal relationships between financial integration and financial development, institutional quality, and economic growth in the BRICs over the period 1980-2022. Using principal component analysis for the construction of the financial development and institutional quality indices, and a panel vector auto-regressive (P-VAR) model for testing Granger causalities, the study finds the presence of both unidirectional and bidirectional causal links between the variables. Our investigation leads to a better understanding of interrelationships between the variables, both in the short run and long run. Based on the empirical findings, the study will examine the role of institutional quality in enhancing regional financial integration, financial development and long-run economic growth in the BRICs. The study finds strong endogenous relationships between these variables in the short-run and long-run. Hence, policy-makers in these countries should give careful attention on co-development policies and strategies pertaining to institutional quality, financial integration, financial development and the sustainable economic growth. Lessons from the BRICs case study may be valuable for policy-makers from other economic groups/regions, who are designing policies and strategies to enhance institutional quality, regional financial integration, financial development, and sustainable economic growth.

**Keywords:** Institutional quality, regional financial integration, financial development,, economic growth, P-VAR, BRICs

998

## History and contemporary relevance of rent theories: a territorial typology

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❖ [Terceira-G09-O1 Regional Competitiveness, Innovation and Productivity, S13, August 28, 2024, 11:00 AM - 1:00 PM](#)

This article proposes a typology of rent theories, from Ricardo to recent post-industrial approaches. The criteria of this typology can be divided into two sets.

The first set of criteria are the characteristics identified by Schumpeter for the emergence of a rent, namely the tension between the productivity of a resource on the one hand and its scarcity on the other (Mollard et al. 2011). Depending on the author, the productive and scarce resources vary: land for Ricardo, industrial externalities for Marshall, and so on. Today, many works focus on the financialization of the city (Aalbers 2015) and emphasize the inelasticity of urban land supply, that of the central locations of the largest cities. This scarcity is coupled with strong demand from financialized capital, which circulates on a global scale and is likely to invest massively in this or that city. A second resource under pressure also concerns urban land, but that of places particularly valued by residents and especially by mobile consumers, of which "overtourism" is the most obvious sign. A second set of criteria relates to the spatial and temporal forms (income from outside the region, internal flows, mobile elements) that these rents take. Ricardo's agricultural rent, based on the monopolistic ownership of the most fertile land by landowners who generally live in the city to enjoy their income, is very different from the form of Marshallian industrial rent. The latter takes into account the income generated by the region's exports, which allows a local redistribution of income (profits, wages), which is capitalized on the land and increases its value. Contemporary rents also take specific forms, involving different forms of mobility (of goods, people and capital) and different ways of anchoring in the region.

On the basis of these criteria and the dynamics observed today, the final section outlines the implications of the extraordinary growth of major urban development projects over the last twenty years (Aveline-Dubach 2023). Unlike previous rents, which captured the value created in the past, these massive investments, which often involve entire districts or even entire cities, precede the development of activities. In this sense, they represent a bet on the future development of the city, a way of capturing the urban character under construction.

1000

## Human development and inequality: The importance of social expenditure

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❖ [Online-G14 Institutions, Political and Decisional Processes, August 26, 2024, 9:00 AM - 10:30 AM](#)

In this article, we empirically analyse the impact of social public spending on human development distribution in a sample of 82 developed and developing countries over the period 2010-2021. Specifically, we focus on the impact of the three components of social spending (health, education and social protection) on the distribution of human development as measured by the Human Development Index (HDI) and its dimensions (health, education, and income). Applying data panel analysis, our empirical evidence shows that the three components of social expenditure reduce the loss of HDI caused by inequality. Hence, public resources allocated towards social spending have an important redistributive impact with regards to human development outcomes related to life expectancy, years of schooling and income per capita.



1001

## Manors as rural development drivers

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❖ [Terceira-G12-O2 Economic development in rural places, S12, August 28, 2024, 4:45 PM - 6:30 PM](#)

This research analyzes the impact of manors on the population development of remote rural areas in Estonia after the post-COVID-19 era of expanding distance work and the second house boom. Estonia has been a manor-country throughout history. Manors have been dominant rural economy drivers for centuries: employers and innovators. According to the observations, the well-kept manor complex possesses a considerably better demographic situation in the nearby area. The manors influence the place's spirit and identity: the inhabitants' pride and attachment to the place. Heritage sites and manors are often in the service of the tourism industry, but their impact on population development has yet to be studied. Hypothetically, good-looking and intensively used manors (as local business centers) surrounding villages are characterized by a considerably better demographic situation.

We will design and test a comparative analysis of manor and non-manor settlements using 2021 and previous censuses' village-level population data, the Estonian Land Board transactions database, and the manor's database. As the intensity of manor utilization depends considerably on their accessibility and location (and to reduce the workload), the intention is to focus on the remote areas where population density is less than 8 in/km<sup>2</sup> and/or the distance from the closest center is more than 50 km. Such areas make up 50% of Estonia's territory, with only about 10% of the population. Another criterion would be the maintenance and functionality of manors, which is why there is a need for the corresponding typology. Additionally, we intend to carry out selected case studies in the pre-defined manor-type villages, investigating:

- place attachment and identity,
- stories about the manors and places,
- local cultural and social capital.

## 1004

A quantification of the local net economic costs of the recent global crises in the Azores tourism cluster.

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❖ [Terceira-G35-R Tourism and Overtourism Issues, S18, August 28, 2024, 4:45 PM - 6:30 PM](#)

The breakdown in the global supply chains following the recent pandemic have had serious implications on international travel leading up to a subsequent decrease in international tourism demand in the Azores. We apply a regional static single country computable general equilibrium model to quantify the net economic cost of the COVID19 pandemic under three different counterfactual equilibria. The model is an improvement of an existing computable general equilibrium model in that it is calibrated on a Social Accounting Matrix (SAM) adjusted to satisfy recommendations with respect to tourism statistics formulated by the WTO and other international organisations. Furthermore, it provides a proper inclusion of travel induced rationing in export demand of tourism related products. The main idea of the paper is to initialise further application of computable general equilibrium modelling in the area of tourism.

1005

## Innovation and sustainability of territories, local institutions and cultural values promotion

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<sup>1</sup>USMBA, Fes, Morocco

- ❖ [Online-S65 Contribution of Peace and Cultural Diversity to Sustainable Economic Growth in the Era of Climate Change, August 27, 2024, 9:00 AM - 10:30 AM](#)

Often associated with uneven development, rapid economic growth requires the integration of cultural aspects into transformation processes, thereby contributing to more authentic, equitable development rooted in local specificities. Innovative collective dynamics offer numerous advantages for actors, institutions, and individuals. They are important factors in social, cultural, and economic development while encouraging citizen involvement and creativity in local development projects.

Promoting innovation and sustainable economic growth requires a holistic approach that considers both the formal and informal institutions present in a given territory. Aligning these institutions with cultural values can strengthen social cohesion and foster sustainable, inclusive economic development. This contribution focuses on innovation as a lever for sustainable transformation. More specifically, it aims to understand the role of local institutions in promoting cultural values through innovation dynamics. We opted for a qualitative method, conducting semi-directive interviews with institutional players involved in the Fès-Meknès region, using NVIVO software.

The sole aim of this research is to open the debate on the need to intervene on endogenous factors, such as the cultural values that characterize each territory, to promote recognition of the role of the local in projects for sustainable regional transformation.

1007

The role of renewable energies and economic growth in ecological footprint.  
Is the relationship stable over time?

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❖ [Terceira-G19-O1 Energy and Ecological Transitions, S17, August 29, 2024, 2:30 PM - 4:15 PM](#)

This paper studies the relationship between ecological footprint, economic growth and renewable energy use in 20 OECD countries from 1990 to 2019, paying special attention to the possible existence of structural changes in this relationship over the period studied.

Our results provide evidence supporting the presence of breaks, with the Great Recession playing a very important role. Our analysis identified an initial phase of decoupling between economic growth and ecological footprint, characterized by a significant negative correlation between the utilization of renewable energy and ecological footprint until around 2012. Nevertheless, these patterns are becoming less evident in several countries following the Great Recession. The results emphasize the urgent need for a shift in policy, placing greater emphasis on pursuing a form of economic growth that is environmentally sustainable

1008

## Premature mortality and air pollution from a gender perspective

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❖ [Terceira-G24-O1 Human - Environmental Interactions, S17, August 28, 2024, 11:00 AM - 1:00 PM](#)

This study examines the dynamic relationship between premature mortality, economic growth, and air pollution in 25 OECD countries from 1990 to 2019, while controlling for gender differences and structural breaks. Key findings include a negative association between GDP per capita and premature mortality, highlighting the positive impact of economic development on health. Additionally, higher health spending is associated with better health outcomes, emphasizing the critical role of robust health financing in promoting public welfare. On an additional note, economic crises and austerity policies contribute to an increase in premature mortality, particularly among women. The study also reveals a concerning link between air pollution, specifically CO<sub>2</sub> emissions and PM<sub>2.5</sub> exposures, and premature mortality, underscoring the persistence of health problems despite efforts to achieve sustainable development. The detailed gender analysis underscores the necessity for public health policies capable of addressing the risks of pollution and premature mortality, recognizing gender disparities within these intricate dynamics.

1012

## Evaluation and Mapping of Carbon Sequestration Service in Morocco's Protected Areas: A Case Study of Ifrane National Park

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❖ [Online-S65 Contribution of Peace and Cultural Diversity to Sustainable Economic Growth in the Era of Climate Change, August 27, 2024, 9:00 AM - 10:30 AM](#)

Ifrane National Park (INP) situated in the province of Ifrane in Morocco, is renowned for its unique bioecological attributes and rich biodiversity. It offers a multitude of ecosystem services essential for human well-being. This study focuses on the park's pivotal role in climate regulation. Particularly as a primary carbon reservoir within its forests' ecosystems. Despite its importance, the park faces challenges arising from land use dynamics. These dynamics involve the settlement of local populations in mountainous areas, exerting increased pressure on forest resources, and the conversion of grazing lands into agricultural fields. Our study aims to highlight the importance of carbon sequestration service (CSS) within INP and understand how it changes pre, and post park creation. We use Google Earth Engine to map land use changes from 1992 to 2022. Then, we quantify and map CSS using InVEST software. Additionally, we assess the economic value of this service by employing a social cost of carbon monetization approach. Our findings reveal a spatial evolution in CSS, which exhibits a positive trend post-park creation. Subsequently, the economic value of this service has increased. In conclusion, mapping and economic assessment of CSS serve as crucial tool to inform and persuade decision-makers about the significance of conservation efforts and investment in restoration initiatives within protected areas. Additionally, it fosters awareness among local communities and promotes their engagement in sustainable development initiatives.

Keywords: Carbon Sequestration; Land Use Dynamics; InVEST Software; Economic Assessment; Ifrane National Park.

## 1013

Integration and territorialization of food-related issues. An analysis of the dynamics of coordination between stakeholders involved in territorial food projects.

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❖ [Online-S76-S1 Places for Sustainable Food: What's Behind and Beyond the Relocation of Food Systems?](#),  
August 27, 2024, 9:00 AM - 10:30 AM

Awareness of the negative externalities and vulnerability of food systems has led to the development of numerous initiatives by a wide range of local actors (agricultural producers, public actors, citizens, etc.). The structuring of localized food systems is now seen as a means of initiating a transition to more sustainable models. In this sense, the 2014 French law on the future of agriculture, food and forestry created territorial food project (“Projet Alimentaires Territoriaux” in French, hereinafter PAT), a territorial governance arrangement for strengthening and enhancing food systems anchored in the territory, which are now recognized as levers of agricultural and food transition. In particular, they aim to federate actors around a common food-related territorial project, to strengthen local food supply chains and to act as levers for integrating different issues (social, environmental, economic or health-related) and areas of public action.

The aim of this paper is to analyze how territorial food project meet these objectives by studying the dynamics of coordination between the actors involved in these arrangements. The first step was to draw up an overview of the diversity of PATs and their singularities, in terms of projected trajectories of change and forms of actor participation in the French Auvergne Rhône Alpes (AURA) region. In the AURA region, there are over 60 PATs, 56 of which are in the emergence phase (labelled level 1) and 7 fully operational (labelled level 2). A second task consisted in selecting two "operational" PATs, contrasting and characterized by a history of territorialized food policies, in order to assess the effects of PATs on the interactions between actors in territorial food systems, on the structuring of local food chains and the integration of issues, sectors and scales. To this end, we analyzed the evolution of the territorial food project actors through social network analysis approaches (relational chain and complete social network) considering the types of actors involved (roles, challenges raised, positioning in controversies, practices). Thus, we documented the construction and implementation processes of integrated food policies through the prism of these coordination and alliance strategies (sectors involved, associated governance processes, cooperation at different organizational levels, as well as the controversies structuring these constructions).

## 1015

### analysis of the critical success factors of renewable energy communities in the eu: an overview through systematic literature review

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❖ [Terceira-G19-O2 Energy and Ecological Transitions, S15, August 30, 2024, 11:00 AM - 1:00 PM](#)

In line with global environmental agreements, in 2019 the European Commission introduced the Green Deal, a plan aimed at making Europe climate-neutral by 2050 through the transition from fossil energy sources to renewable ones (RES). The recent complex geopolitical dynamics have also emphasized the urgent need to review and overcome traditional energy supply models, focusing especially on innovative approaches such as self-production of RES and participation in renewable energy communities (REC), in order to limit the increase in energy costs for citizens. These communities represent new models of community entrepreneurship in the energy sector, based on a social innovation approach that promotes a democratic process to ensure economic benefits for the entire community, involving citizens (becoming prosumers) in the production dynamics and increasing awareness of their consumption. Implementing such models could open up development opportunities for rural areas, which often face significant socio-economic challenges. The Italian Recovery Plan (PNRR), through Mission 2, Component 2, has allocated approximately 2.20 billion euros to support the dissemination of REC, especially in municipalities with fewer than 5,000 inhabitants, typically located in rural areas. In this perspective, the present study aims, through a systematic literature review, to provide a comprehensive overview of the critical success factors of existing RECs in Europe. Using the PRISMA diagram as a methodological guide for workflow management and article selection, the authors have conducted a comprehensive literature review, enriched with a bibliometric analysis of its contents. This approach, through a detailed and comprehensive narrative, aims to fill a gap in the literature, as, to date, there is not a complete overview of all those factors that, through their implementation, contribute to achieving the objectives of the CER in the rural context. The results of this research could provide a valuable conceptualization of an inclusive production model of energy in rural areas, tackling the numerous operational and regulatory hurdles as well as their social unease and distance from the urban centers. In that way, valuable information will be produced for policymakers to identify the most suitable and replicable REC model for Italian rural areas.



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## Sovereignty instability and development

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❖ [Terceira-G14-O3 Institutions, Political and Decisional Processes, S04, August 30, 2024, 2:30 PM - 4:15 PM](#)

We study the long-run effect of past sovereignty instability on current economic development at the subnational, local level in Italy. We proxy sovereignty instability through the yearly number of changes in sovereignty occurred in the period 1000–1861, and assess its effects on a 2018 measure of labor productivity defined for Local Labor Markets. We estimate a negative effect of sovereignty instability on current economic development. We propose a simple model for explaining the persistent effect of sovereignty instability, and explain the underlying mechanism in terms of civic capital. Finally, we provide evidence that sovereignty instability has become a relevant factor contributing to explain current economic development differentials only after the French Revolution, and that the negative role played by sovereignty instability has been partially overcome by institutional and administrative continuity.

1017

## Understanding green and digital transformation of universities in the context of Industry & Society 5.0

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❖ Terceira-S08-S2 University Impacts on the Local and Regional Economy, SF3, August 28, 2024, 4:45 PM - 6:30 PM

The recent COVID-19 pandemic has undoubtedly raised new questions regarding the future image of the innovation ecosystems, the relations between the main actors of innovation and the challenges they need to face in order to rapidly transform to new modes of operation related to digitalisation, digital transformation (DT) and to become resilient organisations. This includes also universities as the anchors of innovation ecosystems. As we already indicated, this time of global crisis has also accelerated a world-wide debate on related wicked and complex problems and challenges called Sustainable Development Goals (initiated by the United Nations decades ago and proposed in 2015 as Agenda 2030), that gained their momentum. “Green” and “Digital” have become “big ideas” and leitmotifs of this debate (Carayannis and Morawska-Jancelewicz, 2022). We believe that a future-oriented discussion is needed related to ongoing significant changes in the economy and society that will help to adapt universities or to better respond to undergoing substantial transformation with innovation as the driving force. We focus on two fundamental theoretical constructions that in our opinion play a crucial role in twin transformations, that is the Quadruple/Quintuple Helix framework of innovation ecosystem (Carayannis et al., 2021; Carayannis, 2017; Carayannis, 2021). The second vision is recently discussed concept of Society 5.0 and Industry 5.0 (I5.0 and S5.0) (Carayannis et al., 2021a, b, c; Carayannis & Morawska-Jancelewicz, 2021; Carayannis, 2021a, b, c, d; Carayannis, 2020b; Breque et al, 2021; Fukuyama, 2018) that highlights the need to re-think existing working methods and approaches toward innovation and to focus them on developing human-oriented solutions and social innovation (Morawska-Jancelewicz 2021). We also want to address the practical issues of twin transformations with regard to the skills and competencies needed within universities as well as the organizational or structural changes that would reflect the ongoing processes in the society and economy. We aim to indicate the challenges universities face on the road to digital transformation and green transition and to propose a socially and digitally engaged model as a future vision of a university in I5.0 and S5.0. The conclusions drawn therefrom may add value to the ongoing scientific discourse on the development of (digital)social innovation by universities and their importance for the innovative growth of regions within Q2HM in I5.0 and S5.0.

**1018**

## Utilization of intangible heritage resources in revitalization processes - examples from polish cities

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❖ Terceira-S85 Sustainable Cultural Tourism in Urban and Rural Areas, S12, August 30, 2024, 2:30 PM - 4:15 PM

In revitalization processes, many cities utilize local resources, such as cultural heritage (both tangible and intangible). Cultural values constitute a form of territorial capital and developmental resources, which not only local residents but also tourists can experience and enjoy. Culture and heritage are natural domains of human activity, and better embedding of society in their values has the potential to equip society with competencies and skills for creative problem-solving. Cultural heritage positively influences the quality of life by fostering social bonds, strengthening the sense of local identity, and pride in the place of residence. Local patriotism and a sense of belonging contribute to satisfaction with the place of residence. Cultural heritage, particularly intangible heritage, engages the local community and reinforces revitalization processes. The aim of the conducted research was to:

- Identify types of intangible heritage and ways of utilizing them in revitalization processes.
- Identify entities involved in actions for the protection and use of intangible heritage in revitalization programs.
- Identify problems and challenges regarding the identification and use of intangible heritage in revitalization programs.

The study used the following methods: literature studies, desk research and web research. Cities in the Łódź Voivodeship that implement integrated development policies based on revitalization programs were selected for analysis. As part of the study, questionnaire interviews were conducted with representatives of local government units (representatives of authorities and representatives of administration responsible for cultural heritage) to identify problems and challenges regarding the utilization of intangible cultural heritage in revitalization processes.

## 1021

### The commitment of local authorities to the logistics of SFSCs: a diversity of perceptions depending on the territories and scales

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❖ [Online-S76-S1 Places for Sustainable Food: What's Behind and Beyond the Relocation of Food Systems?](#),  
August 27, 2024, 9:00 AM - 10:30 AM

Local food policies have proliferated in France in recent years, driven by the national policy in favour of Local food plans (Projets alimentaires de territoire - PAT), initiated in 2014 (Maréchal et al., 2019). These policies aim to reterritorialise food and even to structure territorial food systems (PNA, 2022), which are most often understood as the linking at local level of different components of food supply chains, from production to consumption (Hospes, Brons, 2016; Van Berkum et al., 2018). Logistics, defined as "all the operations required to transfer flows from the place of design/preparation/production to the place of consumption" (Damien, 2010), is a key vector for making these linkages operational. Many public players recognise the need to take action in this area and are trying to implement strategies. However, this commitment is not self-evident, because 1) public players have few competences and levers for action; 2) this is a new field of action in which almost everything remains to be built; 3) the problems and responses to be provided as place-based and thus vary from one place to another.

This study therefore focuses on the way in which local authorities are dealing with the logistics of short food supply chains. More specifically, we are seeking to answer the following three questions: how are local authorities building their commitment to logistics? What issues and resources do they use to tackle it? Do they approach it differently depending on their scale of action and the degree of urbanisation of their area?

Based on an online survey to French local authorities we show different ways of tackling the issue according to the type of authority (its scale of action) and the level of urbanisation of the area. The resources to do so are very scarce and most of the time linked to the ones dedicated to wider food policies. However, these initiatives do demonstrate the willingness of some local authorities to use logistics as a place-based means of putting their food policy into practice.

1022

## The Effect of Prodermagico on Sustainable Tourism in Zihuatanejo De Azueta, Guerrero, Mexico: A Pls-Sem Analysis

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❖ [Online-G35-O2 Tourism and Overtourism Issues, August 26, 2024, 2:30 PM - 4:15 PM](#)

This study delves into the evolution of the tourism development model of Zihuatanejo de Azueta, Guerrero, one of the most prominent sun and beach destinations in Mexico. Initially conceived to boost economic growth in disadvantaged areas, this model has evolved into a paradigm of segregation. This shift has led to a disconnect between the tourist experience and the local cultural milieu, resulting in adverse effects on the quality of life for residents. One of the main challenges in implementing tourism programs, like PRODERMAGICO, is the absence of exhaustive monitoring and evaluation of efforts directed at promoting sustainable tourism. The aim of this study is to analyze the relationship between PRODERMAGICO, a program designed to strengthen the competitiveness and attractiveness of tourist destinations, and the sustainable tourism model in Zihuatanejo de Azueta, Guerrero, Mexico. To carry out this analysis, a questionnaire was designed, based on the dimensions of the beneficiary satisfaction theory. The methodology employed to achieve the research objective was PLS-SEM analysis, a technique that allows estimating models with latent variables and determining their interrelationship. The results indicate that the expectations, perceptions, technology transfer and responsiveness to program beneficiaries' complaints have a positive influence on their perception of the sustainable tourism model. Therefore, it is recommended to implement complementary actions to improve these variables, along with strategies that impact on the sustainable tourism policy in Zihuatanejo de Azueta. This analysis contributes to filling a gap in the understanding of the relationship between public policies and sustainable tourism in the region, highlighting the importance of considering the opinions and needs of beneficiaries for the success of sustainable tourism development programs.

1023

## The geography of the skills of the Creative Industries

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❖ [Terceira-G09-O3 Regional Competitiveness, Innovation and Productivity, S13, August 30, 2024, 11:00 AM - 1:00 PM](#)

The present study analyses how the agglomeration of creative industries (CIs) affects the economic complexity of regions. In the field of economic geography, the capacity of cities and regions to attract and retain talents and spread creativity has been considered one of the most determining variables in regional branching and urban competitiveness strategies. Recent studies highlight the strong interindustry linkages between creative and non-creative industries that enhance the positive effects of the former over the latter.

Despite this evidence, several authors agree that more efforts should be conducted to understand and identify the complexity and the cross-fertilisation of different creative jobs working in other industries than the CIs as they may stimulate the complexity of regions, ultimately enhancing regional development and sustainable growth.

Based on this motivation, if a region has a relatively higher share of creative industries in its industry space, then that region is likely to produce goods and services that require creative and sophisticated knowledge which are the crucial sources of regional comparative advantage. Given that two components of economic complexity are ubiquity and diversity of knowledge, there could be a close relationship between the existence of creative industries and economic complexity in a spatial context. Descriptive analyses explore the position of creative industries in the industry space by employing network tools. In addition, the regional clustering of creative industries with Revealed Comparative Advantage (RCAs) and their relation with regional economic complexity measures are analysed. We consider several economic complexity measures such as co-location-based economic complexity, skill complexity, and knowledge complexity based on patents.

Results in this paper provide a framework to better understand the actual role of creative industries favouring the complexity and, thus, the economic diversification and growth potential of regions.

## 1024

### Sustainable development in the Esil River basin in the context of water, food and energy security

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❖ Terceira-YSS3 Sustainable Development - EPAINOS, S01, August 29, 2024, 11:00 AM - 1:00 PM

The geographical basin of the Esil River is located in the northern and central parts of the Republic of Kazakhstan; administratively, it includes the Akmola and North Kazakhstan regions. The study area is considered one of the most important industrial and agricultural regions of the republic, where agriculture is the dominant branch of the economy. The water factor is important for sustainable agricultural production. Under natural conditions, the Esil River basin is characterized by high variability of annual runoff and extreme unevenness of its intra-annual distribution.

The development of economic sectors in this region is hampered by growing water scarcity, surface and groundwater pollution, excessive water losses in water management systems, aggravating problems of supplying the population with quality drinking water, problems of interstate water distribution.

The study will consider the method of territorial redistribution of river flow as one of the measures aimed at providing sufficient supply to water-scarce regions. The comprehensive nature of the study highlights the interrelationships and complementarities that exist between different aspects of sustainable development in the Esil River Basin.

Water scarcity affects food security. The studied area is considered one of the most important industrial and agricultural regions of the Republic, where agriculture has a significant impact on the overall socio-economic situation. Thus, the region specializes in grain production, and the development of animal husbandry has significant prospects, which requires additional volumes of water.

The sustainable development of the region requires an adequate energy supply. The studied area is energy deficient and imports electricity from other regions of the country. In order to ensure energy sustainability while taking into account the norms of the Paris Climate Agreement, it is crucial to develop alternative energy sources.

The main outcomes of the study will be following:

- 1) to substantiate the need for territorial redistribution of water resources, taking into account the norms of international law in the field of transboundary water use.
- 2) to develop a route for inter-basin transfer of part of the flow using GIS technologies.
- 3) to justify sanitary discharges in order to improve the ecological condition of the Esil River.
- 4) to develop recommendations for sustainable development of agricultural production and improvement of food security in the region.
- 5) to develop measures to improve the stability of the energy system of the region.

1026

## Exploring the interplay between forest conservation and sanitation costs in Brazil under the new regulatory framework

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❖ [Terceira-G06-O6 Regional and Urban Policy and Governance, S02, August 30, 2024, 2:30 PM - 4:15 PM](#)

Brazil has set ambitious goals since 2013 to provide sanitation services to the entire population by 2033; however, as of 2022, 16% of households lack piped water, and 45% lack adequate waste treatment. Concurrently, the country is committed to protecting terrestrial ecosystems. In 2020, the introduction of the New Regulatory Framework established an effective National Water Agency. The agency's responsibilities include regulating tariffs to promote the expansion of sanitation services and implementing sustainable forest management measures to safeguard water springs, rivers, and other hydrological resources. This study investigates the intersection of water quality, sanitation costs, and forest conservation. It employs a modern TFP decomposition for an economic performance assessment at the firm level, considering unobserved heterogeneity and technological variations among companies. The findings reveal a concerning trend in the sanitation sector, indicating a negative technical progress and TFP stagnation over the last 25 years. On the other hand, the sanitation sector demonstrates robust economies of scale and density, potentially driving TFP growth as the sanitation coverage expands. Results also capture the cost-reducing effects of environmental conservancy in water treatment, highlighting both high transient efficiency and low persistent efficiency, suggesting that sanitation companies may be employing, under the current institutional environment, inadequate technologies to address contemporary challenges.



1027

## The differentiated regional importance of family farming and its admittance to loans in Brazil during the 2000s and 2010s

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❖ [Terceira-G12-O2 Economic development in rural places, S12, August 28, 2024, 4:45 PM - 6:30 PM](#)

Brazil stands out as one of the leading agricultural producers. At least, since the 1990s, Brazilian farmers have been officially settled into two categories: family and non-family farmers. This distinction enables the Federal Government to implement differentiated policies through specific programs, including rural credit, minimum price, and agricultural insurance to afford differently each group of farmers. In particular, the National Program for Strengthening Family Agriculture (Pronaf) was established in 1996 to support family farmers. However, Pronaf has been subject to divergent evaluations. In one hand, some authors have highlighted its crucial importance for the modernization of family farming, but, at other hand, there are authors that point out the significant concentration of Pronaf's resources among a restricted group of beneficiaries.

Motivated by this divergent literature, this paper aims to analyze the trajectory of family farming in Brazil during the period from 2006 to 2017, which are the two most recent agricultural censuses available at the time of this study was finished. The analysis focuses on two main aspects: the importance of family farming into the Brazilian agricultural economy and its differentiated evolution among the Brazilian regions, as well as the use of credits provided by Pronaf.

This paper has an exploratory nature and it is based on an analysis of data from the last two Brazilian agricultural censuses (referring to the years 2006 and 2017). The dataset is organized in the form of tables or graphs in order to achieve the objectives established above. The last two Brazilian Agricultural Census allows us to set farmers into family and non-family ones and the last one (dated as 2017) also allows us to evaluate family farmers grouped into Pronaf-granted (called "pronafianos") and non Pronaf-granted farmers. Also, the 2017 Agricultural Census split the Pronaf-granted farmers into B and V categories.

In conclusion, it can be stated that family farming is not evenly distributed across the Brazilian territory. Furthermore, the paper points out that one of the main program supporting agriculture modernization, Pronaf, tends to benefit mainly family farmers located in more developed regions of the country, with emphasis on the South of Brazil. This contributes to perpetuating regional inequalities inside this category. The prominent role of credit cooperatives, especially in the Brazil's Southern Region, due to their historical European heritage, seems to exacerbate this disparity by channeling resources to already more developed areas, ultimately benefiting predominantly the considered more prosperous family farmers.

1028

## Fostering Sustainable Entrepreneurship: Integrating Environmental Considerations in Enterprise Policy

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❖ [Terceira-S40 Fostering Sustainable Regional Development: The Central Role of Entrepreneurship and Policy](#), S14, August 28, 2024, 2:30 PM - 4:15 PM

The broad concept of “enterprise policy” may be presented as a policy program combining entrepreneurship policy and SME policy. The former is designed to support entrepreneurship in the initial phases of the entrepreneurial process, including acting on the most upstream factors and contexts. The latter is concerned with the backing of the existing enterprise population. These policies aim to boost the rates of business creation and growth (Arshed et al., 2014).

While necessary to distinguish between the two, given that they both aim to influence reality, it is hard to separate them completely. This is also true for policies targeting large corporations, given the potential significant interactions. Nowadays, enterprise policy is also expected to contribute to sustainable economic development. Its primary targets would remain start-ups and SMEs, and contemporary enterprise policy would aim to enhance their role in development while promoting environmental sustainability.

The idea that different types of entrepreneurship coexist, among which a “right” type, is tied to the awareness that entrepreneurship is a varied concept (Gartner, 1985), and as such, there are many kinds of entrepreneurs (Wennekers and Van Stel, 2017). Baumol (1990) divides entrepreneurs into productive, unproductive, and destructive types. When considering the “right” type of entrepreneurship, it is evident that it should at least fall under productive entrepreneurship. Our communication focuses on an even more specific group of entrepreneurs – those who contribute significantly to macroeconomic performance. This includes innovators (Schumpeterian entrepreneurs), job creators, and strategic entrepreneurship (Estrin et al., 2022). These types are often referred to as “high-quality” entrepreneurs (Giotopoulos et al., 2017).

Hence the question then becomes if and how enterprise policy can contribute to increasing the number of innovating and job-creating entrepreneurs while ensuring greater environmental sustainability. In this communication, we briefly elaborate on the concepts of “enterprise policy” and the “right” type of entrepreneurship. We pay attention to the question if and how the “right” type of entrepreneurship can be identified, and we extend this debate to the regional and country-level context. If, for argument’s sake, we equate the “right” type with successful entrepreneurs (leaving aside what is “success” – Siepel and Dejardin, 2020), and we assume it is possible to identify successful entrepreneurs, another question is whether it is possible to identify successful entrepreneurs ex-ante, i.e. before the entrepreneurs involved start their business. Finally, we cautiously discuss what could be the outlines of a “contextualised and sustainable enterprise policy”.

1030

## Interest channel of monetary transmission to mortgage rates in Russian regions

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❖ [Terceira-G40 Spatial Issues of Monetary Policy, S18, August 28, 2024, 2:30 PM - 4:15 PM](#)

Monetary policy affects aggregate demand through transmission channels, the most important one is interest rate channel. The purpose of this research is to test the following hypotheses. Hypothesis 1. There is a long-term relationship between regional mortgage rates and the monetary policy rate. Hypothesis 2. The reaction of regional mortgage rates to changes in monetary policy rate significantly depends on the time interval under consideration. Hypothesis 3. These changes vary significantly across the Russian regions. To test these hypotheses, we used the Error correction model (ECM) with the dependent variables *iwt* (weighted average mortgage rate), *icomt* (mortgage rate without concessional loans) and *MIACR* (Moscow Interbank Actual Credit Rate) as independent variable. The time period was heterogeneous, it included both very low rates during the COVID-19 period and very high rates after the February 2022, so we estimated the models at three time periods: January 2016 – February 2020, January 2016 – February 2022, and at the entire time interval (January 2016 – August 2023). Let us briefly describe the results obtained. For the period from January 2016 to the beginning of the COVID-19 pandemic, a significant long-term relationship between commercial mortgage rate and *MIACR* was observed for 61 regions, and a relationship between weighted average mortgage rate and *MIACR* was observed for 76 regions. For the period from January 2016 to the February 2022 long-term relationship between commercial mortgage rate and *MIACR* was observed only for a few regions: for 14 regions in the case of commercial mortgage rates and for 4 regions in case of weighted average mortgage rates. Apparently, this is due to the fact that other factors, including non-market factors (government support for banks and the public), influenced household decisions regarding taking out loans. For the entire period from January 2016 to August 2023, a long-term relationship between commercial mortgage rate and *MIACR* was also observed for a small number of regions, for 30 regions in case of commercial mortgage rates and for 5 regions in case of weighted average mortgage rates. According to the results obtained, hypothesis 1 received partial empirical confirmation. For example, in the case of the period from January 2016 to August 2023 relationship between the change in mortgage rates and changes in *MIACR* was not identified for most of Russian regions. Hypotheses 2 and 3 were empirically confirmed.

## 1031

### Left Behind Areas: Past, Present and Future of the municipality of Avis (Alentejo – Portugal)

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❖ [Online-G47 The role of public policies in local development, August 26, 2024, 2:30 PM - 4:15 PM](#)

The issue of territorial asymmetries and cohesion has been the subject of multidisciplinary debate. In recent years, its inclusion in the public agenda has been reinforced, particularly with regard to the identification of factors that exclude territories from a perspective of valorisation and sustainable development of these territories. Thus, case studies assume particular relevance as presented here. The municipality of Avis is located in the interior of Portugal, 160 km from Lisbon (equivalent to 2 hours by road). Since 1960, the year in which it reached 8,977 inhabitants, it has been losing population, which dropped to 3,812 inhabitants in 2021, less than half the value of the 1960s. This is evidence that it is a municipality left behind.

Given these indicators that characterize the aforementioned municipality and those that are in similar conditions, this communication aims to: i) propose a definition of areas left behind, ii) explain where these areas are located in Portugal; iii) highlight the most significant data that make it possible to explain the current situation; iv) describe common characteristics that over several decades contribute to explaining the situation in which the aforementioned territories find themselves; v) mention strategies and measures implemented and those that must be reinforced in multilevel governance, to improve the unfavourable situation exposed; vi) present structuring initiatives, namely those based on the quintuple helix, implemented in the municipality to combat unfavourable consequences that affect the territory; vii) present and debate actions undertaken by citizens to fight for the development of their localities and), viii) outline medium-term perspectives for the municipality of Avis.

To achieve the objectives outlined, the following sequences were followed: i) collection and reading of available information (qualitative and quantitative) selected according to the dimensions of analysis, ii) use of descriptive statistics applied to quantitative information and, applied categorical content analysis qualitative information and, iii) discussion of the results obtained.

The expected results thus consist of: i) outlining a theoretical-conceptual framework that makes possible to understand empirical results regarding the municipality of Avis, in particular, and territories with a similar path and characteristics (as geographical areas left behind) and, ii) highlight that in this municipality there are desires and resources that made possible to promote initiatives with favourable effects in sectors fundamental to local sustainability, iii) present three possible perspectives for the municipality of Avis in the 2030 horizon, and iv) leave a critical assessment for reflection about the results achieved.

1033

## How resilient are European regional economies to economic, political and social shocks?

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❖ [Terceira-S21-S1 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S03, August 28, 2024, 11:00 AM - 1:00 PM](#)

Over the last two decades, Europe has experienced a series of economic, political and social challenges. Many activities have been taken to improve regional economic cohesion such as the enlargements of the European Union, the enlargements of the Eurozone, the creation of the Eurasian Economic Union, etc. But some other circumstances could disrupt the cohesion process, such as Brexit, the global financial and economic crisis, the wars in Ukraine, the migration crisis in Europe, the COVID-19 pandemics, etc. They all affect not only national but also regional economies. The aim of our paper is to find out how resilient European regional economies are to economic, political and social shocks, whether these shocks affect developing and well-developed regions in a similar way, and which of these shocks favour regional disparities or strengthen regional cohesion. We analyse the situation of almost 400 regions from more than 30 European countries (including Russia, Belarus, Ukraine, Turkey etc.) over the last two decades. We use regional GDP per capita as an indicator of economic activity. We use Eurostat, OECD and national statistics to create a panel dataset. We define a series of sub-periods to account for economic, political and social shocks. We start with a series of convergence models for each sub-period. We apply the long-t test with clustering and merging algorithms to identify the convergence clubs and their members.

1034

## Exploring the digital gap in tourism SMEs

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❖ [Terceira-G49 Entrepreneurship and Digitalization, S14, August 29, 2024, 9:00 AM - 10:30 AM](#)

In the current context of implementation of the European Agenda for Tourism 2030, the need to reinforce the itinerary for the double ecological and digital transition is established, in order to achieve a more sustainable, innovative and resilient tourism (European Commission, 2022). To this end, a set of twenty-seven actions integrated into five large areas of action (priority areas) are proposed, among which the one relating to the digital transition in tourism takes on special significance. Noteworthy is the measure relating to the “Digitalisation of tourism SMEs”, with the goal of achieving the effective use of digital tools by tourism SMEs and microenterprises by 2030.

In this context, a crucial question emerges, what is the exact situation of the digital transformation of the tourism sector? However, when looking for precise information in this regard, a significant lack of data is found in at least two directions. On the one hand, the structural problem existing in the statistical delimitation of the tourism sector in the national accounts systems, which requires adding data on the different tourist activities (accommodation, restaurants, intermediation, traveller transportation in its various modalities, etc.) , in order to know the situation of the sector as a whole. On the other hand, the insufficient statistical coverage of tourism SMEs that still persists, which causes the few existing official statistics on the digitalization of tourism SMEs to focus exclusively on companies with 10 or more workers, leaving microenterprises out of the study, which constitute a fundamental part of the tourism business ecosystem.

In the framework of the research project “Entrepreneurial factor, digital ecosystems and digitalization of SMEs” (PID2020-113384GB-I00), an exploratory study has been carried out on the digital transformation of tourism SMEs in Spain, particularly microenterprises. The main objective is to determine what phase of digital maturity they are currently in; along with the main barriers they must face to end the existing digital gap for smaller tourism companies.

1036

## Sustainability Insights on Twitter (X): the role of innovation and technology in shaping the future

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❖ [Online-G10 Trade and Global Value Chains, August 26, 2024, 11:00 AM - 1:00 PM](#)

The article investigates the representation of sustainability on social media, focusing on how discussions about the topic influence public opinion and business practices. The research conducts a case study on tweets from Twitter (X), utilizing methodologies to understand how sustainability is mentioned and which terms are associated with it. The empirical results reveal that discussions center around three main areas: future visions, which address emerging trends; environmental issues, emphasizing the impact of practices and technologies on the environment; and innovation, highlighting new approaches to tackle environmental challenges. The study justifies its relevance by the growing importance of sustainability in social, economic, and environmental spheres, as well as the role of social media in disseminating sustainable concepts. The results of the tweet analysis aim to provide insights into emerging trends and how these discussions can impact corporate strategies and policy formulation. From this perspective, concludes that social media serves as a strategic tool for organizations, enabling them to connect with the public and promote their sustainability initiatives while also helping to shape public perception of the topic.

1038

## Spatial and Temporal Assessment of Conflicts, Violence and Political Demonstrations: Case of Pakistan

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❖ [Terceira-S06-S1 RSPP Special Issue: A New Toolbox for Novel Research in Regional, Urban and Spatial Studies, S01, August 29, 2024, 2:30 PM - 4:15 PM](#)

This study examines the political violence at the regional level in Pakistan from the time period 2010-2023 using the big data on conflicts provided by Armed Conflict Location & Event Data Project (ACLED). In particular, we use data on four different types of violence, which are battles, riots, explosions and violence against civilians. Due to some incorrect measurements (in a fatalities data) and duplicates (caused by providing information about several conflict sides), our study pattern consists of around 35000 of observations (varying from 1500 to 4000 point locations dependently on a year). We apply point pattern analysis techniques, specifically, spatial distribution of political violence to examine and visualize the phenomenon of political violence across various regions, intensity analysis to assess the severity of political violence and cross-dependence to investigate spatial coexistence between points of different types (battles, riots, explosions and violence against civilians). Choice of analysis instruments was easy because of availability of conflicts' locations – we believe that results obtained with use of disaggregated data at the regional level will be more interesting and useful.



1039

## Challenges in assessing the environmental impact of inbound tourism-related transport in Italian destinations

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❖ [Terceira-G35-R Tourism and Overtourism Issues, S18, August 28, 2024, 4:45 PM - 6:30 PM](#)

This study offers an innovative contribution to the transport and tourism research, by proposing a new strategy for estimating the environmental impacts of tourism-related transport, skipping the difficulties caused by the unavailability of microdata relevant to accurately quantify emissions intensities. Instead of computing the quantity of emissions deriving from tourist mobility, we estimate the percentage change in overall emissions for a 1% increase in tourist transport-related variables. Since the presented strategy is data-driven, the need for assumptions and subjective decisions is minimized, ensuring a high degree of transparency. The assumptions required regard only the variables distribution, but they can be tested inferentially. Contrarily to extant methods, our strategy allows us to detect possible energy efficiency and emission efficiency gains (or losses) occurred over time.

While most extant literature has considered carbon emissions only, we analyze a multiplicity of environmental quality indicators and exploit the correlations among them in a two-fold imputation procedure based on Random Forest. This way, a balanced panel dataset can be obtained from official environmental data with many missing values. The proposed strategy permits analysts to also estimate mitigating effects hopefully introduced by innovative technology, sustainable behaviors or policy interventions. These are normally carried out at a sub-national level. Hence, when research is aimed at assessing mitigating effects, we include in our strategy small area estimation methods to increase estimates' accuracy and precision. In particular, we specify autoregressive normal-normal and beta-logistic hierarchical Bayesian area-level models. Compared to extant environmental impact assessments at the destination level, our method allows us to quantify the overall reliability of results, besides providing a more holistic representation of environmental impacts.

We illustrate the propounded strategy through an empirical application to Italian destinations. In Italy the data availability issue is very serious. Not even the destination of domestic tourists is disclosed. Environmental data, full of missing values, are published only for 25 provinces (NUTS3 level) out of 110. Consequently, the obtained results are completely unreliable, despite our analytical effort. This highlights that, even with a methodology that maximizes the exploitation of the available information, a definitely greater data availability is required for modelling a complex problem, such as the environmental impacts of tourism-related transport. Hence, our empirical application represents a call to Italian institutions to improve the collection and publication environmental data, by ensuring consistency over time in the definition of variables, territorial comprehensiveness and transparency.

1040

## An Analysis of the Relationship between Industrialization and Agricultural Development in Southeast Asian Countries

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❖ [Terceira-G12-O2 Economic development in rural places, S12, August 28, 2024, 4:45 PM - 6:30 PM](#)

While theories of regional economic development emphasize the interconnectedness of agricultural and industrial development, many developing countries prioritize industrialization and foreign direct investment (FDI) despite agriculture's significant role in their economies. Southeast Asia's strategic location, coupled with its relatively low wages, has rendered the region increasingly attractive for international investment. Over the past few decades, the region has witnessed significant structural transformations. Concurrently, Southeast Asian governments have implemented diverse strategies to promote industrialization and attract foreign direct investment, resulting in impressive GDP growth rates. Despite undergoing significant structural transformations and economic diversification, Southeast Asia's agricultural sector retains substantial social and economic importance for achieving Sustainable Development Goals (SDGs). Therefore, carefully balancing agricultural development with the promotion of industrialization is crucial for the region's sustainable growth.

This study examines the long-term relationship between agriculture and industrialization, and the role of agriculture in economic growth, across six Southeast Asian countries (Brunei Darussalam, Indonesia, Malaysia, the Philippines, Thailand, Viet Nam). This study employed an ARDL (Auto Regressive Distributed Lag) model by using the sectoral value-added data from the World Bank's World Development Indicator (WDI). The variables for this analysis encompass agriculture, forestry, and fishing value added, as well as industry value added. Additionally, trade value added, and foreign direct investment were included as control variables.

Our findings confirm cointegration among all four variables (agriculture, industry, trade openness, FDI) and a long-run tendency for them to move together. The confirmation of the growth complementarity hypothesis across all six countries under review. The results shows that, a 1% increase in the industrial sector leads to a 0.28% increase in agricultural development, and a 1% increase in trade openness leads to a 0.69% increase in agriculture, both statistically significant at the 1% level. This highlights the importance of integrating agriculture into intersectoral growth analysis. This inclusion is essential because every macroeconomic policy scenario should consider the long-term interdependencies and linkages between agriculture and industrialization for a comprehensive approach to development.

1041

## Economic impact analysis of NYC Financial District (FiDi) Plan Implementation in Lower Manhattan: An Input-Output Approach

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❖ [Online-G18-O2 Climate Adaptive and Resilient Regions and Cities, August 27, 2024, 2:30 PM - 4:15 PM](#)

New York City intends to implement its FiDi Seaport Climate Change master plan for building infrastructure that can address or mitigate climate change effects on Lower Manhattan, which has high risks of daily tidal flooding, rainfall, coastal storms, hurricane effects, and temperature rise. Given that the plan is entering its implementation phase, which requires an investment of an estimated \$30 million to be spent over 15 years, our interest lies in estimating its economic impacts in Lower Manhattan, across the other boroughs of New York City, and across the entire state. Likewise, from a different perspective, what would be the anticipated regional economic effects due to inevitable disaster damage if the master plan were not implemented? To address these questions, we use a multiregional input-output (MRIO) modeling approach. The MRIO was constructed for regions defined by the counties of Richmond, New York, Kings, Queens, Bronx, and the rest of the state. We also separate Lower Manhattan from the rest of New York County. We first use the total estimated investment necessary to implement the plan as a direct investment final demand shock, which allows us to compute intra and interregional effects. We also compute the usual multipliers, such as the direct, indirect, and induced impacts on the industry's interactions and the income multipliers. Second, we assess the potential impacts of a flooding situation in Lower Manhattan to identify its economic effects on the other boroughs of New York City. Coastal hazard events were considered as a shock in the multiregional economic structure to support a preliminary analysis of economic losses and/or recovery from an environmental disaster.

1042

## Transformative Cultural Tourism in Heritage-Led Regions – A Performance Assessment of Cultural-Ecological Complexes By Means Of CASCADIC Data Envelopment Analysis

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❖ [Terceira-S85 Sustainable Cultural Tourism in Urban and Rural Areas, S12, August 30, 2024, 2:30 PM - 4:15 PM](#)

Cultural and ecological heritage are critical factors for urban and regional regeneration, but need also to be re-positioned in the context of environment-benign development that is ideally characterized by a circular economy, zero ecological footprints and climate-neutral outcomes. Several heritage-led regions in Europe - often in rural areas – qualify for a new regenerative and actionable strategy in order to comply with the above-mentioned objectives. These regions are termed ‘cultural-ecological complexes’ (CECs). They were selected for a further pilot study of their transformative cultural tourism profile and potential, so as to lay the foundation for a balanced sustainable development and positive regenerative or circular transition of heritage-led regions. These seven pilot regions may be conceived of as decision-making units (DMUs) which share their actual experiences on cultural-ecological performance policy, in order to enhance their achievements at the interface of heritage-led and SDG-oriented development of the tourist sector. Each region comprises a set of ‘information agents’ in the form of visitors, residents, stakeholders, NGOs etc., who may be regarded as intra-regional ‘shadow-DMUs’ who provide crucial and sometimes decisive information and guidelines on the actual situation and on ways to proceed to transformative cultural tourism. This is a form of citizen-based co-creation. Information on the perceptions, preferences and involvement of information agents is collected through a systematically structured and consistently administered survey among hundreds of actors (visitors, residents, etc.) in all pilot regions. Our assessment analysis is based on a double-layer structure organized in a cascadic and interactive form with two layers: regions and information agents. The latter category can be systematically clustered in homogeneous groups characterized by their degree of involvement or interest in each of these cultural heritage regions (CECs). The statistical and quantitative tools employed in this study are multi-layer multivariate analysis and cascadic Data Envelopment Analysis. The findings show anchor points for an enhancement of the cultural-ecological performance for each of these CECs.

1044

## Job displacement and local employment density

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- ❖ [Terceira-S33 Drivers and Impacts of Migration: New Insights on the Role of Labour Markets, Demographic Change, Human Capital, and Networks, S02, August 30, 2024, 11:00 AM - 1:00 PM](#)

Past research finds evidence that workers' labour market outcomes are enhanced if they live in areas with greater job opportunities and employment density. Using two alternative measures of the employment density and job opportunities faced by workers in the local labour market in which they were displaced, this paper analyses their effects on the subsequent migration decisions and labour market outcomes of workers who involuntarily lose their jobs as part of a firm closure or mass layoff event. Our analysis finds only limited support for the spatial mismatch hypothesis. The results imply that workers displaced from jobs in areas with greater employment density or job opportunities are more likely to emigrate, are less likely to be reemployed following layoff and have lower subsequent earnings, although earnings are higher conditional on being employed. However, if employed, workers displaced in areas with more opportunities are less likely to have moved area, but more likely to have changed industry, and have a more similar job to that from which they were displaced.

1045

## Sustainable Development of Cultural Tourism Towns in China

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❖ [Online-G35-O1 Tourism and Overtourism Issues, August 26, 2024, 11:00 AM - 1:00 PM](#)

In the context of the development of rural revitalisation as well as urban-rural integration, China attaches great importance to cultural tourism in rural areas, as it is a crucial tool to improve the condition of life of local communities, facilitate economic innovation, and promote rural revitalisation. To be more specific, the construction of cultural tourism towns is regarded as an imperative initiative to resolve urban-rural imbalance and promote inclusive and sustainable economic growth, providing an effective path for rural areas to achieve sustainable development goals and new strategies for social governance. The relevant policies are also consistent with the UN 2030 Agenda for Sustainable Development, as the sustainable development goal 8.9 denotes: “By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products”.

Consequently, the Chinese government launched China’s 13th Five-Year Plan and Implementation of Rural Revitalization Strategy to develop cultural tourism towns with their unique cultural resources and tourism industry. In 2016, the Ministry of Housing and Urban-Rural Development announced the first batch of 127 cultural tourism towns. The second batch of 276 towns was announced in the subsequent year. These policies accelerate the integration of tourism with cultural resources, which expands domestic demand and drives economic growth. Also, they improve the livelihoods of residents, attracting more industries, population, technologies, and capital flow into small towns, thus gradually forming a sustainable development pattern. However, cultural tourism towns are prone to challenges that have adverse impacts on their sustainability such as real-estatisation and environmental degradation, since it is a long-term project involving large investments. In this regard, this research aims to examine the sustainable level of cultural tourism towns as well as the policy efficiency by applying the mixed method. Thence, comprehensive solutions to the sustainable development of cultural tourism towns in China could be put forward.

1046

## Okun's law in the European regions: when to expect it and with what strength?

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❖ [Terceira-G31-O1 Methods in Regional Science or Urban Analysis, S17, August 28, 2024, 2:30 PM - 4:15 PM](#)

Empirical evidence on the Okun's law between unemployment and economic output is still open issue. As recently surveyed by Ball et al (2017) and Porras-Arena and Martín-Román (2023), there is strong heterogeneity in the estimated Okun's slope coefficient not only across studies, but also between countries and within their regions. Unemployment reduction from a surge in output tend to vary through time, leading to noticeable asymmetry of its strength over the business cycle.

To this regard, the aim of our empirical analysis is to go one step more in the understanding of what may explain heterogeneity in the estimated elasticities of unemployment to economic activity. We tackle this issue by having a new look at a large set of European NUTS2 regions' record. We discuss empirical evidence from an annual panel data set of 246 regions from 2000 to 2020. Firstly, we estimate Okun's slope coefficients by considering a new way of accounting for the "clockwise movements" in countries' gross domestic product statistics over the business cycle from Eurostat statistics. Another original feature of our econometric approach is to find not only factors that may explain discrepancies of in unemployment gains from rising output, but also what may explain why some negative output-unemployment relationship could be at play in some instances while it might be not in others. To our knowledge, the two-step approach that we develop here is completely new in that field of research. Besides the influence of usual labor market features that were considered in previous studies at the national or regional levels (Buenda Azorin and del Mar Sanchez de la Vega, 2017, Lim et al, 2021, Mazza 2022, among others), we also consider other sources of influence that are often disregarded.

Given our preliminary results, there is supportive evidence of an asymmetric size of the effect of GDP growth acceleration on domestic unemployment: it is nearly twice stronger when economic activity slows down than when it does not. But, as it has been already questioned in the literature, the Okun's law does not prevail everywhere at any time, it was not found statistically significant in roughly 1 in 4 cases. People's level of education has an influence on both the existence and the strength of the Okun's coefficient. Further work is however needed to assess the robustness of our first empirical findings.

1047

## Brand Communication of the Beijing Palace Museum Wenchuang

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❖ [Online-G39 Intangible assests and regional development, August 26, 2024, 4:45 PM - 6:30 PM](#)

With the advent of the cultural industry era and development of cultural and creative industry in China, a number of museum cultural and creative brands rise rapidly in recent years. The Beijing Palace Museum's cultural and creative products (Wenchuang, 文创) is the most representative example of cultural and creative practice in China's museum industry. It is also a pioneering attempt to seek a dynamic balance between culture, economy, and society. In this regard, studying its brand communication effectiveness holds both practical and theoretical significance.

This study, through a review of the literature, categorizes brand communication media of the Palace Museum Wenchuang into traditional mass media, Internet media, and point-of-sale media, and quantifies the audience's brand perception of these media. Furthermore, this study treats the brand communication cognitive effects of the Palace Museum Wenchuang as a mediating variable between the audience's brand perception and the brand communication behavioral effects, to delve into the mechanism of action between these variables. A questionnaire method was employed for quantitative research. Drawing upon established scales and combining them with the actual situation of this Wenchuang brand, a new scale was developed and subjected to reliability and validity tests. Based on the collected data, the study conducts detailed descriptive statistical analysis, reliability and validity analysis, factor analysis, regression analysis, and structural equation modelling. Finally, the study provides suggestions for the managers of the cultural and creative brand endeavors and discusses the limitations of the study.



1048

## Towards a Sustainable Future: Embracing Just Transition in EU Agriculture through Modern Management and Policy Innovation

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❖ [Terceira-G12-O3 Economic development in rural places, SF2, August 29, 2024, 2:30 PM - 4:15 PM](#)

The European Union's agriculture sector stands at a crossroads, facing the dual challenge of ensuring economic stability for its farmers and adapting to modern sustainable practices. This paper examines the pathways towards a just transition in the EU's agriculture sector, underpinned by the need to balance income guarantees for farmers with the imperative of modernizing farm management to meet contemporary challenges. It explores the role of EU policies in facilitating this transition, drawing on examples of policy frameworks and initiatives that support both the economic and environmental sustainability of farming practices.

The analysis begins by assessing the current landscape of agricultural practices within the EU, highlighting the economic pressures faced by farmers and the environmental impacts of traditional farming methods. It then delves into the concept of a just transition, emphasizing the importance of equitable policies that do not leave farmers behind in the shift towards sustainable agriculture. The paper reviews various EU policies and programmes designed to support farmers through this transition, including financial incentives, educational programs, and technological innovations aimed at improving farm management and productivity.

Further, it discusses the challenges and opportunities associated with implementing these policies at both the EU and member state levels, including the need for coordination among various stakeholders, the role of innovation in sustainable farming, and the potential for new market opportunities that align with green practices.

Finally, the paper argues that a just transition in agriculture is not only necessary for the environmental sustainability of the sector but also crucial for the economic resilience of the EU's rural communities. It calls for continued commitment from EU policymakers, farmers, and other stakeholders to collaboratively develop and implement strategies that ensure a sustainable and prosperous future for European agriculture.

1049

## A multilevel analysis of sentiment scores and hotel prices during the 2024 Olympic Games in Paris

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❖ [Online-G35-O1 Tourism and Overtourism Issues, August 26, 2024, 11:00 AM - 1:00 PM](#)

Reputation is one of the most crucial aspects for any business today, and consumers increasingly feel involved in its creation and evolution. The analysis of digital platforms that host opinions on products and services has become fundamental both for economic operators and users. Particularly in the tourism sector, the favourable opinion of those with a travel experience can affect the price level at which services (e.g., accommodations or attraction tickets) are sold. In this work, we propose to analyse the hotel offering in Paris during the 2024 Olympic Games. Starting from a set of TripAdvisor reviews, the polarity scores of each hotel are calculated using a linguistic model called FlauBERT, pre-trained on a huge and heterogeneous French textual body. Language models have become essential for achieving cutting-edge results in many natural language processing tasks. Subsequently, the results are represented on “thermal” geographic maps considering both spatial and semantic dimensions. Attention is paid to the variation of prices before, during and after the Olympic event, jointly considering the evolution of the sentiment extrapolated for each accommodation and other key characteristics, such as the hotel rating, the hotel typology, the number of rooms, the number of reviews, the cleanliness, service, and environment ratings. The strategy proposed here constitutes a valuable tool for the organisation and the management of big events that can have a tourist interest. The approach is developed within a geographic information framework that uses social media to understand human narrative experiences and their evolution over time, and it can be usefully applied in an economic context under cost-benefit analyses and in business models to study specific areas of interest and plan possible intervention strategies.

1050

## Spatio-temporal analysis of land use categories using INLA methodology: Insights for the LAMASUS project

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❖ Terceira-S64 The Role of EU- and Regional-Policy in Sustainable Land Use Management, S05, August 28, 2024, 2:30 PM - 4:15 PM

Compositional Data Analysis (CoDa) has gained significant traction across various disciplines owing to its relevance in handling data consisting of proportions or percentages distributed among distinct categories. Key methodologies in CoDa include Dirichlet regression and logistic-normal regression.

The essence of CoDa lies in its ability to elucidate processes characterized by values distributed among disjoint categories, common in fields where proportions play a pivotal role. Two primary approximations facilitate CoDa analysis: converting Dirichlet observations into Gaussian pseudo-observations which enables the use of the INLA methodology, and transforming data into simplex coordinates using additive log-ratio transformation. These methodologies offer diverse viewpoints for revealing latent patterns within Compositional Data.

The present work delves into these specific methodologies for CoDa analysis: Dirichlet distribution approach and additive log-ratios. The former involves linking Dirichlet-distributed variables to a linear predictor, enabling complex model fitting within the Integrated Nested Laplace Approximation (INLA) framework. The latter employs additive log-ratio transformation, mapping simplex space to a lower-dimensional real space, facilitating Gaussian modeling with Dirichlet covariance.

The study focuses on analyzing land use proportions in Europe at the NUTS 3 level, introducing innovations to refine spatial and spatio-temporal modeling. It involves examining ten years of land use data categorized into five types, employing various environmental and socio-economic variables.

The analysis incorporates three basic models: one without random effects, another with spatial effects, and a third with both spatial and temporal effects. Step-wise regression, aided by the Widely Applicable Information Criterion (WAIC), helps select the most relevant explanatory variables at each step. Additionally, more complex spatiotemporal models, including interaction and downscaling models using the Stochastic Partial Differential Equations (SPDE) approach, are constructed and compared.

The conclusions highlight the versatility of CoDa analysis through Dirichlet regression and additive log-ratios, facilitated by the R-INLA and `dirinla` package. These methods enable the construction of highly adaptable models for analyzing spatial and spatiotemporal structures, with low computational costs. The incorporation of downscaling models further enhances model accuracy, especially in areas with irregular structures.

1051

## Enhancing European Land Use and Land Change Models with Spatial Machine Learning

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❖ [Terceira-S05-S1 Machine Learning in Regional Science: Perspectives, Methods, and Applications, S02, August 28, 2024, 4:45 PM - 6:30 PM](#)

In the rapidly evolving domain of Land Use and Land Change (LULC) studies, adopting advanced predictive tools like Machine Learning (ML) might become increasingly significant. This paper explores the role of Random Forest (RF), in refining the calibration of LULC models by providing additional suitability factors and compares it to Linear Regression (LR) without these RF factors, a commonly used model in this field. Employing a comprehensive, large-scale study across Europe, we leverage RF to calibrate a land-use model incorporating both biophysical variables and socio-economic variables. The results aim to illuminate the benefits and limitations of these two techniques in LULC modeling.

Our research underscores the robust capacity of RF to handle overfitting, manage high-dimensional spaces, and maintain model accuracy whilst providing necessary transparency through stage 1 and stage 2 validation procedures – vital elements in the intricate field of LULC models. The comparison with LR reveals RF's distinct superiority in ranking the importance of identifying the key biophysical and socio-economic factors that affect land use change. Furthermore, RF shows superior performance for non-linear relationships and interaction effects often prevalent in LULC models.

This comparative study intends to bridge the knowledge gap between spatial ML and LULC analysis, inspiring inter-disciplinary dialogues and equipping researchers with precise, efficient tools to evaluate the performance of models with higher complexity. By showcasing RF's superiority as an additional tool to traditionally used LR in LULC modeling, while providing an in-depth understanding of model performance, we highlight the potential of adopting sophisticated ML tools for more accurate prediction without sacrificing transparency.

Discover how integrating advanced ML tools with LULC research can foster more sustainable land-use policies on a global scale.

1052

## A Study on the Factors Influencing the Satisfaction of Young People in Local Universities And Their Impact on Local Settlement

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❖ [Online-G01-O1 Peace, Regional and Urban Sustainable Development, August 26, 2024, 9:00 AM - 10:30 AM](#)

The concentration of young populations from small and medium-sized cities to nearby major cities or the capital region is a global phenomenon, not just limited to South Korea. Since 2017, the population distribution in the capital region, centered around Seoul, has accounted for more than half of South Korea's total population, and this trend continues. This study aims to investigate the impact of local satisfaction on local settlement among young people living in the Gwangju area. Specifically, it analyzes whether young people's local experiences have a moderating effect on this relationship. Based on a survey of young people in Gwangju, the study employs Baron & Kenny's three-step multiple regression analysis to verify the moderating effects. The results indicate that economic satisfaction and socio-cultural satisfaction, along with local experiences, positively influence young people's local settlement. It was found that experiences during primary and secondary school did not have any moderating effect on the relationship between local satisfaction and settlement. However, local and work experiences showed a reinforcing moderating effect when economic and satisfaction with education and medical services positively influenced local settlement. Conversely, local and work experiences did not show any moderating effects regarding satisfaction with interpersonal relationships, familiarity, and likability. Contrary to general expectations, the lack of a moderating effect of school experiences on the relationship between local satisfaction and settlement among young people is noteworthy. Therefore, the policy implications of these findings suggest that local experiences during young adulthood are crucial for local settlement. It is essential to accumulate sufficient local experiences through Community-Based Learning. Additionally, primary and secondary schools should provide ample out-of-school programs in collaboration with the local community to give adolescents opportunities to experience the local society.

1053

## Enhancing tourism sustainability: A data-driven approach to carrying capacity analysis and soft policy implementation

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❖ [Online-S34 Opportunities, Risks and Challenges of the Digital Transformation in Tourism, August 26, 2024, 11:00 AM - 1:00 PM](#)

The research on tourism carrying capacity seeks to comprehend the adverse effects exerted by overwhelming tourist pressure on a destination's resources. The primary goal is to foster the development of effective response strategies to support more sustainable tourism. However, the implementation of these strategies often faces challenges, leading to the frequent imposition of difficult-to-enforce limits on tourist flows. This necessitates the exploration of alternative and more adaptable approaches. This study aims to underscore the significance of a data-driven approach in identifying crucial pressure points. These points, referred to as bottlenecks, are systematically evaluated through the segmentation of the tourism subsystem and the analysis of various visitor types. This method provides a more precise and detailed understanding of tourist flows, guiding the formulation of intervention strategies that prioritize adaptability and optimization of tourist resources over rigid flow limitations. Three case studies are examined within their systemic context, utilizing a carrying capacity scenario simulator and a predefined set of indicators. The results highlight the effectiveness of adopting soft policies to address excessive tourism pressure, without the need for stringent measures and significant infrastructure investments.

1055

## Sustainable Development and Transition in Business Support: A Case Study of the UK Catapult Network

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❖ [Terceira-G03-O6 Innovation and Regional Development, S10, August 30, 2024, 11:00 AM - 1:00 PM](#)

The objective of this study is to look at sustainable development within business support and how the transition to a low-carbon future is directly and indirectly addressed in incubation, acceleration and financial start-up provisions. The research questions are:

- How are sustainable development and transition embedded in business support interventions (both methodically and unintentionally)?
- How can this be further enhanced?
- How many of these are sector-specific?
- How can it be applied to other sectors?

These questions are addressed in a case study of the UK Catapult Network, a network of publicly funded technology and innovation centres aiming at strengthening the UK's capability for innovation in various sectors. Data consists of policy and strategy documents review, interviews with stakeholders within individual Catapults and businesses supported.

Initial findings suggest that business support interventions in the Catapults are expectedly 'traditional' aiming at helping new ventures to start up, scale up and succeed in acquiring funding. In addition, some observable practices can be classified as innovations in support of Net Zero transition. From spill-over effects associated with mutual interest and knowledge sharing of founders and owners interested in sustainable products or services to sharing good practices in acquisition and supply chain management. Whereas some of these are sector-specific, for example, wind turbine elements manufacturing or the maintenance of energy networks. However, some could be easily transferred to other sectors or catapults and would greatly benefit from further knowledge sharing within the whole Catapult Network.

1057

## With a Little Help from an MNE Friend: Do Multinationals Breed Good Start-ups?

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❖ [Terceira-G13-O1 Entrepreneurship and Regional Development, S13, August 28, 2024, 4:45 PM - 6:30 PM](#)

The role of incumbent firms as ‘parents’ of employee spinoffs is established, but less is known about the characteristics of incumbent firms that provide employees with better opportunities to acquire and develop knowledge, skills, and experiences of relevance for founding new successful business ventures. Building on a conceptual framework that links work-experience to initial startup quality and post-entry performance through a selection and treatment effect, we posit that having individuals with work-experience in Multinational Enterprises (MNEs) as a part of the initial startup team, either as founders and/or early joiners, is a specific asset that has positive influence on the quality and post-entry performance of new firms. We use detailed Swedish data on over 13,000 new firms over the period 2000-2014, and show that the presence of individuals with MNE work-experience in the initial startup team has a positive effect on start-up size, as well as employment growth in the short (3 years subsequent entry), medium (5 years) and long run (10 years). The effect of MNE experience on post-entry growth yet depends on the position they had in the MNE. It is primarily experiences from having a high-level position in the MNE that matters for the post-entry employment growth, particularly a position as manager. Our results highlight that MNEs are a specific type of firm that serve as breeding grounds and play a role as local ‘anchor’ firms that can support the development of start-ups by indirectly ‘feeding’ the local economy with relevant experiences and skills.



1058

## The Reach and Roots of Regional Trust in Europe

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❖ [Terceira-G25 Spatial Econometrics, S10, August 30, 2024, 9:00 AM - 10:30 AM](#)

Social trust is increasingly seen as an important determinant of economic growth and social prosperity in regions and nations. Even in a comparatively homogeneous area such as Europe, there are stark sub-national differences in levels of generalized trust. It is thus of crucial importance to identify the driving forces of regional trust and analyze the dynamics of its formation. The present paper considers these issues based on four waves of the European Values Study collected in an almost 30 years timeframe from 1990 until 2017. Evidence is provided to demonstrate that values of regional trust remain substantially stable over the entire period and are modified only through spatially correlated random noise processes. This finding is consistent with additional analyses based on spatial regression models identifying slow-moving factors responsible for the geographic distribution of trust scores and buried deep in the cultural background of a society. Whereas the low values in post-communist countries are exhaustively explained based on their institutional and cultural setup, the high Nordic scores remain significant even after inclusion of control variables. The dominant driving force of regional trust is represented by an open society with emphasis on free expression rather than survival values rooted in a focus on economic physical security. Whereas both institutional and educational frameworks are only of minor importance, a high degree of social heterogeneity is clearly detrimental for trust after controlling for GDP per capita. Hence, in spite of its economic significance, social trust does not appear to be amenable to political intervention in the short to medium term but neither should it be responsive to sudden crisis effects.

1060

## Building Inclusive Urban Spaces: A Case Study of Eco-social Grassroots Innovation in Nitra, Slovakia

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❖ [Terceira-S26-S1 Social Innovation for Sustainable and Inclusive Regions, Communities and Neighborhoods, S04, August 28, 2024, 11:00 AM - 1:00 PM](#)

The paper delves into the essence of community-driven eco-social innovation (ESI) through the lens of Hidepark in Nitra, Slovakia. As an emergent grassroots initiative, Hidepark has transcended its beginnings as a former illegal landfill to become the largest open-air community and cultural centre in the city, encapsulating the ethos of co-creation and co-management. This study aims to trace Hidepark's evolution and gauge its multifaceted impact on local development. Drawing on data from the IN-HABIT (H2020) project, the research employs a mix of in-depth interviews, online surveys, and social network analysis to map the innovation pathways and collaborations underpinning Hidepark's success. The findings reflect Hidepark's transformation from an informal gathering space to a robust institution, catalysing a variety of social and eco-social innovations. The visitor survey highlights Hidepark's appeal across diverse demographics. The centre's programme spans cultural activities, community events, and environmental engagements, drawing visitors not only from Nitra but also from other Slovak regions and abroad. Such diversity underscores Hidepark's role as an inclusive space, accessible to locals and non-locals alike. Significantly, about half of the survey respondents reported visiting Hidepark at least monthly, with cultural offerings being the primary attraction. Although a smaller number of visitors engage in more active participation, such as renting community garden plots or volunteering, their contributions are vital to the centre's growth and co-management of the social and eco-social innovations incrementally expanding the offer at the location. Interestingly, while Hidepark's positive impact is widely acknowledged, a subset of respondents reported no, neutral, or negative experiences, often correlating with their visitor status (non-visitors). Yet, those who engage with Hidepark paint a picture of a dynamic hub that not only enhances personal well-being but also fosters professional growth, with some individuals crediting it as a pivotal influence in their career paths. In conclusion, Hidepark exemplifies the transformative potential of grassroots initiatives in fostering sustainable local development, enhancing cultural vitality, and nurturing eco-social innovation within the community.

1062

## ESG rating as determinant factor of trade credit financing in the European region

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❖ [Terceira-G01-O1 Peace, Regional and Urban Sustainable Development, S09, August 28, 2024, 11:00 AM - 1:00 PM](#)

Corporate ESG (environmental, social, and governance) performance is not only related to the sustainable development of firms and therefore their investments, but also to firm financing, including suppliers. The possibility that better ESG performance can lead companies to increase the trust of their suppliers, and thus achieve better access to trade credit, is an emerging and relatively unexplored topic. In this article, we examine the influence of ESG rating on the use of trade credit in the European region. For the empirical analysis, we use a sample of European companies listed on the STOXX 600 Index over the period 2015 to 2022. Our results show that ESG performance, measured by the holistic view of ESG criteria, is positively related with the obtention of trade credit. The main implication of this study is to show that companies' commitment to sustainability favours their access to financing by trade credit.

1063

## Does the mobility increase the performance of young researchers? Evidence from Italian universities

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❖ [Terceira-S08-S1 University Impacts on the Local and Regional Economy, S02, August 28, 2024, 11:00 AM - 1:00 PM](#)

This paper provides novel empirical evidence on the effectiveness of policy measures aimed at supporting higher education institutions and early career performance of academic researchers. It investigates a program implemented in Italy which put out a call for financial resources intended for research plans developed by universities, based in Italian regions that are lagging behind in development or in transition. These research plans had to provide for the contractualization (for 36 months) of fixed-term researchers. The action included two lines of intervention: (i) Line 1 (mobility of researchers) supported the contractualization of researchers who had held the PhD title for no more than four years and provided that the new researcher had the obligation to carry out a compulsory period of work from 6 to 15 months at one or more foreign universities/research institutions, participating in technical-scientific research projects/programs; (ii) Line 2 (attraction of researchers) supported the contractualization of researchers who have held the title of research doctor for no more than eight years, active at universities, research institutions or companies operating outside the Italian regions that are lagging behind in development or in transition. Using a counterfactual approach, the empirical analysis shows whether the performance in terms of scientific productivity and career development of the beneficiaries of the policy is better than that of fixed-term researchers recruited through other channels.

1064

## Legal Regulation of Personal Information Data Transmission Risk Assessment: A Case Study of the EU's DPIA

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❖ [Online-G39 Intangible assests and regional development, August 26, 2024, 4:45 PM - 6:30 PM](#)

In the midst of global digital revolution, the flow of data poses security threats that call China's existing legislative framework for protecting personal information into question. As a preliminary procedure for risk analysis and prevention, the risk assessment of personal data transmission lacks detailed guidelines for support. Existing provisions reveal unclear responsibilities for network operators and weakened rights for data subjects. Furthermore, the regulatory system's weak operability and a lack of industry self-regulation heighten data transmission hazards. This paper aims to compare the regulatory pathways for data information transmission risks between China and Europe from a legal framework and content perspective. It draws on the “Data Protection Impact Assessment Guidelines” to empower multiple stakeholders, including data processors, controllers, and subjects, while also defining obligations. In conclusion, this paper intends to solve China's digital security shortcomings by developing a more mature regulatory framework and industry self-regulation mechanisms, resulting in a win-win situation for personal data protection and the development of the digital economy.

1065

## Human capital and the labour market in Romania: trends and forecasts

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❖ [Terceira-G02-O2 Demographic change, Population and Migration, S10, August 28, 2024, 2:30 PM - 4:15 PM](#)

In the increasingly globalized world, the importance of human capital seems to be more strategic also in the perspectives of demographic inequalities (as a key prerequisite in the accumulation and formation of human capital), wages and standard of living. Human capital represents both a resource and a determinant of economic and social development, strongly influencing the competitiveness and sustainability of the labour market and the economy overall. The population's education level, professional training and individual skills are becoming not just primordial resources, but also catalysts for innovation and adaptability to changing labour market dynamics.

The aim of this study is to conduct an in-depth analysis of the relationship/connection between human capital and the labour market in Romania in the post-communist period, given that the trends have been quite transformative, ranging from demographics (changing the natalist behaviors) to a labour market that is relying more and more on foreign labour force.

Further, the study seeks to conduct some forecasts, both for a set of demographic structures closely related to the labour market and for the labour market and human capital indicators per se, with the intention of raising the concern of public authorities. A detailed analysis of developments and trends can provide valuable guidance for public policy design, since strategic documents to improve these problems facing Romania are still lacking.

1067

## How neighborhood context determines inequality later in life: Quasi-experimental evidence for the children of Iranian refugees

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❖ [Terceira-G04-O2 Segregation, Social and Spatial Inequalities, S11, August 29, 2024, 2:30 PM - 4:15 PM](#)

More than 2.5 million refugees have settled in Europe over the last ten years and their long-run adaptation is a fundamental societal challenge. A key indicator of adaptation is whether immigrants' children experience inequalities or social disadvantage. Yet much less is known about refugees' children as compared with children of other immigrants. We respond to this gap with a case study of Swedish-born children of Iranians, whose parents arrived as refugees to Sweden from 1987-1993. We use whole-population data and a quasi-experimental research design—based on the "Sweden-wide" refugee dispersal policy—to examine socioeconomic inequality in adulthood and how this is impacted by childhood neighborhood context. We show that co-ethnic networks only have a significant impact on socio-economic outcomes—education, unemployment and income—for female children of Iranian refugees living in Sweden, indicating a different socialization processes for male and female children of refugees.

1068

## From Local Culture to Global Visibility: The Impact of the Istanbul Film Festival on City Branding

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❖ [Online-G39 Intangible assests and regional development, August 26, 2024, 4:45 PM - 6:30 PM](#)

The Istanbul Film Festival has become a significant cultural event in Istanbul. This article examines the impact of the Festival on the city's branding, using social media data analysis as a methodology. It explores the Festival's role in promoting Istanbul as a global cultural destination. The findings reveal that the Festival generates significant social media attention, attracting local and international audiences. By investigating the nature of the connections between users and festival-related content on social media, the article provides insights into how the Festival's brand message is communicated and amplified through social media. The author argues that the Festival is vital in enhancing Istanbul's global visibility as a cultural destination, attracting international attention, and recognizing the city's cultural assets. The Festival also helps create a distinctive image of Istanbul as a modern and cosmopolitan city, highlighting its rich cultural heritage. The article concludes by discussing the implications of these findings for urban policy and planning, suggesting that cultural events such as the Istanbul Film Festival can be a powerful tool for promoting cities as global cultural destinations and enhancing their competitive advantage in the global economy. Overall, the study contributes to our understanding of the impact of cultural events on city branding and provides valuable insights for cultural organizations and policymakers.



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## Do we understand the concept of usual environment in nautical tourism?

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❖ [Terceira-S41-S2 Assessing the economic impacts of tourism, S07, August 29, 2024, 2:30 PM - 4:15 PM](#)

Concept of usual environment is considered as crucial determinant for identifying tourism activities, particularly in the context of same-day visitors. Use of the criteria of ‘the crossing of administrative borders or the distance from the place of usual residence, the duration of the visit, the frequency of the visit, the purpose of visit’ (Regulation (EU) No 692/2011) creates numerous challenges in the assessment of the physical and monetary size of tourism, especially from the perspective of international harmonization. This is also indicated by the evolution of the concept, from a simple definition based on physical distance to a complex definition that integrates personal, cultural, and experiential factors.

The concept of usual environment is particularly complex in the context of nautical tourism. Unlike continental tourism, where geographical boundaries are clearer, the boundaries in nautical tourism are more fluid, making it difficult to define what constitutes a usual environment from an individual perspective. This issue is particularly evident in the segment of domestic same-day visitors, which is almost completely neglected in the literature. As the unique spatial and geographical characteristics of marine environment ask for a more thorough and precise approach to definition of usual environment, this paper attempts to fill this research gap.

Using the example of Croatia as a country where yachting accounts for a significant part of total inbound tourism expenditures, the paper looks at the criteria for the assessment of domestic nautical same-day trips from a demand perspective. The results of the survey on Tourist activity of population of Republic of Croatia which is carried out in accordance with Regulation (EU) No 692/2011, show that this type of travel is almost not generated by inhabitants of coastal regions of Croatia. Since the survey is one of the key sources for the assessment of the size of domestic tourism, it implies that the number of same-day visitors is potentially underestimated. Therefore, qualitative research of residents – recreational boat owners was conducted in two coastal destinations. The research was focused on the purpose of same-day boat trips, their frequency, trip distance as well as the resident’s perception of the usual environment. Data was collected by in-depth interviews with five respondents at each destination. Content analysis resulted in guidelines for a more precise definition of the usual environment in the segment of the same day tour in nautical tourism, and thus improves the methodological framework for compilation of tourism satellite account.

1071

## Role of Institutions in Governance of Urban Wetlands in Kolkata, India

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❖ [Terceira-S87 Environmental Justice: the Need for Community-based Strategies for Resilience and Access, S09, August 28, 2024, 2:30 PM - 4:15 PM](#)

Cities have multidimensional planning challenges – conservation of ecosystems is one. Natural ecosystems are progressively affected by urban functions – in extraction of resources, in accumulating waste, increasing pollution and energy consumption. Some of the largest metropolitan cities of the world are located in or around water-based ecosystems (rivers, lakes, coasts and wetlands), and consequently, their conservation has been a critical dimension of planning in these cities. This study focuses upon Kolkata, a megacity located in deltaic West Bengal. The city had 12000 hectares of wetlands to its east, constituting an intrinsic water-based ecology in the deltaic region. Over decades, the eastern wetlands and its intrinsic drainage network, have borne the pressures of urban growth. While unprecedented unplanned and haphazard growth has affected this ecosystem, there are also numerous development projects that belong to the “planned” domain. This has led to a steady decline in wetland area and its associated ecosystem services. As most development projects are responses to human needs, a “for the people” argument takes precedence over every reason to conserve wetlands. This paper aims to assess the role of institutions in governance of this critical urban entity. An overview of policy perspectives and institution building reveals adequate prioritization in policy initiation, but repeated failures to protect wetlands and water bodies seem to indicate the lack of a holistic approach. In many cities, peoples active participation at different levels of planning, as well as protest movements have helped steer existing institutions, as well as to create new institutions. Such processes have also led to the creation of Local Environmental Institutions (LEI’s). The attempt of this study to look at wetland conservation through the lens of people’s participation, is a precursor to the proposal for robust institution building. It is noted that citizens have engaged in different modes of participation and protest across wetlands and water bodies of Kolkata. An analysis of select case studies of people's participation reveal strong linkages between access to political power and realization of ecological benefits. Unresponsive institutions have resulted in citizens increasingly turning to public interest litigations, whose steady rise reveals the exigencies. Further, the system also fails to address the conservation issues through litigation, as there is no ecological sensitization among legal professionals to enable them to make correct interventions. A process of stakeholder sensitization, awareness and education must be undertaken for conservation of urban wetlands.

1072

## Innovation Environments and Public Security: A Case Study of the São José dos Campos Technology Park, Brazil

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❖ Terceira-G06-O2 Regional and Urban Policy and Governance, S11, August 28, 2024, 4:45 PM - 6:30 PM

Economic literature has emphasised that innovation is the engine of economic development and, therefore, the source of prosperity for countries and regions. In a world increasingly marked by intense competitiveness and economic complexity, innovation has become a key factor in boosting national and regional development. It is within this logic that technology parks are inserted, insofar as they are perceived as valuable instruments to promote the growth and economic development of countries and, mainly, the regions in which they are located.

Since their emergence in the early 1950s in the USA, technology parks, due to their potential, have gained international reputation, spread throughout the world and gone through different cycles, which are linked to their alignment with the changes occurring in the world economy. The point is that technology parks are considered creative, interactive and dynamic innovation environments. As they are conducive both to the transformation of the productive structure and to the increase in the economic complexity of the regions in which they operate, the vast literature on technology parks has basically focused its attention on economic subject. In short, this literature has neglected a critical topic: the social impacts produced by innovation environments in their regions.

By analysing the link between innovation environments and improvements in public security, using the São José dos Campos technology park as a case study, this paper contributes not only to filling a gap in the literature, but also to creating a research agenda on social impacts that such innovation environments can generate in their regions.

The São José dos Campos technology park is based in the municipality of the same name, which has an innovative culture driven by the aerospace industry and is located in the interior of São Paulo, a state that stands out compared to others for its economic dynamism. The key point to be highlighted is that well-designed municipal policies for public security were responsible for the creation of the Security and Intelligence Centre and its location in the park.

An econometric analysis was carried out with data provided by the Centre, which was complemented by interviews with key people, whose objective was to better understand the interaction between the innovation environment and the Centre itself. The paper shows that this partnership was responsible for the sharp drop in car theft, robbery and homicide rates from 2016 to 2022.

1073

## A multi-scale story of the diffusion of a new technology: the web

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❖ [Terceira-S45 AI and Other Digital Technologies: Old Wine in New Bottles or Transformative Tools for Urban and Regional Economies?](#), S05, August 28, 2024, 11:00 AM - 1:00 PM

This paper maps and models the participation in the digital economy and its evolution in the UK over space and time. Most of the existing economic geography literature which dealt with the spatiality of the internet employed supply-side measures, such as infrastructural capacity, in order to understand the geography of the digital economy and its potential spatial economic effects. Useful as these approaches might have been, they cannot capture the micro-processes and the characteristics of the individual online behaviour. Using large volumes of archived and geolocated web content, this paper models the diffusion of web technologies over space and time in the UK. Instead of using metrics capturing the passive engagement with digital technologies, for instance internet subscription metrics, this paper targets the active engagement with the digital as reflected in website creation.

Importantly, the data and geolocation strategy allow to capture these processes at small spatial scales. This level of granularity differentiate this paper with previous approaches in the literature, which were only able to capture technological adoption at more coarse level. Thus, this paper tests how well established theoretical approaches regarding the diffusion of new technologies are still applicable when the focus is on local scales. Although we know that spatial contagion and urban hierarchies are key drivers of technological diffusion, such theoretical concepts have not been tested at small geographical scales. Apart from an empirical interest, understanding such processes at small scales can support designing strategies for the adoption of new technologies and the development of relevant infrastructure.

1075

## Do informal settlements contribute to sprawl in Sub-Saharan African cities?

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❖ [Terceira-YSS7 Inequality Causes and Consequences - Non EPAINOS, S05, August 29, 2024, 11:00 AM - 1:00 PM](#)

Cities in Sub-Saharan Africa are recognized as drivers of development but also as internally disconnected and sprawling. Informal or “unplanned” settlements are often suggested to hamper sustainable growth, while commonly being labeled “sprawl” by default. This notion is addressed in the present paper, which aims to analyze empirically whether informal settlements do contribute more to sprawl than planned areas, in the setting of Sub-Saharan African cities. To this end, the street network accessibility of buildings in informal and planned areas is compared, to understand compactness beyond population density under overcrowding. The setting consists of Tanzanian secondary cities. To trace the effect of informality on compactness within and across cities, regression analysis is used, while controlling for other characteristics of urban structure such as population density. Pooled regression results indicate an approximately 12.8% lower connectivity for informal settlements. Importantly, this association is not homogenous and varies substantially across different types of cities. In several cities, informality’s impact on connectivity is relatively pronounced, pointing to sprawl. In other cities, no significant relation between informality and connectivity is found. This observable ambiguity underlines the unclear relationship between informality and sprawl. This may be considered within the policy discourse on urban sprawl in Sub-Saharan-Africa.

1076

## Green innovation and institutional quality in Italy

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❖ [Online-G03-O2 Innovation and Regional Development, August 26, 2024, 2:30 PM - 4:15 PM](#)

The aim of this paper is to investigate the relationship between institutional quality (IQ) and green patents in Italy. According to the GreenItaly Report 2023 by Fondazione Symbola and Unioncamere, during the period 2018-2022, 35.1% of Italian firms made green investments.

By implementing green innovation, firms can reduce their impact on the environment. Therefore, it is important to try understanding green innovations drivers so that policy makers can draw straight interventions for settings that need improvements. Previous literature mainly focused on the firm level. In particular, the empirical literature has supported the idea that green innovation is associated with the technological intensity of a firm (e.g. Horbach et al. 2012). It has also examined the drivers of green innovation by considering Triple Bottom Line Theory (Jin et al. 2022). However, green innovation may also be affected by factors beyond the control of individual firm and the socio-economic factors. Nevertheless, previous studies have paid limited attention to the influence of the IQ (e.g. Doh et al. 2017). Therefore, the paper aims to investigate the role of IQ in driving green innovation.

The empirical analysis is carried out by considering Italian NUTS3-regions and the period 2004-2019. We consider green patents applied by Italian firms to the EPO and granted by 2022. Patents data are retrieved from Orbis IP dataset (Bureau van Dijk). The institutional quality index (IQI) provided by Nifo and Vecchione (2014) is used. Different estimation methods are employed which also take into account the presence of zero green patents in some provinces. Preliminary results show that IQ plays a positive and significant role in stimulating green innovation. Green patents seem to be affected by the strength of rule of law and the regulatory quality, which refers to state of health of the local economy. The effect of IQI appears to be higher in the north of the country.

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1077

## Drivers of economic and innovation divide across European regions

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❖ [Terceira-G03-O5 Innovation and Regional Development, S11, August 30, 2024, 9:00 AM - 10:30 AM](#)

The interconnectedness of EU regions forms the backbone of a prosperous and competitive economy. Reducing regional disparities among EU regions contributes to an inclusive economic growth, ensuring that no one is left behind, while a sustained competitiveness of EU regions is achieved. Innovation plays a pivotal role in reducing economic gaps by fostering growth, driving productivity, and creating opportunities for inclusive development. The papers seeks to understand the drivers of economic divide and innovation divide. The term divide refers to the disparity or gap in economic conditions or innovation capacity between different regions within in EU, measured by Gross Domestic Product (GDP) per capita and R&D expenditure per capita, respectively,. Two measures of gap are reported in the analysis. The first one assesses the distance between the GDP per capita (or R&D intensity) of a region and the best performer in the EU and the second uses as benchmark the maximum observed within the country. To conduct our analysis, we use data from Eurostat, covering the period 2000 to 2021 and a three-stage estimation for systems of simultaneous equations. Preliminary results show that on average, between 2000 and 2021, the economic gap between EU regions have decreased but regional disparities within the EU countries have increased, whereas the innovation divide reports an average opposite trend. Less developed regions are the ones with the highest economic and innovation gap. More innovative regions report lower values of both type of gaps (between EU regions and within countries). Reduction in the economic gap is positively associated with higher value of R&D expenditure per capita in the previous year.

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## Regional business cycle synchronization and economic integration in Brazil, 1947-2021

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❖ [Terceira-G40 Spatial Issues of Monetary Policy, S18, August 28, 2024, 2:30 PM - 4:15 PM](#)

We calculate the synchronization of the state's economic cycles with the Brazilian economy and the synchronization of pairs of states between 1947 and 2021. Due to a lack of continuous data, we split the period in two: 1947-70 and 1985-2021. We observe more synchronization in the second period, indicating an overtime increase in the economic integration of the states. With more detailed data, we identified the factors explaining synchronization from 1989 through 2021, both between states and the national economy and between states. We found that states with larger shares of international exports and more specialized in some sectors are less integrated into the national economy. In contrast, states with a large economy and a large share of government in GDP are more integrated. The paper provides a long-run view of the regional economies in Brazil, showing increasing regional integration and highlighting the factors behind it.



1079

## The potential of ecosystems as a creator of urban resistance to exogenous factors

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❖ [Terceira-G18-O2 Climate Adaptive and Resilient Regions and Cities, S11, August 30, 2024, 2:30 PM - 4:15 PM](#)

Obtaining the best possible human living conditions is one of the basic operational tasks resulting from the conceptual assumptions of sustainable development. Man, being the subject of the geographical environment system, has the undoubted right to live in optimal living conditions, shaped by the interactive interdependence of social and economic processes and natural phenomena. However, it is not always possible to achieve a state of harmonious functioning of the megasystem of the geographical environment, undisturbed by external factors, characterized by a balanced flow of matter and energy within its individual systems (natural and anthropogenic) and between them. This balance is often disturbed by natural exogenous and endogenous or anthropogenic factors that determine its functioning.

One of the direct causes of the disturbances observed in the geographical environment megasystem in recent years is the progressive increase in temperature on the globe. In the face of these changes, the functioning of areas characterized by the highest population density and human-made environment, i.e. cities, is very important from the point of view of the life of societies. These areas are often overpopulated, with over 20,000 inhabitants living per 1 km<sup>2</sup>, and the accumulation of a large number of buildings and technical infrastructure in a limited space has a modifying effect on basic climate elements, such as air temperature, rainfall and wind strength. On the other hand, many local natural factors influence the city's climate, such as the topography and land cover, the presence of water reservoirs, and the size of biologically active areas. The city's climate is also influenced by other elements related to human activity. These include: industry and transport. Both are characterized by high concentration in urban areas and contribute huge amounts of various types of pollutants to the atmospheric air, creating a spatially expanding urban heat island.

The improvement of the living conditions of residents and their well-being is largely influenced by the natural potential, which can generate services that improve the sanitary condition of the environment, strengthen the development potential of the city in the social and economic context, as well as strengthen its resilience and external factors. The aim of the presentation is to present research results in the field of services provided by ecosystems on the example of Warsaw. The research was carried out at various spatial scales, from the scale of the entire city to the scale of a housing estate.

1081

## From Spatial Segregation to Environmental Inequities

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❖ [Online-G04-O2 Segregation, Social and Spatial Inequalities, August 26, 2024, 2:30 PM - 4:15 PM](#)

The between-group spatial environmental inequalities arise from the fact that social groups are spatially distributed differently relative to an environmental variable (such as natural amenities or environmental hazards). Intuitively, when members of two groups have similar spatial distributions, environmental inequalities should be nonexistent. Thus, segregation and environmental inequalities are phenomena linked by a key variable: space. Despite this strong connection, the number of studies interested in the association between spatial segregation and spatial environmental inequality is small, and a formal demonstration of the links between these phenomena is missing.

Environmental inequalities may occur between individuals (also called vertical inequalities) and between social groups (horizontal or between-group inequalities) (Boyce et al., 2016). In the case of horizontal spatial environmental inequalities, they arise from the fact that social groups are distributed differently in space relative to an environmental variable. On a methodological level, existing studies are mainly based on between-group comparisons of means or medians, bivariate correlations, and multivariate regressions, and no conceptual and mathematical connection is made between spatial segregation metrics and the measurement of environmental inequalities.

In a recent work, Schaeffer and Tivadar (2019) proposed a structured methodology to measure horizontal spatial environmental inequalities using indices from residential segregation literature. The authors adapted two types of segregation indices for environmental inequalities measurement. First, they based their analysis on spatial dissimilarity for the examination of areal-level environmental data, such as vegetation cover or pollution loads in census blocks. Second, they employed relative centralization for the analysis of multiple points environmental data, such as geocoded hazardous sites or urban parks. However, a formal description of the connections between segregation and environmental inequalities is still missing.

In this article, we demonstrate mathematically that spatial environmental inequalities and spatial segregations are linked: the level of environmental inequalities is bounded by the level of segregation. Put differently, social segregation is a necessary but insufficient condition for environmental inequalities: if the segregation level is low, inequalities will also be low, and with high levels of segregation, the inequalities can be high as well (but not necessarily).

To verify these results, we conduct an empirical analysis of the relationship between the two phenomena in French urban areas. First, we analyse the pattern of environmental inequalities for poor households in French urban areas and test whether there is a strong relationship between segregation and environmental inequalities, and whether there are any significant differences between types of urban areas.

1082

## Innovative approach in regional development. Solutions supporting the management of public services in Poland. Education case study

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❖ [Terceira-G03-O2 Innovation and Regional Development, S11, August 28, 2024, 2:30 PM - 4:15 PM](#)

Sustainable regional development requires constant dialogue between citizens and their authorities. The outcome of this dialogue should be evidence-based policies. However, in the modern world we are faced with a flood of unconfirmed information. Therefore, quick access to official statistical data is becoming increasingly important. Access to data allows not only to eliminate disinformation from the media. Thanks to easily available official data, it is possible to compare the parameters of public services provision by various local units. Thus, citizens can become more consciously involved in establishing public policies. The problem is that comparison is often a challenge that requires knowledge and skill.

The speech will present an innovative approach to supporting regional development implemented by Statistics Poland. Promoting dialogue and providing verified data is part of the mission of official statistics. That is why the Public Services Monitoring System (SMUP) was built. Educational data will be presented regarding the differences in quality, availability and financial effectiveness of providing services in the field of primary and secondary education on . Thanks to SMUP data, it is possible to explain large variations in costs on a regional scale.

SMUP contains information on 9 areas of services provided by communes and poviats as well as information on the area of local government finances. In total, there are over 750 indicators describing 65 services. The System collects data on areas such as education; local social policy; culture; transport; environmental protection; real estate management; construction; Geodesy; local finances and local fees.

The system enables improved management of public funds at the local level. Local government organizations estimate that an improvement of only 1-2% of the total annual expenditure of Polish municipalities translates into the equivalent of EUR 0.5-1 billion in benefits nationwide.

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## Cross-border commuting from the Czech Republic to Germany: the role of networks, skill-shortage, and commuters' households

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❖ [Online-G40 Local identity, August 27, 2024, 9:00 AM - 10:30 AM](#)

Cross-border commuting as a special form of migration takes place in regions geographically close to national borders. Whilst potentially motivated by the same factors that motivate migration, research on cross-border commuting is often limited to the economic incentives and therefore to the neoclassical theory of migration. Network impacts, for example, are only briefly mentioned and often not supported by theory. The forces that drive companies along national borders to hire cross-border commuters are also not included in current research, however, crucial to understand the dynamics of the development of cross-border commuting - especially in times of digitalization and skill shortage. This research focuses on the motivation of Czech labor force to commute to Germany and the motivation of German companies to hire Czech cross-border commuters. Special attention is set on the impact of networks, the commuters' household and family situation, the skill shortage, as well as digitalization and automatization in German companies. Preliminary findings show that economic incentives play a crucial role, however, do not fully describe the dynamics of commuting. A commuter's household and regional belonging is part of the bigger picture. Private networks of cross-border commuters are the main form of communicating vacancies - not only initiated by the cross-border commuters but also by the companies. Digitalization eases the language barriers and automatization changes the jobs of cross-border commuters but not the labor demand. Finally, the difference in vocational training on a low to medium-skilled level in Germany and the Czech Republic creates a spill-over effect of knowledge useful for German companies.

1084

## Exploring the Geography of Eco-innovation: Insights from Portugal

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❖ [Terceira-G03-O3 Innovation and Regional Development, S10, August 28, 2024, 4:45 PM - 6:30 PM](#)

The literature on green innovations has shown that the development and diffusion of these innovations capable of reducing environmental impact generate significant positive regional impacts. The geographic concentration of companies using eco-innovations can lead other nearby businesses to adopt similar means and thus help disseminate these innovations more rapidly. Even in less privileged regions, eco-innovations can be an opportunity, allowing for a reduction in regional inequalities. As some research points out, in countries with intermediate income levels, such as Portugal, reducing inequality improves the necessary conditions for promoting the creation of more complex green technologies. In summary, the production and diffusion of green innovations can enhance socioeconomic growth and consequently create favourable conditions for regional development. Thus, the research aimed to explore Portugal's Geography of Eco-innovation (GEI) through indicators and statistical data. In particular, the study presents the indicator of Productive Structure with Eco-innovation Potential (EPPI-eco). EPPI-eco is a synthetic indicator computed from the microdata of the latest Community Innovation Survey (a benchmark database in innovation studies that, in its last edition, reserved a particular block for green innovations) and establishment data (INE). In addition to these data, we selected indicators from the field of Science and Technology to compose the framework of Portuguese potential in green innovations. We structured the database according to the NUTS-3 division. The results indicated that half of the innovative Portuguese companies engaged in eco-innovation, and their territorial conformation is the same as that verified in innovators in general. The main eco-innovative centres in the country are the Metropolitan regions of Lisbon and Porto. Nevertheless, there is a group of regions with exciting prospects, such as the Cávado and Ave regions further north, the regions of Aveiro, Coimbra, Leiria, and Oeste in the centre, and the Algarve in the south. In addition to these results, the research aims to draw attention to the prospects for developing green innovations in less privileged regions, suggesting a portfolio of indicators that better fit the reality of these territories. The novelty of this text lies mainly in the elaboration of this portfolio. Although the use of green patent databases has contributed significantly to understanding the dynamics of the development of more radical eco-innovations in countries like Portugal (with a low number of patents), it is essential to seek other indicators, especially to capture the potential of more incremental eco-innovations and preferably with social impacts, such as inclusive eco-innovations.

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## How Information Network Influences Thai Farmers' Technology Adoption: the Peer Effect

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❖ [Terceira-G17-O1 Cooperation and Local / Regional Development, S16, August 28, 2024, 2:30 PM - 4:15 PM](#)

There has been continued interest in the identification of social influence, the peer effect, on the behavioral outcome of agricultural households regarding the design of information diffusion or further technology adoption. Especially in rural areas where the information of farming technology is unevenly distributed, social networks can bear multifaceted influence over one's innovative decisions. Using detailed social network data of 1,396 households in 90 villages of Northeast and Central Thailand, we find empirical evidence of farmers' technology adoption increase in the information-exchange peer group. Our study stands on the idea of the linear-in-means model that consists of endogenous and exogenous peer effects, each of which identifies the influence of average peer outcome and peer characteristics on one's household income. First, we calculate the basic social network attributes such as centrality, closeness, and betweenness and reveal it is crucial to find a significant difference between farmer's types of cultivation or spatial allocation unless the reference group is identified. Meanwhile, it is found that the structure of the network may differ by the source of income and the direction of edges. Following that, we extract endogenous peer effect with instrument variables acquired from intransitive triads to meet sufficient conditions for identification and find farmers' innovative decisions to increase their productivity and sustainability are explained by peers.

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## “If You Build Institutions, They Will Come”: Factors of Countries Attractiveness for High-Skilled Migrants

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❖ Online-G03-O3 Innovation and Regional Development, August 26, 2024, 4:45 PM - 6:30 PM

For a nation to prosper in the era of digitalization, it is crucial to attract highly skilled IT professionals. This group is noteworthy for its high rates of international mobility and abundant opportunities for remote work, rendering the aforementioned task both challenging and pertinent. As a case in point, Belarus, Russia, and Ukraine, already traditional hubs of sprawling IT diasporas (Biagioli & Lepinay, 2019), have witnessed a more pronounced outflow of IT professionals since 2020, precipitated by a series of political crises and military conflicts (Korobkov et al., 2022; Petrakova, 2022; Berte, Paolotti & Kalimeri, 2023). Conversely, countries such as Armenia, Cyprus, Georgia, Kazakhstan, and Turkey have benefited from their relative safety and stability, attracting numerous IT professionals from neighboring nations, at least on a temporary basis (Geiger & Syrakvash, 2023). From a broader perspective, it is crucial to comprehend the political institutions required to attract high-level talent and stimulate technological innovation.

In our paper, we concentrate on the following question: which factors render a country more attractive to IT professionals? We scrutinize a sample of 864 Russian IT professionals recruited online through a market research company. Employing a forced-choice conjoint experiment framework, we queried the respondents about various aspects of a pair of hypothetical projects they had the opportunity to engage in, including the novelty of tasks involved (novel vs. standard), salary level (market rate vs. 20% above vs. 50% above), and two characteristics of the country where a respondent must be located while working on the project, namely the risks of personal safety due to crime (high vs. low) and risks of civil rights and freedoms violation (high vs. low). We utilize a linear probability model to estimate the likelihood of choosing a project.

Our findings reveal that, while standard tasks are preferred over novel tasks (a project involving them is 12.6 percent more likely to be selected by the respondents), and, surprisingly, salary has no statistically significant effect on the likelihood of choosing a project, country-of-location features also play a prominent role. Crime risks significantly reduce the likelihood of choosing a project (32.9 percent lower), and civil rights violations also decrease the attractiveness of a country (11.9 percent lower).

Our preliminary conclusion is that, while personal safety is by far the most crucial factor considered, governments should also ensure personal safety and civil rights protection to attract highly skilled IT workers.

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## Is it really what you want? Green projects and transitions for sustainability

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❖ [Online-S57 Government of Anthropization Processes: Domain of the Territories and Cities, Climate Changes, August 26, 2024, 11:00 AM - 1:00 PM](#)

In the contemporary discourse on sustainability, the focus has increasingly shifted towards the implementation of green projects and the transition to sustainable practices. This paper aims to critically examine this paradigm shift under the lens of individual and collective desires, by investigating three green initiatives in Louisiana (US), results of the EU-funded project "Transition with Resilience for Evolutionary Development" (TREND). Selected projects are in the field of shared mobility ("Ridesharing for small University towns"), of green energy neighbourhoods (Trinity Bluff community Project), and inland sustainable ports (ArkLa Inland River Port Initiative). The first part delves into the motivations behind the adoption of these green projects. It explores the interplay between personal values, societal pressure, and economic incentives in shaping community desires for a sustainable future. The second part scrutinizes the effectiveness of these green projects, by assessing their environmental, social, economic and cultural impact, thereby providing a holistic evaluation of their potential success. The third part discusses challenges and opportunities encountered during these investigations and highlights the importance of resilience, adaptability, and innovation in overcoming these hurdles. Finally, a reflective analysis aims at aligning our desires with the actual outcomes of green projects and sustainable transitions. It emphasizes the need for continuous learning, adjustment, and collective action in our pursuit of sustainability. This comprehensive exploration provides valuable insights for policymakers, researchers, and practitioners involved in environmental management, sustainable development, and green innovation. It invites readers to question, "Is it really what we want?" and more importantly, "Is it what the planet needs?"



## 1088

### How sustainable are territorialised food systems? A DELPHI approach for routine quantitative analysis

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❖ [Online-S76-S2 Places for Sustainable Food: What's Behind and Beyond the Relocation of Food Systems?](#),  
August 27, 2024, 2:30 PM - 4:15 PM

Faced with climate change and the increase in food-related diseases, policy makers are looking for new levers to encourage more sustainable consumption behaviour and food systems. The reterritorialisation of food, mainly addressed through the development of short food chains and local food policies, is presented as a potential solution. However, 'territorialised food systems' (TFS) are still vague systems, in constant evolution, and on which quantitative data are still rare. The objective of the PLAT4TERFOOD project carried out in France (2023-2028) is to develop robust methods and adapted devices to produce new data allowing to better characterize these systems and to evaluate their impacts in the long term. The objective of this communication is to present the results of the DELPHI method used at the beginning of the project to both co-circumscribe TFS and co-define indicators for routine quantitative analysis of their contribution to sustainability. Experts from 4 activity sectors were asked to comment on an operational definition of TFS, to select impact indicators and to prioritise the key sustainability issues to be measured for TFS. Results are intended to facilitate the monitoring and steering of TFS, in particular in conjunction with local food policies that are developing in Western countries.

1090

## Online gambling from a spatial perspective

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❖ [Terceira-S03 Digital Geographies: Spacelessness, or New Mode of Space-Making and Space Relations, S02, August 29, 2024, 9:00 AM - 10:30 AM](#)

While emphasis has traditionally been placed on the individual dimensions of gambling – what drives individuals to engage in harmful gambling activities and their effects on individuals and households – little attention has been paid to understand the spatial patterns of these activities. For example, are individuals living in specific neighbourhoods more likely to engage into harmful gambling activities? Which areas suffer most from gambling activities? How do environmental and individual factors interact to shape the gambling landscape?

In this strand of research, the role of geography and places has been reduced to the notion of accessibility and, specifically, the cost or easiness to access gambling facilities. Such research was mostly conducted by matching small size survey data on gambling attitudes and behaviours with physical locations of gambling outlets. The gambling landscape from a spatial perspective is complex enough when only the location and accessibility to brick-and-mortar gambling facilities is considered. However, nowadays gambling within such facilities represents only a fraction of the total gambling revenues. Hence, by neglecting online gambling opportunities only part of the gambling landscape becomes visible to researchers.

This paper overcomes these challenges by using a large anonymised survey regarding online gambling behaviours. It assesses how spatial variables including accessibility to brick-and-mortar gambling facilities can affect online gambling behaviours.

1092

## Tourism Demand Resilience in European Union Regions

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❖ [Terceira-S41-S2 Assessing the economic impacts of tourism, S07, August 29, 2024, 2:30 PM - 4:15 PM](#)

Tourism as a global sector is vulnerable to various external shocks like economic crises, natural disasters, and pandemics. This was highly evidenced in the effects of COVID-19 pandemic on tourism arrivals, overnights and receipts. Resilience has become a major goal and key process to overcome the challenges imposed by the pandemic, while the importance of building resilience across the tourism sector has emerged as important goal. The primary aim of this paper is to identify factors influencing tourism resilience, especially during resistance and recovery phases, and to enhance understanding of these factors for effective tourism policy design. The study examines 242 EU NUTS-2 regions. The tourism resilience indicator includes resistance, measured by changes in overnight stays in 2020, and recovery, assessed by changes in 2021 and 2022 compared to 2019. The study categorizes independent variables into three groups: demand-derived indicators (like tourist intensity and tourism density), supply-derived indicators (including tourism capacity and presence of cultural/natural heritage sites), and control variables (like GDP, innovation, and governance).

Key findings indicate that regions which exhibit longer average stays and higher domestic tourism rates are more resistant to shocks, while those reliant on international tourism show lower resistance. In the recovery phase, regions with significant international tourism recover quicker. Furthermore, factors such as tourism employment, presence of UNESCO sites, and protected land areas have varied impacts on resilience in different phases. Overall, the study underscores that determinants of tourism resilience vary between phases and that regional tourism resilience positively influences neighboring areas. The study provides insight to forward-looking approach needed to drive tourism and regional resilience.

1093

## UNESCO World Heritage Site label and sustainable tourism in Europe: A user-generated content analysis

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❖ [Online-S34 Opportunities, Risks and Challenges of the Digital Transformation in Tourism, August 26, 2024, 11:00 AM - 1:00 PM](#)

Officially branding local heritage through recognized labels is a strategy that regions can use to promote economic development. Regions increasingly seek more sustainable tourism development, which can be captured by the quality of local tourist service development. This paper examines whether the UNESCO World Heritage Sites (WHS) label is associated to local tourism development of higher quality and offers a first comparative study across European regions. Using TripAdvisor reviews of over 38,000 European locations, our results reveal a positive correlation between WHS labelling and measures of perceived quality and breadth of local tourist services.

1095

## Public expenditure on Transportation and the Location of the Manufacturing Sector

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❖ [Terceira-G11-O1 Transport and Accessibility, S13, August 28, 2024, 2:30 PM - 4:15 PM](#)

The transportation sector is one of the key elements of regional economic growth. For example, most cities in the world have access to natural infrastructure, such as a port, that facilitates the movement of production factors and goods. Canal networks in Britain and railroads in the United States are the hallmarks of the industrial revolution. However, in economic theory, the traditional way to model transportation is through iceberg costs that take its absence rather than its presence into account. This method implies that the transportation sector facilitates agglomeration through increasing factor mobility. Its drawback is the assumption of free movement within a region. However, this is not necessarily the case between the agriculture and manufacturing sectors. One reason for adopting the approach of iceberg transport costs is the complexity of conceptualizing transportation as a type of consumption good. As a result, it enters the individual utility as a factor that reduces the amount of an imported good. This study proposes an alternative method that treats transportation output as complementary to agricultural goods within a region. This attains constant returns to scale for the latter and motivates the growth of the manufacturing sector there. Benefiting from this feature and using a spatial equilibrium model with two regions, this study examines the impact of public investment in transportation on the formation of city systems. The characteristics of the model lead to a spatial equilibrium in which the region with a better transportation sector has the highest manufacturing output. This implies that public expenditure on the transportation sector can stimulate regional growth by complementing a lagging sector's output.

1101

## An Appraisal of Rudrasagar Wetland Reliance And Neighbouring Rural Livelihoods: Opportunities and Challenges to Integrated Management

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❖ [Terceira-S87 Environmental Justice: the Need for Community-based Strategies for Resilience and Access, S09, August 28, 2024, 2:30 PM - 4:15 PM](#)

Rudrasagar wetland exemplifies profoundly useful environments and highly productive ecosystems, providing enormous resources and services to communities living in the adjacent area as well as to communities living beyond the geographical confines of the wetland area. Rudrasagar Wetland is located in the western fringes of Tripura, situated in Sepahijala District, covering a surface area of about 2.8 km<sup>2</sup>, and is a freshwater lake that was declared a Ramsar site. The livelihood of the surrounding areas is largely dependent on it. Therefore, the current study attempts to analyse the pivotal role of Rudrasagar wetland in supporting the livelihoods of the people residing in its vicinity. The catchment area is mainly characterised by agriculture, plantations, and other economic activities. In addition, this wetland also has immense potential for development as a tourism destination. Formal group discussions and survey methods have been used to learn how the Rudrasagar wetland contributes to sustainable rural livelihoods. Parameters such as educational attainment, resource accessibility, the number of dependents, and proximity to the wetland have been examined due to their significant influence on livelihoods. The respondent reported that people's dependence has shifted from fishing to farming and other professions for encroachment, degradation, and depletion of aquatic resources.

1102

## Sustainable tourism: an approach and/or a form of tourism

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❖ [Terceira-G35-O3 Tourism and Overtourism Issues, S18, August 30, 2024, 11:00 AM - 1:00 PM](#)

Since the emergence of the concept of sustainability in tourism, the phenomenon has been encountered in a wide variety of ways in literature and practice. The aim of this paper is to examine whether sustainability in tourism is seen as an approach, as the development and application of environmentally conscious behaviour, which is communicated to tourism stakeholders and sought to be achieved through education. In examining sustainable tourism as a form of tourism, the aim is to establish whether the term is a possible example of a tourism package offer operating with specific requirements and conditions. The research is conducted using qualitative research methods. On the one hand, the literature was reviewed and published papers were summarised, focusing on the frequency of occurrence and definition of the two terms. On the other hand, the research was also complemented by a content analysis of websites, which investigates the use of the terms in practice by service providers. The data collected was used to answer the research question: to what extent can sustainability be considered an approach and/or a form of tourism, and is it necessary to distinguish and define it? The research shows that instead of using the term sustainable tourism as a form of tourism, it is better to use more specific, more definable forms of tourism. Based on the motivations for tourism, the use of a variety of well-defined terms is recommended for effective communication. The terms soft, slow, eco, responsible, nature-friendly, and alternative tourism have been introduced and linked to sustainability.

1105

## Analysing the Regional Variation in Total Factor Productivity in the Tourism industry: Evidence from Sweden's Tourism Sector

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❖ [Terceira-S41-S2 Assessing the economic impacts of tourism, S07, August 29, 2024, 2:30 PM - 4:15 PM](#)

The literature on productivity in the tourism sector approximate the tourism sector by a single sector that represents tourism. There are very few studies which assess the regional variation. This study tries to fill this gap in literature by analyzing the regional dimension to the productivity in tourism sector. The study highlights the importance of tourism for municipalities in Sweden by estimating the production function of the tourism sector. A total factor productivity index (TFP) for the tourism industry is created based on weighted data. The index based on weights considers that tourism is differently important for different municipalities. All the tourism companies in the tourism sector in one municipality is aggregated and a 'tourism company' is created for each municipality based on weighted value added, weighted number of employees and weighted gross investments. The results show that these tourism indicators do not predominantly compare with value added in tourism sectors which is indicative of the fact that tourism, on average, has little bearing on a region's economy.



1106

## Corona Verde project as a tool for peri-urban cultural tourism

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❖ [Online-G46-O2 Sustainability of local policies, August 27, 2024, 2:30 PM - 4:15 PM](#)

This work has been structured by carrying out a field survey to understand how university students in Turin use and perceive peri-urban cultural tourism linked to the Corona Verde project. To this end, a questionnaire was designed in several stages: initially the topic was discussed in the classroom, then the results obtained from the discussion allowed a first draft of the questionnaire to be drawn up. The first version of the questionnaire was administered in a test phase to small groups of university students and the results were used to draft the final questionnaire. The questionnaire was administered through the centralised university communication platform and the expected results account for the perception of the Corona Verde project in terms of knowledge and fruition on the part of university students in Turin. In thematic terms, the opportunities for tourist and leisure use were considered, especially from a cultural point of view referring to the area's natural riches and linked to the local historical tradition, i.e. the material heritage of the Savoy family. The study also made it possible to compare different target subgroups identifiable by gender and age group.

1107

## Mapping Complexity of Green Jobs and Green Transition: Opportunities and Challenges

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❖ [Terceira-S81 Spatial Effects of the Green Deal, S08, August 28, 2024, 2:30 PM - 4:15 PM](#)

The Green Transition (GT) is a complex topic that presents challenges from concepts to practices and application policies. When considering industries and occupations, it can be difficult to determine what is green and what is polluting. The European Green Deal (EGD) is focused on a decarbonizing transition, but how does it benefit from the concepts of "green" and "polluting"? If no one should be left behind during the GT, what territorial scales should be taken into consideration? This study discusses the classification of occupations and industries as green or polluting under a contextualized spatial scale, taking into account national and regional levels, as well as employment-industry characteristics. The study focuses on analyzing the employment distribution in the industry sectors of Sweden between 2013 and 2022, taking into account the greenness intensity of green jobs and GHG emissions per sector. The analysis is conducted at both regional and municipal levels, and the results are discussed in context, considering the strengths and weaknesses of each region's main industry sectors over time. Preliminary results show a trend of decreasing emissions in Sweden from 2013 to 2021, while employment has increased over the same period, except for specific decrease points. The distribution of employment among regions indicates the predominance of certain industries in specific areas. However, there is an uneven concentration of green-task jobs and CO<sub>2</sub> equivalent emissions for the year 2021. This work is still in progress, and by identifying any trends, it can modestly improve our understanding of the potential opportunities in green jobs, industries, and employment.

1108

## Market, Accessibility and Supply Chain Characteristics of Subsidized Food Stores in Dense Urban versus Sparsely Populated Rural Regions

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❖ [Terceira-G04-O1 Segregation, Social and Spatial Inequalities, S12, August 29, 2024, 9:00 AM - 10:30 AM](#)

Subsidized food stores (SFSs) have become more important in Austria and elsewhere, due to the aftermath of the COVID-19 pandemic, high inflation and living costs. As a type of social enterprise, they offer discounted groceries to persons at risk of poverty. This research investigates the situation of SFSs in two focus regions of Austria, Vienna and Lienz District, where there are 26 SFSs operated by nine organizations. It assesses their accessibility by walking, biking, and driving, as well as, in Vienna, public transport. In Vienna, 17 out of 24 SFSs are situated in low-income areas, serving as a primary customer base, and coinciding with regions having a high share of people with migration backgrounds. Another important customer group of SFSs are retirees with modest pension. In the rural focus region Lienz District, SFSs are not in low-income areas and have no connection to the migrant population. There, SFSs cover almost 25% of the district's population within 15min of walking and one third when cycling for 10min. Remarkably, a 5-minute drive encompasses close to 40% of the population. In Vienna, all SFSs combined cover nearly half of the population within 15min of walking. In Vienna, all store locations feature excellent public transport connectivity, with at least one stop within a five-minute and a minimum of two stops within a ten-minute walking distance. Interviews with four SFS organisations in the focus regions provided additional insights on differences and similarities of SFSs in urban and rural areas.

1109

## Linking External Urban Relations: the facilitation of the Central Place Process by the Central Flow Process

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❖ [Terceira-S39-S1 From Neglect to Nuance: Exploring the Diversity of Second-Tier Cities, S06, August 28, 2024, 4:45 PM - 6:30 PM](#)

External urban relations have been studied for decades in the literature of regional science, which are described as central place theory and central flow theory. However, the relationship between these two general urban processes, the central place process and the central flow process, is not clear. This study explores how the central flow process facilitate the central place process based on the urban networks in China. We find that the central flow process can facilitate the central place process within a nation, but the central flow process only facilitates the flows between central cities and hinterland cities not the flows among hinterland cities. Moreover, the central flow process facilitates the flows from hinterland cities to central cities more than that from central cities to hinterland cities, which suggests the polarization or backwash effects, causing agglomeration shadow. The facilitation is generated by the upstream-downstream relationships between the advanced producer service in central flow process and the manufacturing industry in central place process.

1111

## Digitalisation and Productivity Differentials Between Firms Across Regions

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❖ [Online-G36 Digitalization from a regional perspective, August 26, 2024, 4:45 PM - 6:30 PM](#)

There is growing evidence on increasing productivity differentials between firms within countries. While between-firm productivity inequalities might be of less concern relative to inequalities between individuals, they can indicate a slowdown of technology and innovation diffusion within countries and regions from high-productivity to low-productivity firms, translating into lower aggregate productivity growth and unfavourable welfare implications. Furthermore, rising productivity differentials between firms could result in increased regional inequalities with potential unfavourable social and economic consequences. Existing evidence on factors driving such productivity inequalities between firms within regions is scarce. This paper contributes novel evidence that could help fill this evidence gap in light of growing evidence on a positive impact of digitalisation on productivity. Specifically, we examine the effects of digitalisation across firms, measured as the speed of internet connection, on productivity differentials between firms across regions. We use microdata from ten waves of the Survey on E-commerce and ICT over 2014-2023 made available under controlled access by Ireland's Central Statistics Office. Our identification strategy uses an instrumental variables (IV) approach that leverages industry variation in ultra-fast broadband usage to account for potential endogeneity in the relationship between fixed broadband usage and productivity dispersion between firms within regions. The results of this research inform policies aimed at a more balanced regional development.

1113

## Cohesion policy and territorial performance: measuring and explaining effectiveness in achieving planned targets

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❖ [Terceira-G14-O1 Institutions, Political and Decisional Processes, S17, August 29, 2024, 9:00 AM - 10:30 AM](#)

Effectiveness refers to the extent to which the objectives expressed in the programmes or policy instruments have been achieved. It may be linked to the notion of impact or to monitoring the correct implementation of programmes in terms of planned outputs and use of resources. Even if the former has been extensively analysed in the scientific literature (e.g. Mohl, 2016; Fiaschi et al., 2018; Casula, 2021), the latter has been less explored in research. Using data from the European Commission's Cohesion Open Data Platform, the present paper aims to fill this gap by assessing the ability of European Union (EU) territories to achieve the various targets set by different operational programmes funded by the European Regional Development Fund during the 2014-2020 programming period. For each indicator, we estimate the annual achievement rate, which is the ratio between the achieved and the target values. To explain the determinants of programme performance, we use a fractional regression model due to the nature of the dependent variable - values between zero and one. Performance is explained by programme characteristics (e.g. planned amount, governance model, spending rate) and programme indicator characteristics (e.g. number of indicators and change in target value). The results show that the effectiveness of EU regions in achieving their planned targets is negatively correlated with the budget allocated and the existence of a multifund programme. Programmes managed at regional level perform better than national programmes. The concentration of funds in a few thematic areas and a higher rate of spending are associated with a higher rate of achievement. Programmes with a higher number of indicators and a high concentration of funds in less developed regions also show lower performance. These findings may be particularly useful for policy makers, as they can help to design programmes that are more effective.

1114

## Exploring the drivers of irregular spending in the EU Cohesion policy: A Fractional Regression Analysis

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❖ [Terceira-G29 Quality of government across space and time, S16, August 30, 2024, 9:00 AM - 10:30 AM](#)

Historically, cohesion policy is the area of the EU budget recording the highest rates of irregular spending (ECA, 2021). This concept refers to financial spending that do not comply with the established procedures or regulations. It is not automatically associated with fraudulent activities, as it can be the result of unintentional errors, mismanagement, or failure in the implementation of financial protocols. Despite a significant decline over time (Poverari & Davis, 2011), irregularities continue to affect the smooth implementation of the policy and its impact in several areas. Furthermore, they contribute to denting its reputation, entrenching negative narratives about EU funds in the public discourse and fuelling arguments in favour of budgetary cuts (Mendez & Bachtler, 2017). The complexity of rules and lack of administrative capacity are arguably the two main causes of irregular spending (Meuleman & Brenninkmeijer, 2017). Empirical research is needed to explore the underlying determinants of compliance errors, as there are only sporadic works on this so far. Identifying and understanding the drivers of irregular spending is crucial to ensure transparency, accountability, and the effective use of financial resources. The paper contributes to filling this research gap by investigating through a fractional regression model the relationship between irregular spending, measured as the error rate - expressed in percentage - reported by programmes, and programme-specific characteristics. To conduct such analysis, we use a time series data covering from 2015 to 2021, regarding the 2014-2020 cohesion policy programmes extracted from the European Commission's Cohesion Open Data platform. More specifically, programme-specific characteristics include the governance model (regional versus national), structure (mono- versus multi-fund), its performance (absorption rate), average size of operations (share of big projects), and funding thematic concentration. The novelty of the paper is that by probing these aspects, most of which have never been tested so far, it contributes to a better understanding of what drives irregular spending and can then help draw critical policy conclusions as to the future design of rules and programmes.

1115

## Global advanced producer service companies in localized demand for labor in Sweden

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❖ [Terceira-G39-O1 Big Data and Regional Science, SF1, August 29, 2024, 2:30 PM - 4:15 PM](#)

The research examines shifts in demand for labor in Sweden between 2006 and 2022 based on the database of published vacancies. The analysis is provided in spatial and temporal dimensions, giving a focus on regional inequality. The core of the research is constructed by the vacancies from the global advanced producer service (APS) companies working in six sectors: accountancy, advertising, banking, insurance, law, and management. These companies are supposed to ease the inclusion of regions in the global production chains and empower the global exchange of skills. The unique database of Swedish vacancies provides opportunities to investigate the assumptions. It is possible to grasp from the data diversity of approaches to localization and hiring and highlight the regional inequality within Sweden. The diversification of approaches to hiring by the sector of specialization after COVID-19 pandemic is also noted in the research. Coherence of hiring patterns between global APS companies and other companies is in the spotlight of the study. The demand for occupations, provided by the global APS companies is compared to the general distribution of vacancies in selected years and regions. Special attention is given to rapidly growing and globalizing municipalities of Northern Sweden. Overall, combination of remoteness and globalization, revealed through unequal demand for labor, is the core axis of the research.



1116

## Creation of high-added value bio-products from berry residue

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❖ [Terceira-G12-O1 Economic development in rural places, S15, August 28, 2024, 11:00 AM - 1:00 PM](#)

Berry market is growing recent years. Although strong competition comes from South American countries and China as European countries' berry farmers must find solutions how to stay competitive. The aim of the research is to analyse the possibility of creation and development of high-added value bio-products from berry residue (mostly seeds) in berry farms. Special focus in the research is developed to technological and managerial combination of efforts for berry seeds use for innovative high-added value bioproducts production in farms including different managerial solutions for production and commercialization. Farms must seek to implement bioeconomy business models and to strive implement circularity to be sustainable and competitive. Technological research and solutions allow to find out the most suitable and efficient prototypes from different berries' residue (mostly seeds) after juice or puree is produced. The huge amount of seeds' residue is a source especially full of various components for pharmaceutical and beauty industries and innovative urban food. As economic calculations provide created economic high-added value farmers must apply innovative management solutions for finding market and potential consumers for berry bioproducts such as pomace or seeds oil extracted applying efficient methods. Consumer attitudes allow to rethink marketing strategies for healthy bio-products and their presentation to the market.

1118

## Population ageing effects on the Spanish economy in the context of the OLG framework

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❖ Online-G02-O2 Demographic Change, Population and Migration, August 26, 2024, 2:30 PM - 4:15 PM

Changes in demographics have been observed in alterations to the population structure across age groups, influencing both developed and developing economies. Choudhry et al. (2016), suggest that negative economic impacts can be gauged by a higher fraction of economic dependency between the retirement age cohorts and the active population. They highlight the importance of the age composition of the population for both labour productivity and economic growth. Additionally, diverse studies propose that the economic consequences are linked to the decrease in the workforce (Garau et al., 2013; Lisenkova et al., 2013; Hirono, 2021).

In addition, Fougère et al. (2007) point out that the decline in labour supply and the shortage of young workers lead to alterations in consumption composition and labour market structure. The predominant approach in studies involves the utilization of macroeconomic models, specifically Overlapping Generations (OLG) models, where diverse household generations act as decision-makers in each period, with the objective of funding consumption during the retirement phase. Besides affecting goods and services markets and the labour market, the analysis has taken into account the consequences of demographic changes on public finances, migration, environmental impact, and sustainable development. Thus, OLG models integrate features of fiscal policy, including transfers and taxes, government spending, and public debt (Brett, 2012; Fanti & Gori, 2012; Augier & Yaly, 2013; Kim & Hewings, 2013; Fehr and Kindermann, 2018).

While it is possible to conduct various types of analyses through the framework of OLG models, few studies have explained the implications of demographic variations on the economy of Spain at both national and multiregional levels. For that reason, in this paper is aimed to verify, within the traditional OLG framework, economic impacts resulting from demographic changes and consequences for the economy stemming from the decrease in working population. The Spanish economy is taken into account because the largest share of general government expenditure in Spain is allocated to social protection, hence, the pension system in Spain is the focal point. Also, Spain faces significant demographic challenges as aging of the population, low fertility rates, migration and depopulation in rural areas. Our results will give an overview of redistributive results derived from public sector intervention with the purpose of verifying the sustainability of the public finance of population ageing and its potential policy measures.

1120

## Can Artificial Intelligence contribute to the processes of ecological anthropization of the territory and cities?

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❖ [Online-S57 Government of Anthropization Processes: Domain of the Territories and Cities, Climate Changes, August 26, 2024, 11:00 AM - 1:00 PM](#)

Artificial Intelligence, AI, can be of great use in the anthropization processes of the territory and urban centers. For many years, territorial planners and urban planners have been calling for the creation of Observatories to follow, evaluate choices and implementations. What Kevin Roose reports in the 2023 article in the New York Times about conversations with AI devices is astonishing. Although several of the chatbot's statements and responses present some inconsistencies and could be a free association – but with internal coherence – of the billions of data, of a multidisciplinary nature. Of this we have no proof of the opposite nor of the correctness of this sentence except through “human” verification. With AI there is the possibility of making a sort of increasingly larger virtual reproduction of what is observed. That is, the holistic approach can be increasingly approached. And this allows the construction of increasingly complex and “complete” scenarios.

But precisely because of the methods of building AI, i.e. feeding it with “data” which are in any case “phenomenal” even if translated into quantitative and/or qualitative indicators, it is still a “partial” action both from a territorial perspective both environmental and social. Action which in fact, in relation to these aspects, risks being “conservative” of the status quo.

We are now all aware that the ecological footprint of everything we build, and of its management, is an insurmountable limit already indicated in the 1972 Report in *The Limits to Growth*: basic elements of the United Nations 2030 Agenda for Sustainable Development. Thus, AI could offer us enormous and unexpected opportunities of the circular economy, that is, the cornerstone of new methods of development and therefore of anthropization, allowing us to ride on the long wave of the Ecological Transition

Therefore, the writing highlights these aspects, potential and limitations in order to provide the most operational indications possible.

Keywords: Artificial Intelligence, Sustainability, Ecological Approach

1121

## Media, perception and location behaviour: crime reporting and house prices in U.S. cities

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❖ [Terceira-S85 Sustainable Cultural Tourism in Urban and Rural Areas, S12, August 30, 2024, 2:30 PM - 4:15 PM](#)

Cities have been seen by their residents not only through their daily life experiences but also by means of a wide range of media resources that create an image in their minds. How this image can shape the behavioural decisions of people regarding cities and the places they live has rarely been studied. Employing new techniques and technologies in Natural Language Processing (NLP), and focusing on the impact of the perception of crime as conveyed by media on the typical housing prices in US cities, this paper tries to investigate if media representations of cities can have a spatial impact at large geographical scales. The paper puts forward novel techniques of application of NLP to urban studies and proposes a pipeline of different NLP techniques to study news corpuses about cities. The results show that the image of cities in the media regarding crime has a significant correlation with typical housing prices in US cities.

1122

## Spatial mismatch revisited using mobile phone data and spatial econometric tools

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❖ [Online-G42 Quantitative spatial analysis, August 27, 2024, 2:30 PM - 4:15 PM](#)

The COVID-19 pandemic exacerbated job accessibility and spatial mismatch challenges. Higher-income workers often shifted to remote work, while less qualified, lower-income workers faced commuting challenges or job loss. This study primarily aims to investigate the determinants of commuting mobility, utilising mobile phone data to trace commuter movements in the greater Stockholm area across five years (2019-2023 on Thursdays in March). We create OD matrices to map connections between residential neighbourhoods and workplaces before, during, and after the pandemic.

While our main goal is to understand the factors influencing commuting mobility throughout this period, our research also explores two additional aspects: i) the extent of spatial mismatch and its evolution during the pandemic, and ii) the impact of the rise in distance working on commuting behaviour, particularly whether it reverted to pre-pandemic patterns in the post-pandemic period and how spatial mismatch was manifested during this transition. The study employs spatial Durbin panel modelling with Bayesian estimation to address the primary objective of identifying the determinants of commuting mobility. To provide an initial descriptive context, particularly for examining spatial mismatch and the impact of distance working on commuting behaviours, we undertake a concise exploratory study and employ Geographic Information Systems (GIS).

## 1123

### Making chord on the circle to connect communities on an island, the case of Iceland

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❖ [Terceira-S61 Transport and Rural Development: Keeping Rural Areas Accessible, S06, August 30, 2024, 11:00 AM - 1:00 PM](#)

Iceland is an island with uninhabitable highland in the middle but with circle road around the island in the lowlands by the shore. It means that it is impossible to drive between north and south parts of the country unless driving through the west or east part. For some time it has been discussed whether it is possible to make new road across the highland and thus connecting the north and south parts directly. Making chord on the circle which would be fundamental change on the road system in Iceland. In the presentation it will be showed what possibilities there are in this respect and focused on one possibility, new road called Kjalvegur. The main social and economical gains will be discussed, how communities, which now are far apart, can be connected giving various social and economical effects. Tourism is one of them. Furthermore it will be explained what weather, environmental, political and cost barriers there are to construct such a road.

1125

## Enhancing Civic Engagement through the IN-HABIT Project in Córdoba: A Pathway to Sustainable and Inclusive Urban Communities

Dr. Catalina Cruz-piedrahita<sup>1</sup>, Professor Maria Mar Delgado-Serrano<sup>1</sup>, Mr Javier Martinez-Carranza<sup>1</sup>

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❖ [Terceira-S26-S1 Social Innovation for Sustainable and Inclusive Regions, Communities and Neighborhoods, S04, August 28, 2024, 11:00 AM - 1:00 PM](#)

The IN-HABIT project in Córdoba has emerged as a pioneering initiative in fostering social innovation, based on NBs for sustainable and inclusive neighborhoods in small and medium size cities in Europe. This project, by focusing on civic engagement and participatory approaches, has significantly contributed to transforming the Las Palmeras neighborhood. An area in the city of Córdoba in Spain, famous for the levels of violence, social exclusion, drug and alcohol abuse, and poverty. This abstract outlines the remarkable outcomes of civic engagement within the IN-HABIT project, highlighting its impact on social cohesion, neighborhood image, and inclusivity.

Civic engagement has been a cornerstone of the IN-HABIT project, with participation in events witnessing an exponential increase, multiplying by more than tenfold. From an initial event that attracted less than 50 participants, recent activities have seen participation surge to over 300 individuals, reflecting a growing interest and commitment among the residents towards their community's revitalization. Notably, male participation from the Las Palmeras neighborhood has seen a significant uptick, with men representing 35% of local participants in the latest event, marking a substantial shift in community involvement dynamics.

The project's influence extends beyond participation numbers, having a profound effect on the neighborhood's image and perception. The concerted efforts of the residents, facilitated by the IN-HABIT project, have led to a 23% average increase in positive perceptions regarding security, cleanliness, and aesthetics within the neighborhood. Concurrently, the negative image of Las Palmeras has decreased by 15%, illustrating the tangible impact of civic engagement on altering public perceptions and enhancing community pride. A noteworthy aspect of the IN-HABIT project has been the sustained engagement of a core group of female neighbors, whose involvement has remained robust over the three years of the project. This consistent participation underscores the role of women in driving community transformation and highlights the project's success in maintaining long-term engagement among key community members.

The IN-HABIT project's outcomes in Córdoba offer compelling evidence of how civic engagement, facilitated through participatory and inclusive approaches, can lead to substantial improvements in community cohesion, neighborhood image, and overall quality of life. These achievements underscore the potential of social innovation as a catalyst for creating sustainable and inclusive urban environments, where every community member has a role in shaping their neighborhood's future.

1126

## Co-Creating Green Spaces for Social Inclusion: The In-Habit Project in Córdoba

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❖ [Terceira-S84 Navigating Climate Transitions: Main Challenges to Communities Towards Sustainability, S08, August 28, 2024, 11:00 AM - 1:00 PM](#)

The In-Habit project, an Horizon 2020 project, aims to foster the integration of vulnerable or excluded populations within small and medium-sized European cities, including Nitra (Slovakia), Córdoba (Spain), Riga (Latvia), and Lucca (Italy), through Nature-Based Solutions (NBS). This innovative project emphasizes the revitalization of urban neighborhoods by engaging a wide range of city stakeholders, from local residents to businesses and NGOs, in co-creation, co-design, and co-management processes.

This presentation focuses on the transformative interventions in the Las Palmeras neighborhood of Córdoba, a community marked by high levels of social exclusion, drug addiction, alcoholism, violence, and vandalism. We highlight three major green space interventions: the renewal of the main square, the renaturalization of neighborhood courtyards, and the creation of a new picnic area. Each intervention was preceded by at least five participatory workshops involving neighborhood residents and researchers, facilitating a co-design process that directly responded to the community's needs and aspirations.

Despite initial challenges, such as the destruction of newly planted trees for bonfires, the project has made significant strides in building trust and encouraging community participation. The creation of the picnic area, for instance, was inspired by local women's fond childhood memories and designed to resist vandalism and misuse. The renewal of the main square not only beautified the area with over 50 trees and bushes but also involved local children in the planting process, fostering a sense of ownership and responsibility within the community.

Remarkably, the interventions have led to increased community engagement, including the formation of surveillance committees to protect the new green spaces. The inclusion of designated bonfire areas in the central square has allowed for the expression of local cultural practices without compromising the integrity of the space.

Over three years, the In-Habit project has conducted more than a hundred workshops with stakeholders in Córdoba, ensuring that the implemented NBS are inclusive and the result of a truly participatory approach. This presentation will share key insights and outcomes from these interventions, demonstrating the potential of participatory green space creation to promote social inclusion and community resilience.



1127

## The concept of sustainability in retail in Poland - the example of shopping centres

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❖ [Terceira-G50 Sustainability, Smartness and Festivals, S14, August 29, 2024, 2:30 PM - 4:15 PM](#)

Retail is undergoing an unprecedented transition. The internet has led to new sales channels and new opportunities to reach out to customers, and globalization has opened markets and introduced new competitors.

Sustainability has moved up the agenda for retail players. The COVID-19 accelerated this trend, with two-thirds of consumers in Poland saying it has now become even more important to them to limit the impact of climate change.

Any company that wants to stay relevant in the future should think about sustainable behaviour. The questions remain on the path forward.

Will the 2030s be the decade when sustainability breaks through? How should retailers combine operational excellence with social and environmental responsibility?

1129

## Spatial Interaction Model with the use Natural Resources and Environmental Capacities to Support the Promotion of Sustainable Tourism on BoaVista

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❖ [Terceira-S71 Sustainability in Tourist Destinations: A Multidimensional Approach](#), S08, August 28, 2024, 4:45 PM - 6:30 PM

Sustainable tourism plays a crucial role in reducing regional imbalances in small island states like Cape Verde.

The aim of this document is to contribute to the debate on the role of sustainable tourism in reducing regional imbalances in Cape Verde, based on the case study of the island of Boa Vista.

Adopting a spatial interaction model with the use of land, water, energy, housing, waste recycling capacity and sanitation, applied to island regions and making residents and tourists explicit, this approach makes it possible to analyse current practices, estimate the shadow price of land, water and energy resources, as well as indicators of the cost of resource scarcity, making it possible to identify gaps in sustainable tourism policies and guide sustainability policies in Cape Verde.

Analysing current data shows that, despite significant economic benefits, tourism in Cape Verde faces challenges in terms of environmental sustainability, social equity and economic vulnerability. The research reveals an urgent need for policies that balance economic growth with environmental protection and social inclusion. It also emphasises the importance of involving the local community and the private sector in promoting sustainable practices. The use of the spatial interaction model with the use of natural resources applied to the island of Boa Vista makes it possible to understand the interrelationship within the spaces and groups of Boa Vista and between the other islands and the island of Boa Vista, starting from the initial state and the hypothetical scenarios in relation to residence-employment and population-services interactions and showing how the impact of each scenario in the use of natural resources on the dynamics of the island and how these contribute to the sustainable development of the island of Boa Vista with tourism. The conclusions of the spatial interaction model with natural resource use and environmental capacities are used to infer the effectiveness of future policy forecasting.

This document provides essential guidelines for formulating more informed policies for improving and qualifying tourist destinations, implementing integrated sustainable tourism policies, strengthening local governance and promoting partnerships between the government, the local community and the private sector. The study offers in-depth insights into sustainable tourism in island contexts, with a special focus on Cape Verde, the island of Boa Vista, and similar regions facing growing challenges related to climate change management, both in terms of mitigation and adaptation.

1132

## Navigating the digital frontier: Tackling inequality in the fabric of Smart Cities

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- ❖ [Terceira-S82 The Technological Turmoil of the XXI Century: Spatial Dynamics and the “No Person and No Place Behind” Approaches, S10, August 29, 2024, 2:30 PM - 4:15 PM](#)

With the ongoing transformation and proliferation of urban centres, the principles embedded in the concept of smart cities—technological integration, data-driven decision-making, emphasis on sustainability and active community engagement—emerge as pivotal forces in guiding urban development. Despite the widespread acclaim of smart cities for their ability to boost productivity and enhance social, economic and human capital, emerging research suggests a paradox: the implementation of smart city frameworks may, in fact, aggravate existing social divides. This paper challenges the prevailing technocentric approach dominating the smart city discourse, which often overlooks deep-seated urban inequalities such as sprawl, poverty, unemployment and issues of housing affordability. Offering a nuanced understanding of the intricate dynamics at play between smart city projects and digital divides, this study proposes a reimagined framework for smart city development. It emphasises the necessity of adopting inclusive strategies that not only prioritise technological innovation but also address the imperative for social equity, aiming to create urban environments that are genuinely inclusive, equitable and interconnected. By proposing a strategic roadmap for the application of urban technological advancements, this paper aspires to contribute to the discourse on achieving more inclusive urban futures, bridging the gap between technological promise and social reality. Through this exploration, the goal is to foster a dialogue that will lead to the refinement of smart city models, ensuring they serve as tools for building socially just and sustainable urban ecosystems.

1135

## Finnish Standardization Panel pilot: Preliminary observations

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❖ [Online-G09 Regional Competitiveness, Innovation and Productivity, August 26, 2024, 9:00 AM - 10:30 AM](#)

We explore the role and impact of standards for businesses in the Finnish context. The benchmark for the study is the annual German Standardization Panel and the recently piloted European standardization panel. In contrast to these online surveys that are quantitative in nature, the approach of the Finnish standardization panel is more exploratory and qualitative and relies on a large number of expert interviews. The target is to interview 100 Finnish experts from various fields (national standards organisations, industry associations, companies, research institutes, academic researchers) during 2024. The interviews are currently ongoing, so final conclusions are yet to be derived. Preliminary observations and anecdotal evidence indicate that standards development has been a rather neglected dimension of national innovation policy. The interview data will provide a big picture of the functioning of the Finnish standardization ecosystem as well as its challenges and opportunities in the current geopolitical environment. In particular, we will investigate the perceptions that experts have regarding the status of Finnish standardization awareness and education as well as learning paths of Finnish standardization experts. We expect to derive policy implications and suggestions on how the Finnish and European standardization ecosystems could be developed further. Finland is a European small open economy and the findings of the Finnish Standardization Panel could be generalizable and have implications to other European small open economies. In Finland, there is an initiative to develop the national standardization strategy and the expert interviews can act as important input in the development process.

1140

## One plus one makes less than two? Consolidation policies and mortality in the Italian NHS

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❖ [Terceira-S21-S5 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S03, August 29, 2024, 2:30 PM - 4:15 PM](#)

This paper investigates the population-wide health effects of the amalgamation of local health authorities in Italy. We focus on the evolution of municipality-level mortality in the years 2002-2018. We exploit the within-municipality variation over time and the staggered adoption of the consolidation reform in different years by using an event study design in which we control for heterogeneous treatment effects over time and across municipalities. In the medium long-term, the reform led to an average increase of the overall mortality rate. Potential mechanisms are unfolded by considering mortality rates for different age groups, leading causes of death and gender. [see extended abstract]

1142

## Do Migrant Students Affect Performance of Natives?

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❖ [Terceira-G41-O2 Migration and Integration in a Global World, S18, August 30, 2024, 9:00 AM - 10:30 AM](#)

With the increasing rates of immigration, the issue of integration of migrant children in terms of their performance and spillover effects for natives becomes of great importance. This paper examines the impact of migrant peers on the performance of native students in the context of the Dutch education system. We exploit cohort-to-cohort and within-students across-subject variation in the percentage of migrant peers in the primary and secondary schools, respectively. The preliminary findings indicate that the exposure to a larger share of the 1st generation non-Western migrant peers slightly decreases the performance of natives. The effect is more pronounced in urban than non-urban schools. Heterogeneity analysis shows that the effect is more considerable for girls and students of low-educated parents; there is no difference between students from top and bottom income quantile. We do not find the effects of 2nd generation non-Western and Western migrant peers on the performance of natives.

1144

## Towards inclusive regional green industry path development: Exploring the complexities in future onshore and offshore wind industry development in Norway

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❖ [Online-S46 Building Just Futures for Regions in Green Industrial Transitions, August 27, 2024, 9:00 AM - 10:30 AM](#)

The literature on green industry path development (i.e. referring to industrial development around new technologies, products, services, business models that promote new industry development, create new jobs and economic growth, help reduce GHG emissions and reduce biodiversity loss) within the Evolutionary Economic Geography (EEG) Literature has provided considerable insights regarding different typologies of green industry path development in different types of regions. However, limited studies have highlighted the need for examining the economic, social, and ecological impacts of the green industry path development process.

Building on these insights, the paper provides an overview of the critical building blocks of conceptualizing the inclusive green industry path development process by focusing on three crucial interrelated dimensions, namely (1) Different forms of change and maintenance agency exhibited through transformation work and the multiple legitimation narratives propagated by different actors; (2) the underlying politics of inclusion and exclusion of vulnerable actors and the zones of negotiation between powerful and vulnerable actors and (3) the role of the multi-scalar institutional environment and the national state in mediating conflicts and contestations between the actors. The three integrative dimensions help examine how the different vulnerable and powerful actors negotiate different interests and engage in power plays to emphasize or deemphasize the economic, environmental, and social benefits of a future-oriented green industry path development process. In this respect, the role of the national state is crucial in mediating the different interests and conflicts between the different actors in a multi-scalar context to develop coordination and setting strategic direction for stimulating transformative green regional industry path development process.

The analytical framework helps to explain the underlying tradeoffs between the economic, social, and ecological dimensions of the inclusive green industry path development process and the different regional outcomes (positive and negative) in different regions. The framework is empirically illustrated with the ongoing complexities associated with just onshore and offshore wind industry development in Norway by building upon empirical insights from prior case studies. In terms of the research method, the paper utilizes a qualitative case study approach and utilizes existing archival data sources.

The paper contributes to the existing literature on green industry path development by developing a nuanced multi-level and multi-scalar conceptualization of the inclusive green industry path development process, focusing on the tradeoffs between the different economic, social, and ecological outcomes.

1147

## Innovation and trust across European regions: Is there still a socialist legacy after all these years?

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❖ [Terceira-G29 Quality of government across space and time, S16, August 30, 2024, 9:00 AM - 10:30 AM](#)

In this paper we argue that there is still a negative impact of socialist legacy on innovation and R&D cooperation in regions of Central and Eastern European (CEEs) countries. We particularly focus on the channels behind such a negative link. A main conjecture is that trust and quality of government are negatively affected by socialist exposure. Therefore, both are crucial mediators of the negative relationship between socialist legacy and regional innovation. To the best of our knowledge, this is the first study decomposing the innovation gap of post-socialist Eastern European countries.



1148

## Supporting integrated urban development through EU Cohesion policy instruments – evidence from Croatia

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❖ [Terceira-G06-O1 Regional and Urban Policy and Governance, S12, August 28, 2024, 11:00 AM - 1:00 PM](#)

The EU Cohesion policy has been trying to formulate its urban dimension for a long time. The latest changes covering 2014-2020 period brought a series of novelties with regard to promotion of the integrated approach to urban development. Within this context, Croatia seized the opportunity to initiate work on its policy framework for urban development, incorporating novel financial and operational mechanisms. This study scrutinizes the measures undertaken to implement the integrated urban development strategy, assessing the extent of its realization. This paper examines the critical steps in setting the integrated approach to urban development. It evaluates to what extent the integrated approach has actually been achieved. For this purpose, a special framework for assessing the success of the integrated approach was developed. Based on the analysis of the documentation and the comparison of approaches in Croatia and other member countries, it is concluded that a relatively ambitious approach has been applied in Croatia regarding the use of Cohesion policy funds for the needs of integrated urban development and that significant effects have been achieved in a relatively short period. These achievements are evident not only in the scale of project financing but also in the substantial enhancement of institutional capacities and inter-territorial cooperation. On other hand, the most significant challenge lies in operationalizing the integrated approach at the project implementation stage, a policy challenge common across the European Union.

1149

## From Startups to Standoffs: Exploring the Relationship Between High-Growth Entrepreneurship and Populist Movements in Europe

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❖ [Terceira-G14-O2 Institutions, Political and Decisional Processes, S13, August 29, 2024, 2:30 PM - 4:15 PM](#)

This study explores the relationship between regional entrepreneurship and the rise of far-right populism in Europe. By integrating the "discontent" literature with entrepreneurship research, this paper aims to understand the link between entrepreneurship and populism, thereby offering a novel perspective on the socio-political impact of high-growth entrepreneurship. Initial findings indicate a significant negative correlation between high-growth entrepreneurship and right-wing populist support, suggesting that regions with higher levels of entrepreneurship tend to support moderate political parties, which may reflect a stronger backing for the institutional system. This relationship is examined through various measures of productive entrepreneurship and vote shares across different elections. The study delves into the underlying mechanisms of this relationship, considering factors like inequality, sector composition, and social values. These insights could guide policymakers in crafting strategies that promote entrepreneurship, potentially mitigating populist sentiments.

1150

## Transition Pathways for Sustainable European Regional Development.

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❖ [Terceira-S26-S2 Social Innovation for Sustainable and Inclusive Regions, Communities and Neighborhoods, S06, August 29, 2024, 9:00 AM - 10:30 AM](#)

Transition Pathways for Sustainable European Regional Development.

Daniel Magwegwe, Rik Eweg, Van Hall Larenstein University of Applied Sciences, Velp, The Netherlands.

Objective and contribution

This paper will describe prototypes for Transition Pathways towards inclusive, sustainable development for seven regions in five European Countries.

Sustainable regional development hinges on the idea that regions are integrated systems with a natural and social dimension. These social ecological systems highlight complex and intricate connections between human societies and ecosystems which are essential in approaches for engaging multiple stakeholders to promote regional development.

In the most recent years, sustainable regional development in Europe has been facing multi-faceted complex problems, including climate change and environmental degradation, economic disparities, and energy crisis. Complex problems and challenges require innovative approaches to regional development that result in sustainable systemic changes. Systems changes are described as transitions. The transition pathway concept describes the framework of how desirable systems changes can be achieved.

The transition pathways discussed in our paper identify the potential steps that stakeholders within the region can take to arrive at a shared future narrative, and thereby ensuring a more feasible and actionable vision. Transition pathways contribute to the transformative power of regions and communities through inspiring different stakeholders to act now to achieve the future vision. The transition pathway is not linear but requires a complex, multi-level transition that includes innovations in social, cultural, technical, and institutional aspects. We will focus on the contribution of transition pathways to social and economic innovation.

INVEST4EXCELLENCE IN REGIONAL SUSTAINABILITY is a European Union funded H2020 project, with the aim of developing sustainable societies and economies in the regions across Europe. In this project partnerships of citizens, NGOs, governmental organizations private companies and educational institutions collaborate interdisciplinary in the INVEST regional Living Labs. In the project, seven transition pathways for sustainable regional development were developed in five countries (Greece, Finland, Slovakia, Bulgaria, and the Netherlands). Each pathway was developed to match with the developmental needs of the specific regions. With the current complex challenges that Europe faces towards regional development, the use of transition pathways comes as a highly recommended option. This is also supported by the fact that classical, linear forms of governance have become ill-equipped to deal with the characteristics of transition issues. Understanding and appreciation of the diversity of regions in Europe is paramount for the development of transition pathways for sustainable regional development.

1152

## Exploring the green tapestry of sustainable entrepreneurial ecosystems

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❖ [Terceira-S40 Fostering Sustainable Regional Development: The Central Role of Entrepreneurship and Policy](#), S14, August 28, 2024, 2:30 PM - 4:15 PM

This research delves into the complex relationship between innovation ecosystems and sustainable development within the context of Polish entrepreneurship from 2005 to 2023. Departing from conventional methodologies, our study employs a sophisticated linguistic classification model to assess patents and utility models, going beyond the constraints of traditional metrics. This approach enables a comprehensive understanding of how innovative solutions contribute to sustainable development, focusing on factors such as resource efficiency, emissions reduction, and societal accessibility.

Geospatial analysis adds a unique dimension to our investigation, providing a detailed examination of the geographic concentrations of sustainable innovations. By assigning precise locations to entities involved in innovation ecosystems, we uncover the localized nature of sustainable entrepreneurship. Using dynamic spatial panel models, we analyse the temporal and spatial dimensions of patents and utility models, revealing how innovation affects the overall performance of ecosystems.

In our multidimensional approach, we extend our analysis beyond patents and utility models, incorporating industrial designs and trademarks. This comprehensive evaluation allows us to explore the systemic impact of sustainable innovations on the emergence of start-ups, industrial designs, and trademarks within ecosystems.

Our study further investigates the size of ecosystems and conducts spatial weight analysis to unpack the spatial dynamics and indirect effects within these innovation ecosystems. By examining various area sizes and spatial weights, we aim to identify the scale at which sustainable development efforts are most impactful.

To strengthen the credibility of our findings, we compare the results with existing methodologies, serving as a robustness check. This comparative analysis enhances the credibility of our research and contributes to the discourse on sustainable entrepreneurship.

The implications of this research extend to policymakers, researchers, and practitioners interested in fostering sustainable development through innovation ecosystems. Our findings offer valuable insights into the diverse dynamics of sustainable entrepreneurship, providing a roadmap for shaping policies that promote eco-friendly innovations and fostering a more sustainable future.

1153

## Shedding light on the impacts of electricity subsidies in Brazil

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❖ [Terceira-S40 Fostering Sustainable Regional Development: The Central Role of Entrepreneurship and Policy, S14, August 28, 2024, 2:30 PM - 4:15 PM](#)

While energy tariff subsidies exist in various countries around the world, their real impacts are not yet fully understood. This study assesses the effects and efficiency of the Brazilian Social Electricity Tariff Program (TSEE), which provides discounts on electricity bills to low-income consumers. Using a difference-in-differences methodology, we estimate the program's effect on energy consumption of the directly benefited population, using a regulatory change as an instrument of exogenous variation in electricity prices. We also discuss how this policy affects social welfare, considering the tariff pass-through of the subsidy to other consumers.

Our results indicate that inclusion in the TSEE and the subsequent discount on the electricity tariff had no significant effect on the consumption of the treatment population at any analysis horizon, which extended up to eight months post-treatment. In our analysis of the subsidy pass-through to other consumers, we found that 0.65% of the electricity tariff in the states of Maranhão and Pará was allocated to funding the social tariff in 2021, while this number increased to 1.01% in the post-treatment period. For the population of the states of Maranhão and Pará, this translated to an increase of US\$20.36 million in the total subsidies paid for TSEE funding.

With this work, we aim to contribute to the literature on energy subsidies, providing evidence from a developing country, and enrich the discussion on the intersection between efficiency and equity in energy policies.

1155

## Top hospitals as regional innovators: the adoption and spatial diffusion of best-practices with respect to vaginal births after cesareans (VBAC)

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❖ Terceira-G09-O3 Regional Competitiveness, Innovation and Productivity, S13, August 30, 2024, 11:00 AM - 1:00 PM

During the latter years of the last millennium there was a remarkable rise and subsequent fall in the number of vaginal births after cesarean (VBAC's) in the United States. These changes coincided with changes in guidance from the American College of Obstetricians and Gynecologists (ACOG), the nation's leading education organization for physicians specializing in obstetrics and gynecology. This guidance was informed by emerging and evolving research regarding the safety and efficacy of VBACs.

Through the 1970, it was relatively standard practice for US women to have cesareans in any delivery after a cesarean birth. Between 1980 and the mid-1990s, ACOG pronouncements regarding VBACs became increasingly less restrictive, encompassing births which previously had not been considered candidates for a VBAC (Gregory et al., 2010). However, for several reasons, ACOG updated their guidance on the appropriate recommendation for VBACs, with more stringent conditions being put in place the late-1990s. This led to a decline in the number of VBACs.

In this paper we examine the spatial components of this dynamic, focusing on the influence of "top-50 hospitals" to the common practices in a region. We hypothesize that top-50 hospitals serve as regional health innovators, with new (or changing) practices more likely to be adopted sooner in regions that have such a hospital or are located near one.

It is important to recognize that ACOG recommendations are not laws. Differences in diffusion of knowledge between close and remote places can come about for a variety of reasons, including social and professional networks, and competitive market pressures. In our empirical work we investigate whether the presence of a Top 50 hospital affected physician responses to the evolving evidence regarding VBACs for each year over the 1990-2002 period, using a Difference-in-Differences (DD) specification.

1156

## The Spatial Dynamics of Insurgency and Local Public Goods Provision

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❖ [Terceira-G01-O2 Peace, Regional and Urban Sustainable Development, SF4, August 28, 2024, 4:45 PM - 6:30 PM](#)

Many empirical studies have shown that promoting local development is an effective strategy in countering insurgencies. It is argued that the right mix of coercion, ethnic strategy, and public goods provision win the hearts and minds of the local community and reduce the number of insurgent attacks. However, a common assumption behind previous evaluations is that insurgent attacks have a strong local root and they are unlikely to be reproduced in other areas. Violation of this spatial independence assumption, however, can potentially bias towards the positive results. Based on a spatial dynamic panel data model, this study finds evidence of spatial dependence in the case of insurgent attacks in Iraq. Furthermore, conditional on other hearts and minds strategies, the effects of local development projects vary considerably both in magnitude and direction, suggesting that some policy mixes between coercion and public goods provision can lead to spatial spillovers and are counterproductive.

1157

## Cultural Participation as a Pathway to Urban Sustainability in Košice Post-ECoC 2013

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❖ [Terceira-G35-O1 Tourism and Overtourism Issues, S17, August 28, 2024, 4:45 PM - 6:30 PM](#)

This paper explores the impact of the title Košice European Capital of Culture (ECoC) 2013 on the cultural participation in the city, the well-being of citizens and the impacts of the COVID-19 pandemic on cultural engagement.

The presented research was drawn during the formulation of a new cultural strategy for the city, prompting a reevaluation of previous ECoC-driven initiatives. Leveraging insights from earlier data collection efforts in 2007 and 2013-2014, the study aims to illuminate the lasting legacy of ECoC in shaping Košice's cultural ecosystem.

Framed within a theoretical context, the paper critically examines prevailing perspectives of culture led-urban development concept and cultural policy paradigms, particularly in light of austerity measures. It advocates for alternative conceptualizations rooted in sustainable development theories, emphasizing the intrinsic value of cultural participation in fostering societal well-being and cohesion.

Methodologically, the study adopts a mixed methods approach, combining focus groups with residents and data from a representative survey to investigate shifts in cultural participation patterns over seven years. Quantitative methods, such as latent class cluster analysis, are used to display the changes in cultural engagement.

Findings reveal a reduction in cultural inactivity alongside increased engagement with popular culture, indicating a more diversified cultural landscape post-ECoC. However, challenges persist in addressing inherent stratification within cultural participation.

In conclusion, the paper argues for a nuanced understanding of cultural participation as a catalyst for urban sustainability. By prioritizing accessibility and inclusivity in cultural policies before the number of cultural events, cities like Košice can harness their cultural heritage to promote social integration and advance the broader agenda of sustainable urban development.



1158

## Economic growth and renewable energy consumption: modelling approach

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- ❖ [Online-S65 Contribution of Peace and Cultural Diversity to Sustainable Economic Growth in the Era of Climate Change, August 27, 2024, 9:00 AM - 10:30 AM](#)

The aim of this work is to study the nature of the relationship between economic growth indicators (including gross domestic product, gross fixed capital formation with other economic variable) and environmental indicators that have an impact on the environment, taking into account the consumption of renewable energy and the level of carbon emissions (CO<sub>2</sub>), not forgetting other variables that could be included in our research, such as gross domestic product (GDP) per capita and per sector of activity (by agricultural, industrial or even digital sector) . In this respect, we will opt for the econometric approach of multiple linear regression and more precisely on the techniques of ordinary least squares (Régis BOURBONNAIS, 2015, p50), based on the data of the World Bank (international sites) to treat the economic and environmental indicators of Morocco over the period between 2000 and 2020. Our aim in this paper will be based on the recent literature review that focuses on the energy economy as a key factor of sustainability and its relationship with economic growth (Saidi and Omri, 2020, p1), trying to study this possible relationship to know the cleanest and most likely to be green economic activity sector in renewable energy (Saidi and Omri, 2020, p 1)

1161

## Textual Alchemy: Predicting Company Innovation by Deciphering Unstructured Website Content in Time and Space

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❖ [Terceira-S05-S2 Machine Learning in Regional Science: Perspectives, Methods, and Applications, S03, August 29, 2024, 9:00 AM - 10:30 AM](#)

Our study pioneers a holistic approach, offering early indicators of upcoming innovations and deepening our understanding of the complex connections within the geography of innovation by decoding unstructured website text. In the rapidly changing landscape of innovation research, traditional methodologies based on well-established secondary data sources are being extended with cutting-edge approaches. This paper uncovers the dynamics of innovation in companies by exploiting a massive body of unstructured textual website data. Moving away from conventional static analyses of company websites, we use advanced web scraping, social network analysis and natural language processing techniques to introduce a temporal dimension to our exploration. Focusing on the Polish business landscape, our study uses WebArchive's database of websites, which includes more than ten thousand corporate entities that filed patents between 2001 and 2023.

Our methodology geolocates each company in detail, embedding it in a well-described socio-economic context that takes into account organisational structure, economic and technological diversity and local knowledge complexity. In the study, we use patent data extracted from extensive databases and a nuanced exploration of textual representations of innovations. To uncover patterns and insights from unstructured text, we use advanced topic modelling tools such as Latent Dirichlet Allocation (LDA), Latent Semantic Analysis (LSA), Correlated Topics Models (CTM) and word embeddings such as GloVe. Furthermore, transformational natural language processing (NLP) capabilities, including state-of-the-art Transformer models, were included in our analysis.

This innovative approach goes beyond traditional boundaries, predicting a company's innovation based on changes in the textual content of its website over time. A temporal perspective allows us to capture the evolution of innovative activities, providing a holistic understanding of the innovation process within a single company. At the same time, we address the spatial dimension, considering the geographical proximity of innovative actors to capture the interplay between them. This detailed exploration sheds light on the geography of knowledge production and relationships, revealing how spatial dynamics shape innovation in the Polish business landscape.

1162

## Why railways fail: The economic effects of railways in Bosnia-Herzegovina under Habsburg colonialism

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❖ Terceira-G12-O1 Economic development in rural places, S15, August 28, 2024, 11:00 AM - 1:00 PM

Railways are considered to be locomotives of industrialization, urbanization, and economic development. Most of the quantitative studies supporting this view rely on evidence from developed countries, whereas studies for developing colonial economies are rare and suffer from low data quality. In this paper, we study the economic effects of railways in Bosnia-Herzegovina under Habsburg colonial institutions and explore related mechanisms. We use detailed census data to measure local structural change. Our novel dataset consistently tracks agrarian and non-agrarian population in over 4,200 settlements in 1885, 1895, and 1910. We have georeferenced the settlements and railways using historical maps. Applying the inconsequential units approach, with least cost paths as the instrumental variable, we estimate the causal effect of railway access on structural change. We find that, under Habsburg colonial rule, railways had heterogeneous effects on structural change. First, the extension of the imperial normal-gauge network reversed structural change by exposing the domestic proto-industry to import competition. Second, narrow-gauge railways (that were incompatible with the imperial network) led to a temporarily positive effect due to railway construction activity. The positive effect of narrow-gauge railways on structural change endured only in settlements endowed with sufficient human capital and state capacity. Our findings suggest that investments in transport infrastructure are by no means a silver bullet for economic development, but rather a double-edged sword depending on the institutional setting.

1164

## Will telework reduce travel? An evaluation of empirical evidence with meta-analysis

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❖ [Online-S59 Telework in Post COVID Times: Trends and Challenges for the Future, August 26, 2024, 4:45 PM - 6:30 PM](#)

Flexible work arrangements, including telework, emerged in the 1970s after the advent of Information and Communication Technologies. Firstly, these were considered effective travel demand management tools since working from home could eliminate commuting trips and changing travel patterns. Over the years, researchers focused on studying the implications of telework adoption on travel, but the results remain contradictory. Early research concluded that telework reduces travel, including during peak hours, contributing to decreased congestion levels. Over the years, the results became more diverse when new empirical studies indicated neutral or negative effects on travel. The conclusions so far are ambiguous. Conversely, telework could reduce the number of trips but increase travel distances and non-business trips. More recently, researchers focused more on the impacts on mode choice to understand if telework could contribute to more sustainable mobility patterns. In general, teleworkers tend to use more car and less public transportation. In addition, the pandemic promoted a global telework experience, and the social distancing measures adopted during this period changed the perceptions about this discussion. The studies about telework effects on travel patterns increased and showed different conclusions: Teleworkers use more cars and active modes, reduce commuting trips, but travel more for other purposes. The vast telework adoption and concerns about the coronavirus could influence some results. This diversity of results could be described by many factors, such as differences in data collection, sample sizes, sampling methods, modeling methods, socioeconomic variables included in the empirical models, and the incorporation of attitudinal variables and preferences. The telework effects on travel behavior in post-pandemic are unclear. To understand the role of the different variables in the conclusions reached, we develop a meta-analysis of previous empirical studies on the effects of telework on travel. It is based on a systematic literature review of around 130 papers published between 1977 and 2023. The meta-analysis will consider the capacity of telework to reduce travel, thus employing a binary variable (decreases versus increases, is neutral or ambiguous). Due to the diversity of the studies regarding sample, methodology, data collection, and other characteristics, we will test the heterogeneity of this variability by applying Cochran's Q test and applying the more adequate method, either meta-regression or random effects. The results will be discussed based on the capacity of different characteristics influencing the conclusions of the different reviewed empirical studies. Recommendations for future data collection and empirical analysis about telework will be provided

1166

## Climate adaptation strategies: Relationship with spatial planning of various levels and some evidence from the local level in Greece.

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❖ [Online-G18-O1 Climate Adaptive and Resilient Regions and Cities, August 26, 2024, 4:45 PM - 6:30 PM](#)

In recent years, climate adaptation strategies have been emphasized above all due to the pressing need to prevent climate related risks. These strategies are adopted and promoted by supranational and national level organizations aiming to mobilize climate action as well as help achieve global climate targets. This is especially the case of the EU climate policy that has adopted a new climate adaptation strategy since 2021 so that the EU "can adapt to the unavoidable impacts of climate change and become climate resilient by 2050". At the same time climate change impacts have significant territorial dimensions that raise the need for territorial policies and particularly spatial planning to be involved in climate adaptation policies. Noteworthy is that cities and regions all over Europe prepare their adaptation strategies regardless of whether they are mandatory. Thus, the question arises as to how climate adaptation strategies can be mainstreamed into spatial planning at different scales, from national to regional and local scale. In this paper it is suggested that spatial planning on the one hand shapes the prerequisites of adaptation e.g. through prevention and reduced exposure measures and on the other hand has a coordinating role that facilitates climate adaptation mainstreaming in various policies. This paper examines the above issues and draws evidence from the case of in Greece, where local (municipality) level spatial planning is undergoing a development process through the initiation of a considerable number of local spatial plans. Specifications for these plans make provision for elaboration of climate adaptation plans, which reveals the necessity of local level adaptation strategies to be elaborated and adopted.

1168

## Agroindustrial extractivism in the Global South: Environmental challenges in the face of the global flower production industry.

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❖ [Online-G46-O2 Sustainability of local policies, August 27, 2024, 2:30 PM - 4:15 PM](#)

Flower agroindustry was established in Colombia in the early 1970s and is now recognized as the world's second-largest producer of flowers. Its development brought a significant increase in employment opportunities in rural regions that primarily relied on food production, prompting a shift in the lifestyles of residents and in the use and coverage of land in municipalities such as Madrid, Cundinamarca—the first to produce and export flowers nationally. With this work, we assert that 50 years after the implementation of this agroindustrial model in the municipality of Madrid, the assessment of the transformations generated is not entirely favorable, given its multidimensional impacts on social and environmental levels.

Thus, through interviews with local residents, former and current employees of flower companies, document analysis, direct observation exercises, and participation in activities organized by social and environmental organizations, we document the transformations in the lifestyles of local residents in this municipality. This includes examining their relationship with traditional crops and the water resources of this municipality (rivers and wetlands) before and after the arrival of this agroindustry. The analysis also explores how social and environmental organizations propose a transition of this agroindustry towards more sustainable forms of production, beginning with a drastic reduction in the use of agrochemicals and resources such as water and soil, ultimately proposing the clean production of food.

1170

Working with urban and territorial resilience in multi-risk environments. The case of Bagnoli, in the western area of Naples, Italy.

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❖ [Online-S62 Urban and Territorial Resilience: From Measuring to Building Planning Solutions, August 27, 2024, 9:00 AM - 10:30 AM](#)

Climate change and rapid urbanization processes are urging contemporary cities to face unprecedented sustainability and resilience challenges.

In addressing the complex and interconnected challenges of multi-risk urban contexts, it is becoming clear that an approach to spatial research and policy needs to be increasingly integrated, multidisciplinary and multiscale. In this context, achieving resilience in critical urban contexts becomes an important challenge, as it involves the ability of cities and communities to cope with, adapt to, and recover from a wide range of hazards, including environmental, natural, and man-made hazards. Urban research and policies should integrate the concept of multi-hazard resilience, considering the interconnections between different factors and adopting a holistic approach that takes into account the multiple dimensions of vulnerability and adaptive capacity of urban communities. This contribution aims to deepen the definition of urban resilience widely shared by the scientific community, and to focus on how it declines in critical and multi-risk contexts. The slow remediation process in the area of Bagnoli, in Naples (Italy), is described as a study case.

1171

## Understanding and enabling a locally-situated transition in the context of Leon

Ms Nevelina Pachova<sup>1</sup>, Ms Adriana Veran Casanova<sup>1</sup>, Mr Ralph Horne<sup>1</sup>

<sup>1</sup>RMIT Europe, Barcelona, Spain

❖ [Terceira-S75-S1 Collective Action and Territorial Transitions, SF2, August 28, 2024, 11:00 AM - 1:00 PM](#)

External funding, collective action and transformative change: Crowding out of intrinsic motivation for social and governance innovation? Insights from the context of Leon

Nevelina Pachova and Adriana Veran, RMIT Europe

The European Commission has committed to making Europe carbon-neutral by 2050, while leaving no region or person behind in the process of change. This implies the phasing out or transformation of a range of carbon-intensive industries, with significant implications for the territorial development of the areas and regions where they are based. The EU Just transition fund was developed to help off-set some of the negative impacts of such processes of decarbonization by providing targeted funding aimed to catalyse and support innovation that enables a shift towards less carbon-intensive pathways for territorial development, while leaving no one behind.

Social and governance innovation are arguably essential for stimulating inclusive transformative change, such as the one called upon by the European ambitions of achieving both ecological and social justice for all. Both, however, are most often driven by intrinsically-motivated collective action that pushes the boundaries of existing systems towards alternative modes of relating with people and nature as a basis for change. External incentives, could arguably lead to the crowding out of such intrinsic motivation. Therefore, it remains unclear whether and if so under what conditions external funding such as the one provided by the EU JT Fund could stimulate social and governance innovation for transformative change.

The study explores this question in the context of Leon and specifically the former coal-mining areas in the region, which are eligible to receive funding from the EU Just Transition Fund. We employ a qualitative research approach involving semi-structured interviews, focus group discussions, and some elements of ethnographic research involving a range of communities from across the region. The findings suggest that structural barriers to accessing EU funding make them inaccessible to small-scale grassroots initiatives that are driving social innovation across the region, thus discarding the danger of the crowding out hypothesis. Taking a broader, multi-level governance perspective of social innovative, however, allows us to also explore the impact of EU funding on stimulating governance innovation, a question that generates a much more nuanced response and draws attention to the role of politics, context-specific governance structures and personal values as critical factors mediating the relationship between external funding and transformative governance change.



1172

## Leaving no region vs leaving no one behind: Capabilities for transformative change among marginalized communities in seven regions at risk

Ms Nevelina Pachova<sup>1</sup>, Ms Adriana Veran Casanova<sup>1</sup>, Prof. Ralph Horne<sup>1</sup>

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❖ [Terceira-S11-S1 Left Behind Areas: Past, Present and Future, SF2, August 28, 2024, 2:30 PM - 4:15 PM](#)

Leaving no region vs leaving no one behind: Exploring the perceptions and capabilities for transformative change among marginalized communities in seven regions at risk of being left out

### Abstract

The European Commission has committed to making Europe carbon-neutral by 2050. This implies the phasing out or transformation of a range of carbon-intensive industries, with significant implications for the territorial development of the areas and regions where they are based. With view of avoiding the risks of leaving those regions out in the process of change, the EU has set up a Just Transition Mechanism to help off-set some of the negative impacts of the processes of decarbonization by providing targeted funding aimed to catalyse and support innovation that enables a shift towards less carbon-intensive pathways for territorial development. It remains unclear, however, whether the EU funds allocated to leave no region behind will be used in a way that also leaves no person behind in the process of change. Participatory planning is arguably essential for this but challenges to participatory planning processes raise the question of whether it is sufficient to ensure it. In order to explore this questions, we examine the perceptions and capabilities of marginalized communities across seven carbon-intensive regions across Europe included in the EU Just Transition Mechanism. Specifically, we look at the desires, hopes and visions of women, youth, ethnic minorities and other structurally disadvantaged communities in the examined regions, relate those to official decarbonization priorities and funding support for the process and explore whether and if so how marginalized communities can be better integrated in existing just transition governance mechanisms, so that their voices can be heard and their concerns addressed in the process of change. The study draws on ca. 70 semi-structured interviews and 20 focus group discussions employing the photo voice method as an entry point for discussion of the perceptions of marginalized communities of the process of decarbonization in their respective regions. Special attention is given to understanding the individual capabilities and collective agency of marginalized communities to influence the process of decarbonization and what is needed to support them in the process. The study was undertaken in the framework of the EU-funded BOLSTER (Bridging Organizations and marginalized communities for Local Sustainability Transitions in Europe) project, which aims to understand how marginalized communities are affected by the EU Green Deal and whether engaging them can make the transition more acceptable and just.

1174

## Entrepreneurship' Sustainability of the Popular and Solidarity Economy in Ecuador

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❖ [Terceira-G13-O2 Entrepreneurship and Regional Development, S16, August 29, 2024, 9:00 AM - 10:30 AM](#)

The contribution of the popular and solidarity economic sector organizations in the Ecuadorian economy has increased, so it is necessary to measure the sustainability of their entrepreneurship. Therefore, this study proposes the construction of a sustainability index considering the following dimensions: administrative and organizational processes, productivity, innovation, income generation, participatory democracy, cooperation, and environmental practices, using the VAE network model. The networks constructed for each dimension are consistent according to minimum loss by the Bayesian optimizer, and the observable variables are aligned with the literature. This study identifies the high, medium, and low sustainability levels of PSE organizations at the provincial level.

1175

## Estimation of rooftop evacuation capacity for constructing a vertical–horizontal 3D evacuation simulation against tsunamis and storm surges

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❖ [Terceira-S15-S2 Flood Risk and Natural Hazard in the Built Environment - From Economic Impact to Regional Resilience, S01, August 30, 2024, 11:00 AM - 1:00 PM](#)

When residents evacuate from water-related disasters such as river floods, storm surges, and tsunamis, vertical evacuation is also important in addition to horizontal evacuation because the time spent in lowland areas should be reduced as much as possible. However, the current evacuation plans for flood disasters are based on the assumption of horizontal evacuation to shelters. Therefore, this study uses data from a 3D urban model (3D PLATEAU) to construct vertical–horizontal evacuation simulations, estimate the number of people temporarily accommodated by rooftop evacuation measures in the case of a large-scale storm surge and tsunami in Konohana-ku, Osaka City, and quantitatively evaluate the disparity between the two areas.

Out of a daytime population of 1,777 in Kasugade-kita 1-chome, 1,116 people were found to need to evacuate in the event of a tsunami and 1,421 people were found to need to evacuate in the event of a storm surge. However, only one building in Kasugade-kita 1-chome has been designated as a tsunami evacuation building by Osaka City, and its estimated capacity is 501 people, which is significantly insufficient. Therefore, we estimated the number of people who could be temporarily accommodated if the rooftop of an RC building, which is less likely to collapse or spread fire, were used as new evacuation sites. We found 45 buildings (including tsunami evacuation buildings) with rooftop evacuation sites, and an estimated number 2,045 temporary evacuees that could be accommodated. In the event of flooding, the maximum number of people that cannot be accommodated in evacuation buildings in Kasugade-kita 1-chome is 920. If approximately 45% of the buildings have rooftop evacuation sites that can be accommodated, it is theoretically possible to temporarily evacuate all residents in this area.

In the entire Konohana Ward, it is clear that, if the rooftop of an RC structure can temporarily accommodate 100% of the population, it is possible to create a temporary evacuation site for approximately 200,000 people (approximately 2.3 times the daytime population and 3.0 times the nighttime population). If the rooftop evacuation measures proposed in this study can be realized, the feasibility of vertical and horizontal evacuation for water disasters such as tsunamis and storm surges can be increased.

1176

## The firm geography of Central and Eastern Europe and the Western Balkans

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❖ [Terceira-G15-O3 Spatial Sustainable Development, S15, August 30, 2024, 9:00 AM - 10:30 AM](#)

Over the past three decades, the region has undergone significant changes that have transformed the social, economic and political landscape. The traces of these changes are particularly visible in the post-socialist states of Central and Eastern Europe. These processes have sometimes fragmented, sometimes reshaped, and sometimes transcended borders, reshaping the region. The focus of this study is on the 'geography' of companies, i.e. the concentration of companies with more than 10 employees in the region in the 15 countries selected, according to various criteria. The countries covered by the study are Albania, Austria, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Hungary, Kosovo, Montenegro, North Macedonia, Poland, Romania, Serbia, Slovakia, Slovenia, Poland . The data of the active economic operators (<300 thousand) of the countries included in the study were analyzed by turnover and size. The primary objective of this study is to investigate the distribution of firm size categories within a specific geographic region. Additionally, the study aims to determine if there is a correlation between firm size and turnover, and how firms are distributed based on their activity. Another objective is to differentiate between post-socialist and other countries. The study primarily utilized descriptive statistical methods for its methodology. The spatial distribution of enterprises at the NUTS3 level presents a far more diverse picture than what is typically observed in economic indicators such as GDP. Additionally, the disparities in this particular distribution are not as pronounced or distinct as those of general economic indicators. The research examines the concentration of businesses in urban and rural areas, which has a substantial influence on the economic and demographic sustainability of the respective regions. The results indicate that in regions devoid of a European-scale metropolis, the functions of small and medium-sized cities exhibit substantial variation.

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## Mobility Inequalities in Deprived Neighbourhoods: An Exploration of the Relationship Between Public Transit Accessibility and Territorial Factors in France

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❖ [Terceira-G11-O1 Transport and Accessibility, S13, August 28, 2024, 2:30 PM - 4:15 PM](#)

Mobility is essential for social life. On the other hand, due to its essentiality, it is also potentially subject to inequality risks. Hence, it is crucial to study the repartition of the mobility capacities among individuals, that can be captured by the concept of accessibility. Accessibility, as the ultimate “potential for interaction”, depends on both context and individual parameters (Martens, 2016). Our focus is centred on the spatial potential for accessing jobs in deprived neighbourhoods in France. More precisely, we aim to address two key questions: do lower-income neighbourhoods suffer from reduced accessibility compared to similar neighbourhoods (but less deprived)? And do neighbourhoods with comparable accessibility levels exhibit common characteristics? To investigate these questions, we employ an efficient public transport accessibility modelling. This allows us to estimate the time individuals need to access to jobs in the urban area. Subsequently, we conduct empirical analysis based on the modelling output. We will determine if accessibility significantly differs in these neighbourhoods using statistical models like regressions. Multivariate statistics such as clustering will highlight possible patterns and links between neighbourhoods. This study serves as an initial step, calling for comprehensive exploration of access inequalities. Developing a tool that easily provided accessibility information (and deprivation) in every poor neighbourhood will empower planners to effectively target their policies. It will also contribute to extending the classification previously developed at a broader scale. In-depth accessibility modelling can incorporate more details related to the specificities of low-skilled jobs prevalent in these neighbourhoods.

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## Gastronomic Bliss: Unraveling Kolkata's Food Festival

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❖ [Online-G48 The role of tourism in regional development, August 27, 2024, 2:30 PM - 4:15 PM](#)

West Bengal, India, is known for its rich cultural heritage and numerous food festivals showcasing their rich cuisine and knack of sweet tooth like Rosogolla, Kheer, Malpua, Sandesh, and many more. This study investigates the impact of food festivals on customer experience and pleasure in Kolkata, West Bengal. The study uses structured questionnaires to collect data, focusing on urban teenagers as the main community group. The study evaluates festival service quality and identifies key factors: food, facilities, staff, and adequate information. The findings can help festival organizers develop service methods that improve emotional resonance, strengthen the festival's image, and increase attendee happiness, ultimately increasing loyalty to local food festivals. The study also reveals that age is the only demographic variable positively correlated with visitors' opinions of Bengali festival food. Other significant characteristics of Bengali festival food include uniqueness, scent, flavour, taste, presentation, diversity, richness of spices, and health benefits. The study identifies five essential elements for the growth of slow food tourism in Bengal: government backing, improved facilities, industry cooperation, increased public knowledge, and targeted advertising campaigns. This article highlights the potential of food tourism as a sustainable means of creating job opportunities and promoting regional cuisine, supporting Bengali tourism and reviving traditional cooking methods amidst modern trends.

1180

## A transformative and critical perspective on the territorialisation and ecologisation of agri-food systems: learnings from the ATTER network.

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❖ [Online-S76-S2 Places for Sustainable Food: What's Behind and Beyond the Relocation of Food Systems?](#), August 27, 2024, 2:30 PM - 4:15 PM

This paper draws on the experience of the ATTER international research-action network on agroecological transitions at the level of territorial agrifood systems. This network brings together 19 organisations from research, teaching, civil society, local authorities and facilitation, in a system of exchanges and cross-analysis between 16 territories located in France, Italy, the United Kingdom, the USA and Brazil. We rely here on 4 of these territorial case studies to demonstrate how the collective and transdisciplinary work on agrifood systems' trajectories on the one hand, and on food governance on the other, allows to develop a transformative and critical perspective on the territorialisation and ecologisation of agrifood systems. The analysis of territorial agrifood systems' trajectories allows to identify the processes that favour or impede transitions and thus understand the relative balance, over time, between the dynamics of "intensification" and ecologisation of these agrifood systems. The balance between public, private and collective action and the reconfigurations over time of power relations within these territorial agrifood systems appear as key elements. Complementarily, based on the analysis of territorial food governance instances that take the form of local food councils (present in three of our case studies), we show that governance instances that allow to collectively assess and discuss these key processes are necessary to combine a transformative/action-oriented and an analytical/critical perspective on transitions processes and thus thicken local food democracy.

1181

## What are we studying? Scoping Literature Review of Local Development Dynamics and Territorial Governance from Scopus referred academic literature

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❖ [Terceira-G17-O2 Cooperation and Local / Regional Development, S15, August 28, 2024, 4:45 PM - 6:30 PM](#)

The study analyses the evolution of local development research over recent decades, highlighting the challenges and opportunities that characterize the field of regional studies. Through a Scopus query, we undertake a systematic literature review, organizing the corpus into distinct thematic clusters. These clusters are delineated based on the co-occurrence of terminology within the titles, keywords, and abstracts of the papers around the keyword local in the field of urban, rural, regional, and territorial studies. Employing natural language processing and network visualization techniques, our analysis discussing collaborative academic dynamics and thematic emphases prevalent in the domain. Specifically, the application of the Clauset-Newman-Moore and Kamada-Kawai algorithms facilitates a nuanced, interconnected exploration of local development scholarship. Our examination of 1,124 articles spanning from 1985 to 2020 showing a growing focus on local governance dynamics, underscored by a significant surge in discussions related to the 2008 economic and 2020 pandemic crises. This research underscores a persistent commitment to sustainability and short supply chains, reflecting a changing engagement with these themes within the academic community. Moreover, our findings discuss the changing ties of both rural and urban development, the burgeoning awareness of environmental issues, and the pivotal role of community participation in formulating regional development strategies. Our study shows a growing interest in the mechanisms of proximity, networks, innovation and social capital, coupled with an examination of policy-making, spatial planning, and decentralization. This body of work evidences a continuous academic interest with territorial governance, alongside emerging inclinations towards addressing spatial disparities and enhancing networks and cohesion. Through a quantitative categorization of the literature and the identification of prevalent research lacunae, we point to several gaps within the local development analysis. Consequently, we propose new directions for future research in regional studies, advocating for the need of theoretical insights into new emerging topics in local development in the context of regional development dynamics.



1183

## Sustainable island tourism from the perspective of the local population in CV: a post-Covid19 study

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❖ [Online-S38 The conflict between tourism expansion and sustainability: The case of Less Developed Countries, August 26, 2024, 9:00 AM - 10:30 AM](#)

Tourism has now become a major source of income for many countries and regions, as well as a way of combating poverty and promoting the development of underdeveloped and developing economies. This has raised questions about the viability of tourism's contribution to some destinations.

On a different note, the development and economies of island regions have been little studied by the scientific community. What happens is that the growth and development of these regions ends up being a senseless and frustrating copy of patterns followed by the great world powers. Not having many resources, they adopt tourism to fill the gaps, but without proper planning.

The aim of this study is to assess the growth and development of tourism in CV as a means for the sustainable development of its islands.

Based on the objectives outlined for this study, the qualitative approach was used. The data collection instrument used in this research was the questionnaire, which was unstructured (semi-structured) and had open ended questions.

This paper concludes that tourism can be an important tool for the development of island regions and countries where the economy is fragile. Specifically, tourism in CV is in a growth phase, but the current planning and management process of the activity is leading it further towards mass and unsustainable tourism, even when plans or strategies are presented that appear to be sustainable on paper. Thus, we can see from the qualitative analysis made in 2022 how the local population have opted for rural tourism. However, the statistical data obtained for the same year 2022, published in 2023, show that the tourism market in the islands of CV is still oriented towards sun and beach tourism (mass).

1184

## The development of health tourism in Senegal as a means to create employment and avoid brain drain

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❖ [Online-S38 The conflict between tourism expansion and sustainability: The case of Less Developed Countries, August 26, 2024, 9:00 AM - 10:30 AM](#)

In less developed countries like Senegal, achieving full employment has been a longstanding goal of successive governments. Sectors such as tourism and health are seen as crucial contributors due to their labor-intensive nature. However, the phenomenon of brain drain, where professionals leave their home country for better opportunities elsewhere, poses a significant challenge. This migration often results in the loss of highly skilled individuals, particularly in sectors like healthcare. The departure of professionals exacerbates economic struggles and impedes development efforts.

This study focuses on exploring the potential of health tourism in Senegal's Littoral Region as a means to mitigate brain drain. By creating opportunities within the healthcare and tourism sectors, this initiative aims to retain professionals and stimulate job creation across various industries. Drawing on examples from South Africa and Tunisia, where health tourism has been successful in generating employment, the study proposes similar strategies for Senegal.

Low salaries in developing countries, compared to more developed counterparts, are a major driver of brain drain. The allure of better living standards and career prospects abroad entices professionals to leave their homeland. However, promisingly, many express a desire to return home after gaining experience abroad.

To address this issue, the study suggests policy interventions such as temporary returns of healthcare professionals and cooperation between sending and receiving countries. Additionally, imposing fees for medical training that are waived after a certain period of service in the home country could incentivize professionals to stay.

Data collection methods, including surveys and focus group discussions, reveal insights into the intentions of medical students regarding migration and return plans. Recommendations are made to align government policies with the goal of reducing brain drain and retaining skilled professionals in Senegal. Ultimately, the success of these recommendations hinges on a concerted effort to create conducive working environments and opportunities for growth within the country.

1185

## Local Economy, Housing Prices and Neighborhood Change

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❖ [Terceira-YSS6 Regional-Economic Development - EPAINOS, S04, August 29, 2024, 11:00 AM - 1:00 PM](#)

This paper investigates the impact of real estate prices on local economic businesses within cities. I use a novel geo-located dataset of retailers and service providers, combined with information on sale and rental prices. I propose a unique empirical strategy that leverages the staggered implementation of a district heating system in Turin as an exogenous shock to housing prices. The analysis reveals that housing prices differently affect local economic sectors. While tradable sectors show resilience, non-tradable sectors experience a notable decline following the housing price shifts, exhibiting a negative effect of approximately 3%. This is probably due to demographic changes, particularly among college students, who are primary consumers in the non-tradable sector. The paper highlights the complex interplay between housing market changes, demographic shifts, and urban economic businesses. Moreover, it emphasizes the critical role of housing market dynamics in shaping urban planning and policy decisions.

1189

## Localizing megatrends: a participatory study of the resilience of Chios Island during the refugee crisis

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❖ [Terceira-G02-O3 Demographic change, Population and Migration, S10, August 29, 2024, 9:00 AM - 10:30 AM](#)

Refugee crisis is one among the most important megatrends that have been evolved after the turn of the new century and affects countries, citizens and localities across the globe. The aim of the paper is to investigate the impact of the refugee crisis on the local community of Chios Island as perceived by citizens and local actors. The focus of the analysis is on how locality was affected by this huge pulse of refugees that reached the island under extremely difficult conditions and totally abandoned from any of their belongings. It is estimated that an influx of almost 120,804 refugees in total reached the island of 54,000 inhabitants' only the year 2015. The refugee crisis is challenging humanitarian, economic, social and environmental dimensions of life on localities. Issues of integration, housing, water supply, education and healthcare facilities, civil and human rights, and governance of policies require a multi-level and multi-actor approach. Through a participatory methodology and by utilizing a semi-structure questionnaire for interviews with stakeholders, a purpose constructed platform for the citizens' participation, in person contacts with local people across the island, and focus groups discussion, the experience of Chios islands could be seen as a laboratory for the study of the impact of the refugee crisis on localities. Furthermore, this research aims to make an assessment of policies that were implemented in order to extract useful results and recommendations that could empower policies in an aim to make the Island more resilient and shielded to future crises.

1191

## Sustainable stargazing. The challenge of attracting visitors to dark places and protecting the night sky. The case of Chile.

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❖ [Online-S38 The conflict between tourism expansion and sustainability: The case of Less Developed Countries, August 26, 2024, 9:00 AM - 10:30 AM](#)

Stargazing tourism is an expanding market niche that requires having a high quality sky for night observation and an infrastructure of territorial resources for its attractiveness. Protecting the quality of the night sky becomes a strategic factor of competitiveness linked to sustainability. Thus, it is essential to maintain the absence of artificial light pollution and promote energy efficiency. This challenge connects with the need for the involvement of all stakeholders and to have cooperation and participatory governance mechanisms in tourist destinations (Carrillo Hidalgo, 2022). At the same time, the promotion of astrotourism in regions with suitable conditions is a useful instrument of territorial development of great interest in less developed countries.

Chile is a medium-developed country with marked persistent inequality (Mieres Brevis, 2020), highlighted as one of the countries with the greatest stargazing potential in the world (Fayos et al., 2014). In particular, the Coquimbo region has developed an intense innovative strategy to promote this tourism product (Fernández-Hernández et al., 2019). The desire to develop this tourism requires specific general regulations on the protection of light quality and specific strategies that allow managing and controlling the negative effects implied by the expansion of visitors to the places that need to be protected.

The work studies the sky protection systems implemented in Chile and that impact astrotourism, and delves into public and private actions, promoted at the local level to control unwanted effects due to concentration situations of visitors attending these products. It is about taking stock of the good practices developed that may be useful to other countries with potential for this tourism and similar characteristics.

Focusing on a niche market such as stargazing can help develop the destination, incorporating new opportunities for economic activity and employment in the local context.

This information is useful for the design of stargazing experiences that are sustainable in destinations, protect the sky resource and allow defining a framework of actions useful for public policies to promote the activity.

1194

## A Regime of Labour Intimacy and Transnational Actors? Foreign Domestic Helpers and Female Labour Force Participation in Hong Kong.

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❖ [Terceira-G02-O4 Demographic change, Population and Migration, S16, August 30, 2024, 11:00 AM - 1:00 PM](#)

We explore the relationship between foreign domestic helpers (FDHs) in Hong Kong and women's labour force participation (LFP). First, we explore to what extent social and family changes have influenced the employment status of women in Hong Kong. Second, we investigate the implications of the availability of full-time FDHs on women's labour supply. Third, we find that FDHs facilitate female LFP to undertake low-skilled white-collar or high skilled blue-collar occupations. Global care chains and a regime of labour intimacy subsidise childcare in Hong Kong, but by exploiting FDHs and their families.

1195

## Open discovery processes for local missions with multi-level perspective

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- ❖ [Terceira-S42 Local Mission Approach as a Challenge Based Multi-Level Building Block for Sustainable Development, S08, August 29, 2024, 2:30 PM - 4:15 PM](#)

The world we currently live in is facing a series of crises that are interconnected and have potential to amplify the negative impacts of each other. Prioritizing sustainability becomes crucial, prompting us to reconsider our behaviours, consumption habits, and overall approach to development. This necessitates a shift in public policy ambition, transitioning from managing incremental change to embracing transformational change. With aim and ambition for transformational results, public policy simultaneously is expected to anticipate, orient and coordinate responses among various stakeholders and levels. This underscores the importance of governance, coordination, and especially a multi-level approach, as they can enhance the integrity and ownership of policies.

Mission-oriented approach play an important role in shaping policies that prioritize addressing societal challenges, offering a valuable overarching goals or complementarity to other priority-setting methods. Local missions can act as an organising principle for collaboration in complex and fragmented decision-making structures, especially with an aim to bridge multi-level perspective. It allows different levels and fields of governance to work together, creating a more inclusive and aligned policy framework. Additionally, a guiding principle for mission-oriented approach should be the modifications or transformations of the production systems and consumption patterns.

Mission-oriented approach and transformative innovation policies go beyond industrial change, focusing on systemic innovation and a more equitable balance between technological, political, cultural, and institutional change. Open Discovery Process (ODP) tackle the issues from a local perspective with the participation of local stakeholders that can offer approaches with continuous ownership with the focus on local problems faced by large cross-sections of citizens. ODP is critical to continuously engage with a broader range of stakeholders and co-create plans, design a local mission or formulating a policy and action mix. ODP is based on inclusivity and transparency, and provides directionality by having stakeholders working backwards from societal problems to agree on a shared vision.

Next generation of the Cohesion Policy could follow the challenge-led localised approach as a potential organizing principle – based on place, people and performance. This approach aims to address diverse challenges and promote place-based development pathways and local missions could be a suitable instrument for that.

The efforts at the national level to introduce and accelerate transformation may not always align with other levels, creating opportunities and initiatives for place-based transformation. And there is a great potential for ODP to be positioned at the core of the place-based approach maintaining multi-level integrity in sustainability initiatives.

1196

## Strategic Regional Development Policy - Insights from the Participatory Process of the Regional Spatial Planning Programme

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❖ [Online-G14 Institutions, Political and Decisional Processes, August 26, 2024, 9:00 AM - 10:30 AM](#)

The Regional Spatial Planning Programme (PROT-Centro) represents a comprehensive effort to define a territorially based strategy for sustainable economic and social development in Portugal's Centro region. This initiative is focused on establishing a strategic vision, anticipating major contextual challenges, and ensuring alignment with national policies and local development strategies for the period leading up to 2030.

The work specifically highlights the methodology of the foresight exercise utilized in the development of the PROT-C, which was structured around two fundamental components. Firstly, the process involved the identification of guiding principles of the major strategic objectives for the region. This stage was achieved through the development of exogenous scenarios, in which the experts were required to foresee a variety of future contexts for the region, each shaped by different external conditions and influencing factors. This was followed by an extensive participatory exercise using a multi-criteria analysis framework in which key stakeholders in the region voted on different policy alternatives. This inclusive approach not only facilitated the identification of regional priorities, but also provided a platform for extensive discussion and analysis of the results. This exercise was designed to gather and understand the preferences and expectations of the participants, to assess their perceptions of the current realities and to explore the diversity of views on possible changes and transformations needed for regional development.

Involving over 120 key stakeholders, the exercise facilitated a detailed comparison between the participants' preferences and expectations. It involved a nuanced assessment of their current reality perceptions using a single-round Delphi method, and concurrently, a focused evaluation of their preferences regarding potential changes, conducted through a targeted multi-criteria analysis. The exercise encompassed a wide array of participants, ranging from municipal leaders and university rectors to a diverse group of representatives across various sectors, ensuring a comprehensive cross-section of perspectives and expertise.



1197

## Higher Education for Regional Innovation

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❖ [Terceira-G13-O1 Entrepreneurship and Regional Development, S13, August 28, 2024, 4:45 PM - 6:30 PM](#)

The main drivers of innovation and productivity growth are new knowledge and people's skills. HEIs play a pivotal role in this context being a positive determinant of innovation also through entrepreneurship (Wennekers et al. 2005; Iyigun and Owen 1999) especially as a result of technological and institutional changes. Michelacci and Schivardi (2017) show that entrepreneurs benefited from the increase in the technology-induced skill premium more than employees and that post-graduated entrepreneurs received the highest share of the premium.

Entrepreneurship among students and graduates received increasing attention (Arranz et al. 2017; Perkmann et al. 2015) and results show that start-ups founded by university students and graduates play a substantial role in bringing new knowledge to the market (Roberts et al., 2015; Astebro et al., 2012).

The links between knowledge and human capital of the entrepreneur has been a popular area of entrepreneurship study (Shane and Venkataraman 2000; Shane 2006; Mitchell et al., 2007). The entrepreneurial orientation of university students (Fini et al. 2012; Ferrante et al. 2018; Huang et al., 2021) has been also investigated extensively.

In this paper, we explore the link between the supply of new knowledge and skills by young university graduates, and innovative entrepreneurship at the local level in Italy. The country is an interesting case study being characterized by large variations in the rate of entrepreneurship across regions (Del Monte and Pennacchio, 2020) and by a prevalence of low-skilled entrepreneurs. The empirical analysis aims to assess the link between local supply of entrepreneurial skills and entrepreneurial outcomes in terms of start-up activity between 2014 and 2022. We use a novel provincial level dataset obtained by merging individual and firm level information stemming from different sources. First, the AlmaLaurea population-based survey, providing information on the socioeconomic and educational background of university graduates and about their insertion in the labour market. Second, data provided by Camera di Commercio on new firms (start ups and innovative SMEs) and their technological content. Third, the Italian Labour Force Survey (ILFS) to control for socio-economic characteristics of territories. Fourth, the INAPP Rilevazione Imprese e lavoro (RIL) which provides information on entrepreneurs' educational attainment, a factor affecting spillover effects on business creation and innovative performance.

As sources of heterogeneity, we take into account the quality of formal and informal institutions which can influence both the effectiveness of policy action and the entrepreneurial vocation of a territory. The former is measured by the index developed by the European Commission (Fazekas et al, 2017). Informal institutions are measured through proxies assessing cultural characteristics of the provinces, namely the diffusion of trust in others and the importance of tertiary education (Ferrante et al., 2022). We use a spatial econometrics approach to estimate spillover effects arising from skill supply and entrepreneurial activity in neighboring areas. To our knowledge, this is the first paper focusing on the role of skill supply in determining entrepreneurship activity from a spatial perspective. Regional level studies focus on the role of universities in technology diffusion (Del Monte and Pennacchio, 2020).

1199

## Making sense of recent economic development on a small island – the case of Madeira

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❖ [Online-G44 Remotness in the EU, August 27, 2024, 9:00 AM - 10:30 AM](#)

There have been a number of studies trying to capture the economic dynamics of small islands on the basis of their economic structures proxied by the rate of GDP growth and sources of financing. Several standard models – MIRAB and the Tourism-Led Growth Hypothesis (TLGH)– have been proposed to explain the main sources of growth and other factors such as the historical paths of development and the existence of links with patron economies. Other studies focused on the impact of political systems and governance institutions. In this study we look at a relatively understudied region, Madeira, in order to identify the sources of growth based on an enlarged TLGH model, that includes proxies for the stock of capital, evolution of the availability of qualified human resources and access to external funding. This study also signals on the extent to which the existing theoretical approaches available to study the economies of islands must adopt a more political economy approach.

1200

## Tourism development in the rural hinterland: a source of economic development or depopulation

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❖ [Online-G35-O1 Tourism and Overtourism Issues, August 26, 2024, 11:00 AM - 1:00 PM](#)

In the tourism and regional development literature, the rural hinterland is understood as a neglected and struggling area welcoming further developments in the tourism sector and public investment to reverse the signs of potential population decline, loss of qualified human resources through emigration, lack of job opportunities and an ageing population. While most studies suggest that tourism development is a catalyst for growth, recent evidence suggests that the sector is ‘soaking up’ resources, living and housing areas and talent from the surrounding areas and sectors. Based on the concept of “sponge cities”, we explore in this study the role of tourism in a holistic manner in order to identify both positive and negative impacts, beyond a mere analysis focused on environmental issues. Based on regional (panel) data, we analyze to what extent the development of the tourism sector contributes to higher levels of employment, average wages, increased participation of women in the labor market and to the sharp rise in property prices. In this study, we analyze the role of tourism in the rural hinterland of Madeira, as such areas were highly subsidized in recent years via EU grants and regional programs aiming at putting in place a road network and other critical assets aiming at reinforcing the social cohesion. However, recent evidence provided by the Statistical Office suggests the social gap is increasing again.

1202

## Potential synergies and trade-offs of upscaling agrivoltaics in vineyard landscapes: a case study in France

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❖ Terceira-G15-O3 Spatial Sustainable Development, S15, August 30, 2024, 9:00 AM - 10:30 AM

The global aim is moving towards a sustainable future, with energy transition being a crucial component that should be developed in a sustainable manner. In response, the European Council is committed to reducing greenhouse gas emissions by 55% by 2030. One of the main promising solutions to reduce greenhouse gas emissions and to meet environmental goals is the use of renewable energy technologies, such as agrivoltaics. Agrivoltaics, the integration of solar panels with agricultural production beneath, is a novel and promising technology. However, the potential social and environmental synergies as well as trade-offs involved in upscaling agrivoltaics in rural landscapes remain unexplored. This study aims to assess these potential interactions of upscaling agrivoltaics in cultural landscapes in the French wine region Languedoc (Southern France), where climate change is affecting crop performance and water availability. We developed potential scenarios for upscaling agrivoltaics identifying synergies and trade-offs between key performance indicators for sustainability (e.g. energy production, crop performance, water availability, and landscape quality). Landscape quality is a conceptual tool to address landscape values in the design of landscape transformations, considering functional, experiential, and future values.

In our study, we examined effects of agrivoltaic on landscape in terms of landscape quality and crop and energy production. We combined coefficients of the influence of agrivoltaics on crop performance and water use, together with current land use maps and spatial energy potential mapping to study key performance indicators. Then, we develop potential scenarios based on different preferences for landscape quality and protection of cultural values to assess potential trade-offs and synergies between the selected key performance indicators.

Preliminary findings suggest substantial synergies between crop production, water availability, and energy production from the upscaling of agrivoltaics in the study area. However, significant trade-offs arise, particularly to the detriment of landscape quality. This issue becomes more pronounced when considering the cultural values attached to these landscapes. This study provides valuable insights of upscaling agrivoltaics in viticultural landscapes, highlighting the challenges for crop production, landscape quality, and climate-resilient agriculture in the Languedoc region. The potential of upscaling agrivoltaics should be approached combining spatial planning (siting) and careful design of agrivoltaics to safeguard landscape quality in these cultural landscapes and elsewhere. Moreover, agrivoltaics is an alternative solution to the energy transition needed to adapt and mitigate to climate change, while supporting the design of more sustainable rural landscapes.

1203

## Impact of EU collaborative higher education projects in regional innovation ecosystems

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❖ [Terceira-S08-S1 University Impacts on the Local and Regional Economy, S02, August 28, 2024, 11:00 AM - 1:00 PM](#)

The article analyses 3 instruments of the EU aimed at supporting the engagement of higher education institutions (HEIs) with their local and regional ecosystems, especially when developing knowledge and innovation-activities. Through over interviews, focus groups, questionnaires, and surveys to over 100 HEIs (and over 200 representatives) throughout the EU, the study analyses three main programmes aimed at that objective: the European Universities alliances, the Knowledge Alliances (Erasmus+), and the HEI Initiative of the European Institute of Technology and Innovation (EIT). Results are presented under three main domains: (1) implications of the programmes/projects in fostering educational/training development in collaboration between HEIs and other stakeholders in their regions; (2) implications in enlarging the collaboration with regional stakeholders; and (3) implications in identifying key challenges/needs and priority domains for a territory, supporting stakeholders and governments to address those challenges and developing solutions.

1206

## Deprived Neighborhoods at the Forefront Of The 15min City: An Analysis Of Walking Trips In France

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❖ [Terceira-G11-O1 Transport and Accessibility, S13, August 28, 2024, 2:30 PM - 4:15 PM](#)

Cities around the world are implementing policies and strategies to promote more sustainable and accessible transport systems to deal with the pressure of climate change and create carbon-neutral, vibrant, attractive and environmentally-friendly urban spaces. In response, the 15-minute city concept has been advocated since the COVID-19 outbreak as a suitable framework for promoting active travel in urban environments. This model expects opportunities and activities to be accessible in sustainable journeys of up to 15 minutes.

However, scholars suggest that this framework neglects socio-spatial interactions, such as rising land values and gentrification, which limit social interaction and exacerbate social exclusion. Likewise, little is known about the impact of this model on peripheral areas and deprived neighbourhoods. Based on empirical evidence indicating that the mobility patterns of the poorest decile mostly fall within a 15-minute threshold, this study argues that deprived neighbourhoods could serve as a test bed to examine the dynamics of territorial and peripheral mobility in order to better understand the mobility patterns of disadvantaged social groups.

To further explore these phenomena, this study employed a comparative quantitative analysis focusing on metropolitan areas and deprived neighbourhoods in France, assessing mobility and accessibility disparities. The analysis was based on representative data collected through the French national mobility surveys of 2008 and 2019. A binary logit model was then applied considering factors covering journeys, individual socio-economic characteristics and place of origin to examine walking trends in deprived areas in more detail.

The results suggest disparities in accessibility between metropolitan regions and deprived neighbourhoods, with no significant differences in terms of journey times. Shorter journey distances are associated with the potential use of active modes. Although there was a general increase in walking trips in privileged and deprived neighbourhoods, the latter saw an increase in the use of individual motorized vehicles. Increased walkability in deprived areas may indicate an improvement in local activities and land use diversity, leading to a closer attachment between inhabitants and the local community.

1207

## University Campuses and Student Active Mobility: An Analysis of Spatial and Behavioral Patterns of Commuting through Sequential and Randomized Tree Ensembles

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❖ [Online-G11 Transport and Accessibility, August 26, 2024, 9:00 AM - 10:30 AM](#)

Walking and bicycle use are two main active mobility modes. Specifically, within the context of commuting, the adoption of active mobility modes is considered to generate a wide range of positive outcomes with regard to well-being in the individual, social, urban, and spatial levels. The present study aims to discover and interpret novel information regarding the adoption of walking and cycling activities as commuting modes by university students. We investigate complementarity and substitutability between walking and cycling and other modes in a spatial context through the analysis of an original survey dataset collected from the university campuses in Lyon, France. Our research questions are centered on the theme of discovering complex patterns (if they exist) within the determinants of the usage of walking and cycling as a transit mode by students in Lyon through part or the entirety of their commutes.

1208

## Bridging the innovation gap. AI and robotics as drivers of China's urban innovation

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❖ [Terceira-G03-O3 Innovation and Regional Development, S10, August 28, 2024, 4:45 PM - 6:30 PM](#)

Artificial intelligence (AI) and robotics are revolutionising production, yet their potential to stimulate innovation and change innovation patterns remains underexplored. This paper examines whether AI and robotics can spearhead technological innovation, with a particular focus on their capacity to deliver where other policies have mostly failed: less developed cities and regions. We resort to OLS and IV-2SLS methods to probe the direct and moderating influences of AI and robotics on technological innovation across 270 Chinese cities. We further employ quantile regression analysis to assess their impacts on innovation in more and less innovative cities. The findings reveal that AI and robotics significantly promote technological innovation, with a pronounced impact in cities at or below the technological frontier. Additionally, the use of AI and robotics improves the returns of investment in science and technology (S&T) on technological innovation. AI and robotics moderating effects are often more pronounced in less innovative cities, meaning that AI and robotics are not just powerful instruments for the promotion of innovation but also effective mechanisms to reduce the yawning gap in regional innovation between Chinese innovation hubs and the rest of the country.



1209

## Ethnicity and access to digital energy, health and housing services: A data-driven approach

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❖ [Terceira-S05-S1 Machine Learning in Regional Science: Perspectives, Methods, and Applications, S02, August 28, 2024, 4:45 PM - 6:30 PM](#)

While urban and regional inequalities on economic growth have been well documented, whether digitisation of services may help to mitigate or exacerbate these gaps is not answered yet. The benefits of digitization vary from more efficient utilisation of utilization of assets to responding to disruptions more efficiently to the design and delivery of more in-demand services. Yet, how these benefits are distributed across the end users (i.e. public) vs service providers vary across the sectors. In the UK, delivery of social housing and primary health care services are universal. While by private companies or local authorities may provide the former, the latter is provided by private companies. Energy services are provided by private actors. This variation in service providers reveal a large degree of variation in types of services and their delivery modes (e.g. websites, apps). One may argue that ensuring equitable access to digital services can be important in addressing urban and regional inequalities where this study is poised to make contributions.

This study develops an agent-based model (ABM) to characterise and analyse minority ethnic communities' satisfaction with the delivery of online services in health, housing, and energy sectors. The study is part of UK Research and Innovation funded project, Protecting Minority Ethnic Communities Online.

A key innovation of the study is the integration of machine learning (ML) to analyse survey data (N=878) in defining the agents' attributes and decision parameters. Traditional ABMs rely on rule-based decision parameters, whereas the use of ML allows for the unbiased derivation of rules and enhances simulation outcomes.

By leveraging ML, the model forecasts the online service experience of individual users based on specific attributes such as demographics, health, housing, and energy-related factors, technology usage, and online service preferences and usage patterns. Additionally, the model considers environmental factors such as digital service quality, user-friendliness of digital platforms, staff attitudes, and regional policies. Through the analysis of these attributes and environmental factors, the model predicts online service satisfaction levels within diverse regional contexts.

The developed ABM can then be further used to run different simulations to assess the impact of alternative policy interventions. In conclusion, this research underscores the dual role of ABM and ML in informing policy decisions and guiding service providers to address regional issues effectively. By examining regional variations in online service perception, policymakers and researchers can develop targeted interventions to promote digital inclusion and address socio-economic disparities across diverse communities.

1210

## Navigating Change: Shaping the Future of EUSAIR trends, priorities, and

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❖ [Terceira-S69 The Promise of Transition Via Innovation for Sustainable Regional Development, S07, August 28, 2024, 2:30 PM - 4:15 PM](#)

This study focuses on the European Union Strategy for the Adriatic and Ionian Region (EUSAIR) as a pivotal framework. EUSAIR's four key pillars—Blue Growth, Connecting the Region, Environmental Quality, and Sustainable Tourism—form the bedrock for comprehensive regional development.

Through

synergistic efforts, EUSAIR aims to cultivate collaboration, innovation, and sustainable growth, thereby

contributing to the broader goals of social, economic, and territorial cohesion in the European macro-regions.

This paper investigates the shifting needs and trends within the European Union Strategy for the Adriatic and

Ionian Region (EUSAIR) from 2014 to the present, aiming to formulate strategic policy recommendations

for the upcoming programming period. In addition, this article endeavours to identify emerging priorities

intricately linked to the concepts of neighbourhood and enlargement, emphasizing the integration of the

region, bolstering the single market, and positioning it as a vibrant research and academic hub.

Anchored in

the identified potential new priorities, including research emphasis, stakeholder engagement, youth involvement, infrastructure connectivity, and data standardization, the study proposes leveraging the need of

establishing a dedicated space for research, study, and the exchange of data and information. A wellstructured

space for data and information sharing, along with the definition of specific transversal priorities represent a cornerstone for addressing evolving regional priorities for fostering comprehensive

development

in the macro-region.

1211

## Attractiveness and Internationalisation of the EU

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- ❖ [Terceira-S69 The Promise of Transition Via Innovation for Sustainable Regional Development, S07, August 28, 2024, 2:30 PM - 4:15 PM](#)

The European Union (EU) faces various social and environmental challenges, including significant demographic changes. A key concern is the aging population. According to Eurostat (2023), the EU has seen an increase in median age from 38.7 years in 2002 to 44.4 years in 2022, alongside a decrease in the proportion of young people (aged 0-19) across all Member States during the same period. The impact of these trends reaches different sectors, including education. This demographic shift, marked by a decrease in student enrollment, poses a challenge to the stability of educational systems. Recognizing the direct implications for the Higher Education (HE) sector, the European Union (EU) must try to bridge this gap by actively seeking to attract international students from third countries and advancing initiatives aimed at fostering internationalization (European Commission, 2020). In response, universities have embarked on a process of rethinking and renewing themselves, recognizing the need to effectively tackle these societal challenges through enhanced engagement in transnational cooperation (European Commission, 2022). This also represents one of the objectives of the European Strategy for Universities, claiming that by exchanging talents from all over the world and building strong bridges with partner countries across the globe, universities could gain more power. Initiatives such as the formation of National Promotion Agencies and the Study in Europe project play a central role. The strategy's central actions aim to:

- a) demonstrate Europe's educational prospects to students around the world;
- b) assist international students in navigating European higher education, study, research and scholarship opportunities;
- c) build bridges between European higher education organizations and international students and partners.

This study is designed to examine the variables that contribute to the appeal of European universities for international students, considering both internal drivers, related to the HEI's strategies to attract students, and external drivers, such as the influence of the country, or city, in which is located the HEI and their influences at regional level.

In developing our methodology, we will rely on a mixed-method approach based on:

- a) University Questionnaires: We have identified 151 universities across 27 EU countries using the ETER database, focusing specifically on the variable "Share of foreign students ISCED 5-7." This allowed us to calculate the proportion of international students to the total number of students at each institution.
- b) National Promotion Agencies Questionnaires: We have selected 27 national promotional agencies for our survey to gain insights into best practices and services they provide to enhance the appeal of European universities.
- c) Universities' Websites Scraping Analysis: We will perform a text analysis of the selected universities'

websites, looking for potential correlations between the frequency and usage of specific words or combination of words and the university's level of attractiveness and internationalization.

d) Quantitative Analysis Using Descriptive Statistics and Econometrics: The collected data will be subjected to various quantitative analyses to derive meaningful patterns and conclusions.

This research highlights the critical factors that enhance the appeal of European universities to international students. We show the existence of antecedents that influences attractiveness for Universities towards increased international enrollment. The findings of this study will provide actionable

insights for strategic decision-making in HE policy and institutional planning.

1212

## Ninth Report on Economic, Social and Territorial Cohesion

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- ❖ [Terceira-S21-S3 Economic, Social and Spatial Inequalities in Europe in the Era of Global Mega-Trends, S03, August 28, 2024, 4:45 PM - 6:30 PM](#)

In March, the Commission published the 9th Cohesion Report, presenting an assessment of the state of cohesion in the Union, based on a wide range of socio-economic indicators and analyses.

Results show that twenty years after the 2004 enlargement, the EU's Cohesion Policy has led to remarkable convergence. In Central and Eastern Europe as a whole, income per head increased from 52% of the EU average in 2004 to nearly 80% today. At the same time, their unemployment rate has dropped from 13% to 4%.

In stark contrast with the 2009 recession, GDP has strongly rebounded after the pandemic outbreak. However, the pace of economic convergence has persistently slowed down after the 2009 recession. The impact of the 2009 recession on convergence, investment and GDP has indeed been a major and persistent one.

In this difficult context, Cohesion Policy has played a pivotal role in the overall improvement of economic, employment and social indicators in the EU. Cohesion Policy plays a key role in supporting public investment. During the 2014-2020 period, the policy represented almost 13 % of total government investment in the EU as a whole, and 51 % in less developed Member States. These investments have strengthened the European growth model, spurring economic growth in line with key policy priorities from the twin transition to innovation, business, and skills, from childcare, education and health to protection from natural disasters. However, challenges remain and untapped potential and pockets of poverty can be found in every region.

Demographic changes will affect all regions in the coming decades. Regions will have to adjust to a shrinking labour force, an ageing population. The challenges tend to be more acute in rural and thinly populated regions. Similarly, the effects of the digital transition and climate change are likely to exacerbate regional disparities in the EU.

Within this context, the need to ensure economic cohesion, which has been enshrined in the EU since The Treaty of Rome of 1957, remains as relevant as ever.

Link to the report: [InfoREGIO - Ninth Report on Economic, Social and Territorial Cohesion \(europa.eu\)](#)

1213

## Driving inclusive development: intra-African trade in the AfCFTA Era

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❖ [Terceira-S69 The Promise of Transition Via Innovation for Sustainable Regional Development, S07, August 28, 2024, 2:30 PM - 4:15 PM](#)

The present paper is designed to investigate the regional integration status regarding each country and regional economic community, examined through five dimensions (trade integration, productive integration, infrastructure integration and macroeconomic integration, along with the free movement of people). These five dimensions, we consider, should help us assess the regional integration associated index. To this end, we have appealed to the African Platform (2019) provided data, initially developed by the African Union and the United Nations Economic Commission for Africa. In this context, the major variable consists in the Index of Regional Integration in Africa (IIRA) 2019, intended to help us compare and highlight the inter- and intra-regional economic communities associated differences. It is on this basis that the exploratory statistical "principal component analysis (PCA)" has been conducted, with the aim of either confirming or refuting our advanced hypotheses. The reached findings turn out to reveal well that both of the macroeconomic and infrastructure related integrations appear to display a significant effect on the regional integration level, whereby, the rather performing and integrated countries and communities could be effectively identified.

1223

## Vaccine-preventable diseases in migrants to Europe: a systematic review

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❖ Terceira-G02-O4 Demographic change, Population and Migration, S16, August 30, 2024, 11:00 AM - 1:00 PM

### Background

Migrant populations in Europe are at increased risk of under-immunisation and therefore likely to be at high risk of vaccine-preventable diseases (VPD), yet the relationship between migration and VPD incidence is not fully understood. This study aimed to explore prevalence of VPDs in migrant populations in Europe and to define at-risk groups.

### Methods

Following PRISMA guidelines, Embase, MEDLINE and Global Health were searched for peer-reviewed papers published from 1st January 2010. Inclusion criteria comprised primary research on VPD cases (measles, mumps, rubella, diphtheria, pertussis and tetanus) among migrants to/within the EU/EEA and Switzerland. We defined migrants as foreign-born nationals.

### Findings

Forty-seven eligible studies from 15 EU/EEA countries and Switzerland were included, with a total of 1357 migrant VPD cases reported. Analysis revealed 1357 migrant cases across measles (28 publications; 926 cases), pertussis (9; 267 cases), mumps (9; 107 cases), diphtheria (11; 67 cases), rubella (2; 6 cases), tetanus (2; 2 cases). Over-representation of measles cases was observed among migrant children and adolescents, predominantly from the WHO Europe region. Migrants of East African origin were over-represented among diphtheria cases.

### Interpretation

This study underscores the association between migration and VPD cases in EU/EEA and Switzerland, establishing a clear association between European migrant children and adolescents in measles outbreaks, and adult migrants from East Africa in diphtheria cases. This study suggests strengthening systems for targeted catch-up vaccination for migrants is imperative upon arrival in European countries to align them with national schedules, alongside the need to improve data collection and surveillance systems to inform effective public health interventions.

### Main messages:

1. Migrant populations in Europe face heightened risk of vaccine-preventable diseases and need to be better incorporated into catch-up vaccination initiatives on arrival.
2. Improved data collection and surveillance systems are crucial for informing effective public health interventions targeting migrant populations.

1224

## Capital Shocks and UK Regional Divergence: The Effects of the 2008 Global Financial Crisis and the 2016 Brexit Vote on Premia of UK Cities and Regions

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❖ [Terceira-G40 Spatial Issues of Monetary Policy, S18, August 28, 2024, 2:30 PM - 4:15 PM](#)

This paper uses uniquely-detailed large-scale commercial real estate investment data in order to examine how financial markets perceived the attractiveness of investing in UK regions during the last two decades. We examine transactions over a 21 year period 2003-2023 and using various econometric and model-based techniques, we are able to calculate year-by-year regional and city risk premia for all UK cities and regions. Comparing this with the risk-free sovereign rates of the central bank, this allows us to identify how the ‘external finance premium’ of Ben Bernanke varies year-by-year for all UK cities and regions over these two decades. Our analysis demonstrates that prior to the 2008 global financial crisis, all regions of the UK were perceived in a similar manner in terms of risks and expected growth rates. However, the 2008 crisis engendered a ‘flight to safety’ of capital into London, largely at the expense of other UK regions. The London economy enjoyed a surge of capital inflows at very low prices, also enhancing the leveraging and collateral positions of local real estate owners. The recovery of investors’ confidence in London’s recovery was rapid and London responded to QE Quantitative Easing . In contrast, in the immediate aftermath of the 2008 crisis other UK regions shifted rapidly into junk bond territory, and have remained there ever since. The resulting core-periphery economic geography of capital pricing was then further exacerbated by the 2016 Brexit vote. This both widened the core-periphery risk premia gaps between the more and less prosperous regions, and our results demonstrate that it was the central business districts of the second-tier and third-tier cities which bore the brunt of the adverse capital shocks associated with both the 2008 global financial crisis and the 2006 Brexit vote. The Brexit vote also ended the extent to which London responded positively to QE, while having no beneficial effects on the rest of the UK’s cities and regions. These asymmetric capital shocks led to profound and adverse impacts on the subsequent productivity growth of the UK city and regional economies, with the regions and cities facing the highest rise in capital pricing facing the most severe falls in productivity and employment growth rates.



1225

## Regional diversification into green and digital economic activities – The case of UK Local Authorities

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❖ [Terceira-G39-O1 Big Data and Regional Science, SF1, August 29, 2024, 2:30 PM - 4:15 PM](#)

Regions are currently facing a twin transition, involving a shift towards more environmentally friendly economies as well as the digitalization of economic activities. Against this backdrop, this paper examines the geography of green, digital, and twin economic activities in the UK, utilizing a novel dataset that captures these emerging sectors through a real-time industrial classification of firms. Additionally, the paper employs a relatedness approach to analyze local capabilities in the twin domain. The results underscore the crucial role of twin activities, encompassing both green and digital elements, in facilitating regional diversification into these respective sectors.

1226

## Pathways to Sustainable Growth: Unveiling a Sustainable Competitiveness Index for Firms and Industries

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❖ [Terceira-G51 Sustainable Development Goals, S06, August 30, 2024, 9:00 AM - 10:30 AM](#)

As the world changes quickly in the global market, it is important for a company or industry to evaluate and improve their sustainable competitiveness. In this paper, we introduce the concept of the Sustainable Competitiveness Index (SCI) for firms and industries, as an evaluation tool capable of accommodating multiple dimensions including economic performance, environmental sustainability, social equity, and governance dimensions. Such index is necessary for strategic decision-making method and in general for sound development practice. To calculate SCI: Overall SCI is reflective of multi-dimensional components, where each indicator within each dimension is normalized, weighted, and summed. As an example, economic indicators are factors like how innovative the company is, and how well financial performance works, while environmental indicators are its carbon footprint and resource efficiency. Social indicators cover employee well-being and community engagement, and governance indicators evaluate transparency and ethical practices. By normalizing and assigning appropriate weights to each indicator, we generate a composite score that reflects the overall sustainable competitiveness of the firm or industry. Implementing our SCI offers significant benefits and policy implications. For businesses, it provides a clear framework to benchmark performance, identify areas for improvement, and implement strategies that align with sustainable development goals. It also enhances transparency and accountability, attracting investors and building consumer trust. For policymakers, our SCI serves as a valuable tool to monitor industry trends, promote best practices, and design policies that incentivize sustainable growth. Ultimately, our SCI supports a balanced approach to competitiveness, ensuring that economic success does not come at the expense of environmental health or social well-being.

1227

## Public Funding and Creative Knowledge Networks. National and Regional Evidence from the UK

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❖ Terceira-G20 Creative Industries and Regional Development, S16, August 28, 2024, 11:00 AM - 1:00 PM

Across the globe, the creative industries have become one of the fastest growing sectors of the economy. In the UK, they have outpaced the rest of the economy in terms of GVA and employment growth. Despite being key to the success of the sector, very little is known about public and private spending into research and innovation in the sector.

In this study we start filling the gap in the evidence base by looking at the knowledge networks generated by public funding by UK Research and Innovation (UKRI) for creative research and innovation projects.

First, we identify creative research and innovation projects using the universe of UK Research and Innovation funded projects. We exploit textual analysis techniques to identify creative projects based on the creative intensity emerging from the description of the project. We also identify the collaborating organisations in the project and their Standard Industry Classification codes by “fuzzy merging” the UKRI data with the public record in the Companies House data. This allows us to identify creative research and innovation collaborations. Second, we use standard and spatial social network analysis methods to characterise such collaborations. The national and intra-regional analysis highlights the differences in density and structure across regions and identify how connections are generated within and across regions. Finally, the Spatial Social Network Analysis allows us to assess the role of distance in knowledge networks.

1228

## Building back greener, levelling-up or both? An assessment of the economic and environmental efficiency transition of UK regions

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❖ [Terceira-G18-O2 Climate Adaptive and Resilient Regions and Cities, S11, August 30, 2024, 2:30 PM - 4:15 PM](#)

This paper assesses the transition of UK regions towards the policy ambitions of “building back greener” and “levelling-up” the UK economy. We use data envelopment analysis (DEA) methods to calculate regional economic and environmental efficiency for 41 UK ITL2 regions between 2005-2020, and then assess their “unconditional” and “spatial” transition probabilities of achieving one of the two or both. We find a trade-off between the two for more than half of the regions and that the costs of transition are unequally distributed. We also find that regions are more likely to become efficient in both directions if they are already environmentally efficient; less economically efficient regions are more likely to become economically efficient than environmentally efficient. Economic efficiency improvements are easier to achieve than environmental efficiency improvements, requiring stronger policy support for the latter.

The high inertia of regions require central and local authorities interventions to reduce regional inequalities and improve both types of efficiencies. Whilst we do not find spatial spillovers for environmental transitions, space (negatively) matters for regional economic efficiency. Without a combination of place-based and national policies efficiency there is no natural regional convergence nor levelling up, whilst the transition to net zero will remain too slow.

1231

## Is social capital a driver of the green transition in European regions?

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❖ [Terceira-G19-O3 Energy and Ecological Transitions, S10, August 30, 2024, 2:30 PM - 4:15 PM](#)

The green transition is a topic of great interest for European policymakers. It is broadly acknowledged that socio-cultural elements embedded in societies, such as social capital, have a major influence on environmental performance. European regions differ widely in terms of both social capital and environmental behavior. However, there are very few related studies at the sub-national level. Using data on 230 regions of the European Union in 2021, this paper examines the impact of social capital on air quality, which is a key indicator of environmental performance. The results show a positive effect, which is robust to several model specifications and to endogeneity. Some potential transmission mechanisms are also explored, revealing that the positive effects of social capital are channeled through the quality of formal institutions, more stringent environmental policy and citizens' stronger preferences for environmental protection. These insights suggest that regional social capital endowments can be a determinant of a green transition that occurs evenly across European regions.

1232

## Regional Impact of Tourism Firms in Sustainability: harnessing a policy toolkit

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❖ Terceira-G35-O3 Tourism and Overtourism Issues, S18, August 30, 2024, 11:00 AM - 1:00 PM

The tourism sector is kernel of the global economy, notwithstanding, its ecosystem also intersects high polluting sectors, such as transportation, energy, electricity, water, and waste management. It is among the world's largest industries, growing faster than most economic sectors. It serves as major source of income for many countries, and it is considered as a determinant instrument for regional development, multiplying its positive effect in income generation. On the positive side, tourism contributes to economic growth by improving the balance of payments, creating job vacancies, and increasing gross income and production. On the other side, it also poses significant challenges, particularly concerning environmental and community impacts. It can lead to environmental degradation, through pollution and resource depletion, and it can disrupt local communities through cultural commodification and gentrification.

Tourism firms have special production conditions, given that they deal, simultaneously, with private and public goods, imbedding in their production function common resources. The supply combines internal and external factors, based on the ability to produce goods and services that meet the interests of the domestic and the foreign markets, generating high levels of income, job opportunities while preserving common resources and respecting the welfare of local communities. These firms live in interdependence with the local ecosystem, as the product they supply also relies on the environment and the locals. Additionally, the sector is permeable to multiple external factors such as economic volatility, oil shocks, political instability, social conflicts and natural constraints such as seasonality, resource maintenance, weather conditions and government regulations.

Despite its undoubted ability to create income, job opportunities, prosperity and multiplier effects, due to the reliance on common resources, tourism can also cause share of problems, such as overcrowding, congestion, overpressure on public facilities, housing problems, economic dependence and ecological degradation. Notwithstanding, these impacts can be managed, controlled, contained and regulated.

Indeed, tourism policy and management will determine the extent of sustainability of the industry.

Given the reliance on public goods, the market forces seem to be insufficient to produce the a socially desirable outcome of the industry, as expansions towards short-term private-driven objectives, may lead to the destruction of the integrity of the resources upon which tourism is built. Nevertheless, its positive impact normally outweighs the negative, still free market actions may lead to unintended consequences jeopardizing both the community, the common resources, and in the long run even the private sector.

Additionally, the sector is highly fragmented and heterogeneous, covering a wide range of industries with very broad managerial strategies, dimensions, human capital intensity, ecological and environmental attitudes, and competitiveness. While their geographical distribution is constrained to the attractiveness, quality and accessibility of destinations.

The evaluation of the regional economic impacts of tourism grasps great interest among academics and policy-makers, and several paths may be adopted. The first branch or research focuses on the direct effect of the tourism value chain while the second relies upon the derived effects of the tourism activity. Here, we approached the first, focusing on firm level effects and addressing the impact those players have on the geography they are placed in, to better understand their role in the ecosystem.

Then, we include some policy measures to better picture the effect of governmental actions in income generation.

The study relies on quantitative approach based on multi-regression analysis. We combine firm level economic information collected from SABI with municipality information collected from INE and Tourism of Portugal. Our unit of analysis is the Portuguese municipalities. Several policy instruments were collected such as tourist tax, fiscal benefits, regional incentives to investment. The impact of the activity of these firms was measured on the Gross Value added and multiple dimensions of sustainability. Also, an extensive statistical analysis was performed to fully picture the placement of the tourism supply in the territory, as well as its structural characteristics to fully understanding the impacts in the community, in dimensions such as the job market, space use, proximity to public facilities, cultural amenities and ecological resources. The database covers all the Portuguese municipalities (308, mainland and islands).

Despite the robustness of the sample in statistical terms, as we cover the entire territory and all the registered firms, the analysis of sectional data may bring doubts about the inexistence of a long-time frame to address causality. However, the implementation of robustness checks undermining model structure and parameters support the validity of the results. Despite using secondary data, we always relied upon official institutions therefore, the metadata follows their procedures; in regards to the firm sample, we used 5-digit SIC codes and we have opted to include only those codes entirely devoted to the sector, leaving us with a narrow sense of the sector which is not the same methodology than the satellite account.

The present study provides empirical evidence of the regional impact of tourism firms, in both the economic, the social and the environmental domains. At first, it becomes evident that these activities contribute to the local income generation, they generate job opportunities and they raise economic vitality of the region. It also seems that there is a positive impact of those sectors in the availability of cultural amenities, which generate spillovers to the entire community. Perhaps some transport facilities, some public services, among others were also enhanced due to the presence of these firms. Albeit the positive effects mentioned, the presence of private activities relying upon collective resources also brings some negative effects mainly noticed in natural resource use and conservation, availability and management of space, mobility, waste management, and crowding.

Also, the empirical results highlight the importance of the policy actions to leverage the effect of these firms in their regions, proposing a toolbox to address the most effective policy mix to magnify the positive effects of these firms in the territory, while mitigating some negative externalities through regulations or controls. The instruments were split into two vectors: enhancers and hinderers to shed light on the most effective government intervention in such a complex sector.

At present communities are gaining awareness of the sacrifices they are forced to make because of tourism, questioning the use of their collective resources, their social construction and space by foreigners to the benefit of private agents. It is more than ever required understanding the impacts of these private players in their territories to balance the positive impacts with the negative spillovers and balance community welfare.

As resources are becoming scarcer and the fight for space part of the daily lives of the average citizen, putting the tourism policy and tourism management in the center of the policy agenda is mandatory if we want to recover social peace, involving the entire community in the decision-making process about how and who will access resource endowment and its precise effect. It seems evident that this policy needs to take a place-based approach as regions are multifaceted and the exploitation of resources as well as the economic impacts of the sector is very diverse.

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## Sustainable and Resilient Co-existence with Fire Risk

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❖ [Terceira-G18-O1 Climate Adaptive and Resilient Regions and Cities, S16, August 28, 2024, 4:45 PM - 6:30 PM](#)

Fire has naturally occurred over millions of years, and death and destruction due to fire are substantial even today. Questions of sustainability cannot be meaningfully addressed without accounting for fire and other natural and human caused disasters, yet they are rarely if ever considered. This paper discusses fire risk and vulnerability in the context of sustainability. Efforts that seek out co-existence strategies for making urban and wildland environments more resilient to the inevitable occurrence of fire are detailed. Examples of monitoring and mitigation approaches in coastal Southern California highlight preliminary work in this area.



1235

## Regional Early Warning Systems and Forecasting Models for Austria and Germany

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❖ [Terceira-G31-O1 Methods in Regional Science or Urban Analysis, S17, August 28, 2024, 2:30 PM - 4:15 PM](#)

This project aims to generate model-based regional indicators of housing prices in Austria and Germany, providing comprehensive insights into real estate market dynamics. We focus on identifying price bubbles—significant over- or under-valuation trends—and forecasting future price movements under various scenarios. Additionally, we develop indicators for interest rate elasticities of housing prices and inverse elasticities of supply. Our methodology is based on sound statistical and econometric tools (such as panel data and instrumental variable regression) to ensure reliable and precise results. These indicators are of high importance for the financial sector, guiding their financial operations and investment strategies

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