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## ERSA 2021 - Abstract Book

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The abstracts are listed in alphabetical order of authors' names (submitters).  
Presenters are in bold and underlined.

### The resilience of French employment areas to the Covid-19 crisis: a short-term assessment of the reaction to the shock

**Dr. Lara Abdel Fattah<sup>1</sup>, Dr. Mounir Amdaoud<sup>1</sup>**

<sup>1</sup>*Economix, Nanterre, France*

S04-S3 Geography of COVID-19 outbreak and policy answers in regions and cities, August 24, 2021, 4:15 PM - 5:45 PM

This article measures the impact of the Covid-19 outbreak on local employment in France. Based on a vast literature related to regional economic resilience and using the first local available data on the number of job cuts, we assess the resilience of local employment areas to the shock. Our results suggest a significant influence of employment density and the level of industry employment within the employment areas, their productive structure as well as local entrepreneurship.

## Regional gaps in Italy across economic crises, recovery and the Covid-19 emergency

Dr. Antonio Accetturo<sup>1</sup>, Dr. Giuseppe Albanese<sup>1</sup>, Dr. Rosario Ballatore<sup>1</sup>, Dr. Tiziano Ropele<sup>1</sup>, Dr. Paolo Sestito<sup>1</sup>

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S63 OECD-Bank of Italy joint session: Regional competitiveness and growth: Macroeconomic trends, August 27, 2021, 2:30 PM - 4:00 PM

The work describes regional macroeconomic trends in the Italian macroregions over the last decade. First, the study analyzes the dynamics of GDP and GDP per capita. Then the work reviews the main changes that have affected public and private investments (level, dynamics and composition), exports (also with respect to the potential demand), the labor and the credit markets.

# The interplay between regional performance and academic performance: The Region of Thessaly – University of Thessaly dipole

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G08-O2 Cooperation and Local / Regional Development, August 25, 2021, 12:00 PM - 1:30 PM

The literature on the role of universities on regional performance is broad and diverse, and some notable theoretical approaches have been developed over the years. The “entrepreneurial” university model attributes to universities the role of commercializing scientific knowledge (through spin-offs, patents, and licensing). The “regional innovation system” university model perceives universities as carriers of innovation (interacting with other innovation players). The “mode 2” university model suggests that universities must be engaged in collaborative research with other organizations towards producing connecting-to-the-environment knowledge (mode 2; complementary to the established focused-on-academic-peers, mode 1, knowledge). The “engaged” university model understands that adaptation of university functions to regional needs.

Looking at the other side of the theoretical spectrum, the literature on the role of regions on academic performance is scarce and no body of literature has been formed. Apparently, scientific knowledge, up to now, seems to perceive the linkage between regional performance and academic performance as a one-way – and not as a self-sustained - process.

The paper perceives the Region of Thessaly – University of Thessaly cooperation nexus as a means for creating and strengthening comparative advantage. Under this perspective, the paper scrutinizes the interplay between regional performance and academic performance. To this end, the paper conducts a pilot questionnaire survey on the basis of structured (on the 1-5 Likert scale) questions that cover both the topics already accentuated in the literature and some equally important topics that need to be analyzed. The survey is addressed to the actors that are (or need to be) engaged in the Region of Thessaly – University of Thessaly cooperation nexus. The findings of the paper provide valuable insight to both theory and policy-making.

# The impact of student migration on school lifespan – a study on a Romanian school

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G03-O1 Demographic Change, Population, Migration and Mobility Behaviour, August 24, 2021, 12:00 PM - 1:30 PM

The 1989 revolution determined a general change in the migratory behaviour of the Romanian population, due to the lifting of the bans on territorial mobility imposed by the communist regime. At national level, freedom of movement has resulted in an acceleration of the territorial mobility of the population and especially a reversal of migratory flows from urban to rural areas. But the biggest change occurred at the level of international migration, Romania's migratory balance clearly becoming a negative one since 1992. The last decade of the twentieth century marked a timid and individual beginning of departures to Western Europe while, the first decade of the new millennium coincided with an almost organised migration of entire communities, especially from rural areas. The second decade of the 21st century is marked by the phenomenon of remigration: amid the economic crisis of 2008, a large part of the population returns to Romania.

Schools have been affected by migration both directly by the departure of students and indirectly by the diminishing birth rate in communities with a high migration rate. In this context, the authors propose a case study that follows the evolution of the number of students from the Dulcești School (Neamț County), over a period of 30 years, in terms of internal and international migration of students. The authors made a correlation between the natural movement of the school population and its territorial mobility in order to capture the impact on the students of the school analysed. Another correlation is made between the students' movement and their religion. Within the community under analysis, there is a well-defined Catholic community in the territory, with a greater territorial mobility towards international migration. This school was chosen due to its position in relation to the main urban centre, the locality being in the isochronous of 15 minutes from the town of Roman.

The information collected comes from the statistical data provided by the school unit, and the analysed school is representative for schools of the same rank in the analysed region. The study intends to identify migratory patterns of students in rural areas, as part of a broader research aimed at the school network of the peri-urban region of Roman municipality and the impact of students' migration on pre-university educational network.

# Protected areas and marginal mountain contexts: landscape image under the test of climate change

**Mr Fabrizio Aimar<sup>1,3</sup>**, Dr. Gabriella Negrini<sup>1,2</sup>, Prof. Angioletta Voghera<sup>1,2,3</sup>

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S52-S1 Building territorial and community resilience through disaster risk reduction in marginal areas of rural Europe, August 26, 2021, 12:00 PM - 1:30 PM

Please, see extended abstract

# Measuring Impact of Access to Microfinance on Health Conditions in Indonesia

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G08-O1 Cooperation and Local / Regional Development, August 24, 2021, 12:00 PM - 1:30 PM

Health problems, which are a key agenda in the United Nation's SDGs, are a subject that has occupied much discussion among policymakers and researchers, especially in developing countries. In Indonesia, such health issues as malnutrition, stunted development, chronic diseases, and others are ranked at the top of social problems. Given the country's current health status, a low level of inclusive health care service provision may complicate its measure to improve society's healthcare. Therefore, the participation from other economic agents, in particular the financial sector, might be necessary. Indeed, the financial sector has been acknowledged as a key sector in mitigating the SDGs' health problems. In line with this, in Indonesia, Microfinance Institutions (MFIs) are often noted to be important. However, to what extent MFIs especially the Islamic MFI, help alleviate the health issues or even microfinance have any role in the health issues remain debatable. This would be an important issue as one of the main interests in Islamic MFIs is to promote society empowerment, which could be achieved by enhancing society's health and well-being condition. Failing to do so will create a questionable state on the current Islamic MFIs practices, as their conventional counterparts have proven to successfully improve the community health condition. Moreover, numerous differences in the nature of MFIs and Islamic MFIs could bring different impacts to the society. In light of the study gap, this research aims to analyze the impact of access to microfinance institutions, both Islamic and conventional, on public health in Indonesia using Indonesia Family Life Survey Data- wave 5. This study uses Two-stage Least Squares (2SLS) to analyze the data. This research is expected to contribute to the current existing literature on microfinance and human capital development by adding Islamic MFIs – which is rarely discussed but is growingly important – onto the discussion.

# Is Pro-Poor Financially Sustainable? Study on Microfinance Across Countries

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G08-O2 Cooperation and Local / Regional Development, August 25, 2021, 12:00 PM - 1:30 PM

Since the introduction of SDGs, there has been substantial interest whether there is a business case for “doing good”. Indeed, many studies have emerged to address whether engagements in non-financial but socially responsible activities affect firms’ financial performance. In the case of microfinance, this issue is a long-standing issue, which is inherent in its business operations. Microfinance institutions are required to provide basic financial services to individuals who do not have access to the formal financial system (outreach/social performance) and at the same time, they must ensure financial sustainability. This double-bottom line phenomenon has also become a debate between two parties, focusing on outreach or social performance and party that focus on financial sustainability aspects. While there is an opinion that a focus on sustainability will reduce outreach performance, there is also an argument that improving financial performance can go hand in hand with social performance. Therefore, this study aims to examine the relationship between social performance and financial performance involving several instrumental variables such as market concentration and size of the microfinance. This study applies GMM approach using data from 103 microfinance from 39 countries. It is expected that this research could promote microfinance to maintain its social value while still achieving its financial performance.

# Narratives and the Economics of the Family

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S35 Subversive Narratives and Polarization across Space, August 25, 2021, 12:00 PM - 1:30 PM

We augment Becker's classic model of the family by assuming that, in addition to caring about consumption, the family wishes to further a subjective story, or narrative, that captures its idiosyncratic goals. Our focus is on two stories that in many ways are polar opposites. The first one—the protector narrative—gives rise to a type of traditional family where gender roles are distinct, men and women are pushed towards “separate spheres,” and men are expected to be tough and authoritarian. The second one—the fulfillment narrative—gives rise to a type of modern family where roles are less distinct, family members have greater latitude in their decisions, and marriages are based to a greater extent on romantic love. We derive a rich bundle of behaviors associated with each story, and using survey data, we show that our findings are consistent with a variety of empirical patterns.



# Searching for a conceptual nexus? A critical analysis of community, place, and territorial approaches to rural development

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G05-O1 Mountain, Rural and Marginal Issues, August 24, 2021, 12:00 PM - 1:30 PM

Despite some commonalities, the development of a broad range of approaches to rural development has produced sometimes hermetic language and values, which is exacerbated by siloed scientific orientations. In this article, we provide a critical analysis of three popular approaches to rural development among Global North rural researchers, practitioners, and decision-makers: the community-based approach, the place-based approach, and the territorial approach. By locating the disciplinary origins and pragmatic boundaries of each approach and the interfaces between them, we argue that working across a potential conceptual nexus could foster collaboration among policy-makers, practitioners and researchers alike. Our analysis points to shared interests in issues of governance, actors' agency and geographical embeddedness, and a shared emphasis on rural defined interests. We argue that future rural development research and practice could be rejuvenated by working at the nexus of these interfaces to achieve the goals of contemporary rural development initiatives.

# Farmers' varietal innovation adoption in a context of climate change. The case of sunflower hybrids in France

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G07-O3 Global Warming, Health and Environmental Issues, August 25, 2021, 10:15 AM - 11:45 AM

The recent development of hybrids with environmental traits such as drought-tolerance rejuvenates the question of farmers' adoption of varietal innovation. Indeed, the factors of varietal innovation adoption have been studied extensively in Global South countries, where hybrids coexist with open-pollinated varieties and genetically-modified crops, with a food security perspective. The search for varieties contributing to the adaptation to climate change with environment-friendly traits is a recent trend in Global North countries.

In this article, due to the limitations of econometric models to investigate varietal innovation from an institutionalist perspective, we implement a qualitative design based on semi-structured interviews. Our conceptual framework is structured by Vatn's approach of institutional economics.

A purposive sample of stakeholders involved in several links of the sunflower supply chain (farmers, distributors, seed companies, and researchers) is selected in the two regions leading the French sunflower production.

Results are framed by an analysis of stakeholders' strategies. They show the embeddedness of farmers' decisions in economic, social, and environmental constraints, which reduce the breadth of varieties available to farmers to design farming systems and, therefore, limit adaptive capacities. In particular, seed companies' optimistic vision about the future of sunflower production is not shared by farmers and distributors. While seed companies focus on Central and Eastern European markets and capitalize on the quality of the French institutional environment for research and development, distributors are concerned by their economic viability, while farmers expect genetics to provide solutions to their technical issues. These results question the participation of farmers in varietal innovation development processes.

# Tourist arrivals at establishments: pandemic effects and the importance of new technology for the Mediterranean countries

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S41-S1 Opportunities, risks and challenges of the digital transformation in tourism Sustainability, Sharing hospitality and CoVid-19, August 26, 2021, 2:30 PM - 4:00 PM

see extended abstract

# Impact and recovery from the COVID-19 pandemic on the Scottish tourism industry: a computable general equilibrium analysis

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G32-O1 Tourism and Culture, August 27, 2021, 12:00 PM - 1:30 PM

Tourism has been one of the most badly affected industries during the Covid-19 pandemic, with restrictions on travel, accommodation and hospitality one of the defining features of public health measures to control the virus's spread. Tourism is also of major economic importance to many regions, including Scotland where over 218,000 jobs are in tourist-facing sectors, providing economic opportunities and supporting livelihoods across the country. It is currently anticipated that the recovery for the tourism in Scotland will begin from late Spring 2021 and into 2022. However, the precise future path for lifting restrictions and the response of future would-be tourists are unclear, including the conditions around a return of non-domestic travel. In this paper, we set out and use computable general equilibrium modelling for Scotland to help understand the quantitative economic impacts of scenarios for the recovery of tourism from COVID-19 and its reopening through 2021 and beyond. The impact of COVID-19 propagates through the economy via supply side shocks driven by reduced capacity and absence due to illness, and demand side shocks both direct due to travel restrictions and change in spending patterns and indirect driven by changes in income. Crucially, within the modelling framework we consider sectoral use of high- and low-skilled workers which are of particular importance to tourism-facing activities, as well as the geographic distribution of impacts. Our scenarios draw on extensive discussions around qualitative futures for tourism in Scotland and contribute to an evidence base on the scale of impacts anticipated, the consequences of alternative policy choices and their timing for this critical economic sector.

# Entrepreneurial Ecosystems in Low-Density Territories: Towards a New Research Agenda

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S14 Regional Resilience in Low-density Territories: overcoming the effects of COVID-19 pandemic, August 24, 2021, 4:15 PM - 5:45 PM

Although the amount of literature and policies on entrepreneurial ecosystems (EEs) is growing and becoming more and more a topic of interest among researchers and practitioners, most studies focus their analysis at the national or regional level or urban territories, applying the same “recipes and ingredients” to all types of territories. Regarding the specific case of low-density territories (LDTs), few studies explore the EEs creation and development process. LDTs are usually less innovative and show lower technological dynamism, suffering from several structural challenges, such as depopulation, ageing and youth migration, lack of highly skilled staff and infrastructures, which affects their social and economic development. Given the specific needs, characteristics, and challenges LDTs, it is crucial to understand which drivers, processes, or outcomes may hinder or facilitate EEs in this type of territories.

Through a conceptual discussion of EEs and a systematic review of the literature of EEs on LDTs, this study will explore the interdependences between EE stakeholders and its impact on EE quality on LDTs, which is understudied in previous research. This study proposes new avenues for conceptual and empirical research by emphasising the importance of EEs for the sustainable development of LDTs. Also, it will provide to public policy and local decision-makers key points to make the most of the opportunities and face the challenges of creating and developing this type of ecosystems in their territories.

# International capital mobility and corporate tax revenues. How do CFC rules and innovation shape this relationship?

Dr. Vito Amendolagine<sup>1</sup>, Dr. Gianluigi De Pascale, Dr Nicola Faccilongo

<sup>1</sup>*University Of Foggia, Foggia, Italia*

S47-S2 Foreign Direct Investments, trade and local development: drivers and impacts, August 27, 2021, 10:15 AM - 11:45 AM

The globalization exacerbates the dynamism of capital flows, which can enhance positive technological spillovers across countries, while at the same time facilitating profit-shifting and tax base erosion. This study investigates the relationship between capital market openness and corporate tax revenues, highlighting the relevance of anti-avoidance rules and innovation endowments. We run different panel techniques on OECD yearly data spanning from 2000 to 2017, finding that FDI flows in both directions and innovation can boost corporate tax revenues. Further, the effects of international capital mobility turn out to have a non-linear shape and are more positive for countries applying Controlled-Foreign Company rules and endowed with larger investments in innovation. Results are robust to endogeneity and hold in both short and long run. Evidence from relevant sub-samples giving further insights for policy makers.

## FDI mode, firm heterogeneity and institutional conditions

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S47-S1 Foreign Direct Investments, trade and local development: drivers and impacts, August 26, 2021, 4:15 PM - 5:45 PM

The paper investigates how national and regional institutional conditions shape the decision of large Multinational Enterprises (MNEs) to invest in their host regions by means of either acquisitions or greenfield investments. The empirical analysis covers all Foreign Direct Investments (FDIs) in the European Union by the largest MNEs in the world, making it possible to study alternative choices by the same firm and fully account for firm-level characteristics in investment choices. The empirical results show that - other things being equal - MNEs use acquisitions in order to control activities in regions with stronger investment ecosystems, while they rely on greenfield investments in regions with weaker systemic conditions. However, the regional quality of government makes fundamental difference on the nature of the investments attracted by the regions. Regions with high quality of government are able to attract greenfield investments by the most productive MNEs, therefore maximizing the potential for local spillovers.

# The human geography of social isolation: Spatial interrelationships between people, place, and the pandemic

Dr. Evgenia Anastasiou<sup>1</sup>, Professor Marie-Noelle Duquenne<sup>1</sup>

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G03-O1 Demographic Change, Population, Migration and Mobility Behaviour, August 24, 2021, 12:00 PM - 1:30 PM

The geographical isolation due to natural, physical, and transport constraints, could intensify the feeling of social and psychological isolation, resulting in a strong regional differentiation of such a feeling and perception. The main purpose of the present study is to examine how does human geography relate to the pandemic crisis in Greece. More especially, the aim is firstly to evaluate the demographic and spatial footprint of social isolation on the Greek population during the first wave of COVID-19. Secondly, distinct spatial patterns of social isolation will be identified in Greece based on sociodemographic and geographical factors. A total of 4,238 Greek people aged 15-64 years completed an online survey during the first transmission wave of the pandemic in Greece (from April to May 2020). For the implementation of the field research, a measuring instrument was developed to determine the population's perceptions toward their feeling of social isolation. Geographic Information Systems facilitated analysis and improved visualization of results through thematic cartography. Finally, hierarchical classification revealed distinct patterns of social isolation in the Greek regional units.

The results signify that more than one in three Greeks felt highly socially isolated during the first confinement due to the pandemic. The focus of the analysis is on emerging spatial patterns in social isolation feeling, highlighting the socio-spatial extent of the pandemic. The feeling of social isolation of the Greek population is "contagious" and focuses on the regional units of Western Macedonia, Western Greece, but also the island area, especially the Eastern Aegean and the Dodecanese.



# Spatial Vulnerability and “Marginalized” Populations in Greece. Approach to Identifying Marginalized Rural Areas

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G05-O2 Mountain, Rural and Marginal Issues, August 24, 2021, 2:30 PM - 4:00 PM

In Greece, rural depopulation is observed over time, reflecting a particularly unbalanced population distribution. In recent years, however, the economic crisis is leading to rapidly decreasing rates of urbanization, and relative revitalization of some rural areas. Considering the above, there is therefore the question of the resilience and attractiveness of rural areas, especially marginalized ones. The fundamental objective for ensuring their sustainability is the possibility of addressing the key social and economic needs of the local population, thus contributing to a minimum level of social integration and improvement of living standards.

The main purpose of the present study is to introduce a typology for the marginalized rural areas in Greece, applied to the local administrative spatial level. Based on the acknowledgment of the territorial heterogeneity, the analysis is defined by a multidimensional data warehouse. In particular, spatial, societal, environmental, and cultural marginalities define the corresponding data collected. Multicriteria Analysis (Explanatory Factor Analysis and Hierarchical Analysis) identified the main types (spatial patterns) of Greek marginalized local administrative units. The implementation of this methodological tool aims at the evaluation and classification of the needs of local societies. The proposed research is an innovative approach to Greek data, in terms of scientific contribution to the identification of rural areas with new criteria and the emergence of smart services as rural resilience tools.

# Key Enabling Technologies and the complexity of jobs, tasks, and skills in Emilia-Romagna

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S02 Industry 4.0 in clusters & industrial districts, August 27, 2021, 12:00 PM - 1:30 PM

The paper investigates whether, and to what extent, more intense use of Key Enabling Technologies (KETs) does influence the average complexity of jobs, tasks, and skills in the manufacturing industry of Emilia Romagna's local labour markets (LLMA), in Italy. We merge data on employees' jobs, tasks and skills from the Sistema Informativo Lavoro Emilia-Romagna (SILER), and from the INAPP-ISTAT Survey on professions and work attitudes, with patent data from OECD-REGPAT. The results show that the general-purpose, and enabling, nature of KETs stimulates a higher demand for a more diversified, and exclusive, portfolio of tasks and skills while keeping job profiles unchanged.

# Linking FDI Network Topology with the Covid-19 Pandemic

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S47-S1 Foreign Direct Investments, trade and local development: drivers and impacts, August 26, 2021, 4:15 PM - 5:45 PM

Globalization has considerably increased the movement of people and goods around the world, which constitutes a key channel of viral infection. Increasingly close economic links between countries speed up the transfer of goods and information, and the knock-on effect of economic crises, but also the transmission of diseases. Foreign direct investment (FDI), in particular, establishes clear ties between countries of origin and destination, and it is along these chains that contagious phenomena can unfold. In this paper, we investigate whether countries with more central positions in the global production network have higher COVID-19 infection and mortality rates. We merge data on EU-28 outward FDI with data on COVID-19 per capita infection and death rates to analyze their association with the topology of the FDI network. Our estimates reveal that countries most exposed to the COVID-19 outbreak are those characterized by a more central role in the global production network. This result is robust to the use of alternative measures of network centrality, and to the possible influence of the 2008 financial crisis on the structure of the global production network. We also find that exposure to the pandemic increases with the centrality of a country in the FDI network of certain industries, including business machinery and equipment, business services, real estate, tourism, and transport.

# National and Regional Indexes of Prices Received by Farmers in Brazil: economic representation and social divergence

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G05-O1 Mountain, Rural and Marginal Issues, August 24, 2021, 12:00 PM - 1:30 PM

The construction of indexes to capture the variation in agricultural and livestock prices makes it possible to better approximate the reality of the sector. Generalized indexes do not reflect the price variations faced by the rural producer. The Index of Prices Received by Farmers (IPR) has the potential to show these variations. This index should take into account the prices of products sold by agricultural and livestock producers, and also taking account of economic importance of each product in relation to the country's total agricultural and livestock production.

On the one hand, the indices are constructed to reflect the price variation of products with a greater share in the financial volume of production, on the other hand, regional and local products with less participation in terms of financial volume due to the methodologies applied, tend to not be reflected in the price behavior of national production, which many rural producers are engaged. This scenario in Brazil has greater magnitudes due to the vast national territory. Therefore, national indices reflect the economic dimension of few products, usually for export such as soybeans, which are produced by a smaller proportion of rural producers. Regional products produced by an immense number of producers are practically not reflected in national indexes, which in fact show intense divergence in the social aspect of these indexes.

The objective of this work was to calculate and analyze a national index and also indexes for the five Brazilian macro-regions, with different product arrangements, sometimes considering commodities, sometimes not, in order to capture the price variations of less expressive products in terms of production value, but that are produced by many rural producers. In addition, product arrangements emphasize regional production in contrast to other Brazilian regions. Thus, sectoral policies based on IPR may not be reflecting the income of rural producers. The work methodology applied to assess the relationship between the indexes will be the cointegration analyzes, contrasting the regional indexes with the national index.

# Firm location as moderating factor in green management: a micro-territorial analysis on the accommodation sector in the city of Barcelona

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G22-O1 Energy and Ecological Transition, August 26, 2021, 2:30 PM - 4:00 PM

Previous researchers have found a trade-off effect between the implementation and development of business green practices and company performance. Far less is known about the locational factors to be considered when designing sustainable management practices. This study proposes a theoretical model which demonstrates that location is a moderating factor between firms' green decisions and their performance. In particular, we identify the locational characteristics of firms associated with the peer effect and the geographical proximities of these companies to tourist attractions and areas of interest. Using unique web scraped data on micro-territorial hotels in Barcelona, Spain, we find that green hotel location and geographical proximity to places of interest and natural resources play a fundamental role in hotel performance and the probability that hotels will implement sustainable management practices. This study sheds new light on the external strategic factors companies should consider in order to become productive green agents.

# The impact of ecological determinants on tourism demand: an application of geo-spatial Big Data at a microterritorial level.

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G19 Tourism and Overtourism Issues, August 26, 2021, 12:00 PM - 1:30 PM

Tourism sector is highly dependent on environmental quality. In Spain, the tourism sector is a key driver for the whole economy. It generated the greatest share of revenue in 2019. So that potential consequences on arrivals and tourism revenue losses are very relevant issues. A genuine tourist destination at the Mediterranean Coast is the Mar Menor (South East Spain), the largest hypersaline coastal lagoon in Europe. Nowadays it is suffering from a severe degree of environmental deterioration, due to the fertilizers and pesticides it receives from intensive agriculture. Frequently, tourists are attracted by water bodies like the Sea, rivers and lakes. Therefore, it is important taking care of the environmental quality level of those natural areas. Particularly, in Spain a growing effort has been promoted by governmental agents for marine ecosystems protection, so that the 55% of the Dominio Público Marítimo-Terrestre (DPMT) is protected. Nevertheless, near to the half of the surface water bodies are in a medium, poor or bad environmental quality level. It is therefore extremely important analysing the effect of marine water pollution on tourism demand. In this study we have obtained tourist arrivals from the National Institute of Statistics of Spain at a municipality level. Using SUR model with spatial effects we have found a significant presence of spatial effect along the Mediterranean Coast tourist sites. This study incorporates satellite-based information from the Sentinel-3 of the European Spatial Agency to evaluate water pollution. Moreover, we include physical characteristics of the environment like the presence of Natural Protected Areas (NPA) in the assessment of tourism demand. We find a polarization process of visitors from traditional seaside tourist destinations to less crowded tourist sites, whose natural and physical environment shows a better natural conservation. The conclusions of the study aim at enriching the decision-making process of the regional government, providing new empirical evidence on how a poor environmental quality affects tourism demand.

# The Spanish Case: One Country, Two Regimes. A Synthetic Control Method Approach

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YSS6-G01 Regional and Urban Development, August 26, 2021, 10:15 AM - 11:45 AM

The link between fiscal decentralization and economic growth is a work-horse field of research which has historically arrived to ambiguous conclusions. Nevertheless, less is known about the regional consequences of an asymmetric decentralized system as in the case of Spain. In this article, we provide evidence for the literature evaluating

the two-extreme-cases regions ( The Basque Country and The Valencian Community) in terms of how they have been benefited/harmed, after the approval of their respective more recent critical laws regarding the Spanish fiscal decentralization process: (i) the

Basque Economic Agreement ( BEA, hereinafter) approved in 2002 and (ii) the 2001-model within the common financing system. To undertake this analysis, we develop our empirical strategy based on diff-in-diff regression and the Synthetic Control Method. We intend to demonstrate that an asymmetric fiscal decentralized system, based on cultural or political reasons rather than economic ones, is not innocuous for the economic development of a given region and it has quasi-permanent consequences in terms of convergence for the whole country. We find that the BEA approved in 2002 would have increased the Basque Country level of GDP per capita under diff-in-diff regression and under Synthetic Control method. Conversely, we also find that the approval of the 2001-model, within the common financing system, has implied a considerably reduction in the Valencian level of GDP per capita, also under both methods.

(see Full Paper)

# Residential mobility among young individuals in France

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YSS8-G16 Real Estate and Housing Markets Issues, August 26, 2021, 10:15 AM - 11:45 AM

Migration of young people, more particularly young workers who have recently left their initial training, is relatively little studied (Damette, F. and Scheibling, J., 2003). We chose to work on the residential mobility of young individuals because they are the most important group to migrate. Residential mobility has a slight and slow impact on the transformation of French counties. In France, every year, only a little more than one French individual in 10 changes their home. In addition, more than two-thirds of French people who move relocate near their previous place of residence (in the same county or in the same department).

Our paper aims also to detect the residential mobility of young individuals, aged between 15 and 29 years, within the social housing park because it plays a role of solidarity for the most modest and it accommodates the middle classes and intermediate professions when the housing market prices are high.

For the first part of the paper, we use an original data set of 14 271 765 French individuals and for the second part, we use an original data set of 2 297 463 French individuals, which were provided by the French Institute of Statistics (INSEE). This database includes different individual characteristics such as the age, the educational level, the gender, the family status, the nationality and the socio-professional category. In the same time, it includes the geographical origin and arrival counties of each individual between 2012 and 2017. Our data concerns migration flows between French counties representing a unique spatial level of analysis. The paper uses also an original database for the territorial characteristics of 34970 counties. The results are furnished for the young individuals and also for the working population.

For the migration of young individuals between counties, the paper presents some conclusions. First, young are more likely to migrate. Second, young individuals with a low level of education are less likely to migrate between counties. Third, single young individuals are more willing away from their counties. Four, concerning the territorial characteristics, young individuals do not go to unemployed counties.

Concerning the decision of migrating within the social housing park, the paper presents some conclusions. The age of young individuals is positively correlated with the decision of migrating within the social housing park. Young individuals having less than a baccalaureate diploma are less likely to migrate within the social housing park.



# Because the Project ORMA - Opportunities and Risks of new Modalities of Anthropization between sustainability, innovation and fragility

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S60-S1 ORMA - Opportunities and Risks of new Modalities of Anthropization between sustainability, innovation and fragility, August 27, 2021, 10:15 AM - 11:45 AM

Even before pandemic, cities shown thermodynamic limits, great social contradictions (Harvey, 1993, 2012) and of meaning (Augè, 1992, 1999): the results of an uncontrolled globalization (Rodrik, 2011) and of an unsustainable artificialization (Munafò, 2020). To respond to economic, environmental and health recent crises, up to the 2020 lockdowns, with the key theme of resilience (Rifkin, 2019), environmental and social antifragility (Taleb, 2012), the Session intends to face new paths of reterritorialization (Raffenstin, 1987), therefore , as opportunity for change. So participating in developing a robust theoretical and methodological framework inspired by the autopoiesis (Maturana and Varela, 1987) and ecopolitics (Morin, 1985, 2020), cultured technology (Del Nord, 1991; Zeleny, 1985), to go beyond the paradigm of the modern city. Multidisciplinarity characterizes the Session as required by the UN 2030 Agenda (2015).

The transition from process control to product control (Nilles, 1988), together with the possible breaking of the synchrony between spaces and times, the foundations of the Informational city (Castells, 1989, 1996, 1997; Beguinot, 1989; Aragona, 1993), opens to new opportunities for the territory (Faggian, 2020; Torre, 2020). It requires to re-discuss the principles of the neoclassical economy, the economies of scale and agglomeration, bases of the modern city. The focus of the Session is to suggest new models of territory and cities sustainable, less fragile, much more resilient by identifying integrated planning strategies (Leipzig Charter, 2007). So contributing to the elimination of land consumption and to the protection of biodiversity (EU, 2019, 2020), developing operational paths to implement the Glocal (Robertson, 1995), between internal and central areas, based on the circular economy (Torre, 2020), combining innovation and environment. For that it is expected the comparison among emblematic cases for spatial, demographic and social aspects.

# COVID-19 and Tourism: What Can We Learn From the Past?

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S31-S1 Tourism in the post-COVID Era. Methods, Impacts, and Future Scenarios, August 25, 2021, 4:15 PM - 5:45 PM

The COVID-19 first appeared in China in December 2019 and rapidly spread to the rest of the world, causing one of the deepest economic crises since the Great Depression in the 1930s. The decrease in GDP levels, the contraction of trade, and the increase of unemployment are just some of the immediate effects of this crisis that, unfortunately, is likely to last for a long time (OECD, 2020).

The rapid transmission of the virus and the high number of asymptomatic people induced governments to shut down the activity in many sectors and impose travel and mobility restrictions. Many countries completely closed their borders to all foreign nationals (e.g., Russia and the U.S.). In contrast, some others closed only partially, conditioning the entrance in their territory on traveller's citizenship or point of origin (e.g., Greece and Austria). Therefore, tourism has been one of the most affected sectors.

In this paper, we try to infer a possible future scenario for the tourism sector, evaluating the medium-term effects of past pandemics on international tourism arrivals and receipts. In detail, we estimate the dynamic response of tourism outcomes through Impulse Response Functions (IRFs) based on local projections of the effect of past pandemics (Jordà, 2005). For each future period  $k$ , the change in tourism outcomes through time is regressed against our measure of shock, an autoregressive component to capture persistence, and a set of control variables.

In the second part of the paper, we allow the interaction between pandemics and economic conditions in order to investigate the role of several transmission channels in shaping the response of tourism outcomes to pandemic events. Moreover, we investigate the potential heterogeneous effects of pandemics within countries and the role of several regional characteristics that may explain such behavior.

We find that pandemics lead to a persistent decline in tourist arrivals, with the impact being larger in developing and emerging countries. Interestingly, the effects are heterogeneous across and within countries as well as across episodes and depend on several economic conditions such as the overall health system performance, the severity of the shock, and the uncertainty induced by the pandemic event.

# Government leadership, public-private cooperation, and women empowerment: Analyzing the social sustainability of rural tourism at developing countries

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S11-S3 Challenges and Opportunities of Rural Regions, August 25, 2021, 12:00 PM - 1:30 PM

Rural tourism has gained place in Central America in the last years. Local communities living at natural environments engage with tourists seeking for wildlife and nature immersion experiences. In this paper, we focus on identifying a number of social treats relevant for the success of those projects. First, we analyse the key role that public institutions play in this setting. National governments provide the necessary governance and legal framework to make the projects sustainable in environmental and institutional terms. Local governments contribute to build the necessary infrastructures, workers' qualification, and provide funds at the initial stages. Second, the study highlights the empowerment process taking place for rural women when embarking in tourism business. The rise in women leadership reshapes the structure of social relationships at rural areas, resulting in higher levels of welfare. To better understand this process of social change, we define a theoretical framework, testing it through Structural Equation Modelling (SEM) methods. The results of the investigation provide relevant policy recommendations for the social sustainability of rural tourism at developing countries.

# Unsustainable territorial development - insights from impact assessment of land consumption in Italy

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S60-S2 ORMA - Opportunities and Risks of new Modalities of Anthropization between sustainability, innovation and fragility, August 27, 2021, 12:00 PM - 1:30 PM

The main driver of degradation of the territory in Italy has been the uncontrolled territorial development during the last 70 years, anchored in the practice of indiscriminate land consumption. Cities choose to increase their competitiveness at the expense of sustainability, resilience and identity, with a growth, that affects mainly agricultural natural and semi-natural land driving to high levels of land degradation and loss of ecosystem services.

Sustainable use of land and nature-based solutions in cities are key ingredients in Regional policy's Urban Development, in line with Sustainable Development Goal 11: "Make cities and human settlements inclusive, safe, resilient and sustainable" and the UN initiative "United for Smart Sustainable Cities" (U4SSC).

International commitments have relevant targets specific on land in SDG Goal 15, to the halt the loss of biodiversity, to achieve the land degradation neutrality and to integrate the ecosystem and biodiversity values into national and local planning.

In a more and more urbanized territory, green spaces in or near cities are even more important. The new growth strategy "European Green Deal", aims to drive the continent to a fair and prosperous society, where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use, at the same time conserving and enhancing the EU's natural capital, and promoting citizen's well-being, confirming the central importance of a healthy soil. As declared in the latest EU Territorial agenda 2030, land consumption "reduce open spaces, biodiversity and fertile soil, while also contributing to urban heat islands impacting the functioning of ecosystems. At the same time, abandoned, derelict and underused sites offer potential for land-use changes". The Biodiversity strategy 2030 address these issues with the announced update of the EU Soil Thematic Strategy in 2021 and the upcoming Strategy for a Sustainable Built Environment.

To cover the knowledge gap on the highly complex relationship between ecosystem services, biodiversity and urban areas, more efforts on monitoring, reporting and harmonizing are need also within Europe, being addressed by several research projects as EJP SOIL and addressing governance as SOIL4LIFE. This article presents the results of the impact assessment of land consumption in Italy, in terms of trend in land consumption and biophysical and economic loss of ecosystem services, from national monitoring by the National System of Environmental Protection based on Copernicus Land monitoring service information.

# Investigating the role of public investments in regional resilience: An analysis of the Greek regions

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G29-O1 Regional and Urban Policy and Governance, August 26, 2021, 4:15 PM - 5:45 PM

The research builds on the aftermath of the 2008 economic crisis and follows the idea that public investments is a critical fiscal policy tool that can be used for recovery and reorientation after an economic downturn, but also for improving regional resilience to future shocks. As there is still no clear evidence regarding regional policies, elements or structures that can be rigidly characterized as factors of resilience, we explore the role of fiscal policies implemented through public investments in Greece for the period 2000-2017. The notions of resilience and public investments is particularly relevant in the case of Greece, which has experienced significant structural changes during the last decades. Our analysis encompasses data on public investments per capita, capturing both total and their specific components, as an explanatory factor of regional resilience, measured by changes in regional employment rates in two periods, 2000-2008 and 2009-2017. As there has been a limited effort towards exploring the ways in which the labor market, a central aspect of resilience, adjusted to this shock, the following analysis builds on this gap and tries to investigate the ways in which public investments have affected the evolution of regional employment. We also control for a set of additional factors referring to the regional social, economic and demographic structure, such as GDP, population, regional market structure and human capital, to get a more concrete estimation of the contribution of public investments on regional resilience. We use data that could be allocated to the 51 Greek prefectures (NUTS III regions) during the specific period of our analysis. The results indicate that in the post-crisis period total public investments, decentralized and secondary sector's investments per capita are the ones that have a positive impact on regional resilience. Moreover, there is positive relationship related to tourism and regional resilience and there are indications that the age group AGE\_50-69 acts as a resilient factor during the crisis. In contrast, public investments per capita related to the primary sector has a statistically significant negative sign and also an initial high level of employment is related to employment losses in the subsequent period. The pandemic crisis offers an opportunity to monetize all existing knowledge and lessons learnt from the previous period towards designing concrete policy responses. It is essential to consider investments as a key tool for strengthening resilience and governments should follow a place-based approach to adjust regional policy into local specificities

# The heterogeneous regional effect of mobility on Coronavirus spread

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YSS6-G01 Regional and Urban Development, August 26, 2021, 10:15 AM - 11:45 AM

The Coronavirus (COVID-19) pandemic struck global society in 2020 and the beginning of 2021. The pandemic required adoption of public policies to control spread of the virus, such as mobility restrictions. Several studies included in this paper's literature review show that these measures have been effective. Within the topic of Coronavirus spread, the present study analyses the effect of mobility on Coronavirus spread in a heterogeneous regional context. A multiple linear regression model is used to measure the effect of mobility habits on Coronavirus spread in the context of Spain's regions. The three models presented include other relevant explanatory factors, such as social awareness, social distancing and diagnostic capability. To analyse social awareness, Google Trends data with daily searches are used. Although Google Trends permits use of daily data for a maximum of three months, this study develops a new methodology to create a regional pool for a longer time period. The methodology enables fuller use of this information, with great potential for predicting the evolution of various social issues, as several studies have indicated. The results reveal heterogeneity among Spain's regions that identifies two possible explanatory factors, population distribution and concentration, and quality of communication routes. The greatest challenge in the short and medium term—containing the Coronavirus—requires greater knowledge of the factors that increase its spread.

# Digital platforms : new intermediations, new proximities to rethink the territorial development

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G20-O1 Cities, Regions and Digital Transformations, August 26, 2021, 12:00 PM - 1:30 PM

The spectacular development of digital platforms (Ebay, Paypal, Uber, Airbnb, Tinder, Amazon, LinkedIn, Netflix, etc.) in all economic sectors intervene on the territories and their activities. These new business models, at the origin of today's most powerful companies, are transforming the economy (Parker, Van Alstyne and Choudary, 2016) and our lifestyles. Digital platforms are questioning the principles and foundations of territorial development, particularly because they largely challenge the notions of spatial anchoring of activities and territorial proximity (Torre and Wallet, 2014).

Two characteristics of digital platforms guide our reflection:

- They act as intermediaries (Eisenmann, Parker and Van Alstyne, 2006), providing a common meeting place for entities that "need each other in one way or another" (Evans and Schmalensee, 2008, p. 667).
- the meeting place provided is virtual (Evans & Schmalensee, 2008, p. 667). Indeed, it « uses technology to connect people, organizations and resources into an interactive ecosystem in which amazing amounts of value can be created and exchanged" (Parker, Van Alstyne and Choudary, 2016).

The main challenge therefore is to understand the role of the territorial development policies in an economy in which companies are less and less anchored (Storper, 1997; Zimmermann, 2001) and where proximities are disrupted.

We propose here a theoretical reflection, illustrated with a wide range of examples, on the scope of territorial development. It will help us to show how the new forms of intermediation forces us to rethink theories of territorial development and in particular how proximities can be activated and operationalized by new specific mechanisms and stakeholders.

We demonstrate, in this paper, that far from questioning the notion of proximity, digital platforms highlight another form of proximity : the virtual proximity. Virtual proximity represents the conjunction of platform proximity, which allows links between individuals without geographical proximity (Torre & Rallet, 2005), with organized proximity. Thus, while territorial proximity generates clusters or any form of localized production system (Torre & Beuret, 2012), virtual proximity generates ecosystems (Li et al. 2012; Jacobides, Cennamo, & Gawer, 2018) that bring together independent agents whose interactions influence the behavior and performance of the global system.

We will show that although digital platforms are not necessarily spatially anchored, their activities have a strong impact on the relationship between actors and territories. As a consequence, one of the major challenges of development policies is to succeed in connecting the different types of proximity.

# A collaborative approach for sustainable river governance: the case of the Tiber River Contract

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S60-S2 ORMA - Opportunities and Risks of new Modalities of Anthropization between sustainability, innovation and fragility, August 27, 2021, 12:00 PM - 1:30 PM

Built environments close to rivers, especially in metropolitan areas, have been altered in terms of water quality, exposure to hydrogeological risks and landscape degradation. This is the case of the river Tiber in its final stretch, crossing the Capital city of Rome.

The contribution aims at highlighting the experienced of the Tiber River Contract from Castel Giubileo to the mouth, considering the work, still ongoing, of the Technical Secretariat of the River Contract. River Contract is an integrated strategic planning tool for river management able to promote environmental and landscape restoration through prevention, mitigation and monitoring of hydrogeological and landscape emergencies. They represent an effective approach to systematize issues treated so far separately.

In particular, its innovative and inclusive approach to urban regeneration will be presented in reference to the Tiber river landscape. The River Contract process could lead to facilitate the interaction between institutions and communities, following the ongoing trend of moving from a regulatory top-down approach towards a horizontal subsidiarity. The public administration tries to catalyze various processes as facilitators presenting itself in a new guise, providing a general framework to transform, regenerate, restore, upgrade, protect and enhance the Tiber area. The involvement of the community is crucial, not just an addition, but a proactive and deliberative contribution. This principle is formalized in agreement forms, signed pacts as the Contract that rationalize the process and the engagement of all the actors, both public, private, and civic, establishing responsibilities, tasks, outputs and the monitoring of the feasibility of the whole path.



# Determinants of international clean energy investments in emerging markets: the USA case

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YSS3-G07 Global Warming, Health and Environmental Issues, August 26, 2021, 10:15 AM - 11:45 AM

International investments in renewable energy in developing countries' technologies play a crucial role in this step since the number of investments still remains limited in emerging markets. Among all investors in renewable energy USA is the biggest one. This research analyses what factors could influence USA investment decisions based on economic relationships with recipient country, domestic law, and policies promoting renewable energy development during 2008 – 2019 years. Using panel data based on Bloomberg New Energy Finance (BNEF)'s Climatescope source, which combines the information about all cross-border finance deals in big renewable energy projects covering 61 developing countries over a 12-year period this analysis relied on three model regression including Logit, Tobit, and Linear. The results of this research show that one of the most significant factors of renewable energy investment is the USA's commercial ties with the recipient country. Although, it does pay attention to the country's overall environmental performance, and if it has a low index the investment is more likely to happen. The results also demonstrate the importance of a strong law system and clean energy promoting mechanisms, such as feed-in-tariffs. However, since the factor of renewable energy commitment is positively high, this study suggests the USA should concentrate on countries where renewable energy technologies are not that developed yet and which mostly rely on fossil fuels.

# Regional EU research & innovation funding: Using project-level data for monitoring & evaluation

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G29-O3 Regional and Urban Policy and Governance, August 27, 2021, 12:00 PM - 1:30 PM

This non-technical article promotes the use of project-level data for monitoring and the evaluation of EU research and innovation policy. First, a new dataset of R&I-related projects co-funded by the ERDF during the multi-annual financial framework 2014-2020 is introduced. Second, this data is used, together with Horizon 2020 project information, in order to explore interlinkages between the funding schemes in terms of thematic priorities as well as beneficiaries. On average, 15% of ERDF projects could be identified as being carried out by a beneficiary that also receives funds from the Horizon 2020 programme.

# In the eye of the storm: Entrepreneurs and well-being during the COVID-19 crisis

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S13-S2 Historical Roots of Regional Entrepreneurship and Innovation, August 25, 2021, 10:15 AM - 11:45 AM

It is well established in the entrepreneurship literature that entrepreneurship is persistent across generations. Individuals with parents who have been engaged in entrepreneurship are more likely to also become entrepreneurs later in life. Thus, there is an inter-generational component to entrepreneurship. The underlying reasons are the experience the children get from observing their parents but also inherited characteristics that are passed from parents to their children that are beneficial when become an entrepreneur. Studies focusing on entrepreneurial education, stress that early entrepreneurial interventions (in terms of education) have the most profound impact on entrepreneurial outcome later on in life. By combining these two arguments, we analyze how the timing, i.e. the age of the children when the parent is an active entrepreneur, relate to the probability of becoming an entrepreneur as an adult. In this paper we argue that it is not only the experience that matters but also when the child was exposed to their parent's entrepreneurial occupation and outcome of said choice.

# Beyond tangibles – The impacts of smart specialisation in practice: Insights from Baden-Wuerttemberg

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S18-S1 Smart Specialisation and Policy, August 25, 2021, 12:00 PM - 1:30 PM

With this contribution, we aim to present empirical evidence of how the smart specialization approach is implemented in the federal state of Baden-Wuerttemberg, Germany. Since smart specialisation adheres to a place-based approach, smart specialization is perceived as specialized diversification based on region-specific and place-specific capacities, which should ensure regional development, competitiveness and sustainable growth. We find that in the pursuit of a smart specialisation approach, not only the promotion of tangible and quantifiable assets contributes to the leveraging of regional development potentials but also the promotion of the formation of institutions and the development of social capital. It is the aim of this contribution to explore the benefits of a smart specialisation approach to regional development by looking at its impacts on institutional capacity building, social capital building and place leadership in different types of places.

After a theoretical part on smart specialisation, place-based policy making, entrepreneurial discovery processes, institutions and social capital, the empirical investigation analyses place-shaping actors, place-shaping practices and the identification of place-specific development themes vis-à-vis social, economic and spatial specificities. It provides an in-depth analysis of the potential impacts of the implementation of smart specialisation towards regional development in the federal state of Baden-Wuerttemberg, Germany, using the “RegioWIN” competition as an example of a smart specialisation policy approach and major policy instrument for the distribution of the ERDF funding in Baden-Wuerttemberg.

Based on secondary data an exploratory hierarchical cluster analysis, five different types of places are identified in Baden-Wuerttemberg and characterised. In a second step data from 17 in-depth, direct and semi-structured interviews are used to generate insights into the implementation practices of the smart specialisation policy approach and its impacts on regional development in the five types of places.

Differences and similarities between the different types of places are presented and discussed.

The results show in a differentiated manner how smart specialisation and place-based development strategies contribute to the evolution of informal and formal institutions (in particular in rural places) and a strengthening of social capital, making places more attractive to actual and potential residents, firms and investors. It finally discusses how these aspects contribute to regional development, higher level of competitiveness and regional growth.

# Gender Dimensions and the Entrapment of Vulnerability Communities in Coastal Indian Sundarbans

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S58 RSPP Special Session on "Breaking the Vicious Cycle of Vulnerable Regions", August 26, 2021, 2:30 PM - 4:00 PM

Disasters are catastrophic situations when normal patterns of life have been disrupted and a household/ community is unable to deal with it using its own resources (Von Kotz, 1996). Disasters happen only when a natural hazard impacts negatively on vulnerable people. A large number of disasters have been found to be avoidable and has had negative impacts due to incorrect or insufficient management practices. General vulnerability of the affected communities also have a major role in the process of recovery from disaster. The differential impacts of similar kinds of events have a bearing on recovery. Tropical storms of similar intensity affect the USA and Bangladesh, but with very different outcomes. In 1992, Hurricane Andrew killed fewer than 20 people (Morrow 1997), while the 1991 cyclone in Bangladesh killed 140,000 people, and ruined the livelihoods of millions (German Red Cross 1999). Community resilience is thus linked closely with numerous factors like economic stability, pre-disaster vulnerability, governance and governmental support-system, alternative livelihood options etc. In the given context, this paper explores the progression of vulnerability amongst communities in the coastal Indian Sundarbans, one of the largest mangrove ecosystems of the world and also one of the poorest sub-region of South Asia. The paper explores the repercussions of the recurring cyclonic activities of high intensity along the Indian Sundarbans with Aila, Hudhud, Amphan and Yash. Each cyclonic event throws new challenges before the community can recover from the earlier devastation; the subsequent continuity leading to a vicious entrapment of the poor households, and proceeds to focus upon the role of women in adapting to such hazards and how they perceive "resilience".

Keywords: vulnerability, entrapment, gender roles, resilience

# Innovation-disrupted spatial equilibrium: Insights from the Israeli experience

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G34 Old and new forms of territorial innovations, August 25, 2021, 4:15 PM - 5:45 PM

see extended abstract

# Post-pandemic city: a new people's relation with space?

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G16-O2 Real Estate and Housing Markets Issues, August 25, 2021, 4:15 PM - 5:45 PM

Over the last months what people considered as temporary effects of COVID-19 have turned into a long-lasting situation. Against this backdrop, scholars have started exploring the spatial and the socio-economic impacts of the pandemic, and the characteristics of the future post-pandemic city.

Lockdowns have led to an intensification of remote working, distance learning, e-commerce, food delivery and access to on-line services that have contributed to changing people's relation with space. Houses have become dependent on contextual variables such as accessibility and public transport in a different way in comparison to the past. Indeed, remote working, distance learning and on-line services have made it possible to break the existing traditional link between the workplace, city centres and the place of living. With houses changing their dependence on location variables, a new demand for real estate comes onto the market. Whereas companies increasingly allow employees to work remotely (with houses having to be equipped with spaces in which to set up remote working, and with babysitting services for those with young children to care for), city centres might also face a depreciation in terms of property values. Here, alongside the closure of activities and services, new spaces for temporary workers may see an increase in demand. As regards education, a new demand for spaces where students can attend classes and study, along with green spaces (gardens) or open spaces (terraces and balconies) also emerges.

This contribution starts from the assumption that such a new scenario might impact, in the near future, also on the residential market values. The quantification of such impacts, however, is an issue that needs to be explored. Empirical evidence derives from the case of the city of Padua (North-Eastern Italy), where 1,500 real estate ads have been collected, classified and geo-referenced over the last year. This city, due to its strategic location with reference to the Veneto Region's transportation system, its economic dynamism and the strong presence of university students, can arguably be assumed as a case study for many medium-large Italian cities.

Using a combination of GIS spatial and regression analysis, the weight of accessibility characteristics on prices has been assessed, thus helping to understand which of these most influence property values and how these relationships may change as a consequence of the pandemic. The results show a strong dependence on transport-related variables, but also a renewed focus on the quality of environments, spaces and houses.

# The Effect of Autonomy and Partnership on Economic Development: An Analysis According to Peter Evans

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G02-O1 Macroeconomic, Transregional, Regional and Urban Policy and Governance, August 24, 2021, 12:00 PM - 1:30 PM

For Evans (2004), there is no development without a developmental state, which is based on solid and competent public institutions. According to the author, the ideal combination of autonomy and partnership is what guarantees the existence of a developmental state. Autonomy ensures that government apparatus is highly selective, in addition to having meritocratic recruitment and long-term career rewards, corroborating that individual maximization by bureaucrats is set aside and that the sense of collective goals is established. The partnership, on the other hand, starts from the idea of inserting the State in society, promoting partnerships between private agents and state institutions in the development of projects and implementation of policies.

Based on the discussion in Evans (2004), the present study seeks to understand whether differences in the structure of the countries' state apparatus, evidenced by their ability to act autonomously and by establishing partnerships, should foresee differences in development effectiveness. For this purpose, a panel data model is estimated with the countries' per capita GDP as the dependent variable for development. As proxies for autonomy, the indicators Property Law and Government Expenditure are used and as proxy for partnership the indicators Freedom of Investment and Financial Freedom. The data covers 174 countries from 2013 to 2018.

In general, the results show that the rate of economic development in the countries is directly linked to the autonomous and partner capacity of the State. The greater the autonomy, in terms of property rights, the greater the level of development reached, however, in relation to Government Expenses, this relationship is not necessarily positive, since, as Evans (2004) advocates, efficiency does not depend on the size of the state. The same analysis can be applied to the partnership role played by the State. A country that has Investment Freedom and Financial Freedom tends to provide a better relationship between government and society. In this way, the results corroborate Peter Evans' hypotheses, in the sense that specific conditions are capable of promoting a developed state. The combination of autonomy and partnership, that is, between protected properties, business stimulated with agents, in addition to the free entry of investments and free financial circulation, among others, are characteristics that make up a developmental state and, therefore, should be stimulated in seeking to increase the level of economic development of countries.



# A Political-Economy Perspective on Mayoral Elections and Urban Crime

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G01-O2 Regional and Urban Development, August 24, 2021, 2:30 PM - 4:00 PM

We provide a political-economy analysis of crime prevention in an arbitrary city in the United States. City residents (voters) elect mayors (politicians) and elected mayors determine the resources to be allocated to crime prevention. Between the two time periods, there is an election. Politicians are either honest or dishonest. The marginal cost of public monies  $\psi$  measures how efficiently an elected mayor converts tax receipts into crime prevention. Voters have identical per period utility functions. We ascertain the equilibrium outcome and per period voter well-being. Second, we show that an increase in  $\psi$  reduces the equilibrium allocation of resources to crime prevention and voter well-being. Third, a dishonest politician can delay the revelation of his dishonesty. A critical value of  $\psi, \psi^*$ , exists such that a dishonest incumbent separates and loses the election if and only if  $\psi > \psi^*$  and he pools and is re-elected otherwise. Finally, we note that an increase in  $\psi$  can raise voter well-being when politicians are more likely to be dishonest.

# Health Interventions in a Poor Region and Resilience in the Presence of a Pandemic

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S07-S1 Pandemic and territorial government, August 24, 2021, 12:00 PM - 1:30 PM

We focus on a poor region and analyze the connections between health interventions undertaken by a regional authority (RA) and this region's resilience in the presence of a pandemic such as Covid-19. First, we show how a health intervention by the RA stochastically impacts an appropriately defined health indicator for this region. Second, we compute the probability that the health status of this region's population falls below a minimum acceptable level in the presence of the health intervention. Third we solve an optimization problem in which the RA maximizes the likelihood that the health status of this region's population stays above a minimum acceptable level at a given economic cost. Finally, we discuss the nexus between a health intervention, our region's health status, and its resilience by presenting two applications of our theoretical framework.

# Charles Booth and geodemographics: his London legacy in historical perspective

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G13-O1 Methods in Regional Science or Urban Analysis, August 25, 2021, 12:00 PM - 1:30 PM

Geodemographics is concerned with the classification of neighbourhoods into categories or clusters based on their socio-economic characteristics. In layperson's terms, it can be said to be 'the analysis of people by where they live'. It uses a qualitative description – a 'pen portrait' – to summarize the distinctive attributes of each category or cluster.

Urban planners and policy-makers have long had a practical interest in geodemographics, usually directly related to policy formulation, analysis and evaluation. Typically, the aim is to develop a consistent and systematic approach to spatial resource allocation, involving the definition of priority areas to receive favoured treatment, the geodemographic classification here serves as a composite measure of need and is usually constructed using census data. It generally takes the form of a map displaying the spatial distribution of neighbourhood types, together with a set of pen portraits and location quotients.

Use of the term 'geodemographics' is comparatively recent, dating from the 1980s, but the basic principles, in one form or another, have a much longer history. The earliest example is generally attributed to philanthropist Charles Booth who prepared pioneering street-by-street surveys and poverty maps in late nineteenth century London. Booth wanted to find and present clear evidence of the extent of poverty in London, in an effort to convince politicians to take urgent action. The full results of his research, including his poverty map, were published under the general heading of the Life and Labour of the People of London. As the world's first urban social survey, Booth's survey had a big influence in London and elsewhere.

Here we present an historical review, starting with Booth's original survey and drawing on three later efforts to produce surveys of London Life and Labour, intended to show how, over the years, London's social and economic spatial structure had changed. We focus particularly on how geodemographic classifications have evolved as an analytical planning method, spurred on by advances in computing power and the increased availability of small area socio-economic data. In a final section, again focusing on London, the paper first examines the recent development of workplace geodemographic classifications, to sit alongside the more familiar residential classifications, opening up the possibility of creating a classification of travel to work flows and, secondly considers the availability of open geodemographics, where users have the opportunity to customise their geodemographic classification according to the application they have in mind.

# What makes the self-employed more satisfied with their jobs? Making the case for job match quality

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G18-O1 Regional and Urban Labour Markets and Entrepreneurship, August 26, 2021, 12:00 PM - 1:30 PM

An increasing number of people in numerous countries from a broad variety of educational and professional backgrounds chooses to become self-employed every year (OECD 2021). On average, they achieve a higher job satisfaction than their wage-employed peers. Many see the reason for this in the increased independence and autonomy experienced by entrepreneurs. This paper argues that business creators might also intentionally seek out their job to actively shape the business and their role in it to achieve a good job-skills match. As good job matches have been shown to lead to higher job satisfaction before, they might offer a possible alternative explanation to why the self-employed experience higher job satisfaction than the wage-employed.

In order to investigate this suggested mechanism, we use the Dutch dataset of the OECD's Survey of Adult Skills, an international panel study that assesses adult job-related competencies. The sample consists of 5,000 adults between the ages of 16 and 65. Based on this data, the sample is divided into groups of people who have experienced different types of job changes, such as from wage-employment to self-employment, from self-employment to wage-employment or job changes within the same type of employment. These groups are then compared in terms of their job match quality and reported job satisfaction. It is expected that individuals who transition from wage-employment into self-employment are able to achieve a better-quality job match than individuals undergoing different transitions.

The dataset used includes measurements of relevant skills which are recorded via several computer tasks. These skill measurements as well as regional labor market characteristics for the individuals' residential region are used as control variables, as both are thought to affect the individual's opportunities to obtain a good-quality job match.

Overall, this study contributes to the literature by offering another explanation of why the self-employed report higher levels of job satisfaction than wage-employed individuals. In addition to that, it makes use of actual skill measures rather than a self-report or the educational level or direction as proxy for professional skills.

# The effect of regional and national innovation support on firms' environmental innovation strategies

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G12-O1 Regional Competitiveness, Innovation and Productivity, August 25, 2021, 12:00 PM - 1:30 PM

In this paper, we examine the differential effects of receipt of regional, national, or a combination of regional and national government grants on four different types of firms' environmental, eco- or green innovation strategies. While there is considerable empirical evidence of the beneficial impact of public innovation support on firms R&D and innovation in general, there is much less evidence of its effect on firms' environmental R&D and innovation in particular. Rather, the majority of studies to date investigate the effects of environmental regulation and standards policies or environmental taxes. Moreover, the extant literature does not come to a consensus as to the effect of public innovation grants and subsidies on green R&D and innovation. As an increasing number of studies have shown for technological R&D and innovation, one reason of the thus far inconclusive evidence with regard to eco-innovation may be that subsidies from different levels of government – local or national – are mixed in the analyses. Here we use panel data from the Spanish contribution to the Community Innovation Survey (PITEC) for the period 2008-2016 and propensity score matching techniques to show that the distinction of public support by regional level of the public authority matters. This is consistent with the regionally fragmented innovation system in Spain, whereby R&D and innovation policies are operated by the autonomous regions, alongside national level support provided by the Centre for Industrial Technological Development. Preliminary results suggest that, compared with the counterfactual of receiving no funding, support from both regional and national sources makes a twice as likely to pursue an innovation strategy of reducing environmental impact, 10.4%, than receipt of either regional or national support alone. By contrast, only regional support is effective in stimulating the more specific firm innovation strategies of reducing the use of energy or materials per unit produced, 5.9% and 7.1%, respectively, compared with no support received. By contrast, regional support is ineffective for firms' pursuit of eco-product innovation strategies. Here, national support is crucial, while the combination of regional and national support achieves the strongest effect of 9.6%. This is interesting in the light of the national policy's focus on stimulating product innovation. Additional analyses of the short-term versus the medium-term timing of the policy effects, by 'clean' versus 'dirty' industries and by firm size provide further novel insights.

# University coworking space in the periphery: a driver of resilience during the Covid-19 pandemic?

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S27-S1 New working spaces, resilience, and peripheral areas during the Covid-19 pandemic, August 25, 2021,  
2:30 PM - 4:00 PM

Peripheral areas are becoming more prominent places for coworking space operations due to continuing digitalisation, thereby opening up remote working possibilities. In addition, they can utilize local community ties much more intensively than coworking spaces located in metropolitan areas. Nevertheless, the corresponding communities lack market opportunities due to the limited advantages of agglomeration economies resulting in the outmigration of knowledge-based and creative workers to urbanised areas to develop their business activities. The related brain drain is supposed to take an action by local stakeholders to preserve regional economic resilience to the trans-local structural impact factor of the division of labour. One of the stakeholders might be primarily entrepreneurial universities as a source of knowledge creation and knowledge transfer in the local business ecosystem. The entrepreneurial university has the capacity to facilitate various activities, foster competitiveness and performance of the local economy. A university coworking space is an activity which could be treated as after care tool for students and graduates, principally devoted to supporting their entrepreneurship and to retain them as members of the creative class in the periphery. Considering the COVID-19 pandemic as a trans-local contextual impact factor on the economy, the university coworking space located in a peripheral region may play a crucial role in retention even in the reverse attraction of locally-based graduates being part of the creative or knowledge economy. The retention and reverse attraction of high-skilled professionals are currently enhanced by preventive measures against the COVID-19, resulting in various economic and societal challenges to be solved by adaptation of creative class members and local agents in the periphery. Therefore, the presented narrative-based case study of a university coworking centre in a peripheral former company town provides responses to the three main regional economic resilience research issues: 1) Reference state or reference dynamics; 2) Resistance to shock; 3) Robustness. Preliminary findings show that the university coworking space in the peripheral town tackled the COVID-19 pandemic by: 1) a complementary relationship between adaptation and adaptability as a mediator of long-term resilience by strengthening local assets and new spatial formation of work ; 2) the reverse retention of creative class workers and the current economic structure has led to the positive 'Rivet Effect' having been stimulated by new specialisation in creative industries characterized by innovative and absorptive capacity acting as a driver of the resilience.

# Supporting policy makers in designing policies for digital transition and internationalization of companies at the age of CoVid-19.

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G02-O1 Macroeconomic, Transregional, Regional and Urban Policy and Governance, August 24, 2021, 12:00 PM - 1:30 PM

This work originates from the need, on the part of local public decision-makers, to understand the internationalization and digital transition necessities of the regional entrepreneurial system in order to define a range of support-tools suited to the needs of businesses, both in terms of services offered and of delivery methods. The sector analyzed is the agri-business one but many of the findings are suitable for all sectors on the economy.

The survey takes into account the effects of the emergency caused by the spread of Covid-19 on international trade and the resulting profoundly changed international framework. In this new scenario, it was necessary to analyze the impacts that Covid-19 is producing on the sector and how the companies in the sector are reacting, in particular, through the use of new distribution channels, primarily the digital ones. The identification of the tools used, the degree of satisfaction with them and the extent to which they have allowed the control of the market are some of the main aspects analyzed by the survey.

The work intertwines the economic analysis of the results of the survey carried out on a representative sample of companies in the Emilia-Romagna agro-industry sector with marketing analysis of agro-food products and with a consolidated experience in terms of public promotional-marketing activities of the sector. The ultimate goal is to identify some lines of action useful for local policy makers to review their support policies in terms of transition to the digital economy and internationalization of the companies.

Matteo Beghelli

Centro studi, monitoraggio dell'economia e statistica

Unioncamere Emilia-Romagna

In cooperation with Art-ER and Emilia-Romagna Region, Assessorato Agricoltura, Caccia e Pesca

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

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S41-S1 Opportunities, risks and challenges of the digital transformation in tourism Sustainability, Sharing hospitality and CoVid-19, August 26, 2021, 2:30 PM - 4:00 PM

The purpose of this work is, firstly, to provide a determination of the magnitude of the of the tourist sharing economy phenomenon and its various components for the metropolitan area of Bologna (chosen for the fast development that tourism had in recent years). 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 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 Bologna area, is generally considered to be the one capable of developing the greatest traffic for the tourist facilities present therein.

The analysis shows that 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 metropolitan area of Bologna. 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.



# (Green) Economic Complexity in Italian Provinces: A Promising

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G12-O1 Regional Competitiveness, Innovation and Productivity, August 25, 2021, 12:00 PM - 1:30 PM

This paper investigates the green competitiveness of 107 Italian provinces based on economic complexity and proximity concepts which capture local capabilities in green production along with future opportunities in green diversification, that can inform regional policy efforts towards a more environmentally friendly economy.

The green transition requires the development and diffusion of products with environmental benefits and the existing literature showed, that Italy is one of the most competitive countries in the green economy (Mealy and Teytelboym 2020; Fraccascia et al. 2018; Fankhauser et al. 2013). However, as Italy faces persistent spatial inequalities between north and south, as well as between urban and peripheral areas, a subnational analysis is vital: which provinces are driving Italy's current green production? What local economic factors are linked with the green competitiveness of a province? Does the green transition represent an opportunity for lagging provinces to catch up?

To investigate these questions, this paper utilizes export data on 118 3-digit ATECO product groups for Italian provinces (NUTS3 level) between 1993 and 2018\*. Drawing on a list of 543 traded green products, provided by Mealy and Teytelboym (2020), we derive the "greenness" of each ATECO 3-digit product group. Inspired by the economic complexity index, we develop the green complexity capabilities index (GCCl), which captures a provinces' green competitiveness by making relative comparisons across exports baskets. First results show, that the green economy in Italy is indeed spatially heterogeneously distributed: northern, urban provinces such as Turin, Milan and Bologna dominate the highest ranks in the GCCl. However, there are prominent exceptions among some southern, albeit urban provinces, such as Bari and Naples, which are climbing the ranks. The preliminary findings also suggest that those provinces that are currently better situated in the GCCl also have more green diversification opportunities for the future. This hints that the green transition could exacerbate spatial inequality in Italy. In the subsequential regression analysis we expect to find that local green innovation capacity as well as quality local institutions and policy emphasis explain parts of the spatial pattern of Italy's green competitiveness.

\*Preliminary results refer to 2011 and 2018.

# Work-life balancing in coworking spaces in Central and Eastern European countries during the COVID-19 pandemic

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S27-S2 New working spaces, resilience, and peripheral areas during the Covid-19 pandemic, August 25, 2021,  
4:15 PM - 5:45 PM

The work-life balance is generally understood as reducing conflict among various social roles a person takes on in work and private life. Achieving work-life balance has, among other aspects, been related to job satisfaction and overall life satisfaction. Work-life balance may work differently for various groups of people participating in the labour market, such as freelancers, microentrepreneurs, self-employed people or employees. All of these labour market participants frequently meet in the coworking spaces. Coworking spaces represent a new type of workplace that enables social contacts, collaboration and knowledge transfer among these professionals. There is extensive literature on work-life balance and rising interest in coworking space in the recent decade, which prompted academic interest in these spaces. However, there is little literature on work-life balance in new working spaces or coworking spaces in particular. Thus, our research aim is to examine work-life balance in coworking spaces in capital cities of Central and Eastern European countries. Collecting a sample of independently run coworking spaces in Prague, Bratislava and Budapest, we analyzed the work-life balance in the following areas: (i) working hours; (ii) coworking equipment and rooms; (iii) coworking location; (iv) services on offer and (v) cooperation of the coworking with other organizations.

Using combined techniques of survey and semi-structured interviews, the coworking managers and owners detailed the particulars of demand and implementation of the work-life balance services, the effect of the COVID-19 pandemic on the daily operation of coworking spaces, and the work-life balance in their own lives. Preliminary results reveal the relations between work-life balance services and the size of the coworking space, adaption of services offered to the owner or management's personal and business life-phase, on the sex of the owners and specific features of coworkers using those services. When final, the empirical findings will present basics for policymakers and coworking spaces to create in-demand, sustainable policies enhancing the coworkers' performance and wellbeing while considering the experience gained through the COVID-19 pandemic.

# Indicator-based assessment of local and regional progress toward the Sustainable Development Goals (SDGs): An integrated approach from Romania

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G01-O1 Regional and Urban Development, August 24, 2021, 12:00 PM - 1:30 PM

In order to measure progress in achieving the Sustainable Development Goals by 2030, a set of 241 indicators and 169 targets have been approved globally. Even though interest in implementing these goals is high, many states have not yet established a set of subnational indicators to measure the implementation of the SDGs and have not completed their own assessment of progress in achieving these Global Goals. This study aims to measure the progress towards achieving the SDG at local and regional level in Romania by calculating the SDG Index. This index sums up the specific composite indices calculated for each of the 17 sustainable development goals. For the calculation of the SDG Index at subnational level we propose an integrated approach based on 90 indicators from a varied data source, stored and processed in a PostgreSQL object-relational database with the PostGIS extension. With the help of the Data Build Tool (dbt) on average 3-4 models were created to calculate each indicator, resulting in a total of 568 models and 282 tests to verify input data and results. The database and the models allowed us to quickly update the information and eliminate errors that would occur in the manual processing of the data. The results show the concentration of the highest performances of sustainable development in some specific geographical areas: in large cities and metropolitan areas, in the Black-sea region, the capital region and in the central and northwestern parts of the country. The rural areas and the extended peripheral regions in the eastern and southern part of the country are the poorest performers. Monitoring of progress in achieving SDGs at local and county level may help of central authorities to balance sustainable development between national and various sub-national levels.

# The sources of resilience in the face of COVID-19: a Hungarian case study

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S49-S1 The impact of COVID-19 on alternative and local food systems (ALFS) and the potential for sustainability transition – case studies and theoretical considerations, August 27, 2021, 10:15 AM - 11:45 AM

The Covid-19 pandemic has fundamentally reshaped our lives. Its effects on the sales and use of marketing channels of small-scale Hungarian producers, and resilience at the level of farms were addressed here. Resilience was identified if the original level of sales by a SFCS component was maintained or exceeded in the lock-down period. Results from the survey of 136 producers reveal that 60 per cent suffered an economic loss due to loss of sales, while 10 per cent increased their sales. K-means clustering analysis was used to assess the different marketing strategies and distinguish three major clusters. Resilience was ultimately ensured through a reflexive marketing strategy that depended upon the individual character of the producer in terms of their willingness to take risks, to experiment, and to learn. The actual elements of the marketing strategy appear to be less important. The parallel use of several sales channels before the virus outbreak increased subsequent chances of success by increasing the probability that some of the channels would remain operational. Furthermore, successful producers had invested a lot of work pre-Covid into maintaining private relationships with their customers; a situation that proved vital during times of restrictions.

# Ecosystem services and COVID-19: People's perception and knowledge

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G07-O2 Global Warming, Health and Environmental Issues, August 24, 2021, 4:15 PM - 5:45 PM

The growing human impact on ecosystems and biodiversity, combined with climate change, affects natural ecosystems and promotes the spread of pathogens, increasing human exposure to such risks. The depletion of lagoon ecosystems can be partially attributed to poor territorial-environmental governance and a lack of sustainable management of natural resources. The preservation's positive outcome on the natural heritage of the lagoon is strongly related to how people perceive the environment.

The paper mainly explores people's environmental attitudes and perceptions along with their motivations in attributing an economic value to the protection and improvement of ecosystem services (ES) of the Venice lagoon in the Adriatic Sea in Italy. Data were collected from a sample of over 500 respondents residing in the Veneto Region. The questionnaire was administered in January 2021 using CAWI interviews and had two main objectives: first, to investigate people's environmental preferences and attitudes towards providing key ecosystem services in the Venice lagoon. Second, to explore the importance of the environmental quality of the Venice Lagoon in providing crucial natural resources necessary to ensure the continuity of some economic activities that depend on ES. The authors also explored people's perceptions towards any possible relationship between the loss of ecosystem services and the increased probability of spreading diseases such as coronavirus. Adopting the New Ecological Paradigm (NEP) method, the survey further investigated people's opinions and attitudes towards many other environmental issues. It consists of submitting fifteen items related to some issues such as limits to growth, anti-anthropocentrism, the fragility of nature's balance, the possibility of an eco-crisis, and more. These questions were investigated using the Principal Components Analysis (PCA).

The results show that people recognize a link between the ecosystems health and the spread of disease. Approximately 75% of the sample considers quite probable that the worsening quality of ecosystems, e.g., lagoon ecosystem, could be a forcing factor in the occurrence of any disease, such as the current coronavirus pandemic. Furthermore, people expressed a certain awareness and recognized the importance of the Venice lagoon in providing a high variety of goods and ES from which derive, directly or indirectly, multiple benefits for humans and territorial development.

# Efficiency Analysis of European Railway Companies and the Effect of Demand Reduction: A NDEA-Tobit Approach

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G17-O1 Transport and Accessibility, August 25, 2021, 4:15 PM - 5:45 PM

This study analyzes the factors affecting the efficiency and effectiveness of railway companies in Europe with a special focus on the impact of demand reduction. Due to the lack of prior research on the effects of the COVID-19 pandemic on railway transport efficiency, this study explores the recent performance of railway companies and the possible impact of a drastic reduction in passenger and freight volumes. First, we propose an additive network data envelopment analysis model to measure technical efficiency, service effectiveness, and overall efficiency under the constant return to scale and variable return to scale approaches. A novel dataset for 21 railway companies that provided passenger and freight services during the years 2016–2018 was prepared for this purpose. Compared with the traditional DEA, the proposed NDEA model offers a wider set of outputs and higher discrimination power. Second, we used the Tobit regression and performance matrix to categorize railway companies into smaller groups based on their performance priority improvements. Variables with significant impact on the estimated scores, such as population density, gross national income, and European membership are not controllable by the companies, whereas the rest, such density of lines, average length of haul for freight, and utilization rate of route, are significant and under the control of the decision-makers. Third, we found that long-lasting demand reduction can have a significant negative impact on the efficiency scores of railway companies. Trust, flexibility, financial support, competitiveness, and planning are identified as key approaches for increasing efficiency resilience to demand losses.

# The symbolic dimension of institutions: implications for regional development

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G25-O2 Institutions, Political and Decisional Processes, August 27, 2021, 10:15 AM - 11:45 AM

Institutions provide an important element of the context for processes of regional development. However, given that institutional economic geography lacks a commonly accepted definition of what institutions are, the relationship between institutionalized practices and symbolic devices such as imaginaries, narratives, or visions in regional development is unclear. In contrast, approaches of new institutional sociology emphasize the symbolic dimension of how agents attach meaning to institutions, their establishment, and their change, but these approaches largely ignore the spatial impact of these processes. Hence, a research agenda that synthesizes the literature of institutional economic geography, new institutional sociology, and further traditions such as science and technology studies and actor-network theory, and that elucidates the role of imaginaries, narratives, and visions in institutional change and maintenance on the regional scale is needed. Such a research agenda can build on how imaginaries, narratives, and visions shape processes of regional evolution and regional policymaking, for example in fields such as regional tourism development or regional innovation policy. Empirical examples from Israel, Jordan, and Tunisia illustrate the role of imaginaries in regional development.

# Imaginaries as a bridge between agency and structure: What can we learn from desert tourism in Israel?

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S38-S2 Regional Growth Against All Odds, August 26, 2021, 4:15 PM - 5:45 PM

see extended abstract



# Overtourism before and after Covid-19. A big data analysis for a social carrying capacity assessment in Dolomites UNESCO site

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S41-S2 Opportunities, risks and challenges of the digital transformation in tourism Sustainability, Sharing hospitality and CoVid-19, August 26, 2021, 4:15 PM - 5:45 PM

In the recent years, overtourism became a trending topic to describe negative externalities on environmental and social context in a tourism destination, often due to an exaggerated number of visitors in a particular time and place. After the first global lockdown caused by the Covid-19 Pandemia this terms suddenly disappeared from the academic and general debate. However, this phenomena was still alive and tangible during the 2020 summer months, especially in not urban areas and in wellknown heritage and natural sites who did not lose their attractiveness. This underlined that a tourism carrying capacity perspective is still needed to better manage tourism flows and tourism experience, enforced by new visitor rules as social distancing and health measures. In this context, rather than focusing on the impact of tourism on the natural environment, a social aspects involving both resident population and guest/tourism community is crucial to understand visitors's satisfacion and measuring the attractiveness of overcrowded sights during pandemia times. An assessment of a social tourism carrying capacity was elaborated using a quantitative method (ANOVA) applied to different data sources from telco companies, social network and sensors, to better understand if visitors perceived unsustainable and unhealthy levels of overcrowding. This analysis, carried for the Lake Braies inside the UNESCO heritage site od the Dolomites shows different results: i) the potential of big data from telco to monitoring tourism flows and tourists behavior; ii) the applicability of a quantitative method to set tourists satisfaction using data from reviews and social networks; iii)the creation of a limit of number of visitors that if exceeded, provoke a decreasing trends able to explain social carrying capacity levels. This research aims to describe a methodology based on big data from different soucers to identify the limit represented by a total number of people when the perceived quality of the experience of the visitors is decreasing and setting a threshold of tourists. This limit help the destination actors to better manage tourism flows, regulate entrances and mobility to heritage cultural and natural sites.

# Understanding the City: The case of the Urban Sustainable Development Observatory of Thessaloniki.

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G29-O1 Regional and Urban Policy and Governance, August 26, 2021, 4:15 PM - 5:45 PM

Modern cities face complex challenges, which are often radical and rapid. These challenges present spatial and thematic interconnections and their understanding requires an integrated interpretation of elements relating to their structure and function, spatial footprint and temporal evolution. As Urban sustainability and resilience are key objectives of the global and European development agenda, understanding the city is essential for targeted (and thus effective) planning. More importantly when planning is happening in times of financial degradation and identity crisis, as in the case of Thessaloniki where the eight year of economic decline has been followed by the COVID-19 crisis. The creation of the Observatory is aiming to provide territorial evidence on physical, urban, mobility, environmental, social and governance relations, to foresee gaps and barriers, needs and opportunities as well as to assist policy making decisions towards targeted and effective interventions. Building on a comprehensive desk review for examining existing practices from Sustainable Urban Development Indicators and indexes, we discuss how a city can specify a systematic approach to better understand itself. We also present the methods and approaches used at the first year of operation of the observatory and the adjustments in the surveys and data registry that have been done to capture the COVID-19 effect.

# Mapping of 'risk zones' in the times of covid-19 pandemic: a case study of Kolkata metropolitan area

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S34 Human mobility, Migration and Stay-in-Place Patterns and Changes During Pandemic times, August 24, 2021, 2:30 PM - 4:00 PM

The space-blind and uniform strategies that we have adopted to tackle the global crisis in the past have highlighted what was little and poorly perceived. It won't be wrong to say that this lacuna has not gone unnoticed but little has been done to address it over the years. In the context of the COVID-19 pandemic, a recent United Nations report (2020) has emphasized the importance of mapping urban vulnerability 'to leave no one and no space behind'. World Bank has also stressed geographic targeting. In this backdrop, we have made an exploratory attempt to highlight the role of spatial specificities in devising an effective mitigating strategy. Since COVID-19 is primarily transmitted from human to human, we hypothesized high-density and high-connectivity areas as potential high-risk zones. Given the key role of human mobility in virus transmission, a further attempt was made to understand the pre-COVID travel behavior to identify the potential policy targets in the recovery phase. Our study focuses on the Kolkata Metropolitan Area (KMA) of West Bengal. Major findings are (i) Areas with high density and connectivity are also the areas of high contagion, (ii) Spatial juxtaposition of vulnerable groups in high-risk zones, stresses the need for geographic target, for devising mitigation strategy for the ongoing and future disasters, (iii) Pre-COVID mobility pattern in the high-risk zones shows a significant reliance on the mass transport system and recent data suggests that people are gradually returning to workplaces and transit stations.

# Family farmers and consumers in Guadeloupe facing the Covid-19: a new opportunity for local development

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G06-O1 Adaptive and Resilient Cities and Regions, August 24, 2021, 12:00 PM - 1:30 PM

The covid-19 crisis brought together different actors in Guadeloupe, in particular consumers and farmers, to address the disruption of commodity supplies in this island. At the first lockdown in 2020, we conducted a survey of about 380 consumers and interviews with around 15 farmers and technicians. Family farmers reacted very quickly to this new situation, selling their products on their farms, at market points or in baskets. Consumers, informed through the local press, social networks and above all "word of mouth", favored these marketing methods, thus abandoning the large-scale retail outlets. Many Guadeloupean consumers already favored "short circuits", but during the crisis their number increased by 40%! However, these new relationships, once the "freedom was regained", were not maintained. In fact, 55% of the agents in the production sector say that they have observed the return of consumers to the supermarkets. The reasons are diverse, the main one being convenience!

Despite this desertion, the experience remains positive for the farmers. They have multiplied their product offering by modifying their production systems and by developing new cooperations between them to sell their products. Thus, the baskets appear to be socio-technical instruments for unlocking the dominant agricultural model, because they are set up by farmers at the local level. They introduce new practices and new products into their systems. Similarly, a different organisation of work and product collection is emerging. They take into account new consumer behaviour and wishes. They thus contribute to redefining the 'socio-technical regime'.

We defend the idea that the pandemic was an opportunity for farmers to co-innovate both at the level of production systems and vertical and horizontal relations, and thus to contribute to the agro-ecological transition, which constitutes the new agricultural model. We will present the results of our surveys, and then propose an interpretation grid inspired by the work of Geels and Schot. In the discussion, we will apply this grid in particular to analyse the situation of baskets and home gardens. This work has provided an opportunity to develop transitional hypotheses and emerging trends, given the lack of hindsight on the nature of the transition that is taking place, and to characterise the path(s) of the agro-ecological transition. We also highlight the dimensions that need to be developed to support this transition. Everything seems to indicate that the agro-ecological transition is a plural process and that public actions and policies must take this into account.

# Life satisfaction and capabilities: exploring urban-rural dichotomy

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G04-O1 Urban-Rural Relationships, August 24, 2021, 12:00 PM - 1:30 PM

The present work analyses differences in life satisfaction among Italian regions by looking at the urban-rural dichotomy employing the capability approach à la Sen as proposed by Biagi, et al. (2018). Specifically, it uses a wider definition of regional well-being that considers quantity (i.e. capability) as well as accessibility (i.e. functioning) of services and amenities at the individual level. Accessibility is measured using the “frequency of use” or “time spent” enjoying these amenities. Data comes from the Survey Aspects of Daily Life of the Italian Institute of Statistic (ISTAT) which is a multipurpose survey on households. The survey offers information on the ways residents live as well as the problems they have in every-day life. The questionnaire investigates individual socio-economic aspects affecting the quality of life as well as other related to the area in which they live such as public services, amenities, and disamenities. The dataset refers to the years 2013-2018 and includes 204,892 observations stratified by gender and age at the regional level. The question on life satisfaction is the following “Generally speaking, how satisfied are you in your life?”. Considering the ordinal nature of the dependent variable (i.e. a five-point Likert scale used to assess life satisfaction) and treating the difference between the levels as rankings, an ordered logit model is implemented. Grilli and Rampichini (2014) show that for studies on life satisfaction based on response variables that are ordinal in nature, ordered logit is the most appropriate empirical method.

In line with previous studies on the urban-rural dichotomy, preliminary results show that people in regions where urbanization is higher are, on average, less satisfied; contrariwise, those living in rural regions are more satisfied. However, the findings also suggest that is not living in a rural area per sé to guarantee a higher life satisfaction but living in a rural area in the Northern regions where income per capita and the access to public and private services are higher in quantity and quality. Indeed, staying in a rural area where the income per capita is low and public and private services are scarce does not make people as much as satisfied.

# Material productivity, socioeconomic drivers and economic structures: A panel study for European regions

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S29-S2 Territorial dimensions of green and digital transitions, August 24, 2021, 2:30 PM - 4:00 PM

This paper provides an empirical investigation on the effects that regional economic structures exert on the socioeconomic determinants of material productivity. To this aim, first we develop a taxonomy of economic structures for more than 280 European regions that are classified in four overarching groups: agriculture-, industry-, intermediate- and service-based economies. Second, we perform a panel analysis to explore the impact of economic structures on the relationship between socioeconomic drivers and material productivity, during the period 2006–2015. Our results validate the basic hypothesis of the paper, i.e. the structural relationship between material productivity and its driving factors varies according to the underlying economic structures of the regions. In particular, we found that: (1) an increase in affluence leads to greater material productivity gains in material-intensive regions rather than in areas with service-oriented economies; (2) the degree of urban agglomeration seems to be the most important driver for material productivity, and its leverage effect is bigger among already densely populated regions. Our findings suggest that the influence of socioeconomic factors on material productivity behaves differently according to the idiosyncratic features that regions exhibit. Such diversity translates into different needs and opportunities that local policies should address by adopting a placebased perspective.

# Identifying circular economy solutions across different local contexts: A territorial-based approach

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S03-S1 Circular economy: challenges for regions and cities, August 24, 2021, 12:00 PM - 1:30 PM

The circular economy is gaining momentum as a means to fight climate change and contribute to environmental sustainability by tackling waste as a resource. However, progress in implementing circular solutions in Europe has so far been very limited, as the very multifaceted territorial contexts make a one-size-fits-all circular strategy very difficult. Ultimately, the identification and understanding of territorial dynamics is key to envisage a successful transition to a circular economy. However, CE discussion from a regional standpoint is still limited and CE frameworks that can be applied to monitor and measure the potential of CE in a specific territory still remain at a rather theoretical level. This paper contributes to this research gap by (1) operationalising a regional monitoring framework across three case studies and (2) analysing the respective territorial patterns from a circular perspective. The three case studies include the central cross-border Scandinavian area, the Switzerland and Liechtenstein regions and the principality of Luxembourg. The results reveal that circular systems, in general, are designed on the basis of available local resources and, depending on these, regional strategies seek to optimize the technical or biological cycles of an economy. Similarly, several circular initiatives should be promoted to counter emerging consumption patterns shared by most regions, beyond specific territorial contexts.

# The role of the University in the promotion of local-regional development. The case of Tolima (Colombia)

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G08-O2 Cooperation and Local / Regional Development, August 25, 2021, 12:00 PM - 1:30 PM

This paper presents the results of a project oriented to investigate the role of the university in promoting regional development and in this context to propose options for the university to improve its relevance through alternative research and public-private cooperation schemes. The study explores how improvements in university relevance from research potentially strengthen the contribution of the University of Tolima to regional development.

Methodologically a prospective exercise in the School of Economics and Administrative Sciences was carried out. It was aimed at the construction of a solid research system which consisted of the development of several stages beginning with the elaboration of a diagnosis with a systemic, retrospective and prospective, descriptive and evaluative look at the processes and results of research, elaborated through workshops with teachers and directors; then, the context analysis (relevance of research) was carried out. Next, a field study was developed, which consisted of applying a structured survey directed to part time and full-time lecturers focused on identifying the strategies, methods, frequency, teaching/learning processes of the research and its evaluation and results. Finally, strategies were identified for each of the central actors and components of the system.

Theoretically the study draws on the literature on research system as a research management scheme and reviews the differences and complementarities between scientific and formative research.

What factors limit the transformative potential of the university in the region? How to improve the relevance of the university in the regional context? Through which mechanisms can the university contribute to the process of building the region? The above questions ask about the role that the University should play in its interaction with development actors (entrepreneurs, government, other higher education institutions, research centers, NGOs, social organizations) and with different institutions at the meso-economic level to contribute to the identification and solution of the priority problems that afflict the region. It does not exclude interaction and coordination with agents at different levels, local, regional, national, international. The response should be oriented towards the consolidation of a network of actors with broad leadership from the University, aimed at the diagnosis, definition of strategies and policies, implementation of plans, programs and projects that will benefit the achievement of the regional's development aspirations. Cooperation with technological development centers, fluid interaction with entrepreneurs and support from the public sector facilitate the consolidation of an environment conducive to scientific development and innovation.



# Productive insertion of small and medium-sized producers of HASS avocado in two municipalities of Colombia in the global value chain

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G12-O2 Regional Competitiveness, Innovation and Productivity, August 25, 2021, 2:30 PM - 4:00 PM

This research determined the factors that limit the process of productive insertion in the international market of small and medium-sized associated Hass avocado producers in the municipalities of Fresno and Herveo in the department of Tolima. The study started from the need to identify and document the main obstacles and opportunities for the consolidation of this value chain and designed policy recommendations for productive insertion into it. The theoretical framework was based on the global value chain. The research was carried out in the framework project of the research group Value Chains and Regional Competitiveness (CV and CR) based on the schemes of social inclusion and competitive insertion of small and medium agro-industrial producers in the global value chain of the University of Tolima

The research was developed under the exploratory approach. Mixed methods were used for the collection and analysis of information, that is, qualitative and quantitative analysis techniques through the continuous work of producers, marketers, government institutions and other actors of the Hass avocado chain in the municipalities of Fresno and Herveo. A probabilistic type sampling stratified by optimal affixing was carried out based on a population of 121 small and medium-sized associated Hass avocado producers from the aforementioned municipalities, which are grouped into three associations. This information was reported by the Secretariat of Agricultural Development and Food Production of the Government of Tolima for 2017.

The results showed that the main factors that limit the consolidation of the Hass avocado value chain in these municipalities are: low educational level, generational deficit deficiency, lack of international certifications, lack of economic resources and associative marketing. In turn, the main opportunities are: the growth of Hass avocado consumption and the appropriate environmental conditions that favor the expansion of crop production.

In order to overcome the limiting factors and take advantage of the opportunities, for the productive insertion, the creation of a chain committee is required, in which the governmental and academic entities strengthen the producers in the academic, cultivation, financial area, of commercialization and associative, as a necessary factor to promote the productive inclusion of small producers in the international market of the global value chain, allowing the utilities of production to improve their quality of life.

# Measuring the contribution of Science and Technology Parks to regional wellbeing: the cases of the Basque Country and Lombardy

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G30-O1 Innovation and Regional Development, August 26, 2021, 12:00 PM - 1:30 PM

The paper is focused on social value developed by corporations located in Science and Technology Parks (STPs) and its contribution to regional wellbeing. The main contribution of the paper is the measurement (monetization) of the social value created by corporations placed inside STPs. At the same time, authors want to carry out a comparative analysis about the performance between corporations located inside and outside STPs. To perform this pilot study we consider some cases in the Basque Country (Spain) and in Lombardy (Italy). The key hypotheses underlying this research work, on one hand, state that the social value created by STPs for their stakeholders can be measured and monetized calculating the value generated by the community of companies established in the same STP. On the other hand, a second hypothesis state that the community of corporations inside STPs contribute to the development of regional wellbeing. This research is based on Freeman's stakeholder theory (1984, 2004), with a methodological addition based on the polyhedral model of social value analysis (Retolaza et al., 2016). More precisely, for the monetization of social value, the added value generated by organizations inside STPs will be considered. The methodological support for the value added analysis is the one established by the AECA (Association of Accounting and Management in Spain) (Gonzalez & Pérez, 2017). At the same time, the analysis of the value induced by suppliers will follow the guidelines proposed by the non-for-profit accounting organization GEAccounting (Retolaza & San Jose, 2018). In practical terms, the financial data of the enterprises located in STPs, and in the region as well, are used to calculate the value generated by each STP and by the region as a whole. To implement this analysis, we use data about individual companies available on the ORBIS Platform (Companies Financial Database – Bureau Van Dijk – A Moody's Analytics Company). With this research, our objective is to measure in monetary terms and raise awareness of the important role that STPs have in regional development and in creating value for the entire society. The originality of this study is twofold. On one hand, it is based on the social accounting principles used to quantify and monetize the social value created in STPs. On the other hand, it considers the principles of stakeholder theory, human dignity and social wellbeing as part of the final objectives of economic activity.

# Modeling the Factors of Life Expectancy at birth in Rural Russia: Assessment of Interregional Differences

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G03-O1 Demographic Change, Population, Migration and Mobility Behaviour, August 24, 2021, 12:00 PM -  
1:30 PM

The purpose of our study was to identify the contribution of economic, social, demographic, behavioural and environmental factors to explaining interregional differences in life expectancy at birth of the rural population in Russia. Using cluster analysis, we identified four relatively homogeneous groups of Russian regions in terms of life expectancy. The impact of socio-economic, demographic and environmental indicators on life expectancy of the rural population was assessed using regression models. We identified regions with low life expectancy for the rural population, and factors that have negative effect on life expectancy at birth. The main ones were alcohol abuse, high unemployment and emissions of pollutants into the air. The regression analysis showed that investments aimed at the development of health care, provision of social services and improvement of residential premises contributed to an increase in life expectancy. Significant factors in regions with high life expectancy were a lower number of recorded crimes per 100,000 of the population and a decrease in high unemployment, as well as an increase in educational expenses. In the group of regions where life expectancy of the rural population was approaching the average level in Russia, an important factor was also an increase in the level of education. Life expectancy declined in 2020 due to high mortality during the COVID-19 coronavirus pandemic. COVID-19 coronavirus pandemic has affected regions of Russia to varying degrees. We conclude that a regionally differentiated approach is necessary when introducing social policy changes, and measures aimed at increasing the life expectancy of the rural population should take into account the distinctive differences in socio-economic development of the various regions of Russia. This research received support from the Russian Foundation for Basic Research (RFBR), project No 19-010-00229.

# Modeling the impact of the economic recession on the regional labor markets: evidence from Russia

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G18-O1 Regional and Urban Labour Markets and Entrepreneurship, August 26, 2021, 12:00 PM - 1:30 PM

The COVID-19 coronavirus pandemic and economic decline have had a significant negative impact on the Russian labour market in 2020, experts predict slow recovery growth in 2021. Based on the modified Okun's model, the article reveals the features of the behavioral reactions to economic fluctuations displayed by regional labor markets with different levels of unemployment (2010-2020). First, the values of Okun coefficient calculated for three regional clusters have a negative sign, which confirms the theoretical premises and working hypotheses of the study. A statistically significant assessment of the impact of the growth rates and decline in production on the change in the unemployment rate was obtained. Estimates of the Okun coefficients for Russia as a whole and for three clusters (clubs) separately show that regional labor markets have different degrees of sensitivity to the decline and growth in production. Second, the differences in behavioral reactions of labor market parameters to economic shocks in the regions of Russia were revealed. The regions of the first cluster, with a high level of unemployment, are distinguished by a deeper reaction to the recession and lagging behind the recovery growth. The regions of the third cluster with a low level of unemployment adapted faster both to the situation of the crisis and to the recovery growth. The second cluster is the most homogeneous, and the response to cyclical economic shocks is similar to the average Russian one. Third, the calculations showed that the values of the Okun coefficients in the context of clusters (clubs), as well as for Russia as a whole, turned out to be relatively low. This means that the Russian labor market has a complex mechanism for adjusting to cyclical economic fluctuations. An increase or decrease in unemployment is only one, but not the only, channel for adaptation to shocks. This research was supported by the Russian Foundation for Basic Research (RFBR), project no. 20-010-00681.

# Exploring the role of interregional linkages in the evolution of global value chains: an analysis for the European regions

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G12-O1 Regional Competitiveness, Innovation and Productivity, August 25, 2021, 12:00 PM - 1:30 PM

Economic growth, international trade and production processes are increasingly structured around the so called “global value chains” (GVCs). The fragmentation of the production processes across countries has led production chains and income generation to be seen as increasingly characterized as “global.” Indeed, “linking into GVCs” has become one of the important new development challenges for many developed and developing economies. The recent (2020) experience with the COVID-19 pandemic has also highlighted the complex degree of dependence that most economies, both national and regional, exhibit and the disruptive effects of bottlenecks/supply shortages in generating negative impacts on growth. However, in the GVCs framework, relatively little attention has been directed so far to the fact that the international fragmentation of production also has an important regional (sub-national) dimension, taking place among groups of neighboring regions. In this regard, the literature suggests that while regions are competing with each other, the processes of fragmentation that have given rise to global value chains that may also be generating increased interregional dependencies. Besides, participation in global value chains have been always considered as a source of economic growth and development. As an example, the case of the Asiatic miracle.

In this context, this paper aims to study the role of interregional linkages in the evolution of GVCs and to explore what happens when the local participation or position in GVCs shifted over time and their influence in the economic growth of European regions. Empirically, we work under a MRIO framework focusing on a set of NUTS2 European regions of the database EUREGIO, applying a panel data model for the period 2000 to 2010. MRIO models allows us to capture the different linkages happening worldwide. Because of that they are useful tools to carry on our study. Our results confirm the hypothesis of the important and significant role of interregional linkages in the explanation of these regional/global processes, and how a higher participation and the different changes in the steps of the value chain influence the level of economic development of the European regions.

# Willingness to pay for eco-labeled in wine: a systematic review to the last 20 years

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G07-O3 Global Warming, Health and Environmental Issues, August 25, 2021, 10:15 AM - 11:45 AM

## Willingness to pay for eco-labeled in wine: a systematic review to the last 20 years

### Abstract

The importance of the different attributes that influence the purchasing behavior of wine consumers has aroused interest in recent research, particularly in the wines of the so-called “new world wines”, with a notable lack of affirmation and differentiation of its products in the competitive wine market.

Eco-labels are seen as a privileged tool for communication with the consumer, and as such, they gain special prominence in research in two complementary ways, on the one hand, to know the role and relevance that eco-labels play in the consumer's decision and what attributes they value most, and on the other hand, quantify the premium that consumers are willing to pay for wines with an eco-label.

This literature review article performs a biometric analysis of the most relevant articles published between the years 2000 and 2020, using the r-bibliometric software, on the willingness to pay for eco-label, with a more detailed analysis of the wine sector (willingness to pay for eco-label in wine) identifying the most prevalent research papers indexed in the SCOPUS and Web of Science databases.

The results of this study show the research gap on the theme of eco-labels, particularly in the wine sector, with a clear lack of published articles indexed to the two databases used. The prevalence of indexed studies carried out in the United States of America is emphasized. In Europe, where the wine sector assumes a significant weight in the respective economies, there is a clear lack of research work that allows the foundation and solid supports, either from the perspective of scientific investigation, or from the perspective of producing reasoned information to support the decision-making process of economic agents. Therefore, this paper allows us to enhance the knowledge about which journals, authors and articles to consult while creating the theoretical framework or designing future research models.

Keywords: Eco-labels; willingness to pay; bibliometric analysis; Scopus, Web of Science, wine

# Resilience to health shocks and the spatial extent of local labour markets: evidence from the COVID-19 outbreak in Italy

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S04-S3 Geography of COVID-19 outbreak and policy answers in regions and cities, August 24, 2021, 4:15 PM - 5:45 PM

SARS-CoV-2 uses human beings as means of transport. In addition to the general issue that fewer interpersonal contacts reduce the speed of contagion, less attention has been paid to the spatial configuration of such contacts. With respect to Italy, the virus severely affected the most industrialized area of the country, where the high density of economic activities also exhibits dense networks of commuting flows. In this article, we empirically investigate the relationship between the spatial extent of local labour markets, as defined by the structure of the commuting network, and the diffusion of COVID-19. To this end, we compute, for each municipality, the intensive and extensive margins of commuting flows and we measure the spread of the disease by considering excess mortality over the period of January-May 2020. By exploiting a rich and novel dataset, we find that the commuting network played a significant role in placing more connected places at more severe epidemiological risk. A back-of-the-envelope calculation suggests that if commuting patterns were 90% of the real ones, Italy would have suffered approximately 1300 and 1000 fewer fatalities in March and April, respectively. By exploring the spatial heterogeneity of lockdown intensities induced by policy responses, our findings show that the anticipation of mobility restrictions (imposed using containment areas) and the reduction of active workers (imposed using the closure of non-essential economic activities) favoured a faster reduction in excess mortality.

# Traces of the Iron Curtain: A multivariate analysis of regional cohesion in Europe

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G02-O1 Macroeconomic, Transregional, Regional and Urban Policy and Governance, August 24, 2021, 12:00 PM - 1:30 PM

The present study aims to test relative welfare differences among regions in Europe, so as to examine whether the post-communist era has led to more socio-economic cohesion in Europe. The performance of European regions is analysed, compared, and assessed by using the Regional Competitiveness Index (RCI) and stylised fixed nominal categories. The current status of regional cohesion is tested on the basis of detailed data on 268 NUTS 2 European regions by using a robust methodology oriented towards univariate comparison of location parameters, multivariate classification by the decision tree and CHAID algorithm, and comparison of nominal variables with four values based on density plots.

Multivariate classification appears to offer statistically excellent results with an overall correct prediction rate for post-socialist and capitalist regions in Europe of 99.6%. The research results from the Higher education and Innovation pillars, reveal a convergence of capitalist and post-socialist regions with capital cities and a divergence of regions with administrative capitals and other regions. Relatively, the two groups which perform best are both groups with capitals, while the group of capitalist regions with a capital city is significantly better in almost all pillars.

The key message is that the transition of post-socialist regions is not yet over. Capitalist regions in Europe perform better than post-socialist regions in eight of the nine pillars of regional competitiveness. Our research results also reveal that the group of post-socialist regions without capital cities are significantly lagging behind the rest of the regions in Europe, and thus form the most vulnerable group of European regions. As there is data continuity in the official RCI classification and measurement, policy makers will be able to compare the performance of their own regions over time and to design appropriate concerted strategies accordingly. From this perspective, our study draws several interesting lessons and results for policy makers at various levels. Place-based regional planning and policy based on our analysis framework may be helpful in developing effective measures to cope with the socio-economic legacy of the "Iron Curtain" and get closer to regional cohesion in Europe.



# The importance of scientific domains for technological diversification in European regions

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S46 Smart specialisation strategy and macro-regional strategies, August 26, 2021, 4:15 PM - 5:45 PM

Smart Specialization policy prescribes regions to build on local capabilities to develop new activities. Studies have relied on data on patents, industries and occupations, but not yet on data on scientific domains. Based on new methodology, we map the scientific capabilities (publications) of 285 regions in Europe, and investigate the extent to which these scientific capabilities match their technological capabilities (patents) in 18 domains. In general, we find a positive relationship between a strong local scientific base in a domain and the ability of a region to develop new technologies in that domain for the period 2004-2018. We identified four types of regions in Europe. Strongholds combine a strong local scientific base with strong technological performance in the same domain. Scientific leaders show a strong scientific base but a weak performance in patenting in the same domain, while technology leaders show a strong local technological base in a domain, without having a strong underlying scientific base. Followers score low on both dimensions in a domain. Now and then, regions in Europe change over time, like scientific leaders that manage to transform into strongholds in a specific domain.

# The Dark Side of the Geography of Innovation: Relatedness, Complexity, and Regional Inequality in Europe

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S09-S2 Relaunch of Productivity for Regional Growth and Cohesion: Innovation, technology and productivity,  
August 25, 2021, 12:00 PM - 1:30 PM

As regions evolve, their economies become more complex, and they tend to diversify into related activities. Although there is a bright side to this diversification process in terms of economic development, there might also be a dark side to it, as it possibly contributes to regional inequalities. The paper uses data on industries and patents to analyze diversification patterns of 283 regions in 32 European countries in the past 15 years. We find that only a few regions have the opportunity to diversify into highly complex activities. These are regions that already have a high GDP per capita and a complex economy. Highly complex regions tend to focus on related complex activities, while low-complex regions focus on related low-complex activities. This has important policy implications. We argue there is potential for regional innovation policy in Europe but it also runs the risk of disproportionately benefitting regions that are already advanced.

# From waste to opportunities: a circular regeneration strategy for vulnerable cultural heritage and landscape

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S03-S2 Circular economy: challenges for regions and cities, August 24, 2021, 2:30 PM - 4:00 PM

Recent experiences of regeneration of physical space and, in particular, of places considered as 'waste of the city', have highlighted the active role of communities. The reuse of these places is linked to their recognition as 'common goods', meaning not only a new management method but also the whole range of identity values in which a community recognises itself and which allow it to define itself as such. The emerging character of these practices has strong implications of a social and cultural nature that translate into physical actions on the built environment: actions of "care" based on collaboration and sharing, through which communities, in a self-organised form, design, equip and manage different parts of the urban context, re-introducing them into the "life cycle" of the city.

The recognition of these urban assets as 'common goods' requires a hybrid approach capable of strengthening the process of social empowerment and making it lasting through actions on the built environment.

In settlement systems with a productive vocation, actions on the built environment must deal with the values of the material culture, which are still strongly present. Considering the historical and cultural value of these settlements, the research aims to define the design process aimed at recovering and overcoming the concept of waste, promoting actions for the preservation and the enhancement of these testimonies.

The principle underlying the approach is the circular economy, according to which the waste from one process becomes raw material for another, triggering virtuous circles. In this perspective, degraded and abandoned spaces are no longer to be considered as urban waste, but as an opportunity for experimentation and potential for the development of settlement systems.

The experimentation is carried out on the case study of Ercolano (Naples, Italy), a Vesuvian municipality that is an example of an Urban Productive Landscape, and is part of a wider experimentation which involves all the other municipalities of the Vesuvian coastal area and consists in the development of a regeneration strategy based on the principle of Circular Economy.

The methodology consists of characterising the settlement system by breaking it down into its dimensions and analysing the performance levels offered. The contribution makes particular reference to the identification of the waste in four sub-systems (physical, social, economic/productive, cultural) to be rethought as inputs for the creation of a "circular landscape".

# Common goods: a hybrid strategy for the recovery of settlement systems

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S19-S1 Commons as enablers of territorial transition- evidences, assessment and theoretical perspectives,  
August 25, 2021, 12:00 PM - 1:30 PM

The subject of this research is vulnerable settlement systems in a state of advanced obsolescence and abandonment.

Recent experiences in the recovery of physical space and, in particular, of places considered to be the 'waste of the city', have brought to light the active role of communities. The reuse of these places is linked to their recognition as 'common goods', meaning not only a new management method but also the whole range of identity values in which a community recognises itself and which allow it to define itself as such. The emerging character of these practices has strong implications of a social and cultural nature that translate into physical actions on the built environment: actions of "care" based on collaboration and sharing, through which communities, in a self-organised form, design, equip and manage different parts of the urban context, re-introducing them into the "life cycle" of the city.

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The principle underlying the approach is that of the circular economy, according to which degraded and abandoned spaces are no longer to be considered as urban waste, but as an opportunity for experimentation and potential for the development of settlement systems.

The experimentation is carried out on the case study of Ercolano, a Vesuvian municipality that is an example of an Urban Productive Landscape, characterised by a cultural heritage of considerable importance due to the presence of archaeological excavations, but at the same time subject to the pressures of a strongly declining economy and growing physical and social degradation.

The methodology consists of characterizing the settlement system by breaking it down into its dimensions and analyzing the performance levels offered.

The result of the experimentation is the elaboration of a "hybrid" methodology for the Ercolano regeneration based on a systemic and regenerative perspective, through which is possible to rethink the waste/waste in the territory (physical, economic/productive, social, cultural) as an input for the achievement of circular urban regeneration through the creation of new virtuous circles.

# What opportunities for supply chain retailers to reinvent sustainable agri-food distribution at Covid-19 ?

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S49-S3 The impact of COVID-19 on alternative and local food systems (ALFS) and the potential for sustainability transition – case studies and theoretical considerations, August 27, 2021, 2:30 PM - 4:00 PM

In the era of the Covid-19 pandemic, many voices now believe that the world we live in is sliding towards a fatal crisis, due to the economic, social and environmental damage caused mainly by the restrictions already imposed around the world. However, there were few voices that called for finding in the heart of the Covid-19 crisis opportunities not only to be seized, but to be maintained in order to design an economically beneficial, socially responsible and environmentally sustainable path.

The agricultural sector, and more specifically the agri-food supply chains, after being characterized by a level of vulnerability that was sometimes considered intolerable, given the unfavorable working conditions, the critical agri-food accessibility, the toxic distribution modes, and the unacceptable price of agri-food products, on the occasion of the Covid-19, find themselves at the heart of sustainable practices, thanks in particular to the great resilience of its retailers, who constitute the backbone of this type of chain.

The retailers, as the actors best placed to design sustainable supply modes, have resorted during the crisis of Covid-19, in particular to :

- The reduction of agri-food varieties deemed less demanded by the consumer, which was able to avoid large amounts of loss and agri-food waste, as well as a reduction in operating costs through simplified inventory management.
- The establishment throughout the agri-food supply chains, of clean distribution and delivery methods adapted to the restrictions imposed during the Covid-19, such as online sales points that guarantee common or shared transport, carts and retailers in the neighborhoods that do not cause any emissions, the thing that has strengthened the modes of distribution considered for a long time beneficial for the environment, but also guaranteeing accessibility and agri-food democracy from which some geographical areas, benefit from these distribution alternatives considered interesting for their income levels.
- The creation of local jobs, since the retailers have counted on a high number of workers, ensuring either the management, preparation and delivery of orders, or the redistribution of agri-foodstuffs in the different districts.

From this preamble, the objective of this paper is to lead reflections on what can be the agri-food supply chains, and more particularly via its retailers in a Moroccan context, and that, if they continue to seize and maintain the opportunities offered by the Covid-19, relying on the art of management as being the key, to adapt to the Covid-19, but also to reinvent sustainable agri-food supply chains.

# Thinking about the future of cities and territories the light of the sanitary crisis and the French and Dutch experiences.

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G07-O3 Global Warming, Health and Environmental Issues, August 25, 2021, 10:15 AM - 11:45 AM

In the light of two surveys supported by ERSA that we conducted during the great lockdown in France and the Netherlands (Bourdeau-Lepage, 2020; Bourdeau-Lepage & van Leeuwen, 2020), we shall bring some reflections to the debate on the post-covid-19 world. Firstly, we shall show that great lockdown has not affected all individuals in the same way. There are spatial disparities within countries, in particular between rural and urban areas in terms of health and well-being. Secondly, we shall underline that the great lockdown has exacerbated the debate on the impact of human activities on the environment and the ecological imperative. Thirdly, we shall show that by revealing some of the city's evils: noise, atmospheric and light pollution, urban heat islands, socio-spatial inequalities, ..., the great lockdown highlighted the urgency to act and have led to a strengthening of the demand for nature in the city and an awareness of the benefits of plants on the health and well-being of city dwellers to combat environmental and virtual overloads. Fourthly, we shall bring to light that the great lockdown has allowed the rediscovery of the neighbourhood life in the city. Finally, we shall present one lesson that can be learnt from this ongoing crisis for thinking the future of cities and territories.

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# Smart listening to reconnect communities & landscape-soils. The case of Roghudi in the Grecanic Area of Reggio Calabria (Italy) - (note: Paper eligible for Epainos Award)

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YSS7-G08 Cooperation and Local / Regional Development, August 26, 2021, 10:15 AM - 11:45 AM

The communities take root in soil-places they prefer, in landscapes, they abandon a place only as an extreme reaction to a phenomenon. Smart listening to reconnect communities. Listening the connection between communities and landscape-soils, respectively with their expectations and needs, is one of the steps to maximize opportunities and reduce risks in anthropization. In addition, nowadays innovation of services and practices related to the 4.0 revolution, including telemedicine or soil-monitoring technologies, can play a role in strengthening or reconnecting the link between communities and places-soils.

Nowadays anthropization on Italian soil joins the strategies and policies implemented for inner areas: SNAI (Strategia Nazionale per le Aree Interne). Moreover, such strategies take account of abandoned places - as said by the scholar Christiane Klapisch-Zuberper in 1973 - for "extreme reaction to new power relationships established". The case of "new" Roghudi in the Grecanic Area of Reggio Calabria, although Roghudi "old" had abandonment phenomena since the post-war period, is indicative and confirmation of the words said by Christiane Klapisch-Zuberper.

"New" Roghudi is become a phenomenon of anthropization-exile. Roghudi, forced to move many km and built from zero, is still constantly abandoned while the old village is surrounded by an aura of nostalgia. If the land is good, a community will hardly leave a place. The example of Roghudi indicates where to listen for a sustainable anthropization, sometime with the possibility to repopulate some places: the communities & the soils of the landscape.

## Regional gaps in students' performance

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S64 OECD-Bank of Italy joint session: Regional competitiveness and growth: Microeconomic, August 25, 2021,  
4:15 PM - 5:45 PM

See extended abstract.



# Spatial patterns of post-socialist urban growth in Russian urban regions

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G01-O1 Regional and Urban Development, August 24, 2021, 12:00 PM - 1:30 PM

After establishing the market-oriented approach to land use regulation, Russian urban regions, built up under socialist planning approaches, confronted a period of market forces' domination. During the transformation phase a post-socialist shift took place. In order to describe changes happened from 1990 till 2020, remote sensing and GIS spatial data for 15 Russian urban regions were analyzed. Among other spatial patterns of land use change, features of urban sprawl were discovered and summarized as a Russian post-socialist urban sprawl type.

# The regional dimension of news

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S17 News and Geography, August 25, 2021, 10:15 AM - 11:45 AM

It is well recognized that news coverage varies significantly between countries. The differences include what events are reported at what frequencies and in what tones. It is also well established that these differences contribute to variations in the economic development of countries. In addition, substantial heterogeneity characterizes the news media at the subnational (regional) level, which is most evident in the large numbers of regional newspapers and media outlets. In contrast to the national level, this heterogeneity has received much less attention in the contemporary literature. More precise, little is known about the degree that newspaper readers in distinct locations are exposed to different information, topics, journalistic opinions, and sentiments. The present paper seeks to fill this gap by means of an empirical study utilizing the recently established RegNeS database, which features more than 7 million German-language media headlines published between July 2019 and March 2021 by more than 250 regional and national news outlets. Information on their circulation in 100 regions allows for a precise modelling of regional readership and consequently, the creation of regionalized news sets. Using sentiment analysis, biterm topic modelling (BTM), and spatial regression techniques, the investigation quantifies inter-regional variations in the frequency, content, and sentiments of news as well as relates these to general regional socio-economic conditions.

# Barriers to digitization in the leisure industry in Drenthe The Netherlands: before and during the pandemic

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S55-S2 Exogenous development in rural and remote regions, August 27, 2021, 2:30 PM - 4:00 PM

Digitization and the use of data science for SME's is not always common practice. Even though most SME's know about the options for digitization, only few do actually practice more advanced digitization tools. Nevertheless, studies have demonstrated that SME's that do digitize become more efficient, more innovative and more productive, which hence will have positive effects on their regional communities, especially in the more rural areas. However, especially SME's in more rural areas seem to experience barriers towards digitization. This is expected to be partly explained by physical factors (no high speed internet connection), the distance to knowledge centers and perhaps less face to face interaction with competitors. In a qualitative case study among 16 SMEs in a rural area in the Netherlands in the Leisure industry several barriers towards digitization are investigated and whether these barriers were effected due to the pandemic.

# The Willingness to Pay for Urban Amenities. Evidence from a Survey Experiment in Germany

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G23-R Segregation, Social and Spatial Inequalities, August 25, 2021, 10:15 AM - 11:45 AM

Attracting high-skilled workers is a major goal of many local policies as regional development has been shown to benefit from the influx of qualified labour. In addition to demand-side measures that aim to attract firms to increase local demand for high-skilled workers, supply-side measures aim to directly increase the supply of high-skilled workers by attracting high-skilled individuals with better urban amenities. This latter approach relies on the notion that high-skilled workers have higher valuations for urban amenities than low-skilled workers. Yet, establishing a causal link between urban amenities and the local skill intensity is difficult due to nearly intractable endogeneity problems. Therefore, we use a stated-preference choice experiment. Every respondent is asked to choose between two job offers in two hypothetical cities which differ in earnings and the quality of several amenities. We find that amenities are an important determinant of the city choice, with respondents willing to forgo a significant percentage of their wage to live in a city with better amenities. Most strikingly, we do not find any significant preference heterogeneity between college and non-college graduates. Instead, large heterogeneities are found mostly along unobserved dimensions.

# The Impact of Internationalisation of the Firm on Corporate Governance: Evidence from Russia

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S47-S2 Foreign Direct Investments, trade and local development: drivers and impacts, August 27, 2021, 10:15 AM - 11:45 AM

This paper presents empirical evidence on the relationship between internationalisation and corporate governance by exploiting a proprietorial level panel database of 300 medium/big Russian firms -both listed and non-listed- over 19 years, from 2000-2018. Russia is a country characterised by relatively weak corporate governance quality and the database includes detailed information on the board of directors' structure such as size, age of its members, gender diversity, the degree of board independence and the share of foreign representatives on the board. The data also include detailed measures of internationalisation through geographical diversification of the firm, e.g. via foreign mergers and acquisitions, and expansion of the subsidiaries outside the Russian domestic market. Through examining fixed effects and dynamic GMM regressions, the paper highlights how variables measuring internationalisation have a positive and significant effect on the extent and intensity of "corporate governance", and specifically on the "mechanism of implementation of such corporate governance": post internationalisation the number of foreign subsidiaries and foreign acquisitions exert a significant impact on the size of the board, the number of executive directors, and the number of Russian directors on the board. Hence, internationalisation occurring through opening a subsidiary or acquisition in the foreign market, will be positively associated with the improvement of existing or the creation of new "corporate governance mechanisms" across different Russian regions, and this relationship can be interpreted causally.

# Being a long distance out-commuter or home employee in a rather peripheral region?

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S11-S2 Challenges and Opportunities of Rural Regions, August 25, 2021, 10:15 AM - 11:45 AM

After reunification a net outmigration from East German regions occurred until the late 1990th. Many relatively younger people were looking for jobs in the west. About 30 years later outmigration flows exist but net migration is almost zero. However, still about 76.000 individuals out-commute for work-related purposes from the Federal State Mecklenburg-Vorpommern (MV). To the same time, employers in MV claim labour shortages. In this paper, we distinguish out-commuters and employees in MV to get a deeper insight into this interesting phenomenon. We especially address the question whether out-commuters are a selective group of individuals working in occupations that are not requested in MV. Additionally, we focus on the wage differential to work out potential strategies to get out-commuters back to work within MV. Lastly, we consider the number of workers that might be willing to work in MV and stop out-commuting. First evidence suggests that this would not appear. Labour demand in MV and respective wage levels are too low and the economic structure is too weak to sufficiently gain back out-commuters from a MV-perspective. Especially females suffer from the job-market weakness in MV.

# Intra-urban location of foreign and domestic knowledge-intensive business service firms in Belgrade

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G31-O1 Location of Economic Activity, August 27, 2021, 12:00 PM - 1:30 PM

While it is widely acknowledged that foreign investments in knowledge-intensive business services (KIBS) play an important role in reshaping the economy and spatial structure of many postsocialist cities, there is a lack of research on their intra-urban locational behaviour, particularly in comparison with domestic investments in the same sector. This analysis is focused on the underlying factors that shape both foreign and domestic KIBS firms' location choices in Belgrade, a city facing dynamic restructuring induced by the complexity of the postsocialist transition. For the modelling KIBS intra-urban location choices, this study uses disaggregated micro-geographic data on firms opened during 2011-2019 period. The findings suggest that domestic and foreign KIBS firms exhibit both similarities and differences in spatial behaviour. Firms from both groups are attracted by economies of localisation and commercial zones, while avoiding the densely populated areas in Belgrade. On the other hand, domestic KIBS firms are attracted by city's main transportation arteries and the traditional CBD area, while foreign KIBS firms tend to agglomerate in the emerging new business district in New Belgrade, an area with plenty of new high-quality office buildings, high-status residential areas, good intra-urban accessibility and airport proximity. This study indicates that foreign KIBS firms produce a spatially bounded "global city zone" and raises a question about their local embeddedness and role in the development of the local economy.

## Social structure of the population and dynamics of bank lending across Russian regions in the pandemic year 2020

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G23-O1 Segregation, Social and Spatial Inequalities, August 26, 2021, 2:30 PM - 4:00 PM

The pandemic has significantly affected the financial situation of the Russian population. The 2020 was a year of stagnating incomes and rising risks of job losses. In the regional context the most developed regions have been the most affected. These are the regions with a high proportion of the middle class among the population. At the same time there were substantial increase in consumer lending, especially in mortgage crediting. On the one hand, a loan for the purchase of household goods eliminates the current income deficit and helps to maintain a standard lifestyle. On the other hand, a mortgage loan is a long-term financial commitment that assumes a stable and sufficiently high income for the borrower and his household. For regions with a high proportion of poor people, an increase in this type of credit burden signals additional welfare risks in the future and may go against the goal of reducing poverty. In this study we address the issue of regional variation in current lending dynamics subject to social structure of the population, taking into account the demographic, urban-rural and other specifics of Russian regions.



# Does education contribute to sustainability? An analysis on waste separation across Italian provinces

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S03-S1 Circular economy: challenges for regions and cities, August 24, 2021, 12:00 PM - 1:30 PM

Sustainable practices must entice and include a significant part of the population to achieve a significant impact. In this sense, pro-environmental practices start with waste management, which in turn presupposes a wide involvement of consumer households in waste separation. The behavior of individuals is influenced by the level of human capital (HC), understood as the average educational level, which should indicate the degree of environmental awareness, knowledge of best practices and understanding of the moral and legal norms they should induce. We study the role of HC in waste separation practices (also considering the conceivable interaction with social capital) in the 103 Italian provinces controlling for other factors influencing the waste management (e.g., crime) that act differently in Center-North and South Italy. Our results suggest that while HC and SC per se do not matter for separate waste management behaviors, their interaction is positive and significantly correlated, and this relation is even stronger for regions in the South.

# When Does Broadband Enhance Establishment Births in Rural Areas? An Evaluation of the French Very High-Speed Broadband Plan

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YSS1-G05 Mountain, Rural and Marginal Issues, August 26, 2021, 10:15 AM - 11:45 AM

This paper provides new evidence on the impact of the Internet on the rural economy, by investigating in which conditions broadband can create new economic opportunities for rural areas.

To assess broadband effects, we evaluate the impact of the French Very High-Speed Broadband Plan on establishment births in rural areas. This program has been implemented since 2013 in France, with the objective of covering 100% of households with FttH (>100 Mbps) in 2025. To reach its goal, public authorities have deployed public broadband network in low-densely populated areas where private operators are not willing to invest.

The empirical analysis is carry out for rural municipalities from 2013 to 2018. The effect of broadband is estimated using differences-in-differences with pre-matching and placebo tests are provided to further mitigate endogeneity issues. To assess whether broadband effects depends on local initial conditions, models are estimated for different sub-samples of rural municipalities (depending on their initial level of natural amenities, urban proximity, and education). Models are also estimated for all establishment births as well as for seven different industries, including basic activities (e.g. retail, tourism) and knowledge-intensive services (e.g. creative industries, finance-insurance and real estate).

The results show that municipalities with good initial conditions (natural amenities, proximity to an urban pole, and/or with a qualified population) benefit from positive broadband effects in almost all industries, including both basic and knowledge-intensive services. On the contrary, we find little positive effects for other municipalities.

# Topic-based technological forecasting for the design and planning of European Smart Specialisation Strategy

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G10 Big Data and Regional Science, August 25, 2021, 12:00 PM - 1:30 PM

The aim of the papers is to propose a topic-based technological forecasting method for the design and planning of the European Smart Specialization Strategy. For this purpose, we use latent Dirichlet allocation (LDA) approach to discover latent topics in patent abstracts with European assignees from 2005 to 2018 (patent data are provided by European Patent Office, EP full-text data for text analytics). Afterward, we calculate a topic annual weight matrix and topic-based trend coefficients to estimate trends of the discovered topics. Regional topic weights are also computed to study which European regions in which areas/topics contribute patenting activities and to determine potential future specialization opportunities whether technological areas are trendy. Moreover, by using text mining and cosine similarity approach, we link the discovered topics to the CrunchBase startup database to explore which European regions engage with startup entrepreneurial activities in trendy technological areas. The results show topic-based technology trends and which European regions engage with invention and business activities in trendy technological areas.

# The Entrepreneurial Ecosystem Competitiveness Score for Smart Specialization: A Text Mining and Network Analysis Approach

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G36 Business and entrepreneurship, August 26, 2021, 4:15 PM - 5:45 PM

The study aims to explore regional entrepreneurial ecosystems and their competitiveness for analysis and management of European Smart Specialization Strategy (S3). For this purpose, we use latent Dirichlet allocation (LDA) to analyze the business description of high-technology startup companies in the European Union and to identify topics in which startup entrepreneurs from different places see new business opportunities as well as to examine innovation intensity and venture capital concentration. We also study startup technology positions and examine which European regions in which areas create business models related to breakthrough inventions. Moreover, we develop Entrepreneurial Ecosystem Competitiveness Score (EECS) for the analysis and management of the European S3. Specifically, we first analyze entrepreneurial ecosystem business descriptions of EU regions and compute their strategic positioning using text mining, cosine similarity and network analysis approaches. After that, we calculate EECS based on entrepreneurial ecosystem strategic positioning and innovativeness values. The results show territorial-specific differences in entrepreneurial ecosystems across selected EU regions and identify areas in which entrepreneurs from different places discover business opportunities and see the potential for investment and specialization.

# Regional Development and Creative Tourism: A few notes on the publications available in two scientific literature databases

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G15 Cultural Heritage and Regional Development, August 25, 2021, 2:30 PM - 4:00 PM

This paper seeks to analyse the relationship between regional development and creative tourism. Based on a bibliometric survey made through the use of the Google Scholar and Academia.edu databases, its main aim is to report the correlations found in the literature regarding the concepts of development and creative tourism. The literature review follows the guidelines of Tranfield, Denyer and Smart (2003), with regards to the adoption of a framework for data collection. The research strategy used was as follows: i) making an inventory of all available data and the nature of the identified documents; ii) to identify the authors' approach to the highlighted relationship; and iii) checking the conceptual links between regional development and creative tourism presented in the documents found. The obtained results suggest that there are papers investigating the afore mentioned relationship, however a necessary deeper study on the subject has not yet been done.

# Circular economy strategies in the Islands

Dr. Simona Cafieri<sup>1</sup>

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S42-S1 Sustainable development of the Islands between tradition and innovation, August 24, 2021, 2:30 PM - 4:00 PM

The circular economy is based on a fundamental paradigm shift. The economic system and the ecological system are not, as in traditional economic analysis, on the same plane, where natural resources, production factors, economic goods and services, waste and refuse are exchanged. The need emerges to analyse the global economic system as a closed system, in which the economy and the environment are not characterised by linear correlations, but by a circular relationship: the economic system is located within a broader ecological system and, while benefiting from its natural resources and ecosystem services, must respect its operating rules and physical, biological and climatic limits. Unlike the so-called linear system, which starts with matter and ends with waste, the circular economy is an economy in which today's products are tomorrow's resources, in which the value of materials is maintained or recovered as much as possible, and in which there is a minimisation of waste and impacts on the environment. The transition to a circular economy requires a cultural and structural change: a profound revision and innovation of production, distribution and consumption models are the cornerstones of this change, with the abandonment of the linear economy, the overcoming of the recycling economy and the move towards the circular economy, passing through new business models and the transformation of waste into resources with high added value.

The circular economy is developing well and finds a natural habitat in the island ecosystem, because the problems and needs they face require a *modus operandi* that focuses on sustainability, recycling and recovery, embracing in a single vision sector as diverse as energy and transport, water and tourism.

The aim of this paper is to explore the theme of the circular economy on islands. With the help of available ISTAT data, an attempt will be made to arrive at a measurement of the circular economy by measuring not only the physical and economic but also the environmental and social aspects of the island economic systems examined.

# Measuring the sustainable development of islands between tradition and innovation

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S42-S2 Sustainable development of the Islands between tradition and innovation, August 25, 2021, 10:15 AM  
- 11:45 AM

The concept of sustainable development made its appearance thanks to the famous book "The Limits to Growth" which in 1972 illustrated the results of a simulation model developed by a research group at MIT in Boston. The model proposed to evaluate what could have happened within 100 years if some phenomena had continued according to the trend that they manifested at the beginning of the '70s.

Despite the rather catastrophic conclusions of the study, the phenomena considered (population growth, food and industrial production, environmental pollution and exploitation of resources) have continued their trend for over 40 years, despite the attempts of the international community to counteract them, until 2015, when the governments of 193 UN countries signed the 2030 Agenda for Sustainable Development. The effect of the considered phenomena has been amplified in limited territories such as Islands, repositories of a great cultural and biological diversity, which represent situations of excellence to study and evaluate the evolutionary paths (and Darwin first sensed these peculiarities) platforms of differences in the uniformity exacerbated by globalization .

These places where elements of urban and rural regions are combined at the same time, are actually very vulnerable ecosystems with a high endemism where pressures from human activities can have devastating impacts.

In these territories the challenges of sustainability are more acute than ever and require new approaches and solutions based on appropriate knowledge tools.

Islands share a number of unique characteristics and therefore need to be studied in their own terms: the purpose of this work is therefore to analyze, through the use of ISTAT and Eurostat data, the socio-demographic and economic situation of European islands in the context of sustainable development in order to produce ad hoc indicators useful for planning aimed at strengthening the resilience and embark on a path of development that compares the history and traditions with the future of the territories.

# Building Territorial Regeneration in Inner Areas towards Resilience. Insights from the Seismic Crater of Central Italy

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S52-S1 Building territorial and community resilience through disaster risk reduction in marginal areas of rural Europe, August 26, 2021, 12:00 PM - 1:30 PM

Italian Inner Areas are composed of a widespread network of little towns, villages and rural areas (mainly located in hilly or mountainous zones) that gravitate around urban systems. According to the latest ISTAT census, they stretch over 60% of the national surface. Many Inner Areas have faced a shrinkage of the human-made environments because of ageing, depopulation, dwindling employment coupled with a significant unused territorial capital and high social costs. At the same time, they represent “ecosystems of innovation” as stressed by the EU Action Plan for Social Economic (2021), and a point of reference for the Italian sustainable and resilient restart in the Italian Plan for Recovery and Resilience. To meet this potential role, Inner Areas need to cope with their territorial vulnerabilities to make local communities more robust, improving local preparedness to disasters and promote innovative and inclusive development paths to integrate adaptation measures into the urban and regional planning, merging the building-back-better and the bouncing-forward perspectives. Within this frame, the paper aims to move from a critical assessment of Inner Areas and a literature review about the role of transformative resilience in orienting the planning process throughout territorial regeneration. The paper focuses on Central Italy, where the inherent fragility of Inner Areas has been amplified by the seismic events of 2016 and by the global health crisis still ongoing. The catchment area consists of 138 municipalities (approximately 560,000 inhabitants, ISTAT 2019) fall into the whole area affected by a vast seismic wave between August 2016 and January 2017, sprawled within small mountainous villages and hamlets characterized by the ageing of the population and low density. In particular, the paper reports the analysis of territorial vulnerabilities of the seismic crater of Central Italy identifies sensitivities and disturbances in the study area to outline environmental issues, social aspects, and economic features. The preliminary result of the analysis shows that the 138 municipalities are characterized by different levels of vulnerability: (i) 3 municipalities are marked by an “extreme” vulnerability; (ii) 3 municipalities are marked by a “strong” vulnerability; (iii) 79 municipalities are marked by a “high” vulnerability; and (iv) 53 municipalities are marked by a “moderate” vulnerability. The paper’s output is to produce a technical knowledge to support public administration in being aware of territorial vulnerabilities at the municipal level, testing possible ways to integrate adaptation measures into the local planning supporting territorial regeneration towards resilience.



# Much ado about nothing? An analysis of smart specialisation policies in Italy

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S18-S1 Smart Specialisation and Policy, August 25, 2021, 12:00 PM - 1:30 PM

Smart specialisation has livened up the scientific debate, but, above all, it has shaped the agendas of European policymakers in recent years (McCann and Ortega-Argilés, 2015; Capello and Kroll, 2016). It has populated a "policy space" which was already populated by previous approaches, more or less in agreement with S3 and which tend to coexist with it (Foray, 2016). In fact, changes in institutions and organisations delivering policies are not immediate. For this reason, especially at an early stage of change, they may be mainly statements that struggle to find empirical application (Balland et al., 2018).

Focusing on the Italian case, we analyse how, in practice, S3 precepts have been adopted in actual policies. Beyond the rhetoric that informs the declarations and wishes of policymakers, what, in fact, changes in policy practice? By analysing the public funds allocated to all measures supporting businesses, we investigate whether and to what extent S3 has changed the policy mixes that previously characterised Italian regions (Caloffi and Mariani, 2018). We find that policy mixes have not changed radically. Regions have increased the resources allocated to support innovation, especially in some strategic sectors. However, there remains an important gap between different socio-economic contexts (e.g. between Italian South and North regions) that national-level policies to some extent try to bridge, which leaves some areas trapped in their pre-existing bottlenecks (Kroll, 2015, Capello and Kroll, 2016).

# Tourism, sustainability and health security. Ict to get tourism back on track

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S41-S1 Opportunities, risks and challenges of the digital transformation in tourism Sustainability, Sharing hospitality and CoVid-19, August 26, 2021, 2:30 PM - 4:00 PM

In the aftermath of the covid 19 pandemic, the problems related to overtourism in some tourist destinations went from being purely problems related to the tourist sustainability of a location to health problems. The destinations that suffered most from overtourism are those that suffered most from the covid-19 crisis. The Cinque Terre recorded a minus 75-80 per cent drop in presences in 2020; in Florence, an internal survey by the Florence Convention Bureau noted "a vertical collapse" of international arrivals in the city, with peaks of minus 70 per cent, a drop not offset by domestic tourism. In 2020, tourists are preferring unpopular and uncrowded destinations, often in the countryside, in order to be able to continue travelling while avoiding contagion. But how can we get tourism safely back on track even in the main destinations? One solution is the use of ICT.

The paper proposes the use of an app that signals to tourists in real time that a particular attraction (square, museum, restaurant, ...) has reached maximum crowding, indicating an alternative place to visit according to their interests. The calculation method used by the app to determine whether a place has exceeded its capacity is not only based on factors related to health safety, but takes into account all aspects of sustainability: economic, environmental and social. The health crisis thus becomes a way of rethinking the tourism development model by focusing on innovation and sustainability. The destinations that are able to propose a completely new offer will be the first to restart. The paper then presents a first application of the proposed methodology to the case of the 5 terre.

# Better together: The regional benefits of furthering regional integration

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G01-O1 Regional and Urban Development, August 24, 2021, 12:00 PM - 1:30 PM

Recently, the discussion on the future integration of the European Union has reached its height. Some sovereignist movements claim that the Union represents a cage for national interest, and this critique has led to the UK to the decision to leave the EU (Hobolt, 2016).

On the one hand, the European Union and the European Monetary Union have been deepening and broadening their scope despite many critiques against their very nature and scope (Ioannou et al., 2015). On the other hand, such critiques may potentially jeopardize the very future of the process of European integration. Such potentially dramatic consequences have been motivated by the incomplete integration process that so far has been attempted, with monetary powers being much more concentrated than political decision-making ones (Jones et al., 2016).

Within this theoretical framework, the discussion would benefit from a sound empirical assessment of the potential economic benefits that would derive from further economic integration within the EU. The reason for this gap probably lies in the complexity associated to this exercise, which would entail the simulation of several evolutions in the structure of the present-day EU economy to create a quantitative integration scenario.

# The role of public space in post-pandemic strategies of urban regeneration

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S60-S3 ORMA - Opportunities and Risks of new Modalities of Anthropization between sustainability, innovation and fragility, August 27, 2021, 2:30 PM - 4:00 PM

## The role of public space in post-pandemic strategies of urban regeneration

Public space can be considered the supporting structure of the urban landscape and the expression of the historical and cultural identity of a community, the place where the values of civilization, inclusion and participation that the city historically represents find concrete realization. The design, redevelopment and management of public spaces is the qualifying factors of all local policies of urban regeneration.

The New Urban Agenda of the United Nations has confirmed these assumptions by including among the Sustainable Development Goals (SDGs) the 11.7 target which prescribes universal accessibility to urban public spaces, in particular for disadvantaged social groups (women and children, older and handicapped persons).

The pandemic emergency has accelerated the process of transformation of urban functions and uses, modifying the paradigms on which urban life is based and showing how these can suddenly and unpredictably vary, imposing rapid changes of strategy in urban policies. These phenomena enforce a reflection on the sense of urban community and public commons and, in particular, on the future form and role of public spaces.

One of the emerging trends is a greater attention to everyday city life, based on the availability and accessibility of the main urban services related to the fundamental citizenship rights, taking a point of view at eye level as a priority. This trend confirms the assumptions of the so-called "15-minute city", that aims at promoting a sustainable approach to urban policies of local development based on the concept of proximity and walkability.

The pandemic is also an opportunity to face the problem of the use of the public urban places traditionally devoted to children, in the awareness that children have particularly suffered from the restrictions of recent months. To reorganize school spaces and play areas can and must become a strategic opportunity to rethink urban public space as a whole.

Also due to the economic consequences of the pandemic, a new phase in the history of urban development is opening, focused on environmental resilience and urban regeneration. Under the impulse of the Green New Deal, Europe is preparing for an extraordinary undertaking that will be successful if all the social components are called upon to express themselves. In this enterprise, public space is destined to play a fundamental role.

# Participative tools and youth entrepreneurship towards green and digital transitions in marginal areas: the case study of Peloritans' Ionian Valleys

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S29-S2 Territorial dimensions of green and digital transitions, August 24, 2021, 2:30 PM - 4:00 PM

This contribution presents a study that seeks to address the issue of the multi-level authorities' role and responsibilities in strengthening the green and digital transitions in the context of the post Covid-19 pandemic. By improving a model to facilitate stakeholders' approaches in Strategic Development Process (SDP), the contribution provides a participative approach as a process where individuals, groups, and organizations choose to take an active role in making decisions that affect them (Wilcox, 2003). To this purpose, a case study is proposed in order to outline perspectives for a strategic program to be developed. The area is located in the northernmost part of the Sicily region, and it's identified as marginal area. The preliminary results of the study presented emphasize how the challenge of green and digital transition is today more linked than ever with the local capital, youth entrepreneurship and the territory's real needs. The culture of evaluation-in this sense-is an essential step towards achieving the overriding key objectives of effectiveness, feasibility and sustainability, with the aim of determining both the costs and the benefits of publicly financed projects, and to improve the effectiveness of public policies and actions undertaken. This contribution represents the "Knowledge Phase", first step of the Experimental Strategic Program study, as methodological tool of the thematic in-depth studies, necessary to produce a rich and exhaustive territorial framework. In conclusion, the first results of the study lead to the identification of strategic areas of intervention, in accordance with the territorial needs expressed and the EGD goals: building capacity to facilitate information, guidance and educational modules on youth green entrepreneurship; supporting local policy makers in defining systemic territorial strategies toward green and digital transitions.

# Recognizing different community behaviours for territorial vulnerability in wildfire risk management

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G06-O1 Adaptive and Resilient Cities and Regions, August 24, 2021, 12:00 PM - 1:30 PM

In the Mediterranean, the risk of large fires is increasing. The new generation of fires we are experiencing reaches socio-ecological contexts, into the interface areas between urban and forest, the so-called Wildland-Urban Interface (WUI). Therefore, involving local communities seems to be necessary and evidenced as an urgent challenge. Despite all the significant efforts done and the regulations devoted to reducing fire ignition risk, engaging the social component acting upon fire spreading helps several activities concerning risk management, but it is a demanding objective. Accordingly, this work starts identifying a framework of different attitudes to fire risk in Mediterranean communities. In the Mediterranean context, general common barriers for community engagement processes emerge, but simultaneously fragmented social phenomena in response to fire risk occur. Different responses and behaviours to fire risk mean having different policies to implement with local populations. Afterwards, the study connects targeted strategies associated. This recognition, effected through the literature review of most recent contributions in the field and the research context, represents a significant understanding of territorial vulnerability assessment to fire risk because it highlights different social 'emergencies'. The results show prioritization of certain areas to implement participatory processes against wildfires, while in others, there is the need to consider the early implementation of a culture of risk.

# Is COVID-19 The Great Equalizer? Heterogeneous Impact of Non-Pharmaceutical Interventions in a Metropolitan Area.

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S04-S3 Geography of COVID-19 outbreak and policy answers in regions and cities, August 24, 2021, 4:15 PM - 5:45 PM

The capacity of areas within a city to comply with mobility restrictions aimed at curbing the COVID-19 epidemic are crucial to the local dynamics of the disease. In this paper, we study the efficacy of policies implemented to restrict mobility and their impact on the COVID-19 expansion, and how this impact depends on socioeconomic differences across within-city locations. To do so, we rely on unique and novel data showing changes in movements at highly disaggregated spatial levels. We use data from Bogotá to explore the relationship between Non-Pharmaceutical Interventions (NPI's), people's mobility and the expansion of the COVID 19 pandemic. Bogotá implemented a general lockdown, followed by district-specific restrictions and subsidies. We find that the general lockdown imposed in the city significantly reduced mobility (by about 47%). By contrast, the marginal impact of district-specific restrictions and subsidies is found to be small. When looking at heterogeneous impact across locations, we find that poorer locations, with higher share of informal workers, as well as those where households have deficient infrastructure, reacted significantly less to mobility restrictions.

# COVID-19 and tourist destinations resilience: who wins, who loses, and why?

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S31-S2 Tourism in the post-COVID Era. Methods, Impacts, and Future Scenarios, August 26, 2021, 12:00 PM - 1:30 PM

Tourism sector has faced an unprecedented decline in 2020 as the outbreak of COVID-19, a novel coronavirus that is yet to be understood and managed, took by surprise the entire world. Being a sector that is dependent on the mobility of people and that implies large masses of visitors, tourism has been particularly affected by restrictions and lockdowns. However, while COVID-19 has affected tourism sector worldwide, its impact is not identical in every destination and after an initial general shock, destinations' trajectories started to differ, and new trends related to tourism behaviour appeared. Consequently, the main purpose of this paper is to identify the winners and the losers of this pandemic amongst tourist destinations. The study starts from the premise that while all destinations suffered from this crisis, some have been more resilient than others, managing not only to have a better resistance in front of the shock, but even to grow when compared to their performance prior to the pandemic. The study analyses the Romanian tourism and it relies on three objectives: (1) To evaluate the impact of this crisis on tourism sector using micro-data, and then to determine the geography of resilient and non-resilient destinations; (2) To explore potential factors behind their resilience; (3) To analyse the changes in perception of resilient and non-resilient tourism destinations following the 2021 pandemic. The data used are the yearly and monthly overnights for the years 2019 and 2020, provided by the Romanian National Institute of Statistics and the users' online reviews from TripAdvisor before and after crisis. Methodologically, descriptive statistics, spatial analysis and sentiment analysis were employed. Results indicate, first of all, that out of 920 Romanian destinations analysed, 94 grew in terms of overnights in the period 2019-2020. Most of these growing destinations are small, peripheral ones, some of them even lacking any form of tourist activity before the crisis. On the opposite side, large and popular destinations have been hit the most by the crisis. Tourists' reviews indicate a concern for safety when choosing the destination. It is notable, however, that most of the small destinations that grew in this period are not even present on TripAdvisor yet. Above all, the implications of this study reside in revealing the new choices tourists make during these times, respectively indicating the winners of the pandemic, which should take advantage of this opportunity even after the end of this crisis.



# A technological future for Small Historical Centres in the Post (Post) Covid Era

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S54-S1 Historical Centers and Inner Areas: resilient scenarios in the post (post) Covid era, August 27, 2021,  
10:15 AM - 11:45 AM

The dramatic global health emergency due to the spread of Covid-19 is forcing us to become aware of the need for a change in the cultural and socio-economic paradigms to which we have been accustomed in recent decades.

Today we have the rare opportunity to contribute to outline strategies for the rebalancing of the territory based on the reactivation of the “Inner Areas”. Strategies that, in the Post (post) COVID era must be not only resilient, but above all anti-fragile.

In this scenario, the role of the smaller towns and of their historic centres can finally be decisive. Territories that have been heavily marked in recent decades by depopulation and which record critical issues related to accessibility to primary services (transport, education, health); but which, at the same time, boast the presence of important environmental and cultural resources and a widespread distribution on the territory, guaranteeing their safety and correct, respectful and balanced use.

# Regional reindustrialization patterns and productivity growth in Europe

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S09-S3 Relaunch of productivity for regional growth and cohesion: Industrial structure, transitions and productivity, August 26, 2021, 12:00 PM - 1:30 PM

In recent times, and especially after the 2008-2009 economic crisis, we have witnessed a decline in productivity growth in the EU and the literature has often been referring to productivity paradox and/or productivity gap. However, the situation is in fact highly diversified at the regional level. In particular, the industrial structure of GVA has substantially changed over the last two decades and although a decrease in the share of manufacturing VA is a general (almost physiological) trend in advanced economies, it has been recognized that the EU needs to reverse the declining role of industry within its boundaries, strengthening industrial competitiveness to enable the transition to a low-carbon and resource-efficient economy (reindustrialization).

Starting from the critical issues related with the deindustrialization process, the present paper aims at highlighting different possible ways of reindustrializing and at highlighting their role in productivity growth. In more details, a regional reindustrialization may occur either reinforcing those sectors in which the areas were already specialized; or increasing the presence into more dynamic sectors and acquiring new know-how; or exploiting the pre-existing knowledge to reindustrialize in local core sectors, although without strengthening the specialization in those specific sectors; or, finally, reindustrializing in non-core sectors (niches) without improving the specialization in those sectors.

After identifying reindustrializing NUTS2 regions in the EU and the associated reindustrialization patterns, this work empirically shows how the different reindustrialization typologies are related to regional productivity growth at the sectoral, manufacturing, and aggregated level.

# The impact of FDI attraction policies on the economic recovery in Greece

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S47-S3 Foreign Direct Investments, trade and local development: drivers and impacts, August 27, 2021, 12:00 PM - 1:30 PM

Financial growth and consistent pandemic control are fundamental goals of the southern Mediterranean countries. Both development and increased productivity are primary and ultimate policy goals due to international trade competition, especially in Greece. Globalization has led to the liberalisation of the market, the creation of stable international conditions and the creation of necessary reserves in various countries by multinational companies. The continuous demand of the study of economics and international trade provides countries with adaptive and appropriate policies and various ways to manage and handle their needs of investment in the new era.

The shift from traditional forms of trade to FDI is an inevitable consequence of globalisation and internationalisation of trade, which is most evident in developed countries. FDI represents a means of economic, environmental and technological development of a country. Based on this assumption, this research offers insights into the impact of FDI attraction policies on Greece's economic recovery, both in terms of economic geography and urban planning policies.

According to available data from the Bank of Greece, the OECD and the World Bank, the preferred sectors that have attracted FDI in Greece over at least the last decade are business services, the agri-food sector, transport and logistics, digital technology and finance. The source countries are the US, the United Kingdom, Germany, Denmark and the Netherlands.

By reviewing the FDI profile and trends as well as the institutional framework, the study examines the FDI locations and their urban planning and whether they follow a spatial pattern to prevent regions from degrading.

The conclusions are properly drawn by applying spatial planning tools for existing and proposed FDI based on specific criteria weighted differently depending on the type of investment.

# Does venture capital investment affect a country's competitiveness?

## Theoretical approach

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G12-O2 Regional Competitiveness, Innovation and Productivity, August 25, 2021, 2:30 PM - 4:00 PM

The debates on the importance of measuring competitiveness have remained largely unchanged over time, but attitudes towards the determinants of competitiveness and the economic indicators that characterize it have changed. Often, the assessment of national competitiveness includes economic indicators such as foreign trade, the standard of living, economic growth. In this study, the competitiveness of a country is interpreted in terms of productivity expressed by total factor productivity (TFP), and where the level of productivity is defined by its growth over time in each country and is calculated using the growth rate of real GDP from National Accounts data. The objective of this study is to substantiate the potential impact of venture capital investment on a country's competitiveness. For that purpose, the relationship between changes in productivity and its determinants comparing with changes in venture capital investment is analyzed. The capital required by start-ups and expanding firms is provided by venture capital investments, and the value-added they generate in the economy is considered to be one of the prerequisites for boosting a country's competitiveness. Practical experience shows that the development of the venture capital sector varies across the European Union, which is considered to be a relevant and important issue today. It is argued that EU countries with a stronger focus on the venture capital sector invest more in innovative sectors and have significantly better technological capabilities. Meanwhile, in other countries, although at a similar level of development in terms of economic indicators, the prevalence of venture capital funds, the added value they bring to the economy, and the opportunities for business development are very low compared to other countries. These processes provide a context for research that assesses venture capital investment and its potential impact on countries' competitiveness. The study is carried out in the EU countries between 2007 and 2019, using the following research methods: comparative and systematic analysis of the scientific literature, correlation, and regression analysis of panel data. The study shows that at the macro-level productivity is most strongly related to innovation, research and experimental development (R&D), human capital, the ICT sector, and foreign direct investment.

# Empirical Evidence on Uncertainty as a Factor Conditioning Turning Point of Public Debt-Growth Relationship

Prof. Diana Cibulskiene<sup>1</sup>, Prof. Dr. Mindaugas Butkus<sup>2</sup>, Assoc. Prof. Dr. Lina Garsviene<sup>3</sup>, Assoc. Prof. Dr. Janina Seputiene<sup>4</sup>

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G25-O1 Institutions, Political and Decisional Processes, August 26, 2021, 4:15 PM - 5:45 PM

The reviews of studies (see Rahman et al. 2019; Koroglu, 2019; Bentour 2020; Salmon and de Rugy 2020) clearly show that there is no single debt threshold that is common to all countries, so there is a growing body of research aiming to identify the factors debt threshold is dependent on. The literature point to saving, investment, and interest rates as the main channels through which the negative effect of public debt on economic growth originates, and increasing uncertainty with higher country risk certainly here play a role. In our research we examine the mediating effect of the uncertainty on the debt-growth nexus is based on the neoclassical growth equation and consistent with specifications previously used to analyse the sources of heterogeneity in the debt-growth relationship. For the estimation of uncertainty as factors of financial stability, we use interest rate spread, the risk premium on lending, and real interest rate to proxy financial risk. Our unbalanced panel data set covers 104 countries over the period of 1998 – 2017. Research results show that the smaller the interest rate spread, the bigger is the positive effect of debt on growth and the higher is the turning point in the debt-growth nexus. Our results suggest that level of uncertainty may be one of the factors explaining observed threshold variation across countries. High debt levels increase uncertainty what might lead to higher borrowing costs and lower economic growth. However, there is no consensus on what levels of debt investors consider as "high" and start to require risk premium.

We do not find statistically significant evidence that population change would affect growth. Quadratic specification results show an inverted U-shaped letter debt-growth relationship with a turning point at 72% of the debt-to-GDP ratio when the interest rate spread values are below the median level. It means that relatively small debt in the low uncertainty environment has a positive marginal effect on growth, while high debt levels still constrain economic growth. In a high uncertainty environment, the debt-growth relationship remains negative irrespective of the debt levels. A higher uncertainty level associated with a higher risk premium on lending and a higher real interest rate leads to a lower positive and bigger negative effect of debt on growth in both linear and quadratic specifications.

# Understanding the land use dynamic in post-socialist city of Iași using deep learning

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G01-O2 Regional and Urban Development, August 24, 2021, 2:30 PM - 4:00 PM

Automation processes grew vigorously in GIS-driven analysis and became more and more popular in the last decade.

Deep learning and GIS are now used more and more often in all areas, from agriculture, hydrology to urbanism, offering the researcher a quick yet detailed and complex analysis and output. To offer a brief description, deep learning works as a usual supervised classification on satellite imagery, but with each iteration, the model gets to identify patterns, in land use for example, more easily, and the samples collected for the classification can be later used for another area. In our paper, deep learning is used to classify the land use dynamic in suburbs of post-socialist city of Iași. The capital city of the province of Moldavia, once capital of Romania, plays a significant role regionally and nationally. Here, a vast number of economic activities molded the space to its own need in the last couple of centuries, and now since the fall of the socialist regime, the city has undergone a series of changes that modified its spatial structure, leaving behind the vast industrial spaces and emerging new challenges regarding urban sprawl, a sensitive topic for sustainable development. Our main purpose is to underline the changes that took place in the city of Iasi and its own land use dynamic with the help of deep learning analysis, in order to understand how spaces were used and how they are put into value now. Of course, there are studies and analyzes that showed how land use changed, such as Corine Land Cover, but the scale of the studies done are not relevant in our area of study, hence the necessity to have a detailed scale to underline precisely the changes.

# Is Economic Complexity Important for Regional Growth? Measuring Subnational Economic Fitness Index with Standart International Trade Classification

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G01-R Regional and Urban Development, August 24, 2021, 12:00 PM - 1:30 PM

In the last few decades, the assumption of a positive relationship between producing complex products and economic growth has shed new light on economic development and growth. The Economic Complexity approach has emerged as an empirical innovation within the structuralist approach of development economics for measuring the complexity of products and unobservable capability. Yet, this approach was criticized for its linear mathematical formulation. In line with this criticism, The Economic Fitness approach has been proposed as an alternative nonlinear method of calculating economic complexity. A coherent extension of the economic fitness algorithm has also been developed to apply the fitness method at the subnational level. The Economic Fitness approach has been applied to various fields such as middle-income trap, income inequality, green technology, food production, and scientific competition at the cross-country level. Those studies have used export data classified according to Harmonized System for measuring the economic fitness index. Our study aims to calculate the economic fitness index by using an alternative classification system for exports and analyze the relationship between the economic fitness index and economic growth at the subnational level. To measure the economic fitness, we used annual exports by Standard International Trade Classification (SITC) system from 2008 to 2018 for 68 provinces of Turkey. The economic fitness and growth relation is analyzed through a dynamic linear growth equation by employing the System Generalized Method of Moments (GMM) approach. Estimation results show that economic fitness is a determinant of provincial economic growth. Our findings are parallel to those of cross-country and other subnational studies employing Harmonized System classification. The increasing availability of large-scale data and tools urges us on a paradigm change in a more data-oriented economic thinking in a wide range of areas including regional economics.

# Understanding differences and new paths of LFSs development: An International comparative study.

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S49-S1 The impact of COVID-19 on alternative and local food systems (ALFS) and the potential for sustainability transition – case studies and theoretical considerations, August 27, 2021, 10:15 AM - 11:45 AM

Although the main actors in the local food system (LFSs) are farmers and consumers, other actors in the supply chain are increasingly influencing the concept of “local” and “local food chain organization”. One challenge of LFSs development is represented by the interaction with larger buyers and more conventional food distributions. Some researchers and activists consider this a hybridization to alternative food networks or a possibility for LFSs development.

Often, policy makers and practitioners are seeking to support the scaling-up of LFSs, considering targeted development of infrastructures in processing and distribution, or outreach on appropriate shared ownership models.

According to this, the aim of our paper is to understand the status of LFSs compared to more conventional and organized distribution systems among 13 countries (Argentina, Australia, Austria, Canada, France, Hungary, Italy, Japan, Luxemburg, Norway, South Korea, Spain, and the United Kingdom).

The research presents two main questions: How does each paradigm lead to specific changes and innovations in the LFSs; What actors are the principal agents of this change.

Through a semi-structured questionnaire we surveyed experts in agri-food systems and rural development (academics, technicians and farmers representatives).

To analyse the answers obtained and group the countries according to specific indicators and leading factors, assessing similarities and differences of LFSs, it was applied Wiskerke's (2009) and Juan and Lorenzi's (2014) agri-food paradigm models.

The investigated countries were grouped in two major models, based on “Agro-industrial model” (hyper-modern) and “Integrated territorial agro-food paradigm” (alternative).

In many cases an overlap among the two tendencies results, meaning that hyper-modern realities are making efforts to become more open to LFSs and the opposite.

Food policy is making a difference among countries. Many of those present laws regulating LFSs, while in others regulations are missing, not considering LFSs peculiarities and needs.

Quality is also playing an important role in the new paradigm, pushing larger distribution actors to get closer to local producers and enlarge their marketing offers.

These findings confirm the actual status of hybridization in agri-food chain, with a more flexible system and adaptability of LFSs to new social and economic challenges.

A positive response is also represented by innovation solutions and new approaches introduced by the LFSs to meet consumers demand during the Covid-19 pandemic.

Finally we highlight the importance of having in each country a common idea of “local food” with dedicated legislation frameworks for making it stable and effective in the future.



# Regional capabilities in a globalized world

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G12-O1 Regional Competitiveness, Innovation and Productivity, August 25, 2021, 12:00 PM - 1:30 PM

A great deal of empirical studies has shown the importance of industrial relatedness and economic complexity for the diversification of regions. Less is known instead about the role of external linkages, and how they can shape the industrial composition of regions. Drawing on the contribution of the Global Value Chains (GVCs) literature, this work aims at filling this gap by investigating the impact of external linkages on the economic complexity of EU regions.

Our analysis relies on an original Input-Output regionalised dataset of EU Nuts-2 regions, which helped us to build a GVCs participation index. This latter is used to test the impact of GVC participation on the economic complexity of regions by accounting also for the impact of technological relatedness. Our findings show that GVCs participation matters for economic complexity, but the impact differs greatly across regions and sectors.

More complex regions benefit from GVCs more than other regions hosting less complex economic activities. Moreover, the change in industrial composition seems to be faster when the territories have higher levels of technological relatedness. When we analyse sectoral differences, we find that GVCs participations matter mostly for manufacturing than for other sectors.

In short, our work shows that industrial capabilities of the EU regions are diverging and that the EU regions benefit differently from the GVCs participation. Overall, this work also contributes to connect the literatures of Evolutionary Economic Geography and Global Value Chains. We believe this can cross fertilise both approaches and bring new insights to the broad topic of regional economic renewal.

# Letting down the inner areas? An assessment of the anthropic value of the Apennines' municipalities

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G05-O2 Mountain, Rural and Marginal Issues, August 24, 2021, 2:30 PM - 4:00 PM

The aim of this paper is to react to some academic and political proposals suggesting letting down inner areas. In this regard, we provide a few non-monetary considerations as well as a method approximating the monetary value of anthropic activities taking place in the marginal areas. The slow burn process which has been affecting these settings for several decades is intertwined with the recurrent seismic events. The uncertainties on the reconstruction process after the 2016-17 earthquake, along with the difficulties in providing a local development strategy, let some policy-makers and academic scholars rhetorically wonder if inner areas are worth investing in. In addition to the constitutional right to citizenship, we aim at assessing the monetary and non-monetary losses related to the abandonment of the inner areas. To this purpose, we focus on some small-sized Apennines municipalities located in the Marche region by considering the following factors: the amount of public transfers received, the aggregate income, the agricultural potential, the value of both the local real estate and the tourist activities, the extent of artistic and cultural goods and the provision of environmental services. The originality of this work is twofold, regarding both the theoretical and the empirical approaches. From the former point of view, we bridge the historical perspective (which is aware of the disadvantages of the settlement desertion, but it does not quantify it) with the ecological view (which only refers to environmental capital) and the economic one (which is focused on measurable market goods). From the empirical side, we consider both monetary and non-monetary values related to the human presence within the Apennines settlements. In policy terms, the results should clarify that preventing the abandonment of the inner areas is not only an ethical, but also an economic need.

# European regions, resilience and labour dislocation in the age of the fourth industrial revolution

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G06-O1 Adaptive and Resilient Cities and Regions, August 24, 2021, 12:00 PM - 1:30 PM

This paper aims at studying the resilience of the EURO area regions' labour markets to the 2007-2008 crisis from a structural change perspective. The issue of territorial inequalities has globally entered the public and political debate due to the increasing polarization of growth and wealth in specific areas not only of the European continent. The notion of inequality, which can result both from endogenous mechanisms and exogenous shocks, can be associated with that of regional resilience, which refers to the (different) capacity of spatial entities to respond to disturbances and shocks. Building on the notion of adaptive resilience and sourcing from the Eurostat regional database data on 150 NUTS 2 EURO regions over the period 1998-2019, we show that both Industrial Mix and Spatial Dependence played a key role in the asymmetric reaction of European regional labour markets to the crisis. Standard and spatial econometric analysis confirms that the pre-crisis structural composition of employment was instrumental in determining the size of the shock at regional level whereas the post-crisis recovery was mainly determined by the kind of structural change each region followed and by competition among regions in hosting Knowledge Intensive Services. In particular, we observe a polarisation process towards specific regions whose Industrial Mix is high-tech manufacturing- and knowledge intensive services-oriented. The selectivity of this process is of such a kind that it appears triggering only centripetal forces with no room from general spill-over effects. The self-reinforcing nature of this process requires targeted policies aimed at reducing regional inequalities.

# Return, Circular, and Onward Migration Decisions in a Knowledge Society

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S62-S1 TRSA Special Session: The Economic Geography of Cross-Border Migration, August 26, 2021, 2:30 PM -  
4:00 PM

tbc

# The question of territorial disaggregation level through the lens of spatial justice. Policy implications in CEECs

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G29-O1 Regional and Urban Policy and Governance, August 26, 2021, 4:15 PM - 5:45 PM

The current approaches of territorial inequalities from the perspective of territorial cohesion in relation to the European Social Model bring into discussion the concept of spatial justice, which combines place-based with people-based prosperity and points to adequate social and spatial integration models (Mendez, 2011; McCann and Varga, 2017; Rodriguez-Pose, 2018; European Commission, 2018). It has been supported by the “Europe 2020” strategy and will get even stronger emphasis in the new programme period, 2021-2027. In this context, the analysis of territorial inequalities at deeper level of spatial disaggregation gets a special significance for the design of the future regional policies, which will incorporate an important spatial justice component. It will entail a growing need for data at NUTS3 and LAU levels as well as for microdata (usually obtained on the occasion of population censuses). At international level there is already a growing interest in doing research at these levels by both institutions that support cohesion policy and individual authors. Based on these overall considerations this paper proposes an overarching review of selected relevant studies undertaken in Central and Eastern Europe in order to reveal significant aspects of deeper territorial inequalities, able to offer an orientation with regard to the EU funds priority allocation to the deprived areas and to ground the policies and decisions at national and sub-national level in these countries. Such studies make it possible to identify small areas such as municipalities, communes, etc. confronted with high poverty risks and, on this basis, to give additional substance for the discussions with the European Commission in the budget cycle 2021-2027. The contribution of this paper is twofold: first, it discusses, on a comparative basis, the difficulties encountered in terms of constructing appropriate databases and feasible methodologies for addressing territorial inequalities at higher levels of disaggregation in CEECs, which can serve as starting point for future research aiming to bring appropriate responses to these difficulties; second, it highlights important socio-economic issues in terms of territorial inequalities and spatial justice that are captured with highest accuracy at deeper disaggregation levels, with a particular relevance for CEECs in relation to the spatial distribution of the EU funds. The paper draws on the research funded from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 726950, “IMAJINE - Integrative Mechanisms for Addressing Spatial Justice and Territorial Inequalities in Europe” project.

# European Structural Funds and sectoral growth. A disaggregated analysis on European NUTS2 Regions

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S09-S1 Relaunch of Productivity for Regional Growth and Cohesion: Institutions, the public sector and productivity, August 25, 2021, 10:15 AM - 11:45 AM

In this paper we assess the impact of various types of cohesion policies on the economies of 238 European NUTS2 regions for the 1995-2016 period. Unlike in most previous works, we assess the impact of the funds on four sectors (agriculture, industry, construction, services) through a multi-input multi-output transformation function, and we evaluate the funds' effects on the basis of a model of their regional allocation. More precisely, we estimate the policies' average partial effects through a control function approach incorporating the funds' allocation rules. Our evidence implies that European Structural Funds had a significant impact on various sectoral components of regional GDP per capita, with the Cohesion Fund and, especially, the ERDF taking the strongest role. Furthermore, the effectiveness of European Structural Funds has different strength over the sectors taken in consideration.

# Considering the macro-regional dimension of industrial ecosystems: functional macro-regions and smart specialisation

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S46 Smart specialisation strategy and macro-regional strategies, August 26, 2021, 4:15 PM - 5:45 PM

The paper focuses on a new ‘functional regions’ approach towards traditional macro-regional strategies which will encourage the ‘bold change of mind-set among countries, ensuring they systematically consider the benefits of working together’. The recent European Commission’s Macroregions Communication notes that MRS key implementers are more and more active in promoting macro-regional cooperation with relevant programme authorities, expanding their understanding of the benefits of cooperating to find common responses to issues that go beyond national/regional boundaries and this process of embedding can be stimulated by the development of robust smart specialisation strategies that actively seek collaboration between shared and complementary priorities across the macroregion.

With reference to recent findings on policy learning from thematic smart specialisation platforms, we use the concept of a ‘functional macro-region’ (identified on the basis of its principal economic functions based on relatedness and connectivity) to explore the macro-regional dimensions of the underlying as well as overarching industrial ecosystems. Smart Specialisation can help implement policy initiatives with its tested methodology of mapping the multiple dimensions of related industry sub-systems and their connectivity (or missing links) to global value chains (some of them critical such as those linked with the health industry and pharmaceuticals).

Such mapping will be firmly based on the key industrial clusters, as specialised concentrations of value creation, of the functional macro-region, and will identify and expose the capacities but also the key weaknesses of the industrial ecosystems within the scope of the macro-region. Because of the diversity of the macro-region, it is expected that a constellation of cluster structures will collaborate in this regard: “industrial districts” will have to work in tandem with sets of smaller, specialised companies that are less dependent on space dimensions and often more knowledge-intensive. The result of this mapping exercise can then be plotted and compared to the Smart Specialisation Strategies deployed or about to be deployed in the subsequent segments of the functional macro-region. Corrective exercises following feedback loops can introduce new phases of existing S3 pathways, updating and upgrading strategic choices for the functional macro-region as a whole. “Smart complementaries” identified in the context of this analysis – or ‘discovery process’ -can give rise to new industrial projects, strengthening the macro-region's profile and overall resilience.

See extended abstract

# Integration of cultural/natural elements within cycle tourism: Accessibility of Pols along cycleways exemplified by the Interreg IT-AUT project “EMOTIONWay”

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G32-O1 Tourism and Culture, August 27, 2021, 12:00 PM - 1:30 PM

In the past years, cycle tourism has seen a noticeable increase in popularity as well as being regarded as a promising niche to contribute mitigating traffic increments within successful tourism destinations. The motivations regarding bicycle usage within tourism contexts range from its “pure” form as a (sustainable) mean of transport, to the experience of a higher stage of satisfaction, the so called “flow experience”, perceived while practicing the activity.

From a tourism management point of view, it has to be considered, that, cycle tourists, especially during long-haul trips, perceive the areas driven through oftentimes not on the level of single tourism destinations, but as a unified “destination on the move”, especially in terms of expected experience diversity, of which cultural and natural Points of Interest (hereinafter Pols), are an essential element. One of the most challenging aspects of the management of cycle tourism is therefore connected to the fact, that the multitude of destinations through which they travel, can exhibit highly divergent quality standards regarding the physical and informational accessibility of cultural and natural Pols. This incoherence can negatively affect the overall perception of cycle holidays, since travelers necessitate consistence regarding the provision of supportive attributes and Pols along the entirety of the trip. Furthermore, it can lead to a significant underperformance of tourism destinations in terms of attractiveness.

As part of the Interreg IT-AUT Project “EMOTIONWay”, an analysis of the amenities connected to cycle tourism infrastructure has been undertaken within the Italian regions of South Tyrol, Veneto and Friuli Venezia Giulia as well as the Austrian region of Carinthia along regional and long-haul cycleways. During the analysis, a special regard was set towards the physical and informational accessibility of cultural and natural Pols, which were identified based on their importance and geographical location in respect to the cycleways. Based on the collected and unified information, this research aims at:

- Revealing significant discrepancies in the analyzed tourism areas regarding the physical and informational accessibility of Pols in order to recommend corrective actions on a regional and transregional scale
- Unify relevant information for cycle tourists within the transregional area in order to refine the current conglomerate of different tourism destinations along the cycleways towards a unified “destination on the move”
- Identifying the importance of specific regional actors and their inclusion within the network governance of (long-haul) cycling routes in order to construct a coherent cycle tourism product



# Working From (a new) Home? Counter-urbanization in Sweden during the COVID19 pandemic

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S22-S2 Drivers and impacts of migration: new insights and (in) pandemic crisis, August 25, 2021, 4:15 PM - 5:45 PM

I examine how the ability to Work From Home (WFH), a recently revalued occupational characteristic, contributes to migration decisions of the working-age metropolitan residents in Sweden, during the COVID19 pandemic. I ask two research questions: does the ability to WFH motivate out-migration from metropolitan areas, singularly from Stockholm, the biggest city in Sweden? Does the ability to WFH push counter-urbanization, favouring smaller cities and rural areas as destination choices of migrants? I use occupational and locational microdata from Statistics Sweden for 2019 and 2020, organized as a cross-section, and analyze the research questions through standard probit and multinomial logit regressions. Results show, on the one hand, that the ability to perform the current occupation remotely to some or full extent has a significant but unexpected negative and very small effect on the decision to leave a metropolitan area in Sweden during the pandemic permanently. On the other hand, results show that the ability to WFH to some or full extent has a significant and positive effect on the decision to choose a nonmetropolitan destination by metropolitan out-migrants in Sweden, singularly from Stockholm to medium-sized urban areas, but not to rural areas.

# Set the skilled workers free: the mobility of workers and innovation in Brazil

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G30-R Innovation and Regional Development, August 25, 2021, 12:00 PM - 1:30 PM

The mobility of skilled workers is an important way to knowledge transfer in regional economies, with positive effects on interactive learning and innovation. Thus, our goal is to analyze whether the regional mobility of skilled workers impacts innovation at the regional level. We use microdata on employment in Brazil to track the mobility of skilled workers, focusing on STEM occupations. We apply the knowledge production function approach to assess the impact of mobility on regional innovation. Our results show that the mobility of skilled workers has a positive impact on regional innovation since the circulation of skilled workers can generate positive externalities due to the presence of new knowledge in a region and by increasing opportunities for interactions.

# Cultural distance and commuting flows across national borders

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G03-O1 Demographic Change, Population, Migration and Mobility Behaviour, August 24, 2021, 12:00 PM - 1:30 PM

In this paper, we studied the effects of cultural dissimilarity on individual's decision to commute across the border. Insights of migration models (such as non-economic drivers) are combined with commuting models based on a gravity equation. We tested our simple framework using cross-border mobility data and a historical dialect database to estimate the causal effect of cultural dissimilarity on international cross-border commuting flows. We measured cultural dissimilarity by calculating differences in the sound components of historically used dialects. This allows us to identify dissimilarity between origin and destination regions at a very disaggregated level. The economic driver, specifically the cost of commuting measured by the geographical distance, remains the most important factor defining the distribution of workers across the national borders of Belgium and Netherlands. However, cultural dissimilarity play an important role in avoiding full mobility across these countries. The elasticity of commuting flows with respect to the cultural dissimilarity between regions is around 7.6%, meaning a non-negligible effect.

# Choosing the right policy mix: An evaluation of the EU's regional policy using generalized propensity scores for multiple continuous treatments

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S43-S4 Counterfactual methods for regional policy evaluation, August 27, 2021, 12:00 PM - 1:30 PM

The evaluation of European regional policy has mainly focused on the overall effectiveness of the policy, thus neglecting the heterogeneous effects due to different policy mixes. This paper exploits the novel econometric framework proposed by Egger and von Ehrlich (2013) to investigate how different mixes of investments in infrastructure and productive investments impact regions' growth rate. Results depict a four-class typology based on the allocation intensity in the two dimensions. The main results are that allocation in infrastructure has a positive effect only if it is associated with expenditures in productive investments and that the maximal impact on growth is obtained by a policy allocating with high intensity in both dimensions. The extent of misallocation is then assessed by generating two scenarios. In the first one, every region chooses the best mix available under the constraint of the actual funds received. In the second, each region was unconstrained. The comparison with the actual allocation shows that, although the regions can allocate more efficiently, the actual transfer intensity is not enough to choose the mix that would globally maximize growth. Results are consistent with Becker et al. (2012) since enforcing common support restricts the analysis to regions with low transfer intensity.

# Investigating transport behaviour of the Italian elderly in COVID-19 era: the case study of Varese

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S15 Policies and Services for Healthy and Active Ageing: Challenges and Perspectives for the Post COVID-19 Aging Society, August 24, 2021, 4:15 PM - 5:45 PM

As the Italian population is ageing at a faster pace with respect to many other European countries, healthy ageing has become a priority in order to preserve accessibility to fundamental services and social inclusion for the adults over 65 years old (WHO, 2018). Alongside, in the last year the Covid-19 pandemic has dramatically limited the ability of elderly people to be mobile and get around in their own city, be socially included, and access the healthcare services by using active modes of transport (i.e., walking, biking and local public transport services (LPT)) and related multimodal solutions (Musselwhite et al., 2020). Within the scope of the HAPPY (Health Accessibility transport Public Policies for elderly) project, financed by Fondazione Cariplo, and performed by University of Insubria, Politecnico di Milano and University of Padua, in this paper we use the responses of 400 computer assisted telephone interviews taken from a representative sample of over 65 residents of Varese between February-March 2021. We will use multivariate probit models to evaluate how socio-demographic and residence-based conditions have affected the decisions of older people before and during the pandemic, when choosing specific transport modes to reach a set of destinations within their city. Moreover, the analysis explores the potential usage of LPT services in the post-Covid times by older residents, based on the evaluation of LPT services' characteristics (i.e. reliability, safety, accessibility, etc.). As a consequence, we will identify potential ways that the transport operators and policymakers can adopt to innovate local services and let key destinations (including healthcare facilities and places where the elderly feel socially included) be more accessible and connected by ICT devices for the benefit of the aged individuals. Preliminary findings have shown that the Covid-19 has disproportionately affected mobility for social and physical activity destinations, while the healthcare services have been less severely constrained, and especially the visits to the pharmacies. Additionally, the elderly people have decreased sharply the daily use of public transport services and around 35% of them reported to be relatively satisfied with the service quality attributes. Finally, the elderly people have increased the Internet use while it seems that some of them are familiar with its use for transport-related purposes. Given the instability of the daily life conditions with respect to the evolution of the pandemic, future elderly-targeted research will be needed to identify the eventual life changes and their habitual transport behaviours.

# Fluid or rigid? Limits of Romanian city regions in the last two decades

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G04-O1 Urban-Rural Relationships, August 24, 2021, 12:00 PM - 1:30 PM

In a previous research in 2015 I have concluded, that only 200k+, attractive cities have developing agglomeration or hinterland in Romania. Each had an average 15 km radius, and almost every settlement outside these areas were facing depopulation and ageing. Economic growth came with polarizing spatial pattern, desertification of rural areas, but also a growing share of rural population, changing a more than a century trend in Romania.

In the present paper I would like to present a spatial analysis, finding out if there is a way out of the desert, if the boundary between the growth zone and the desert is fixed or flexible. I use demographic, employment and construction permit data to identify the changes.

I would like to put the changes into policy and governance context also, to find if there is a state policy in practice, in a direct or indirect way. State policies can ameliorate the status of the settlements outside the growth zones, but also push municipalities out, right into the desert.

# What happens to workers displaced by robots? Evidence from Spain

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YSS9-G18 Regional and Urban Labour Markets and Entrepreneurship, August 26, 2021, 10:15 AM - 11:45 AM

Concerns over widespread technological unemployment are often dismissed with the argument that human labour is not destroyed by automation but rather reallocated to other tasks, occupations or sectors. When just focusing on pure employment levels, the idea that workers are not permanently excluded from the production process but "just" reallocated somewhere else might strike as reassuring. However, while quite some attention has been devoted to the impact of automation on employment levels, little has been said about the quality of the new match for displaced workers. Using an administrative longitudinal panel covering a large sample of Spanish workers for the period 2001-2016, this study investigates the short and medium term re-employment prospects of workers displaced from sectors with an increasing density of industrial robots. The role of relocation to other sectors and/or local labour markets as an adjustment mechanism is also examined. The empirical analysis suggests that active labour market policies might be necessary to help automation-displaced workers transition to a new job of similar quality as their previous one. Exposed middle- and low-skilled workers are still more likely to be unemployed 6 months after displacement. Among those who find a new occupation, an additional robot per 1000 workers increases the probability of being re-employed in a lower-paying job by about 2 percentage points for middle- and low-skilled workers, with the penalty being significantly higher for those who relocate to a different sector. The pay differential might be explained by the fact that these workers tend to face a qualification-downgrading in the new job and are more likely to be re-employed in temporary-employment agencies. Quite worryingly, most negative effects for less skilled workers are not short-lived, but persist up to 36 months. High-skilled workers are less negatively affected by exposure, although they sometimes also incur a penalty when changing sector.

# Multi-valued treatment effects: evidence from a place-based policy

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S43-S3 Counterfactual methods for regional policy evaluation, August 27, 2021, 10:15 AM - 11:45 AM

In this work we apply a forefront methodology in program evaluation, i.e. the estimation of multivalued treatment effects, to assess the effectiveness of a place-based policy in Southern Italy, carried out in the programming period 2000-2006, which made use of cohesion funds.

In detail, we analyse the interventions at the municipality level provided by Territorial Integrated Projects (TIPs) by considering treated and untreated units within a target region (Sicily), and untreated units located in another region (Lazio). The latter is chosen as the best possible counterfactual in terms of similarity of pre-treatment characteristics of the municipalities involved.

We define the participation to the TIP program as a multi-valued discrete treatment that assumes a value of  $t=2$  for treated municipalities located in Sicily and values of  $t=1$  and  $t=0$  for the untreated municipalities that are respectively located in Sicily and in Lazio. In this way we study the effects of the multivalued treatment on economic measures such as the creation of employment and local units. By following the approach of Cattaneo et al. (2013), we compare the parameters of the potential-outcome distributions, defined as the distributions that the outcome measures would have had under each level of treatment. Our results highlight that, together with the participation status, the location of the municipalities involved assumes great importance in terms of the economic measures considered.



# Quality of institutions and regional resilience in Europe

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G01-O2 Regional and Urban Development, August 24, 2021, 2:30 PM - 4:00 PM

The economic literature has widely recognized the impact that formal and informal institutions on economic growth, beyond the traditional factors of physical capital, human capital and innovation. Indeed, as highlighted by Rodrik, Subramanian, and Trebbi (2004), institutions trump traditional factors such as trade, resource endowments, and geography in their impact on economic development.

There is evidence that the quality of institutions in Europe is heterogeneous across and within countries (Charron, Dijkstra, & Lapuente, 2014, 2015). Moreover, several studies based on cross-section EU regional data have recently established the positive role of institutional quality for regional growth and resilience (Farole et al., 2011; Rodríguez-Pose 2013; Rodríguez-Pose and Garcilazo, 2015, Ezcurra and Rios, 2019; Rios and Gianmoena, 2019 among others) and for innovation and small business creation (Nistoskaya et al., 2014; Rodríguez-Pose and Di Cataldo, 2015). Furthermore, EQI outcomes are positively linked to less informal economy (Williams and Horodonic, 2016), more social capital and social trust (Cortinovic et al., 2017; Charron and Rothstein, 2018), a more efficient use of EU Structural Funds (Crescenzi and Di Cataldo, 2016) and a better implementation of “smart specialization” strategy (McCann, 2015).

Moving from this line of research, we aim to investigate the spatial clustering and dynamics of economic activities in Europe with a specific attention to the role of institutional quality and economic structure. In particular, the present analysis aims to investigate the role of the “quality of government” on the basis of available data (Charron, Dijkstra, & Lapuente, 2014, 2015). Information are based on the European Quality of Government Index (EQI) and the Worldwide Governance Indicators (WGI) World Bank. Issues of spatial dependence on the presence of good institutions (See, among others, Rodríguez-Pose, 2013; Ezcurra and Rios, 2019) are addressed. To this purpose, econometric models with spatial effects are adopted to extend the previous analysis of growing regional disparities within EU countries and regions (Borsi & Metiu, 2015; Cutrini, 2019).

The article discusses the implications of the results provided for EU-wide industrial and regional policies.

# Making space for (smart) tourism in updated Smart Specialisation Strategies in Poland

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G12-O2 Regional Competitiveness, Innovation and Productivity, August 25, 2021, 2:30 PM - 4:00 PM

see extended abstract

It is becoming indisputable that tourism is inclining toward an industry embedded in information technologies, actively contributing to digitalisation, including “platformisation,” of services, and thus, dependent on knowledge-driven solutions. Notwithstanding, tourism-related infrastructure keeps pace with high-tech developments by introducing advanced architectural solutions apprehensive of the natural environment. As much as it is increasingly innovative, tourism is also an industry that is highly susceptible to exogenous factors. The outbreak of the COVID-19 pandemic has hit the industry hard enough to jeopardise millions of jobs and livelihoods worldwide. Thus, directions embraced during current Smart Specialisation Strategies (RIS3) updates will determine whether regional tourism in Europe will stand a chance to continue to benefit from knowledge spillover within respective regions and participate in interregional cooperation and exchange.

Eleven out of sixteen Polish regions have explicitly (3) or indirectly (8) included various forms of tourism in their RIS3 prior to the 2014-2020 budgetary period in the EU funds distribution. This paper addresses the need to include Polish tourism in the discourse pertaining to industries relying on knowledge distribution. It aims at assessing whether tourism plays a role in Polish regions’ pursuit toward social and economic goals established in their RIS3. The study confronts whether Polish enterprises in the tourism and hospitality sector undertake investments that cater to the Smart Specialisation policy's assumptions. The interpretation criteria include investments that rely on R&D and collaboration with research institutions or allocating specific innovative knowledge acquired through inter-sectoral cooperation. An analysis of funding distribution provides an argument for a roundup of the Entrepreneurial Discovery Process’ results and reconsideration of tourism as a Smart Specialisation (SS) in potential RIS3 revisions. By comparatively analysing all sixteen Polish regions (NUTS2) which either have identified tourism among their SS or have not, the study is designed to understand the specific approach to Smart Specialisation policy in Poland. After reviewing existing theoretical concepts pertaining to Smart Specialisation policies and tourism, the authors analyse currently binding RIS3 to identify the rationale behind selecting or omitting tourism as an SS. Secondly, a statistical summary of the tourism industry's performance in calls aligned with RIS3 (either explicitly or implicitly) in Regional Operational Programmes is provided to rank tourism in the Smart Specialization policy's tangible outcome. The summary is later followed by a more particularised key-words-based analysis to compare general frameworks put forward in the strategies with beneficiaries' reality in the form of specific interpretations.

# Green growth and interregional migration: the effect of skill-specific migration by gender on employment growth of sustainable activities

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G12-O6 Regional Competitiveness, Innovation and Productivity, August 26, 2021, 4:15 PM - 5:45 PM

In recent years there has been growing attention to the development of green industries, especially to address the challenges posed by the transition to a more sustainable world and society (Saphira et al., 2014). However, although extant literature considers green industries as a new avenue to generate new job positions and skills (Saphira et al., 2014; Zysman et al., 2012), empirical research focuses almost exclusively on the industry-side (demand) of this transition. Little has been said so far on the human capital side of such transition (supply), especially on aspects such as types of skills and competencies required, and gender differences. Furthermore, the effect of human capital migration on the growth of green industries has not been investigated yet.

Starting from these premises, this research aims at investigating the effect of human capital migration on the growth of green industries in Italy. To this end, starting from the EU taxonomy of environmentally sustainable economic activities (European Commission, 2020), an econometric analysis had been conducted at the provincial level (NUTS3), by merging the dataset on employment annual data of sustainable manufacturing and service activities, and interregional migration flows by gender and educational attainment. The data from Italian National Statistics Institute (ISTAT) includes 103 Italian provinces over the period 2009–2018, for a total of 1,030 province-year units of observations.

The analysis highlights two relevant results. First, in Italy there is a consistent number of green industries that potentially will grow in future years, generating, in turn, a positive environmental impact, especially in the Italian southern regions. Second, human capital migration has a significant effect in strengthening the growth of green industries, with great potential in the South. This effect is much more significant in the case of high-skilled migrants and particularly female ones.

These results may support the design of evidence-based Green Deal policies at the European, as well as at the national level, in order also to reduce the existing inequalities among European countries and Italian regions.

# Towards a Rural Commons Manifesto. Investigating emerging commoning practices, engaging communities, exploring design approaches through an itinerant and transregional Festival.

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S19-S2 Commons as enablers of territorial transition- evidences, assessment and theoretical perspectives,  
August 25, 2021, 2:30 PM - 4:00 PM

Commoning practices that take care of elements of the community in a region are often overlooked by the mainstreaming economic doctrine on regional development. Commons are often invisible economic practices, which cannot be accounted for in the current performance indicators of development. Current crises and trends pave the way for the need for new frameworks for imagining the future of regions of the world. Commons are one of the possible frameworks available to transform the future of regions into a more sustainable, equitable and resilient one.

Commons can be defined as a collective response to shared needs and desires expressed by a community. Practices that promote more inclusive habitats and communities, made of people, other human beings, resources, spaces, goods and services for the community. This concept might refer to many different fields and be connected to different topics. Research has been conducted on the relevance of the commons for societies and economies of rural areas, from different perspectives and using different approaches and concepts. For this reason, there is the need to create synergies among the academic fields and the non-academic and practitioner worlds, to enable a concerted recognition of the commons for the present and the future of rural and mountain regions.

With this research, we aim to raise imaginaries on how commons enable desirable and equitable presents and futures in rural areas. What are emerging commoning practices in such regions? What are resources, ideas, needs, services and goods that should be taken care of through the commons? Which pillars and values should commons be based on, to contribute to such vision? To reply to these research questions, we have adopted a design thinking, interdisciplinary approach, based on a preliminary literature review, the engagement of collective action groups in the conceptualization, design and organization of the first Rural Commons Festival. Through the Festival we expect to collect around forty commons initiatives and commoning practices both from research and practitioners worlds, which will be analyzed and categorized. All previous steps together contribute to pave the way towards a Manifesto for the Rural Commons, a collection of claims integrating-deepening those already identified.

With this paper we aim to contribute to the common scholarship with new methods and a new interdisciplinary and explorative approach. We also aim to contribute with a specific framework, definition and exploration of cases/examples of commons and commoning practices in rural and mountain regions.

# Safety perception at a tourist destination in the COVID era: Evidence from big data

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S31-S2 Tourism in the post-COVID Era. Methods, Impacts, and Future Scenarios, August 26, 2021, 12:00 PM - 1:30 PM

The COVID-19 pandemic has induced tourism destinations to reconsider all their organisational aspects related to safety, and to invest more in safety measures. In fact, the perception of a safe place might have become one of tourists' priorities. We investigate the evaluation of the health safety measures of the tourists who visited Trentino in summer 2020, a lake and mountain destination in the North of Italy. The dataset we use (about 27.000 observations) comes from a survey administered to Trentino Guest Card holders; this card was issued to nearly all tourists who stayed at official accommodation facilities of the destination. Using logit and ordered logit models, we assess the conditional correlation between tourists' safety measures evaluation after the holiday ended and a set of covariates, among which the main feature of the tourist area (lake, mountain, city tourist district), the intensity of its tourist vocation and the type of accommodation. Given that the evaluation of the anti-contagion measures may be related to tourists' personal sensitivity to health risk, we focus also on tourist-related elements. Among our covariates, we consider some features of the tourist party associated to the destination card and the incidence of COVID-19 in the party's province of residence, assuming that COVID-19 incidence at the place of residence has made a tourist more sensitive to health risks. Our evidence reveals that the impact of tourist-related elements is not general, while destination-related elements play a role in determining the choice between being satisfied and dissatisfied as well as in determining the degree of satisfaction.

# How Do Built Environment Promoting Physical Activity? An Indonesian Case Study

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G03-O2 Demographic Change, Population, Migration and Mobility Behaviour, August 24, 2021, 2:30 PM - 4:00 PM

Physical activity can improve the quality of health, reduce the risk of developing several diseases, and increase the possibility to live longer. However, people physical activity rely heavily not only on personal characteristics of the inhabitants but also may be influenced by their surrounding built environment. Nevertheless, existing studies to investigate the relationship between built environment and physical activity is rarely found in Indonesia context. Analyzing this issue in the context of Indonesia will be attractive because Indonesia is still lacking on awareness on both the importance of physical activity on enhancing health quality, and also the role of urban built environment in promoting physical activity. This study merge two data sets from Indonesia Family Life Survey (IFLS) wave 5 to extract individual variable and ArcGIS 10.4 to extract built environment characteristics at city level. By employing linear multilevel regression, we found that

people who lived in a more dense area tend to reduce their physical activity, especially for the vigorous physical activity. While the overall mix land use density is positively correlated with walking days, the public essential density is found to be negatively correlated with walking duration. This result support the presumption that even though variety of destination encourage people to walk in their daily activities, most sidewalks in Indonesia is still not pedestrian friendly and not a safe environment to walk so that people reduce their walking duration. Our result also shows that people in urban area tend to have lower physical activity than people who lived in rural area. Our findings suggest that urban planner and policy maker should design a more walkable cities and provide better environment to stimulate physical activity to improve people's health.

# Do migrants move along the routes of technological proximity? Evidence from Spanish NUTS3 regions

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G30-O1 Innovation and Regional Development, August 26, 2021, 12:00 PM - 1:30 PM

A growing literature is addressing the role of migration as a driver of knowledge flows and innovation (Agrawal et al., 2006, 2011; Miguélez, 2016, Breschi and Lissoni, 2006, D'Ambrosio et al. 2019). The underlying mechanism that is often invoked to this end is the ability of migrants to foster the exchange of information between the origin and the destination country. While the issue is receiving increasing attention in the literature, one aspect that has so far received less attention is the link between migration and technological proximity between the origin and the destination countries. One exception is the recent contribution by Bahar, Choudhury and Rapoport (2020), showing that the number of foreign inventors from countries that specialize a given technology increase the probability that the host countries introduce patents in the same technology. A related question is whether the similarity in technological or sectoral specializations drives the choice to migrate to a given destination country. While prominent studies have addressed the role of task specialization and the related wage implications (Peri and Sparber, 2009), the role of sectoral specialization has been so far neglected in the literature. We focus in this study on the most basic side of this relationship and address the following question: are technological and sectoral proximity between home and host countries drivers of migration choices? We address this issue by implementing a gravity model of international migration (Beine et al., 2016; Beine and Coulombe, 2018) and augmenting it with a measure of technological proximity drawing on Jaffe (1986 and 1989) cosine index modified as in Quatraro and Usai (2017) to measure technological proximity among regions.

A first contribution of this study is in terms of providing a descriptive overview of the correlation between technological/sectoral proximity and migration choices.

A second contribution of the paper is to seek to gain causal evidence about the mechanism at stake, addressing possible endogeneity concerns by exploiting the long pre-determined information about the distribution of technology classes across NUTS3 regions and partner countries to construct an instrument for technological proximity.

# Cultural diversity and regional resilience: an analysis on Italian provinces

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S22-S1 Drivers and impacts of migration: new insights and (in) pandemic crisis, August 25, 2021, 2:30 PM - 4:00 PM

This paper investigates the role of cultural variety for regional resilience on a sample of Italian provinces after the 2008 financial crisis and the subsequent sovereign debt crisis. Along with measures of resilience that have been employed in the literature, we propose a novel measure of resilience, i.e., the log difference between the observed value of manufacturing GVA and the level that would be predicted based on province-level trends, country-level GVA and GVA growth rate in the year. In this way, we are able to measure the difference between the performance of the province and the performance that would have been attainable. We compare this measure to previous measures, and study the province-level drivers of resilience. We focus in particular on the relationship between resilience and the pre-crisis levels of foreign entrepreneurs' diversity, measured as an entropy index of foreign entrepreneurs' nationalities. Controlling for a wide set of regressors, we provide evidence of a positive relationship between the pre-crisis levels of cultural diversity of foreign entrepreneurs and province-level resilience, which is robust to a variety of checks. Furthermore, the preliminary results indicate that the effect of cultural diversity on resilience takes some time to materialize and is strongest about 4 years after the burst of the crisis.



## Subsidies to Homeownership and Central City Rent - (note: Paper eligible for Epainos Award)

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YSS8-G16 Real Estate and Housing Markets Issues, August 26, 2021, 10:15 AM - 11:45 AM

This paper analyzes the effects of German homeownership subsidies on the intra-city rent structure. Using a large-scale micro data set on German rent offerings, I first construct novel city rent indexes that include various rings around cities' centers. Using triple differences (TD) frameworks, I then estimate the introduction of the homeownership subsidies' effects on rent for the cities that received varying subsidy rates. The empirical results indicate that subsidies to homeownership lower central apartment rent premiums in those cities, where they give the "biggest bang for the buck". Consequently, I find that homeownership subsidies contribute to an increase in housing affordability through the price changes in the rental market: an increase in the subsidies leads potential homeowners to move away from the center, resulting in a decrease in the rental demand and lowering the rent.

# Climate Change, Armed Conflicts and Resilience

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G26 Human - Environmental Interactions, August 27, 2021, 2:30 PM - 4:00 PM

In recent years, there has been rapid development of the literature linking climate change and armed conflicts. Although no conclusionary evidence has been found of a direct link between climate change and armed conflicts, still climate change has been addressed as an important trigger, exacerbating underlying social, economic and institutional conditions and thus resulting in higher risk and magnitude of violent activities. In this context, while more research is needed to further disentangle how climatic changes combine with socio-economic and institutional elements to induce conflicts, an important pathway to be explored is the role that resilience investments can play in preventing and/or breaking the negative relationship between climate change and violent activity. In this context, resilience refers to the capacity of a system to come back to its original conditions after a shock and relies on the combination of socioeconomic, institutional and technological dimensions. In our paper we provide empirical evidence on the role played by resilience-building investments in attenuating the emergence of armed conflicts as a consequence of climate-related anomalies and natural disasters.

# Intra-industry trade and exchange rate volatility: an analysis for Mercosur countries

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G12-O2 Regional Competitiveness, Innovation and Productivity, August 25, 2021, 2:30 PM - 4:00 PM

Since the collapse of the Bretton Woods system in the 1970s, exchange rates are no longer fixed and fluctuate according to the demand and supply of foreign exchange. In this sense, studies with the aim of shedding light on the impacts of currency fluctuations started to emerge in the literature. The evidence on such effects, however, both on theoretical and on empirical terms, is far from conclusive. Given this context, this essay aims at adding a novel study to the collection of studies on the subject. More specifically, the analysis proposed is focused on the impacts of the exchange rate volatility on vertical and horizontal intra-industrial trade among Mercosur countries. Our analysis is based on international trade among Mercosur members, with data disaggregated at the 4-digit level of the Harmonized System for the years 2001 to 2017. The intra-industry trade was calculated according to the Grubel-Lloyd Index and Fontagné and Freudenber's approach, while the classification into vertical and horizontal intra-industry trade followed the product similarity criterion proposed both by Greenaway, Hine and Milner, and by Fontagné and Freudenberg. Later on, this variable was used as a dependent variable in a gravity model of trade, whose parameters were estimated through the econometric techniques of Panel Data and Poisson Pseudo Maximum Likelihood - PPML. The results of the Panel Data indicate that exchange rate volatility had negative impacts on intra-industry trade in the period considered. When PPML was used, however, the variables did not show statistical significance.

# The urban-rural divide in anti-EU vote: Social, demographic and economic factors affecting the vote for parties opposed to European integration

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S11-S3 Challenges and Opportunities of Rural Regions, August 25, 2021, 12:00 PM - 1:30 PM

In recent years, protest voting, voting for populist parties and, specifically for Europe, votes for parties opposed to European integration, have increased substantially. This has focused the attention of researchers and policy makers on the causes behind this trend. Most of the existing research looked at voters' characteristics, mainly values, education and age, or economic insecurity, such as rising unemployment or a declining economy more in general. This paper focuses instead on the urban-rural divide in anti-EU sentiment, and tries to explain why cities – and urban areas in general - in Europe tend to vote less for Eurosceptic parties. Using electoral data for national elections at the electoral district level for the years 2013-2018 and political parties' orientation as assessed by the Chapel Hill Expert Survey, we find robust statistical evidence of a lower anti-EU vote in cities, towns and suburbs than in rural areas. We also find that drivers of voting for anti-EU parties differ significantly between urban and rural areas in the EU and UK, despite some similarities. We show that three factors are associated to a higher anti-EU vote in all areas: growth in unemployment, a low turnout and a higher share of people born outside the EU. A sluggish economy is associated to a higher anti-EU sentiment in rural areas, but not in cities and towns and suburbs. Higher shares of university graduates, people aged 20-64, and of people born in a different EU country reduce anti-EU voting in rural areas and towns and suburbs, but have no impact in cities.

# Spatial variation in incentive structures for lifelong learning

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G18-O1 Regional and Urban Labour Markets and Entrepreneurship, August 26, 2021, 12:00 PM - 1:30 PM

To combat an ever changing world, policymakers use lifelong learning to keep skills and knowledge of people up to date. However, people underinvest in their development at a later age (OECD, 2020). Specifically, elderly, lower educated, lower income and unemployed people underinvest (Grijpstra et al., 2019). The effects for the individual are lower wages and a higher chance of unemployment, where the effects for the region are lower economic growth, higher unemployment and lower participation rates. To combat this underinvestment in human capital, national and local governments incentivize people and companies to participate in lifelong learning. This study adds by investigating the incentives governments use and their underlying behavioral principles, classifying them into categories by target group and region and by type of impact for individuals and regions.

Human capital theory writes that people accumulate knowledge and skills over time (Becker, 1962). Through schooling and experience people continue to develop themselves which accumulates in human capital both at the individual, company and regional level. Theory indicates that an employer pays for schooling if it is only beneficial while working for the company. In contrast, when schooling increases general capabilities, and thus marketability, employees pay (Becker, 1962). This assumes rationality and complete information as cornerstones of human behavior; a deliberation on short-term losses and long-term gains of schooling. However, human behavior is not (fully) rational (WRR, 2009). It is not rational because of differences in people's capacity to process information and choices, especially when there is a time component or uncertainty involved (Cacioppo et al., 1983). This creates an opportunity and need for policy makers to divert behavior to more favorable actions through nudging (Thaler & Sunstein, 2009). In lifelong learning there are uncertainty and different time moments, therefore, governments nudge people through incentivizing them to participate. This might differ by region due to spatial differences in population composition and economic activities.

In the last years, a wide range of incentive structures has been created. In the Netherlands there are over 20 different policies that encourage participation in lifelong learning targeting people, companies and educational institutes. Most policies focus on the groups that underparticipate in lifelong learning. This paper intends to classify, and in doing so clarify, these incentive structures. To do this, the paper analyses different policies, identifies the behavioral theories that underlie them and develops classifications on how to interpret these incentive structures in different categories and spatial setting.

# Growth dynamics and typology of the provincial population in Spain: A Spatial shift-share analysis.

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S24 New developments on Spatial Shift Share Analysis, August 25, 2021, 4:15 PM - 5:45 PM

The main purpose of this paper is to analyse the growth of the provincial population in Spain, isolating the effects related to the provincial neighborhood and the regional location of the provinces. Thus, the spatial shift-share shown in Montaña et al. (2021) is used to present a new classification of the provincial populations in a multi-contextual framework that takes into account the national, neighborhood and regional benchmarks. The results of the analysis provide some diagnoses about the performance of every region, showing which of the different geographical contexts are generating the sources of population (or depopulation).

# New dimensions of regulatory complexity and their economic cost

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G10 Big Data and Regional Science, August 25, 2021, 12:00 PM - 1:30 PM

Complex or poorly drafted regulations are more difficult for economic agents to implement, tending to erode economic efficiency. The literature has so far concentrated on the analysis of regulatory complexity as a phenomenon related to the "quantity" of norms. Regulation can also be complex due to "qualitative" reasons such as linguistic ambiguity or relational structure (references between legal documents). This article innovates by analyzing these new dimensions of complexity: we develop new indicators for legibility and regulatory interconnectedness. To do so, we construct a new database (RECOS, REgulation COmplexity in Spain) by extracting information from 8171 norms (61 million words) which comprise the regulations of all the Spanish Autonomous regions. Our analysis also reveals the relationship existing between these new indicators and relevant economic (productivity) and institutional (judicial efficacy) variables. While each of these areas should be analyzed in separate articles, this research shows that the new dimensions of regulatory complexity matter and yield significant results.

# The importance of top exporters at regional level

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G12-O3 Regional Competitiveness, Innovation and Productivity, August 25, 2021, 4:15 PM - 5:45 PM

We examine the role of the top exporter in regional exports concentration, growth and specialization using Spanish firm-level exports at province (NUTS III) level. First, the top exporter in each province accounted for on average 20% of exports in 2018 and contributed to 20% of export growth in the period (1998-2018); half through the intensive margin and other half through the extensive margin. Second, shocks to the top exporter of a province are strongly correlated with fluctuations in aggregate exports growth in the majority of provinces. Third, 28% of aggregate exports in each province are in sectors in which the top exporter determines the existence of comparative advantage. Finally, we show that these granular sectors reduce the persistence in the pattern of province export specialization over time.



# Is pasta just about food? An interpretation of customer needs through the case study of LIVI srl

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G33-O1 Innovation and Entrepreneurship, August 27, 2021, 12:00 PM - 1:30 PM

Having studying myself abroad at Harvard Business School, I want to use the lens of the disruptive innovation to study the case of an Italian family business (Livi srl), operating in the sector of food and beverage (pasta), which has to cope with the crisis pushed by the pandemic.

I want to use the concept of the disruptive innovation to understand:

- 1) How strongly the customers behaviour has been changing in the sector of food and beverage because of Covid 19 in term of functional, emotional and social jobs to be done
- 2) Whether the disruptive strategy could be a useful business map for the Small Medium Enterprise to re- adapt their profit formula, resources and processes
- 3) How the local authorities could help the SMEs to leverage the production at a local dimension

This paper uses a practical method based on a case study of an Italian family business, which has been operating for 50 years at a local dimension in the sector of food and beverage. The pandemic has significantly changed the customers' habits and their needs and this put the lights on the big amount of jobs to be done by the companies to meet these incoming customers' requirements. Indeed, in the sector of food and beverage many restaurants were forced to close because of the decision making taken by the local authorities. Thus, the b2c companies had registered a significant decrease of their financial performance; indeed, this suits the case of Livi srl, which is facing a loss because of the disclosure of its historical clients such as local restaurants and sportive clubs.

Would Livi srl be able to cope with this economic downturn? Which strategy should the entrepreneur set up to go through this negative financial performance?

I want to answer to these questions by using the lens of theory of the Disruptive Strategy at Harvard Business School.

This paper puts the lights on the family business' ability to adapt its deliberate strategy to the new challenges of the market; a strong actual strategy is a good mix of a deliberate strategy with an emergent strategy.

Finally, the relationship between local authorities (policy) and companies is investigated in a critical way, by which that has studied in term of partnership through the cost benefit analysis rather than considering the policy a social and philanthropic tool able to meet the customers' needs with the business supply.

# Cultural sustainability through the consumption of flamenco: what factors influence the most?

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S53-S2 Sustainability in the tourism sector through the consumption of energy and water, maintenance of cultural and environmental heritage, and corporate social responsibility, August 27, 2021, 12:00 PM - 1:30 PM

Flamenco is a music style that according to the Royal Spanish Academy (RAE) can be defined as some social-cultural expressions generally associated to the gypsy people, which are especially popular in Andalusia. UNESCO declared this cultural expression intangible cultural heritage of humanity in Nairobi (Kenya) on 16 November 2010. Flamenco, understood as a series of cultural expressions, plays a very relevant role in Spain's culture, and even further in Andalusia's culture. The Regional Government of Andalusia, in its section on culture, has allocated a specific area to Flamenco, which it considers our most authentic cultural identity: it is the art of our land, a symbol that identifies us as Andalusians within our borders and beyond them. University students consume live music; however, almost 40% declare that they have never attended a flamenco show, an intangible heritage of humankind.

Focusing on the economy of Flamenco, Ortega (2006) highlighted the importance of Flamenco for the development of the Andalusian Cultural Industry due to its contribution to improving Spain's image abroad, considering that it is an export product, which increases the richness and importance of the local culture. Indeed, last year more than 6.3 million people attended flamenco venues. Only 300,000 among them were nationals, which explains its high dependence from foreign tourism, as it employs directly 3,400 people. Moreover, according to a report of the Regional Ministry of Tourism Flamenco, in its song (cante) and dance (baile) versions, stands out as one of the top tourist attractions in the region of Andalusia and, more specifically, in the city of Seville. Across the region, there has been a substantial increase in the supply of live Flamenco shows in recent years (Palma et al., 2017). This is one of the reasons leading us to focus our research on this region.

Numerous studies have shown that cultural capital and socioeconomic profile, among other factors, are variables that influence cultural consumption, and therefore, in cultural sustainability. Considering the relationship between several variables, this paper pursues a double objective. On the one hand, identifying the factors that influence attendance at flamenco shows, and on the other, proposing measures that enhance cultural sustainability. Our results confirm the importance of cultural capital, as well as personal and external factors, among other. The findings of this research work are of potential interest for management and planning of cultural events, as well as to promote cultural sustainability.

# Sustainability and tourism: are hotels committed to energy efficiency?

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S53-S1 Sustainability in the tourism sector through the consumption of energy and water, maintenance of cultural and environmental heritage, and corporate social responsibility, August 27, 2021, 10:15 AM - 11:45 AM

As the Hosteltur website ([www.hosteltur.com](http://www.hosteltur.com)) recently published, sustainability has become one of the great values of the main hotel chains. In fact, 6 out of 10 tourists are attracted to companies that are committed to the environment and even 30% are willing to pay more to stay in a hotel with these characteristics. The key is to reduce energy consumption since it has a triple benefit: it takes care of the natural environment, the company saves and the public image is improved.

Taking into account that energy consumption represents between 14-15% of operating costs, and can reach 20-22%, it is proposed that hotels could optimize their energy consumption expenses by 40%, thus reducing between 75-90% its CO2 emissions into the atmosphere. For this, it is necessary to adopt sustainable criteria. The Covid has caused the need to create a sustainable ecosystem, and in fact, there are already some European funds aimed at this ecological transition.

There are several key aspects to adopt a totally sustainable position: lighting, thermal insulation, saving water, among others. With this work we intend, firstly, to analyze the recently published bibliography in this line of research, and secondly, to carry out an online survey in order to collect information from hotels that are investing in sustainable strategies and more specifically, in the employment of photovoltaic panels for the self-generation of electricity. Solar energy is estimated to allow hotels to save up to 50% on heating and electricity bills with the help of photovoltaic self-consumption systems.

# Towards sustainable urban food systems in a global context – A case study based scenario analysis

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S20-S2 Urban Agriculture and Urban Resources – New approaches for resilient and sustainable urban food systems, August 25, 2021, 2:30 PM - 4:00 PM

Cities are hotspots of food consumption and, as a result, major drivers of food related impacts worldwide. Food consumption related impacts concern, on the one hand, local and global environmental impacts such as air pollution, climate change and biodiversity loss and, on the other hand, socio-economic spillovers in terms of employment, value added and investments in producing regions. Furthermore, urbanization and food supply chain concentration is associated with changing dietary patterns, increasing food trade and larger embodied fossil fuel use, contributing to the need and notion of urban food strategies aiming at more sustainable food systems. So far, however, cities mainly develop “single-issue” initiatives but have not yet succeeded in successfully implementing an integrated policy approach that supports growing urban populations at lower environmental cost in the global resource system. In particular, cities tend to take a local sourcing approach but lack a quantitative analysis tool to assess and monitor its multiple sustainability dimensions in terms of socio-economic and environmental impacts. By embedding the growing city of Almere (The Netherlands) and the province of Flevoland in an environmentally extended multiregional input-output framework (EXIOBASE), this study connects different spatial scales and provides insights on potential sustainability impacts of urban food strategies in a systemic approach. After analyzing the properties of Almere’s current food system, largely connected to the world market, consumption based impacts of (1) the development of urban agriculture, (2) more regional sourcing and (3) a dietary shift, are modeled for the current and growing population of Almere in the global resource system.

# The Controversial Contribution of Tourism to Economic Growth: a Spatial Analysis of Italian Provincial Data

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G19 Tourism and Overtourism Issues, August 26, 2021, 12:00 PM - 1:30 PM

The paper aims to evaluate, using a new indicator capturing the social and physical interaction between tourism and its geographical context, to what extent tourism can benefit economic growth. Spatial analysis applied to Italian provincial data reveals that the indicator, calculated as the ratio between the number of tourist presences and inhabitants per km<sup>2</sup>, shows conflicting effects. When considered in its value at level, it is positively connected with economic growth both locally and in neighbouring provinces while, when accounting for non-linearity, the indicator shows that an excessive increase in visitors exerts negative pressure on both the area concerned and, through spatial connections, on adjacent provinces.

# What we do, or where we work? – the impact of occupational and industrial relatedness on regional diversification

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S18-S2 Smart Specialisation and Policy, August 25, 2021, 2:30 PM - 4:00 PM

In recent years there has been an increased focus on factors impacting upon regional diversification, with much of the work highlighting that to a considerable degree factors such as industrial structure does moderate future industrial structure, however this opens up the question of whether regional diversification processes are best captured through the prism of industrial structure (and in turn industrial relatedness) or instead whether other factors such as the occupational structure also matter, and if so do they matter to a greater extent for understanding regional diversification processes. There has been much recent work devoted to exploring the different ways in which both industrial relatedness and occupational relatedness impact upon regional diversification processes (Neffke, Henning, and Boschma 2011b; Fitjar and Timmermans 2017; Xiao, Boschma, and Andersson 2018a; Boschma, Minondo, and Navarro 2013), however these studies have not sought to explore which factor (occupational or industrial relatedness) are driving regional diversification processes more generally.

The focus of this paper is on whether occupational (jobs) and/or industrial (firm) relatedness matter more for the regional diversification process. To better understand the question we build a panel dataset on Norway and find that while relatedness as conventionally measured through related density matters to a degree (specifically so in the case of occupational related density) that other factors such as a regions' location quotient (LQ) and the diversity of industries present seem to provide a further insight into the regional diversification process. While there has been a focus, broadly speaking, within the literature on one measure of relatedness, largely industry or product relatedness, that through using occupational relatedness we can benefit by gaining a deeper insight into how the jobs people do in a region (and the concurrent influence of local mixes of knowledge), may matter more than the industries in which they work for understanding regional diversification. This paper contributes to the literature on related diversification through an analysis of the effects different forms of relatedness provide on the related diversification process. Alongside the empirical findings contained within, we provide a model that allows one to better engage with the interactions which exist in regional diversification process between factors such as the related density of occupations and industries, but also more generally on occupational complexity, industrial diversity and the relative specialisations which exist within a region as exemplified through occupational and industrial LQs'. Furthermore, this paper shows the importance of capabilities and human skills within an industry\*region perspective that not only explain related diversification but also unpack the importance of looking at human capital as a multifaced dimension in regional development.

# Immigration and Rates of Entrepreneurship in Large U.S. Communities

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S62-S2 TRSA Special Session: The Economic Geography of Cross-Border Migration, August 27, 2021, 2:30 PM - 4:00 PM

Using U.S. county level data from the Business Information Tracking System (BITS) we revisit the influence of immigrants on business start-ups. We find that higher density of foreign-born immigrants has a positive impact on new business formation, but the relationship varies by the ethnic background of the immigrants and by industry type. Specifically, Caucasian immigrants, and to a lesser extent Asians, driving the positive relationship. Higher concentrations of Latinx immigrants, however, have either no or a predominately negative influence on business start-up rates. The predominately positive relationship between foreign-born and entrepreneurship varies significantly across different industries, particularly for Asians and Latinx. Care must be taken when making broad generalizations about the immigrant and entrepreneurship relationship. Specifically, there are significant variations across ethnic backgrounds and types of industries.

# Innovativeness and creative process in CCIs: a theoretical taxonomy to study their spatial concentration

Dr Roberto Dellisanti<sup>1</sup>

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G24-O1 Creative Industries and Regional Development, August 27, 2021, 10:15 AM - 11:45 AM

The emergence of creative-driven activities is the result of a macrotrend, affecting the way people behave, work, and consume. In this context, Cultural and Creative Industries (CCIs) are central actors as, even if creativity and culture are intangible concepts, academic research underlined their potential in stimulating socio-economic development (EY, 2014; UNCTAD, 2010). The necessity of addressing these industries alone emerges due to their different behaviour compared to the rest of the economy. In this work, the attention is put on three aspects: what, how, and where they produce. First, it is not possible to clearly identify a typology of goods and services produced, they respond neither to the logic of manufacturing neither to the KIBS, and their value can be seen under many spheres, not necessarily business-oriented (Klamer, 2002, 2017). However, CCIs are widely recognised as innovative players (Hartley et al., 2013; Sunley et al., 2008), albeit in many different forms (Stoneman, 2010). Second, the way in which innovative goods are produced is likewise important. Indeed, the creative production chain, revealing the strong interconnections among creative actors (Bakhshi & McVittie, 2009; Santagata, 2009; University of Hong Kong, 2003), is deemed relevant to understand the value generation. Nonetheless, the two aspects alone neglect the key role played by territories. The geographical pattern of CCIs has been widely investigated, describing an interesting agglomerated distribution especially in favour of large urban areas (Power, 2011). They concentrate in space due to classical agglomeration economies (Lorenzen & Frederiksen, 2007) but also due to specific factors attracting the cultural and creative workforce (Lazzeretti et al., 2012; Sánchez Serra, 2016). This work enriches the debate on the clustering of CCIs, using the innovativeness and the creative process as key dimensions for the identification of a theoretical taxonomy suitable to better understand the reasons behind clustering. The preliminary results suggest that the intersection of the two dimensions explains different agglomeration forces, operating according to the creative process and innovative capacity of CCIs. The innovative capacity explains the difference between static and dynamic agglomeration economies. Conversely, different linkages between CCIs and the rest of the economy, proxy for the creative process, counterpose localization and urbanization economies.



# The impact of public health spending on economic growth in Russia: a regional aspect.

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G02-O2 Macroeconomic, Transregional, Regional and Urban Policy and Governance, August 25, 2021, 2:30 PM  
- 4:00 PM

This paper investigates the influence of an increase in government healthcare expenditures on regional economic growth in Russia. Studies have shown that an increase in healthcare expenditures stimulates an increase of GDP through several channels. First, it improves the quality of labor force that can lead to an increase in labor productivity. Secondly, an increase in the productivity and size of the labor force leads to consumption extension and then to firms' income growth, so there is a multiplication effect. Including the presupposition that a relationship between health expenditure and economic growth may be non-linear we formed the hypothesis of the existence of the average optimal share of health expenditure in GRP that maximizes average regional economic growth rate.

In this study, we considered 6 main categories of expenditures of consolidated budgets of Russian regions: the share of expenditures on health care, physical culture and sport in the GRP (this is the main variable of interest), the share in GRP of general public expenditure, national economy expenditure, housing expenditure, education expenditure and social policy expenditure.

Naturally, economic growth is influenced by factors other than public expenditure. A number of studies have shown that there are additional factors that influence economic growth: the level of urbanization (Henderson, 2003; Friedmann, 2006), the openness of the economy (Kamensky, Ivanova, 2011), the diversification of the region's economy (Essletzbichler, 2007; Shediak, 2008), the quality of human capital (Maddison, 1991; Lutz, Samir, 2011). We have also taken into account investment attractiveness and the aggregate index of banking services in the region.

In this research we suggest that an increase in healthcare expenditures, besides the direct effect on economic growth of a particular region, also affects economic growth of neighboring regions. The possible explanation of this is the positive impact of healthcare services received in the neighboring regions on nearby territories, joint national healthcare projects and distribution of scientific knowledge.

Using the spatial Durbin model focusing on regional data of 2005-2018, it was shown that the average optimal share of health expenditures is 5,9% of GRP with an inclusion of spatial effects and 7,6% without them, outlining the importance of including interconnection variables between Russian regions in the model. The regional statistical analysis showed the failure to reach the recommended share by most Russian regions, which can be viewed as a possibility for future economic growth stimulation if there is an increase in government spending on healthcare.

# The Impact of Decarbonisation Investments on EU Regions: A Spatial Computable General Equilibrium Analysis

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YSS3-G07 Global Warming, Health and Environmental Issues, August 26, 2021, 10:15 AM - 11:45 AM

The European Commission sets ambitious targets to transform the energy system to reduce its reliance on fossil fuels and greenhouse gas emissions. This study analyses the effects of the required investments for EU decarbonisation ambitions until 2050 on EU NUTS 2 regions, using the spatial computable general equilibrium (SCGE) model EU-EMS. As energy sector activity varies greatly among regions, the required decarbonisation has led to discussions regarding the vulnerability of regional economies and the effects on regional employment and production. Applying a general equilibrium framework allows us to analyse the effects on regional economies in the EU beyond the energy sector. Different scenarios are simulated using estimated required investments for decarbonisation from energy-systems model PRIMES-GAINS-GLOBIOM. The required investments are regionalised to a NUTS 2 level using indicators such as renewable energy potential and used as input in the SCGE model EU-EMS. The dynamic recursive model consists of 271 EU NUTS 2 regions and distinguishes 8 sectors. The required investments shock regional demand for goods and services, resulting from investments in new technologies, and changes the allocation of capital across regions. Regions with high potential for solar and wind energy experience an increase in demand and a capital inflow in this setup. Results from the simulations are compared to a steady-state baseline, assuming no required investments for decarbonisation. While effects on total EU GDP, output and employment are small, the results show significant within-country variation. Some regions' GDP increases up to +3% compared to the baseline. The required investments result in an inflow of capital into Europe. As a result, regional wages increase everywhere but employment effects vary over sectors. Consumption decreases by up to -5% in some regions as purchasing power decreases due to the capital inflow into Europe. Overall, regions in Spain, Southern Italy, the UK and Eastern Europe benefit due to their high renewable energy potential, whereas regions with low potentials and the rest of the world pay in terms of reduced consumption and less available capital on the world market.

# Scenarios on the movement of goods, services, people and capital across the Mediterranean

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S29-S1 Territorial dimensions of green and digital transitions, August 24, 2021, 12:00 PM - 1:30 PM

European immigration is not new. Migrants arrived in the 1960s from Southern Europe, in the 1970s from former colonies, in the 1990s from Eastern Europe, and more recently from the wars in Iraq, Afghanistan, Pakistan, Somalia, expatriates from the Arab Spring and globalization.). Francesca Ippolito et. al (2020) argues that EU policies fail because they have a strong secularian emphasis instead of focusing on the Euro-Mediterranean free trade area. The aim of this paper is to assessing the impact of different scenarios of the free movement of people, goods, services and capital across the Mediterranean using regional science methods.

Ippolito F., Borzoni G. and Casolari F. (2020) - Bilateral Relations in the Mediterranean, Prospects for Migration Issues, edited by. Edgar Elgar, 2020.

# Looking Globally at Sustainable Urbanization

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S29-S2 Territorial dimensions of green and digital transitions, August 24, 2021, 2:30 PM - 4:00 PM

The aim of this paper is to perceive how to promote the sustainability of urban development around the world. First referring to the globalization process and the way it influences urban dynamics in the specific contexts where cities emerge. Second, to identify the conceptual errors of urban management that nurture urban unsustainability. Finally, to create frames of reference suitable to perceive and interpret data and signals from the reality improving decision-making in the design, evaluation, financing and implementation of viable investments for sustainable urbanization processes in different regions, countries, cities and places.

The paper analyses the data from the World Bank on indicators of UN Sustainable Goals, that help to justify a frame of reference that distinguish eight contexts for the cities: Unsustainable, Economically Sustainable, Socially Sustainable and Sustainable; each one of them environmentally sustainable and unsustainable. This conceptual model, applied to urban systems, supports the systematization of intervention on governance, public spaces, public services, transportation, private services and housing. Illustrated for demonstrative cities trying to show how chirurgic, safely marginal, well designed and financially viable interventions can stimulate sustainability and development.

The key finding relates to a conceptual mistake in city and urban management that assumes that public goods must be egalitarian which is impossible across space and time. That wrong assumption leads to inefficient policies because not only the demand for public goods vary across time and space, but also because the provision costs of public goods differ across time and space. These inefficiencies, accumulated a long time and space, generates the degradation and collapse of neighbourhoods and cities.

Finally, interventions should be marginal and with great care with systemic tools that reveal the opportunity costs of the various factors that build cities. Moreover, urbanization can better managed through a wise spatial allocation of property rights of natural resources and through a spatial distribution of public investment, which respects the vocation of places.

# Heterogeneous effects of investment grants in Germany – Evidence from a staggered treatment adoption approach

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S43-S3 Counterfactual methods for regional policy evaluation, August 27, 2021, 10:15 AM - 11:45 AM

In this paper we estimate establishment-level employment effects of investment subsidies in Germany. We analyze average treatment effects, as well as the influence of heterogeneity in the establishment's characteristics and economic environment on the employment effect. Modifying the standard matching and difference-in-differences approach for the staggered adoption design, we provide a procedure that is particularly useful for evaluating funding programs with individual treatment phases starting basically every time within the period of observation. Our data basis combines treatment-related, establishment-specific and regional information from different sources.

# Splitting up or dancing together? Local institutional structure and the performance of urban areas

Dr Marco Di Cataldo<sup>1,2</sup>, Dr Licia Ferranna<sup>1</sup>, Dr Margherita Gerolimetto<sup>1</sup>, Prof Stefano Magrini<sup>1</sup>

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S09-S1 Relaunch of Productivity for Regional Growth and Cohesion: Institutions, the public sector and productivity, August 25, 2021, 10:15 AM - 11:45 AM

This paper analyses the role of institutional changes of local governance structures as determinants of wage premia, wage inequalities, and innovation capacity of urban areas. By combining individual and metropolitan area data for the US, we examine the role of two dimensions of urban governance: institutional fragmentation - i.e. the establishment of new local governments - and institutional coordination - i.e. the creation of authorities aiming to foster the collaboration of local governments within functional areas. Our findings suggest that more fragmented institutional landmarks do not benefit the competitiveness, equity, and innovativeness of urban areas. If anything, it harms them. Conversely, a stronger coordination among local governments boosts the productivity of functional regions by increasing their wage premia, reducing wage inequalities, and fostering their capacity to innovate. Inter-municipal coordination agreements are especially relevant in the case of urban areas modifying their functional borders over time. These findings provide key insights on the optimal governance structure of metropolitan areas.

# Landscape governance in response to its evolution and climate change: evolutionary scenarios

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S52-S1 Building territorial and community resilience through disaster risk reduction in marginal areas of rural Europe, August 26, 2021, 12:00 PM - 1:30 PM

Today's landscapes are being transformed by climate change. Climate change sometimes amplifies natural events that turn into major disasters, putting people and the landscape heritage of the entire country at risk. Rising temperatures could bring serious repercussions on the most fragile and vulnerable landscapes such as those of "inland areas". Today, there are more and more known responses to mutations successfully tested in the international arena, few, are instead, the applications made in our country. This research, analyzing the case study of the Apennines in Central Italy, intends to investigate the evolution of the landscapes of inland areas as a result of climate change and to verify paths and appropriate responses within the processes of planning and design of landscape, urban and territorial scale, in order to increase the resilience of territories and communities.

Keywords:

Looking beyond, scenarios behind, climate change, resilience, regional trends, visions.

PLEASE SEE EXTENDED ABSTRACT.

# Influence of participation in urban agriculture activities on household organic waste management habits: The case study of Florianópolis, Brazil.

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S20-S1 Urban Agriculture and Urban Resources – New approaches for resilient and sustainable urban food systems, August 25, 2021, 12:00 PM - 1:30 PM

Correct household organic waste management practices are crucial in order to limit the impact due to municipal waste. Organic waste (OW) impact has been discussed in the literature and its main treatment strategy rely on facilities such as bio digester. Nonetheless, such technologies require investments and this could hinder their use in contexts where it is not economically sustainable. Among the several OW treatment strategies the role of Urban Agriculture (UA) is being increasingly considered. Even though literature suggests UA can contribute to OW management by providing a service for OW treatment and compost exploitation, little has been discussed on how the participation in UA can influence household waste management behaviors. To this end the present paper analyses the role of UA and demographic aspects such as age, gender, education, income and household typology in influencing citizens' household OW management behaviors. The case study of Florianópolis in Brazil has been selected since the municipality of Florianópolis recently approved a new regulation on OW that supports the use of organic compost for UA. A survey involving 206 subjects has been performed out of which 102 were Urban Agriculture Participants (UAP) partially selected from a list provided by the municipality. The results showed that the UAP are more likely separating and self-treating their OW in order to use the derived compost for gardening activities. The use of public facilities for OW management is instead influenced by the typology of household in which people are living. Living into an apartment with no access to gardens sensibly reduce the willingness of self-treat the produced OW. On the other hand, results showed that UAP are composting their own OW whether they are living or not into an apartment. The results highlighted the role of UA in sensitization of urban dwellers and support to local OW management strategies. Even though there is still an open debate on the role of UA in OW management, this paper highlights that this relation could support a potential shifting towards a circular approach of OW treatment.



# Industry 4.0 technologies and the role of KIBS in industrial district firms' innovation paths

**Prof. Eleonora Di Maria<sup>1</sup>**, Prof. Marco Bettiol<sup>1</sup>, Ph.D. Mauro Capestro<sup>1</sup>, Prof. Maria Chiarvesio<sup>2</sup>

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S02 Industry 4.0 in clusters & industrial districts, August 27, 2021, 12:00 PM - 1:30 PM

The fourth industrial revolution has opened relevant opportunities for manufacturing firms in terms of product and process innovation and for strengthening the competitiveness of local manufacturing systems. In particular industrial district firms can benefit of Industry 4.0 technologies to advance their production processes and relations with customers within collaborative supply chains at the territorial level as well as with global partners. Despite the positive premises of increased productivity, enhanced product customization and data-driven strategies related to Industry 4.0 technologies, there is an odd distribution of adoption of such technologies among firms, in particular when SMEs are concerned and within industrial districts. Scholars have highlighted the role of Knowledge Intensive Business Services (KIBS) as key actors in supporting firm's innovation strategies, as sources or carriers of specialized knowledge able to provide solutions for complex problems through interactive, collaborative relationships with customers. In the case of Industry 4.0 specific place-based policies have been implemented to facilitate technology adoption at the local level, but research and empirical evidence is scant when KIBS are concerned. The paper aims at exploring the role of public and private KIBS in the adoption paths of Industry 4.0 technologies by district firms' and the related effects on innovation activities. In so doing, the study focuses on the case of Friuli Venezia Giulia Italian region, characterized by a large mechanical industrial district and the presence of the public KIBS but also a public-private one involving local institutions and a global consulting player.

# Profiling coworking spaces in the peripheral regions of Norway, Italy, and Spain and Covid-19 effects

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S27-S2 New working spaces, resilience, and peripheral areas during the Covid-19 pandemic, August 25, 2021,  
4:15 PM - 5:45 PM

"The COVID-19 pandemic has changed the ways of working, including our coworking habits. However, great emphasis is laid on the implications for cities and metropolitan areas, while little is known about peripheral areas. The paper explores the profiles of coworking in selected peripheral regions of Norway, Italy and Spain (such as Vestland, Southern Italy and Catalonia, respectively), as well as the effects of the COVID-19 in these decentralized areas and communities, including, users and managers.

The reason for selecting these three countries is the growing interest between academics, stakeholders, and policymakers to understand the new trends of working in decentralized areas. There have been local and regional debates in which the three co-authors have been involved as researchers of the COST Action CA18214 (The Geography of New Working Spaces and Impact on the Periphery, 2019-2013, <http://www.new-working-spaces.eu/>)

The study first discusses the relevance and need for these new forms of peripheral coworking in the scientific literature, and whether they have been recognized in the current regional policies of the three countries. Secondly, the paper presents the outcomes from interviews and surveys with managers of coworking spaces that focus on i) key-role of coworking for revitalizing peripheral regions; ii) current impacts of the COVID-19, and iii) future of work, including challenges and trends, after the COVID-19. The interviews and survey data are also used to explore the profiles of peripheral coworking in the selected areas. To build more comprehensive profiles, demographic, socio-economic, geographical, and cultural features, as well as the degree of digitalization and development of regional policies are also analysed. Thirdly, the study discusses differences and similarities amongst the peripheral profiles of coworking in the three countries. The study shows that the urban and regional development should focus further on i) cooperation and networking between metropolitan and rural areas, ii) offering (and/or decentralizing) coworking premises in small cities and municipalities, as well as iii) investing in digitalization. This would make the peripheral/rural living and working environments more sustainable and attractive for locals and newcomers. The peripheral profiles of coworking in the decentralized areas might also help to understand possible conflicts between new ways of working (and how to attract people from the cities) and local issues (nature conservation, transportation, and planning, provision of local services). The study contributes to move beyond the 'urban-peripheral (rural)' dichotomy and develop sustainable strategies in decentralized areas.

# An evaluation of the effects of oil extraction on the local economy in an internal area of the South

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S64 OECD-Bank of Italy joint session: Regional competitiveness and growth: Microeconomic, August 25, 2021,  
4:15 PM - 5:45 PM

We study the initial establishment of the oil extracting industry in the context of a peripheral area in the South of Italy. Using firm-level administrative data in a difference-in-differences design, we find sizable positive effects on employees and small positive effects on wages per employee. The effects are geographically localized, and materialize during the investment period, before production and royalties take off, driven by the upstream sector. When scaling up the effect on aggregate employment, the increase is modest, because the number of firms in the area is small and declines in the period.

Finally, we also estimate the aggregate effect using census data that covers the entire local economy, finding that the employment rate in the treated local labor market increases by approximately one percentage point.

# Economic spillovers of transport infrastructure: the case of Milan-Bologna HSR corridor

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S43-S1 Counterfactual methods for regional policy evaluation, August 26, 2021, 2:30 PM - 4:00 PM

The rail transport network of many central cities and provincial capitals in Italy has been strengthened by the outset of high speed rail (HSR) program, which provides the upgrade of the traditional stations into the high speed (HS) stations. Among the various active lines, the corridor Milan-Bologna started operating in 2008, with the inclusion of Reggio Emilia (Mediopadana) in 2013, the first intermediate HS station not located in a pole area. Worldwide literature has frequently researched causation between high speed transport investments and many types of expected outcomes, among which economic, commuting, tourist, innovative, employment, real estate market. This paper avails of the matching difference-in-differences estimator and the synthetic control method to evaluate the impact of the HSR program over the provincial productivity in terms of gross value added of the Milan-Bologna corridor at the NUTS 3 level, by using a panel structure of data from 2000 to 2018. Positive effects emerge, but with different magnitude depending on whether a HS station is located in a pole or in an intermediate area. Policy insights are discussed.

# FDI and labor productivity: evidence for Italian regions

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G12-O3 Regional Competitiveness, Innovation and Productivity, August 25, 2021, 4:15 PM - 5:45 PM

In this paper we study the relationship between FDI and Italian regions growth in the period 2009-2018. While the impact of FDI on economic growth of countries has been extensively analyzed in recent years, a limited number of authors explored the issue on a regional basis. This scarce attention is probably due to the lack of data; however, spillovers mainly occur at a local level and analysis conducted at national one, that miss to capture regional effects, may lead to misrepresenting results (Hamida, 2013).

We build on endogenous growth model that considers technological progress that derives from R&D activities and foreign technologies acquisitions as the main determinant of the long-term growth. The explanatory variables literature selected to identify the relationship between FDI and economic growth of countries/regions are different, depending on the theoretical model they refer to and on data availability. This work focuses on the impact of FDI on labor productivity growth since FDI spillovers determine an increase in productivity in the first place and may stimulate economic growth as a consequence (see Barro & Sala-i-Martin, 2003; Grossman & Helpman, 1991; Romer, 1990, 1994 among others). Moreover, inward FDI impact receiving economy through changes in physical capital, human capital and technology that are also the main determinants of labor productivity growth. Thus, the connection between FDI and labor productivity is stronger than that between FDI and per capita GDP since the latter can also be influenced by other elements (i.e. employment rate and demographic change).

We use a dynamic panel data method to tackle potential endogeneity and reverse causality issues. In particular, we use a two-step SYS-GMM estimator, a method developed for situations with few time periods and many individuals, with independent variables that are not strictly exogenous, meaning they are correlated with past and possibly current realizations of the error. Furthermore, this method considers fixed effects, heteroskedasticity and autocorrelation within individuals.

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# The role of biking for a sustainable Alpine tourism mobility: an explorative analysis with a focus on South Tyrol

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G19 Tourism and Overtourism Issues, August 26, 2021, 12:00 PM - 1:30 PM

The Alpine region is subject to high environmental and social pressure caused by increasing tourism flows. These flows are extremely concentrated in space and time: a limited number of all Alpine municipalities offer great part of all available beds, while the average duration of holidays is constantly decreasing. These spatial and temporal concentrations are sided by a high share of private vehicles, with more than 84% of tourists using a private car to reach their destination and move within it. This results in high levels of congestion on the main road networks and negative effects on the environment and health. Therefore, a change of paradigm in the design of tourism destinations regarding mobility in the Alpine region is needed. Active mobility (usually walking and cycling) may play a relevant role in such a change. The bike in particular has the potential to reshape intra-destination travels: it may be an attraction itself or the transport mode to reach different attractions. For example, tourists may use the bike to (a) visit towns, attractions and services close to their accommodation; (b) cover the first/last mile in combination with other transport modes; or even (c) take daily/multi-day excursions. At the Alpine level, several projects are developed to promote cycling for tourism: e.g., by promoting long-haul transnational cycle-ways, bike-public transport tickets, or ad-hoc tours. At the same time, the highly spread use of e-bikes contributes to the widening of this sector to multiple user segments, as non-sporty-people, families and seniors. Nevertheless, the share of tourists using cars remains very high in several Alpine destinations. This article aims to explore the potential role of biking in shifting tourism mobility towards a more sustainable paradigm. For this purpose, this research analyses both strengths and weaknesses of the current tourism biking supply and explores trends in the development of tourism (mobility) demand. The analysis is first carried out at the Alpine level and then focused on South Tyrol, a meaningful region in terms of tourism flows and crossed by four international cycle-ways. To carry out such analysis, we rely on statistical data, current literature and best practice case studies. With this explorative study, we aim to provide two contributions: first, an overview of the cycle tourism supply, which can help decision-makers to deliver a better active mobility offer. Second, a knowledge basis for future research on the role of biking for topical mobility issues of Alpine tourism.

# Impact of European Cohesion Policy on regional growth: When time isn't money - (note: Paper eligible for Epainos Award)

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YSS5-G01 Regional and Urban Development, August 26, 2021, 10:15 AM - 11:45 AM

This paper contributes to the literature discussing the effects of the Structural and Cohesion Funds (EU funds) on GDP growth by revealing the causal impact of regional absorption's speed. The analysis is conducted using a regression discontinuity design approach with heterogeneous treatment on NUTS-2 regions during the period 2000-2016. The main result of this paper is that a faster absorption, especially in the Mediterranean regions, is associated with worse economic outcomes of the Objective 1 treatment. These estimation results are robust to changes in specifications, sample compositions and outcome variables. Our results imply that the incentives provided by the European Commission to fasten absorption have a counter-productive impact in Objective 1 regions which constitute the core recipient regions of the Cohesion Policy.

# Endogenous Peer Effects in Diverse Friendship Networks: Evidence from Swedish Classrooms (note: Paper eligible for Epainos Award)

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YSS7-G08 Cooperation and Local / Regional Development, August 26, 2021, 10:15 AM - 11:45 AM

Do students benefit differently from interacting with similar and diverse peers? Using register-linked survey data from a stratified sample of Swedish classrooms I test whether endogenous peer effects in student achievement are heterogeneous by immigrant status. My empirical strategy combines instrumental variables, classroom fixed effects, and a control function to identify the parameter of interest separately from contextual and correlated effects. In particular, by considering overlapping networks of peers and family members, I use peers' parents' education as instruments for peer behaviour. My findings suggest that endogenous effects are limited to interactions with native peers only, but benefit both native and migrant students. High-ability children of migrants appear to be particularly vulnerable to friendship segregation.



# Cultural Discrimination and Behavioural Polarization

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S35 Subversive Narratives and Polarization across Space, August 25, 2021, 12:00 PM - 1:30 PM

This paper analyses discrimination as a trigger for polarization. Our Culture-Based Development (CBD) model suggests that experiencing cultural discrimination evokes feelings of relative deprivation which push the individual into the extreme of the spectrum of attitudes on any topic. From a psychological perspective, this behaviour is in line with seeking a scape goat on whom to transfer one's frustration from the personal experience of pain from being discriminated. Using data from the German Socio-Economic Panel (IAB-BAMF-SOEP refugee subsample) about Syrian, Iraqi, Afghan and Eretria refugees in 2016-2019, we employ a unique measurement approach to individual polarization. Employing various estimation techniques, we find consistent evidence for the effect from discrimination on individual polarization regarding the topics of general happiness, democracy and female rights. Furthermore, while religious differences persist, generally men who have experienced discrimination are more likely to have extremely negative views on female rights. We find these results confirmed across static and dynamic explorations.

# ICT as tools for the revival of mountainous areas: The case of Lasithi plateau

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G34 Old and new forms of territorial innovations, August 25, 2021, 4:15 PM - 5:45 PM

In the context of European cohesion and enlargement, mountainous regions are considered as having permanent natural handicaps, due to topographic and climatic restrictions on economic activity and peripherality. The recent COVID pandemic crisis has reduced the demand for agricultural products and the seasonal labor, the development of tourism, and increased the social isolation and vulnerability due to the lack of services. Towards this field the role of new technologies can be decisive for the resilient development of isolated mountainous European areas. The case study of the current paper is the Lasithi Plateau an area of 130km<sup>2</sup> which has been developed through the centuries according to its geomorphology. Until the 1960' decade the area was a field of development. The economy was based on agriculture and livestock, the existing settlements were expanding, schools and other public buildings were constructed. In the next years the relocation of the area's residents towards the cities and the coastal zones of the island, led to its intense population reduction.

The research that took place in 2020 focused on qualitative and quantitative data. So, it recognized the problems caused by isolation and the way the geomorphological characteristics of the area have caused its abandonment, but simultaneously with the use of questionnaires it tried to reveal what the inhabitants of the area believe are the important sectors that should be promoted.

In the fields of the areas revival the role of ICT can be decisive as they can supplement and promote basic economic sectors that are limited by the area's mountainous characteristics. The basic aim is the promotion of synergies of all the sectors that can lead to the areas revival, towards the fields of the adaptation of climate change, the protection of biodiversity, the promotion of renewable energy sources, with respect to the areas cultural identity, the promotion of resilience in natural and anthropogenic disasters, and the enhancement of access in quality training and education and health services.

# Improving sustainable water management in Mafate, La Réunion: The unsustainable paradox of human development in a French national park

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G26 Human - Environmental Interactions, August 27, 2021, 2:30 PM - 4:00 PM

Characterizing trajectories of Socio-Ecological Systems (SES) is increasingly necessary to evaluate development policy sustainability. Using a case study of water management, we analyzed the resilience trajectory of Mafate (Reunion Island) to address the following research question: To what extent do institutional analysis and the capability approach explain territorial resilience trajectories?

Institutional analysis is largely used to evaluate SESs' sustainability of practices. Here an institution is defined as a « set of rules actually used (the rule-in-use) by a set of individuals to organize repetitive activities that produce outcomes affecting those individuals and potentially affecting others » (Ostrom, 2010, p. 68).

Therefore, we argue that resilience trajectories are determined by the capacities of agents to induce change in the rule-in-use. To test this hypothesis, we link the capability approach (Sen, 2001) and the SES Institutional Analysis and Development Framework (McGinnis and Ostrom, 2014) to characterize the real opportunities of agents to improve resource management.

Based on qualitative data collected via in situ observations and interviews, we built an exploratory tool to explore quantitatively the link between the definition of rule-in-use and the expression of collective capabilities.

The results show that it is close to impossible for local agents to bring about sustainable practices due to current constitutional rules. The panarchy model (Gunderson and Holling, 2002) indicates that smaller systems adapt and change more quickly than higher systems, which are slower and present higher inertia. In our study this plays a key role in explaining the impossibility to quickly advance resource sustainable management projects in an SES that is strongly characterized by cascading connections between legal texts that condition the ability of the whole system to act.

In addition, whereas administrative agents rely at an operational level on the know-how of Mafate inhabitants, the latter cannot be recognized as resource-managers in the formal sphere. Indeed, we find that the historical non-recognition of Mafate's human settlements is the major variable explaining the impossibility to recognize inhabitants as sustainable resource managers.

Consequently, coping strategies in the informal sphere are the only way to ensure access to water. Those coping strategies induce overexploitation of the resource and the impossibility to protect Mafate's SES.

This case shows that translation of fundamental rights into legal codes does not guarantee the enforcement of these rights but also may limit the possibilities of concrete improvement of living conditions for individuals at an operational level.

# Recovering Regional Income Distributions using Generalized Pareto Estimation: An application to Income Inequality in the United States

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S50-S1 The geographical dimension of social and income inequality, August 26, 2021, 4:15 PM - 5:45 PM

This paper uses recently introduced Generalized Pareto Estimation methods to recover full income distributions for the United States American Community Survey data on the state, county, and tract levels. Our approach adds to the literature on regional income inequality by extrapolating quantiles from the recorded grouped income data while at the same time correcting for potential under-coverage of rich households. Using this new data set on regional income inequality we provide examples of two-stage nested and dynamic Theil decompositions to illustrate how these data can improve our understanding of local inequality dynamics in the U.S. We find that 80% of national level income inequality are due to income inequality within tracts and over time, within-tract income inequality drives national level inequality. However, this is due to specific tracts located in population-rich, urbanized areas and regions closely connected to global financialization, and digitization. A counterfactual decomposition reveals that 1.5 % of the tracts drive national level income inequality up, while an equal number of tracts pushes national level income inequality in the opposite direction. Replacing the growth/reduction in inequality in these equalizing and dis-equalizing tracts with the national average would leave us with virtually no change in aggregate income inequality over the period 2010-2018.

# Have the Contract Farming Increased the Resilience of Farms in the COVID-19 Pandemic? A case Study from Turkey.

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G35 Rural and farming areas issues, August 26, 2021, 12:00 PM - 1:30 PM

This paper examines impacts of COVID-19 on contract farming (CF), focussing on wheat producers in Gümüşhane town in rural area of Turkey. Our research group is wheat producers in the town. We compared two groups of farmers. One is contracted farmers and the one is non-contracted farmers. According to empiric literature, CF improves livelihood alternatives and helps the economic development of the rural areas. While COVID-19 affects the whole world, its impacts on CF has been a matter of curiosity. Thus, this paper starts with a definition of the phenomenon of CF, recent empiric studies on the aspect of it and objectives. Some social and economic indicators have been used to measure the impact of COVID-19 outbreak on both contract and non-contract farmers. This study also was assessed by answering the questions; why do farmers engage in CF? What impact does CF have on small farmers' income and rural development? Our results identify that CF promotes local farmer welfare.

# Innovation Management in Global Companies: collaborative approach to business sustainable development (the case of PricewaterhouseCoopers Advisory in Russia)

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G33-O1 Innovation and Entrepreneurship, August 27, 2021, 12:00 PM - 1:30 PM

The relevance of the theme is defined by growing use of innovative tools aimed at business processes improvement. Global companies share the innovative ideas between their affiliates in different countries or introduce innovations which fit the particular environment and business task (e.g., preparation of specific documents in certain business unit). The way global companies organize their ecosystems demonstrates the level of management and stage of the corporate culture's development.

The paper discusses some findings of the research conducted to contribute with new academic knowledge in the field of innovation management corresponding to the practical aim of business sustainable development. Recommendations relate to the improvement of the corporate environment via proposed tools which lead to knowledge-admired organizational behavior.

The aim of research has been reached by analyzing innovative management approaches used by global organizations on the example PricewaterhouseCoopers Advisory company in Russia.

As a hypothesis the following statement was supposed: to reach a high efficiency of the working processes and to strengthen corporate image, the company should implement collaborative innovation management methods.

The study is focused on the innovation management tools implementing on different levels of the company's activity. This let point out benefits and limitations of innovation methods designed to provide competitive advantage to the companies operating globally.

The theoretical framework is composed by publications that are mostly devoted to the development of innovation processes and change management such as J. Schumpeter, P. Franklin, etc. with the special attention to studies connected with collaborative innovations which was originally introduced as a notion by H. Chesbrough.

Methodologically the work is based on empirical and theoretical means, systematic approach and analysis, comparative and quantitative analysis, and logical methods of compiling information (field research, survey, experiment, case study). The primary data was collected in PricewaterhouseCoopers Advisory Office located in Moscow, Russia.

The academic utility of the results is presented by the development of the methodical background for the implementation of innovation management tools in business activities of modern global companies. Practical significance is based on the ambition to improve approaches of innovation management in Russian business organizations, in PricewaterhouseCoopers Advisory as a particular company who follows the global best practices. Some ideas potentially contribute to the economics of the firm as a field of study in the directions of innovation development. The recommendations can be used by managers, researchers and regulatory bodies with a view to optimize the innovation trends of ecosystems.

# Territorial dimension of cross-border cooperation in 2007-2013 and 2014-2020 on the example of Poland

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G08-O2 Cooperation and Local / Regional Development, August 25, 2021, 12:00 PM - 1:30 PM

The aim of this study was to identify regularities in the formation of cross-border cooperation on the example of Polish borderlands. Their diverse character due to, inter alia, border attributes (e.g. related to the functions of the internal and external Schengen zone borders), natural and socio-economic features made it possible to identify the influence of conditions on the characteristics of cooperation. Particular attention was paid to the spatial distribution of cross-border cooperation (e.g. concentration/dispersion of beneficiaries), including the influence of the factor of distance from the border on its development. Moreover, both the type structure of beneficiaries and projects were examined. The analysis covered over 1500 projects and 2300 beneficiaries of European Territorial Cooperation (ETC), European Neighbourhood Instrument (ENI) and European Neighbourhood and Partnership Instrument (ENPI) cross-border cooperation programmes along Poland's land borders in two consecutive EU programming periods (2007-2012 and 2014-2020). It should be emphasized that the study covered borderlands understood as areas on both sides of the state border and included both Polish and neighbouring countries' actors involved in joint cross-border projects. The adopted research approach enabled both a comparative analysis of the shaping of cooperation in individual borderlands and its change (or stability) over time. The study showed that despite a common legal and institutional framework of the EU programmes, cross-border cooperation was not realized in the same way. Different local conditions of cross-border territories had impacts on programs implementation which indicates that the formation of cooperation is largely dependent on the territorial context.

# Planning shrinking territory: Analysis criteria for planning infrastructures and resilient public space in Seismic Inner Areas of Central Italy

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S52-S2 Building territorial and community resilience through disaster risk reduction in marginal areas of rural Europe, August 27, 2021, 10:15 AM - 11:45 AM

Natural calamities that repeatedly hit the Country, ranging from earthquake to climate change induced events – like landslides and floods – resulted in huge damages, worsened by the infrastructural degrade and by the abandonment of some territories, especially in the inner areas of the Country.

There is therefore a pressing need to improve the infrastructural resiliency, focusing on extraordinary manutention, on the technological development of the monitoring activities and of the supporting infrastructure, on the prevention, the civil protection and the public aid. Resilience nonetheless, is a much wider concept, as it was made dramatically evident by the current pandemic crisis. This includes, for example, the capability of the urban system to respond to unexpected seismic events or health issues; the solidity of the public space fabric, of services and strategic program supporting communities needed to promptly and efficiently respond to sudden crisis.

In internal areas of central Italy, hit by 2016 calamities, the “safety strategy” is almost entirely consisting in definition of the “Emergency Limit Condition” (CLE). The synthetic analysis and the application of this instrument is limited inside the municipal administrative boundaries, limiting the seismic vulnerability assessment to individual centres, forgetting the territorial criticalities that could rise as a result of catastrophic events.

This paradigm, limited to municipal administrative boundaries, results in an increased fragmentation of the territorial safety strategy, where the connection between infrastructural networks at the regional scale is not always achieved.

Peripheral urban contexts of the Inner Areas are exposed to “isolation Risks” in case of catastrophic events, as witnessed after the 2016 seismic events, where secondary infrastructure network was heavily affected, bringing great problems for those living in the areas.

It is evident that the reconstruction cannot leave aside the reorganisation of the infrastructural network and a sustainable development of the territory, through a renewed accessibility to the urban areas and the villages on the hillsides and the inner territories, that allow for a resilient living, to overcome such seismic events.

The paper explores experimental methodologies to bring substantial modifications to the villages and minor urban areas structure (for the damaged buildings and for the infrastructural network) that the reconstruction allows, making it a unique occasion to renew and reorganise the territory.



# Unpacking the relation between social innovation and the commons: A case study from Italy

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S19-S1 Commons as enablers of territorial transition- evidences, assessment and theoretical perspectives,  
August 25, 2021, 12:00 PM - 1:30 PM

The necessity to find solutions to pressing societal challenges, i.e. wicked problems (Avelino et al., 2017) emerging in modern societies and causing social exclusion and inequalities, has raised the attention of scholars to both social innovation and urban commons (Keith and Calzada, 2018). The debate over Social Innovation definition (SI in what follows) is far from being concluded (Pol and Ville, 2009; Cajaiba-Santana, 2014), nonetheless scholars agree on its process dimension (Edwards-Schachter and Wallace, 2017), which involves a multiplicity of actors at local level (Sharra and Nyssen, 2010) aiming at social change (Howaldt and Swartz, 2010). Following the school of thought of social innovation and territorial development (Moulaert, 2009), it is argued that SI is an enabling process through which new social relations are generated within communities embedded in local territories aiming at solving wicked problems. SI is thus not only connected with the satisfaction of “unsatisfied human needs” (Moulaert et Al., 2005), but it is also the expression of new arrangements in the decision-making process and in the governance structure at local level. Similar features characterise the process of a local community collectively managing common pool resources (Ostrom, 1992) in urban setting (Foster, 2011). Here, after the economic crisis, goods that once were under public or private control are now turned into open access abandoned spaces (i.e. urban commons) and often reclaimed by groups of citizens to create value for the local community (Foster and Iaione, 2016; Kebir et al., 2018). This process potentially give rise to social innovation (Iaione, 2015). However, while social innovation is often associated to commons and commoning (Iaione, 2015; Kluvánková et al., 2018; Gnych et al., 2020) few studies tackle directly their relationship. Therefore, the objective of this paper is to unearth the linkages between the social innovation concept and the concept of commons by addressing the following question: are the social innovation and the commons diverging or converging concepts? Firstly, we reconcile the literatures developed around these two concepts by providing an integrated perspective; secondly, we develop a case study based on two Italian projects to assess how commons and social innovation are interwoven. Results show that an integrated approach on both social innovation and the commons could be useful for further theoretical and empirical analysis under the broader framework of territorial development.

# Characteristics of the creative economy in the cities and capitols of the Visegrad countries

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G24-O1 Creative Industries and Regional Development, August 27, 2021, 10:15 AM - 11:45 AM

In addition to regional competitiveness, resilience and flexibility of regions is becoming more and more important. The models used by economic geographical researches emphasize factors in its development, such as regional innovation systems, diversified economic structure, high value-added activities. Recognition of the opportunities inherent in the produced knowledge and the creative use of knowledge are in the first place in the development and maintenance of the knowledge economy. The aim of the creative activities is to utilize the most diverse knowledge in the innovation supply chain, by creating solutions that respond to market conditions, and by improving existing methods, products. Creative industries are therefore emerging as a determining factor in high value-added production. The Visegrad countries have played a prominent role in the economic processes taking place in the European Union in recent years. Thanks to foreign direct investments, significant production capacities have been established in these countries, not only from the EU member states, but from foreign countries, interest in the macro-region has increased. These investments enable the diversification of the economy, installation of modern technologies, thus increasing the productivity and efficiency of the countries. In addition to assembly-type activities, these investments also contribute to the spread and increase of the proportion of higher value-added activities. The possibilities of industrial specialization are also expanding greatly. According to the latest researches, the spatial distribution of creative activities is strongly connected to the hierarchy of municipalities, for example on the one hand it is extremely unequally distributed among the settlements, giving preference to towns and cities with a larger population. Capital cities have a special stage in this field, which, due to their economic, political and cultural role, so-called they act as a gateway or “hub”. The spatial concentration of creativity is also concentrated outside the capitals in larger cities. In my study, the creative economy was analyzed in the capitals and cities of the Visegrad countries. Various groups of these cities have diverse economic structure, colourful industrial history and various changes. Throughout the research, I also distinguish between economic sectors in a narrower and broader sense of the creative economy. As a general result of the research, I have found that the creative and knowledge-intensive economy is dominated by broader sense, as opposed to classic, narrow-minded creative and R&D activities.

# Tracing the changing pattern of location and agglomeration of manufacturing enterprises in Greece: an application of the spatial agglomeration index.

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G31-O2 Location of Economic Activity, August 27, 2021, 2:30 PM - 4:00 PM

The aim of this paper is to estimate the trends of location and agglomeration of manufacturing activity in Greece during the period 2002-2018. The location of manufacturing enterprises and the composition of manufacturing activity in the Greek regions has undergone important transformations during the last two decades. The introduction of euro in 2002 and the economic crisis in 2008 have signified important turning points that have affected/changed the evolution of manufacturing activity across time and over space. The analysis is based on a novel dataset that includes the point geo-locations of manufacturing firms in Greece that have been classified into NACE-2 codes. The estimation of spatial agglomeration of industrial activity is measured by the spatial agglomeration index (SPAG) which is a recently introduced distance based technique which provides an exact and unbiased analysis of the spatial structure of the distribution of economic activity (Kopczeska et al, 2019). Results indicate the changing regional pattern of agglomeration of manufacturing enterprises and they are relevant to the location theory and the regional policy literature.

# Automation and digital transformation in clusters in Central and Eastern Europe: technological knowledge dissemination and the role of actors

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S02 Industry 4.0 in clusters & industrial districts, August 27, 2021, 12:00 PM - 1:30 PM

For some manufacturing firms in clusters in Central and Eastern Europe, automation and digital transformation are already ongoing processes, for many more are just the challenge for the further future. However, regional authorities in the area see the potential of automation and industry 4.0 solutions, and include them in industrial policies and development strategies. The aims of the paper are to investigate: a) forms of technological knowledge dissemination in clusters in CEE and expectations of various actors concerning this dissemination, b) barriers and motivations for new technology adoption in manufacturing clusters in this area.

The paper presents results of the empirical research conducted between January and March 2021 in the form of 17 Individual Deep Interviews with actors of four largest clusters in Wielkopolska – a manufacturing region in Western Poland. The investigated clusters included: motor vehicles, furniture, paper and printing and food production. The interviewees included: cluster initiatives' coordinators, directors of university centres for technology transfer or technology parks, employees of regional self-government office and regional institutions cooperating with cluster firms and representatives of Digital Innovation Hubs. The results obtained allowed to observe: 1) different expectations concerning technological knowledge flows in clusters 2) different ways of adopting major technological innovations in clusters (such as automation, Industrial Internet of Things, robotics) and smaller incremental changes (such as cloud-based solutions, cybersecurity) within each investigated clusters and 3) similar barriers and motivations for technology adoption (many resulting from the fact of being inside a cluster, such as emulating others, employing educated professional managers). It suggests that the potential automation and Industry 4.0 changes in clusters may be explained by the certain institutional isomorphism.

# Production efficiency of economic sectors in the EU – towards advanced technology generation or uptake?

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G12-O3 Regional Competitiveness, Innovation and Productivity, August 25, 2021, 4:15 PM - 5:45 PM

The main driving force behind the emergence of new goods and services is the deployment of key enabling technologies (KETs) and key digital technologies that could be jointly named as advanced technologies (AT). Nations and regions mastering these technologies will be at the forefront of managing the shift to a knowledge-based economy, ensuring preconditions for welfare and prosperity for its citizens.

The European Commission initiated new strategic approaches to foster industrial change, digitalization and to strengthen the innovation base: smart specialization strategies, a Digital Single Market strategy for Europe, and a common strategy for key enabling technologies in the EU. These new strategic initiatives in the EU require tracking the processes of advanced technology generation and the uptake across sectors and regions.

This research follows these thoughts and aims to analyze whether the change of productive efficiency of economic sectors in the EU is due to technology generation or a technology uptake. This question is considered by analyzing the elasticities of a private R&D capital and a gross fixed capital to the efficiency of economic sectors.

The stochastic frontier analysis model was applied for industry-level panel data from 2000 to 2017, based on a Cobb-Douglas production function. Findings suggest that private R&D contribution to efficiency growth remained ambiguous in most sectors analyzed while physical capital played a key role for higher production efficiency. Therefore, advanced technology uptake played an important role in efficiency growth. This is an important issue for the EU policy formation – how to shift to more technology generation rather than uptake.

# Poverty in communes and its social conditions - a case of Poland

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G23-O2 Segregation, Social and Spatial Inequalities, August 27, 2021, 10:15 AM - 11:45 AM

We will present the results of analyzes of the poorest local government units in Poland. The problem of poverty of territorial units has been undertaken in various contexts. In our study, we refer to the path dependency theory and developmental dualism. Firstly, we are interested in the development paths of the poorest communes in Poland in the years 1995-2018. Secondly, some of the poorest communes in 1995 achieved spectacular growth. Simultaneously, in 2018, among the poorest municipalities in Poland, there were units that were high in the wealth ranking in 1995.

In the already prepared analyzes (the article prepared by the team: M. Cybulska, W. Dziemianowicz, J. Łukomska is included in the editorial review), we tested the hypothesis of ousting communes from their current development paths as a result of Poland's accession to the EU and as a result of the financed crisis. We also assessed the impact of several internal economic factors.

The next step of our research, going beyond the analyzes so far, is the identification of connections between social characteristics of communes and their wealth. For this purpose, statistical analyzes were used, including: descriptive statistics and statistical tests indicating differences between groups of municipalities. Comparisons were made between municipalities that were the poorest in 1995 and 2018; those who emerged from poverty in 1995-2018, significantly improving their position, and those that were not the poorest in 1995, and were included in this group in 2018, as a result of a significant drop in the ranking. The indicators of the Statistics Poland we used to analyze the differences between the groups are: age structure of the population, in order to identify differences in the population potential; number of non-governmental organizations per 1,000 inhabitants in order to identify differences in social activity; using social welfare benefits, in order to identify differences in the level of poverty.

Our research contributes to the discussion on economic dualism, viewed in terms of territorial differences in one country. It is interesting that the communes remaining in the group of the poorest in the years 1995-2018 (9 among 2,479 communes in Poland) are simultaneously increasing their wealth. We try to answer the question whether the development of these communes is related to their specific social conditions, knowing - from previous studies - that a big problem is low economic potential and low entrepreneurship, as well as the economic structure based on the agricultural sector.

# The role of industrial policy and heritage in shaping entrepreneurial development in selected second-tier cities: a Franco-Hungarian perspective

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S13-S2 Historical Roots of Regional Entrepreneurship and Innovation, August 25, 2021, 10:15 AM - 11:45 AM

The paper discusses the role of place -specific and path-dependent factors driving entrepreneurial growth in peripheral second-tier cities in various advanced and lagging regions of the EU. An investigation of Grenoble, the historical capital of the province of Dauphiné in the Rhone-Alpes-Auvergne region in South France, and Győr and Pécs in the North and South Transdanubian regions in Hungary will tap into historical and path-dependent factors shaping the very diverse economic development trajectories of the selected second-tier cities with partial or full regional capital functions. The case study will focus on first and second nature (agglomeration) advantages and the role of (subnational and national) entrepreneurial and innovation policies in boosting the innovative performance of their local economies. The study posits that alongside geographical and political peripherality (disconnect from global economic flows, presence of mountains, barriers to extension, etc.), the historical backwardness of the regional economy is a major barrier to creating healthy and buoyant entrepreneurial ecosystems, while the presence of a diverse regional industrial base and developed business support schemes strongly supports the emergence of self-sustaining clusters of the „new economy”. The case study on the three cities with diverse regional backgrounds will allow for an examination of location choices of businesses throughout the second half of the 20th century, driven by the presence of soft locational factors and their variable territorial capital endowments.

# The Geography of Well-Being: The Case of the Turkish Regions with a Spatial

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G04-O1 Urban-Rural Relationships, August 24, 2021, 12:00 PM - 1:30 PM

In recent years, there has been a growing debate on insufficient perceptions of living conditions which relies only macro-economic dimensions. Turkish Statistical Institute conducted a study to measure and compare well-being of individuals and households on the province level and introduced the well-being index for provinces in 2015. Using 11 dimension and 41 indicators of objective and subjective criteria, the study aimed to monitor the well-being of people with all aspects. However, the study iterated only on national level and failed to measure, compare and monitor the wellbeing on province level. This study presents a new approach to well-being literature by creating a new well-being variable using age and family size related variables which have inverse U shape relations. We collect data from 81 NUTS 3 regions (provinces) between 2012 and 2019 to understand space – time effects on well-being of Turkish regions. Our main hypothesis is “where you live affects your well-being” and we describe “where” with city size, urban-rural typology and population density elements. As a second step, we use income (GDP per capita), job (female employment), education (secondary level schooling ratio), health (share of deaths due to cancer, hearth disease, obesity or respiratory problems) indicators to analyze the determinants of well-being with spatial and aspatial panel data models. According to the results, people who live urban areas are happier but as density increases level of well-being decreases. Also spatial panel models reveal that there is a spillover effect of determinants of well-being on neighboring regions.



# The role of emotionality and urbanization in consumption choices: an analysis through Engel curves

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G04-O1 Urban-Rural Relationships, August 24, 2021, 12:00 PM - 1:30 PM

Consumption choices may depend on different factors, such as individual characteristics and needs, nature and type of the commodity, and the socio-cultural environment in which consumers are embedded in. In this paper, we estimate Engel curves considering two possible sources of heterogeneity in consumers behaviour: life satisfaction and urbanization. Indeed, consumption expenditure can depend on economic resources and needs but it can also be considered as a manifestation of personality traits, lifestyles, perceptions, expectations and happiness. Moreover, also the surrounding urban context in which consumers live may have a significant role in shaping consumer choices. Therefore, we take advantage of threshold regression models to investigate how expenditure elasticity varies depending on different levels of life satisfaction across different urbanized areas of Italy. Specifically, threshold models extend linear regression models allowing coefficients to vary across different regions defined by a threshold variable. Hence, using matched data on both individuals' consumption categories and satisfaction domains (i.e., combining the Italian Household Budget Survey with the Aspects of Daily Life survey), we are able to detect different expenditure patterns depending on subjective wellbeing (SWB) level and degree of urbanization. In particular, we construct a composite indicator of SWB through a factor analysis on the polychoric covariance matrix for the satisfaction scores related to the different life domains. Moreover, we concentrate on four consumption categories: food, durable goods, work-related and leisure time expenditures and we model the Engel law using a double-log function, largely used in empirical studies because of its flexibility. Results shows that, for every expenditure category considered in the analysis, elasticity patterns vary considerably across different urbanization and SWB levels.

# Road traffic deaths: between social capital and local health system. A study on the Italian case

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G15 Cultural Heritage and Regional Development, August 25, 2021, 2:30 PM - 4:00 PM

This paper investigates the role of social capital in preventing road crash fatalities in the Italian regions over the period 2005–2017. In particular, we investigate whether the local social capital endowment might have heterogeneous effects on road accident fatality rates, depending on the local healthcare system development. In doing so, we evaluate how social features mainly acting in the primary and secondary interventions (i.e. the pre-crash and immediately after crash occurrence) might interplay with the most important context factor presents in the tertiary intervention (i.e. post-crash trauma care).

We retrieve data on the number of road accidents, their relative deaths, and the vehicles fleet's regional composition from the ACI (Automobile Club D'Italia) website. The main social capital measure exploits information on the blood donor, coming from the National and regional registers of blood and plasma held by the Italian National Institute of Health. Also, we have consulted the Italian Ministry of the Interior website to obtain data on the referendum participation to calculate an alternative social capital indicator. Data on the regional public health expenditure and the other local characteristics are obtained from ISTAT (Italian National Institute of Statistics).

On a methodological ground, we use both Fixed and Random effect estimators to control for unobserved time-invariant heterogeneity at the regional level. What is more, to control for endogeneity problems which could affecting our estimates, we also use an Instrumental Variable approach to corroborate our findings. The main results suggest that the regional social capital endowment reduces the deaths from road accidents. Moreover, the beneficial impact of social capital is stronger at lower levels of regional public healthcare expenditure and tends to decrease (and even vanish) at increasing levels of expenditures. Stated differently, in areas where the health care system is well-developed, the role of social capital seems to be marginal. In our view, such findings corroborate the idea that these regions are more likely also to invest on road safety, prevention policies, infrastructures and technological vehicles. By contrast, in areas where these elements are missing, resulting in an under-developed regional health care system, social capital appears to compensate the lack of public investments pro-enhancing welfare policies, which protect the citizens' health and safety on the road.

# Income distribution analyses in an extended input-output framework: a case study for Spain, 1980-2014.

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G23-O1 Segregation, Social and Spatial Inequalities, August 26, 2021, 2:30 PM - 4:00 PM

The recent and deep socioeconomic crises that the world has experienced lately, have highlighted some economic challenges. Although these challenges are not new, these have become somehow more urgent. Among these challenges, the global increases in inequality in developed countries since the 1980s could be highlighted (as denounced, for example, by Piketty). In this paper, we are focusing on the study of these income distribution trends from a multisectoral/multiregional perspective.

Multisectoral input-output models offer several well-known advantages for studying topics related to environment, trade, and economic growth. However, there is not much background for income distribution analyses aside from multiplier analyses, or the construction of Social Accounting Matrices. However, we believe that the demand-driven Leontief model can offer some potentialities regarding income distribution and inequality (especially if this input-output framework is combined with features from other multisectoral models, such as those from Sraffa, Pasinetti, or Kurz & Salvadori). Our aim here is to address some of these potentialities.

First, we present an extended Leontief model with some traits that could be useful for income distribution analyses, namely: 1) we include labor heterogeneity (by sectors, skills, age, and gender), in order to study unequal exchanges of labor (by calculating labor values); 2) we also include heterogeneous consumption patterns to investigate the links between income and consumption; 3) we address the possibility of constructing capital flow matrices; or 4) the possibility of calculating augmented matrices from the aforementioned heterogeneous consumption patterns and the investment patterns, to obtain theoretical rates of profits and balanced vectors of sectoral outputs and prices, which could contain important information about the structure of the economy.

Second, we use different databases (EORA, WIOD, EUKLEMS...) to construct a data series for Spain during the period 1980-2014. Third, some indicators for measuring inequality in input-output tables will be proposed. Finally, the possibility of extending this analysis into a multiregional input-output model (MRIO) will be addressed –; this would imply that the rest of the world is being considered, allowing us to look into the global mechanisms of distribution.

In short, we will try and extract some valuable information to assess the evolution of income distribution during the last decades. Using Spain as a representation of what has happened lately in developed countries, a worsening of the distributive conditions – namely, a less egalitarian distribution of income – is expected. Some preliminary results following the lines commented above confirm our hypotheses.

# Stationary bicycle to going to homework - receptiveness to flexible employment at Hungarian LEs

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S27-S2 New working spaces, resilience, and peripheral areas during the Covid-19 pandemic, August 25, 2021,  
4:15 PM - 5:45 PM

The most important result of British Industrial Revolution and French Revolution is the real fact of labour revolution. However we were able to achieve everything we could achieve. None of the social structures can be proud of the fact that they were able to reach their development limit-as it is timeless. Nowadays in the beginning of the 4 th Industrial revolution, in the time Industry 4.0 only companies that are adaptable and flexible in their structure and processes can survive. The basis for a motivated company aiming for peak performance is organisational innovation. Hungary is one of the less innovative countries in Europe. Only organisations that can integrate new solutions smoothly into their everyday operations will remain truly competitive.

Covid-19 took shape because of a virus circumstances put several of the characters of the economy in a difficult situation. All this shed light on it however, that the atypical employment forms the changed they may provide a solution to certain problems even between circumstances. According to Eurostat statistics, most people work from home in the EU in the Netherlands, but in Bulgaria the home office is even rarer than the white raven. Regular home-work based on the EU average in 2018 affected only 5.2 percent of the 15- to 64-year-olds, just over the 5 percent decade average. The list is topped by the Netherlands, where 14% of workers regularly work away from work. In Finland, the figure is 13.3%, in Luxembourg 11% and in Austria 10%. Hungary is at the bottom of the list, with only 2.3% of our employees working from home. The aim of this study is to demonstrate, through a Hungarian example, the receptiveness of Hungarian large enterprises to flexible forms of employment. The effect of flexible employment on economic adaptability and competitiveness through workforce efficiency and retention is examined - whereas in the time of above mentioned industrial revolution what was marked 14-16 hours daily work. Its aim is the raise the awareness of options to increase employment among Hungarian LE managers.

Keywords: flexible employment, COVID-19, economic competitiveness, large enterprises, partnership agreement, Hungary

## Complementarities between native and immigrant workers in Italy by sector.

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S62-S2 TRSA Special Session: The Economic Geography of Cross-Border Migration, August 27, 2021, 2:30 PM - 4:00 PM

This Chapter investigates the existence of complementarities between immigrant and native workers across sectors in Italy and the effects on wages due to immigration during the period 2011-2016. The analysis is based on a production function framework, where the aggregate labor is the result of a nested-CES function and workers are differentiated according to their educational attainment, job experience and nationality. This approach allows the analysis to estimate the elasticity of substitution between immigrant and native workers with the same education-experience level by sector. The contribution is twofold. First, it provides an estimate of the elasticity of substitution between native and immigrant workers by sector. Second, by considering explicitly the different degree of substitutability between immigrant and native workers, the analysis provides an estimate of the wage impact for the two groups of workers at sectoral level. We find noticeable differences in the elasticity parameters across sectors. Similarly, the wage impact of immigrants is remarkably different both across sectors and between immigrant and native workers.

# Drivers and motives for inter-municipal cooperation in a country with a fragmented local government system.

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G08-01 Cooperation and Local / Regional Development, August 24, 2021, 12:00 PM - 1:30 PM

Drivers and motives for inter-municipal cooperation in a country with a fragmented local government system.

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## Abstract

This suggested paper deals with trying to explain what makes municipalities in Iceland to go into cooperation with other municipalities. Research has shown that inter-municipal cooperation is widespread in the country – showing that the average municipality (of 74 at the time) was involved in 13,5 formal inter-municipal cooperation arrangements. In this paper I give a picture of the status of inter-municipal cooperation in Iceland. Further I determine the main cooperation areas, cooperation forms and the scope of these cooperation arrangements. In the main part, where I analyse the drivers for cooperation I and identify the motives and reasons behind them using partly an analysis of data collected during a project mapping inter-municipal cooperation in the country in 2015-2016 and partly by means of surveys among directors of inter-municipal entities in 2015 and among elected local officials in 2016. According to the main results, the surveys clearly suggest that the strongest motives behind the participation of municipalities in Iceland in inter-municipal cooperation arrangements are seeking increased capacity, scale economy and increased professionalism in the administration and service provision.

Keywords: Inter-municipal cooperation. Drivers. Capacity. Economy of scale. Professionalism.

# Ecopolis: a spatial vision after the perfect storm

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S60-S2 ORMA - Opportunities and Risks of new Modalities of Anthropization between sustainability, innovation and fragility, August 27, 2021, 12:00 PM - 1:30 PM

We are in the midst of a perfect storm (determined by the combination of exceptional crises such as the climate one, the economic-financial one that began in 2008 and the pandemic of today) that calls into question the archetypes, and the interactions between them, underlying our life contexts: first of all the "nature" and therefore the "human" and those connected with the "human" as the "politics", "science" and "technology". All of them are nowadays questioned about their capacity to give solutions to the pandemic effects of viruses as well as to answer to our new basic questions. They are archetypes which, recomposed according to different compositions, lead to general "paradigms" that are often alternative to each other. Cities and territories are perhaps the contexts where all these archetypes interact together to the point of making them not only highly complex systems -and, therefore, to be known and managed as such- but also systems to be re-discussed and, perhaps, to be rethought in their current political and cultural basis. From a methodological point of view, in these cases it is not enough to adopt methodologies that explore or simulate reality but rather, as we are dealing with open problems, to adopt methodologies that "reinvent" it. The method used here, therefore, is rather that of "conceptual design".

A spatial vision connects knowledge and action and, as such, it is a hypothetical and normative but not arbitrary construct. It is, therefore, also the starting point for re-discussing and pragmatically rethinking the current city. Consequently, the contribution focuses on four "idealtypes" of spatial visions (in the sense that they imply different and structurally alternative compositions of the basic archetypes) that mobilize energies and resources in divergent directions from each other and that are placed at the extremes of two orthogonal axes. On a first axis we move between the extreme of nature and the extreme of technology (intended as worlds where the natural tends to cancel the artificial and viceversa). On a second axis, orthogonal to the first, the city moves between the two extremes of the "human too human", on one side, and the "inhuman" on the other.

Among these idealtypes, the paper develops the particular vision of "Ecopolis" and, with specific reference to the Italian juridical and institutional framework, proposes the "Area Ecopolitana" as the noun and the program to replace the obsolete role and functions of the old "Provincia".

# Firm competitiveness, specialization and employment growth: territorial level relationships.

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G12-O3 Regional Competitiveness, Innovation and Productivity, August 25, 2021, 4:15 PM - 5:45 PM

The concept of competitiveness is today a central element for regional development, European cohesion policies and smart specialization strategies. Despite being born for firm-level analyses, competitiveness is, indeed, commonly used at territorial level, mainly at the regional or urban scale, normally measured with different composite structural indicators.

However, since territorial competitiveness is unevenly distributed in space, territorial units smaller than a full NUTS-2 region might be differently competitive and hence suited to implement differentiated cohesion policies and smart specialization strategies.

Aiming to test and link firm competitiveness with territorial performance, the paper employs firm-level data to measure intra-regional competitiveness at NUTS-3 level, using territorial differences in the most common indicators found in literature for firm-level competitiveness.

With these indicators territorial competitiveness is measured using counterfactual techniques, producing ATTs at provincial (NUTS-3) level, both in a static and a dynamic setting.

To test the hypothesis that these firm-level indicators can characterize the intra-regional differences in aggregate performance, the paper sets up a meta-analysis framework between said indicators and structural indicators (employment growth and specialization index) measured at NUTS-3 level.

For the meta-analysis at this novel intra-regional level, the paper exploits the Lombardy region as case study. Lombardy is well suited for the aims of this paper, being a large and competitive European region, whose territory - as well as its labour market - is highly differentiated, from peripheral and mountainous areas to many medium and small cities, second tier large cities and a large metropolitan area - the city of Milan. All these territories are characterized by different economic and social vocations but all share the same regional administration.

The results of the meta-analysis show that firm-level indicators correlate with the aggregate performance of regions, and that structural measures selected and can characterize different territories in different conditions. The competitiveness of firms seems hence to translate into aggregate territorial performance also at small spatial scales. This implies that territorial specificities are relevant also inside regions and should be considered in designing regional policy interventions, such as those of S3.



# Impacts from automation diffuse locally – a novel approach to estimate jobs risk in US cities

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G20-O1 Cities, Regions and Digital Transformations, August 26, 2021, 12:00 PM - 1:30 PM

Workers that become automated may transfer productivity gains to their co-workers, or make it easier to automate their co-workers' jobs too. In this paper, I empirically investigate how automatable jobs have diffused impacts to neighbouring jobs in North American cities between 2007 and 2016. Results indicate that jobs that share similarities with neighbouring high-risk jobs grew less, even when controlling for their own technical risk of automation. Conversely, jobs that share complementarities with neighbouring high-risk jobs grew more, possibly indicating productivity gains from working with recently automated jobs. In addition to the analysis in this paper, I provide an adjusted index of job automation risk that accounts for local diffusion of impacts (negative and positive) in US cities: [website].

# Consumers' desire to change the energy mix: an evaluation by Discret Choice Experiment (DCE) in Normandy region

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G22-O1 Energy and Ecological Transition, August 26, 2021, 2:30 PM - 4:00 PM

Thanks to the awareness of the climate change that our planet is undergoing, citizens are favorable to developing these green energies. Yet, some reticence may happen for those who suffer from negative externalities due to proximity to these facilities (like wind turbines or biogas plants). Questioning the principles of environmental justice as perceived by individuals is then a crucial issue. Although biogas production is commonly recognized in environmental and societal fields (BOURDIN et al., 2019), there are several obstacles to the deployment of anaerobic digestion, mainly relating to social acceptability problems (CAPODAGLIO ET AL., 2016; SOLAND ET AL., 2013). In many cases, conflicts emerge because there is a feeling of injustice on the part of the initiators of these local oppositions, particularly on the unequal distribution of the externalities of territorial energy projects (BOURDIN et al., 2019).

This paper analyses the demand for energy mix. In particular, we investigate citizens' preferences for green energy using a sample of 396 citizens in Normandy region (France). With this regard, a discrete choice experiment (DCE) was carried out to estimate the willingness to pay (WTP) a premium price for the purchase of green energy. The results indicate that 85% of the citizens are interested in moving for green energy, and the average WTP results in an increase of 0.0013€/Kwé for an increase of 1% of green energy. In France, the average electricity consumption is 390 Kwé, this means the consumer accepts to pay 0,507 euros for an augmentation of 1% of green energy. Our results show that no renewable energy is neglected despite a strong preference for photovoltaic installations followed by wind turbines and finally anaerobic digestion. The lack of knowledge about anaerobic digestion seems to be why not choosing this energy compared to the other two. This finding is in line with recent studies that have highlighted the role of knowledge on green energy as an important factor influencing citizens' acceptance (Langer et al., 2018; Lennon et al., 2019).

Thanks to control variables, we can understand and measure the effects of negative externalities of proximity for the different kinds of energy. We can also characterize subpopulations or territories more or less prone to adopt green energy. Finally, we propose a reflection on the social acceptability of renewable energies (and more specifically for biogas plants), which can be used to establish future green energy facilities.

# The hydrological resource and wellbeing tourism in Val di Sole (Italy): key elements for sustainable development of marginal territories

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G05-O4 Mountain, Rural and Marginal Issues, August 25, 2021, 10:15 AM - 11:45 AM

The current circumstances that we are experiencing, with the massive spreading of Coronavirus all over the world, especially in the most densely populated urban areas, have activated many reflections about the relation among natural and urban environments. The countryside, the hamlets, the inner areas, the small villages, became among the most valuable places to live, work, relax, and enjoy the everyday life. Very often these areas coincide with the most fragile areas for natural and human risks and where a new development path has to be defined. In Italy, the contexts addressed by the Italian National Strategy on Inner Areas are often lacking successful regional policies and systemic territorial approaches to achieve effective transformations. These issues are addressed by the project "B4R Branding4Resilience" ([www.branding4resilience.it](http://www.branding4resilience.it)) and the contribution aims to present and discuss the first results of the B4R research in the Trentino region. A new role of these peripheral contexts in relation to growing metropolitan areas is a possibility for a more respectful, integrated, and balanced human-natural lifestyle. The main goal of the local unit in Trento, is to pursue leadership in "innovating with nature" through locally implementable actions in the small thermal villages, specifically focusing on the pilot area of Val di Sole (Italy). The aim is to create a territorial strategy on the value of the thermal water systems, by promoting the enhancement of their territorial capital. To increase resilience, the development of nature-based activities is promoted in relation to blue and green infrastructure. The blue infrastructure corresponds to the hydrological network, where springs and thermal waters are at the center of the enhancement process. Green infrastructures are the environmental routes that connect together the natural resource and the ecological paths. In order to do that, an interdisciplinary and multiscalar methodology has been adopted to combine a quality and quantitative approaches: a data collecting process is used to explore the natural identity of the Val di Sole to contemplate ecological and spatial elements such as physical and immaterial qualities, weakness and needs of local communities. The contribution will illustrate the preliminary results of the exploratory phase: the Trentino blueprint as a tool to drive scenarios to implement thermal landscapes as resources for the territories, as well as to support a sustainable development that connect territories for a better quality of life.

# Does Excellence Pay Off? Theory and Evidence from the Wine Market

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G35 Rural and farming areas issues, August 26, 2021, 12:00 PM - 1:30 PM

We investigate the effect of product excellence on firm profitability in a competitive market with vertical and horizontal differentiation. We develop a theoretical model and derive conditions under which the effect of excellence on profitability, the latter defined as the ratio of equilibrium profits to the invested capital, can be either positive, zero, or negative. We test our theoretical predictions by examining a sample of 1,052 Italian wineries over the period 2006-2015. Using different econometric methodologies, we find that excellence, proxied by firm reputation for quality, has no significant impact on profitability, measured by the return on invested capital (ROIC). We conclude by discussing policy and managerial implications.

# Viewshed Effects and House Prices: Estimating A Spatial Hedonic Model

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G16-O1 Real Estate and Housing Markets Issues, August 25, 2021, 2:30 PM - 4:00 PM

We use GIS techniques to create variables for measuring the visibility value of coast, green areas and open space viewsheds in a spatial hedonic model of house prices. Data come from repeated house sales for the Haifa metropolitan area (Israel) for 1998-2016. A series of spatial lag models are articulated for identifying the viewshed effect conditioned on the locations. We disentangle viewshed-derived utility from that derived from proximity. The estimation results show visibility of coast and green areas add to the value of housing units regardless of location even though view is determined by proximity to these visual amenities. The results strengthen the conclusion that visibility effects are important determinants of house prices even in the presence of significant spatial spillover effects

# Hard and soft policies in inland areas. The Sardinia case as an experimental laboratory. The experience of PIRU Ollolai.

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S54-S1 Historical Centers and Inner Areas: resilient scenarios in the post (post) Covid era, August 27, 2021,  
10:15 AM - 11:45 AM

The settlement structure, defined by SNAI as a fundamental element of unused territorial capital, can be understood as settlement capital. Historical centres in Italian inner areas present common problems regarding unused, neglected and degraded properties, which cause costs related to taxes, difficulties of sale and the complex dynamics associated with the presence of numerous co-owners. The architectural heritage requires to be associated with the reconstruction and reactivation of local communities. The pandemic denotes the need for the community's internal dynamism, a transformation of citizens' role, regional and national institutions, as Clement stated, recognised as a relearning process of living for all citizens. The project PIRU (Ollolai.Capitale) has worked on territorial fixed capital, working in close relationship with human and social capital to build a series of actions for the enhancement, management, and governance of assets for housing purposes productive with a view to innovation. Ollolai, in this sense, is part of the vitality of the margins already present in Italy, of small and significant stories of innovation that inhabit the territories of the margin.

# Analysing the growth of international trade: looking for spatial effects

Claudia V. Montanía<sup>1</sup>, **Dr. Maria Teresa Fernández Nuñez**<sup>2</sup>, Miguel A. Márquez<sup>2</sup>, Geoffrey J. Hewings<sup>3</sup>

<sup>1</sup>*Facultad Latinoamericana de Ciencias Sociales, Asunción, Paraguay,* <sup>2</sup>*University of Extremadura, Badajoz, Spain,*

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S24 New developments on Spatial Shift Share Analysis, August 25, 2021, 4:15 PM - 5:45 PM

The performance of countries in international trade has received great attention in the studies of the current world economy. Among the frameworks used to decompose the growth rates of international trade variables, the Constant Market Share has been commonly adopted as the usual technique. The main purpose of this paper is to illustrate the use of the spatial shift-share technique to decompose the growth rates of trade variables, offering an expanded capacity of analysis that includes new relevant effects and provides information to classify the regions in a multi-contextual framework (national and neighbourhood). Therefore, data on soybean seed exports of the top exporters worldwide for the 1996-2015 period were used. The exporters analysed are classified in terms of their performance to offer policy guidelines based on the Boudeville's Classification. The results and the subsequent classification in this scenario give helpful insights to understand export growth processes since it allows for the identification of characteristics of each type of country about the drivers of the growth rates of international trade variables. In this way, our findings suggest there is much to benefit from adopting this spatial technique for studying the decomposition of changes in the context of international trade performance.

# The culture of territory and landscape

Dr. Elena Ferraioli<sup>1</sup>, Dr. Filippo Magni<sup>1</sup>, Dr. Federica Appiotti<sup>1</sup>

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G32-O1 Tourism and Culture, August 27, 2021, 12:00 PM - 1:30 PM

At this point in history characterised by environmental, socio-economic challenges as well as imminent transition processes involving societies and territories, there is a need to redesign territorial development to increase adaptive capacity. Landscape plays a significant role in territorial development, particularly due to its cultural and tourism involvement, impacting on the idea not only of cultural landscape, tourism landscape, cultural tourism but also on the overall philosophy of landscape structure.

In line with the definition of the European Landscape Convention (ELC, 2000), the landscape does not only represent a purely physical and aesthetic dimension characterised by objective features, such as geomorphological and ecological-environmental aspects, but it is also referable to an ethical and cultural reality. This is the result of the interrelations between human and natural factors in addition to the expression of meanings and values linked to local identity.

Identifying the peculiar characteristics of a landscape, belonging to both material and perceptive factors, linked to natural and aesthetic as well as symbolic and spiritual values, in which society can recognise itself with a sense of belonging. It is therefore fundamental to understand the potential capacities of landscape development, contributing to the construction of future scenarios and increasing the resilience of territories.

The experiments carried out within the European research programmes and, specifically, within the ADRI LINK - Adriatic Landscape Interpretation Network project of the Interreg ADRIION Programme 2014-2020, contribute to the definition of new landscape culture and innovative forms of land management. To specify, it focuses on the development of tools and processes that start from the recognition of important values for local communities. In addition, the project aims to build a territorial development strategy, based on sustainable landscape tourism, and able to enhance the tourist, economic, social and naturalistic value of the concerned areas at the same time. Thus, boosting the right balance between conservation, protection and innovation.

In order to that, the project has utilised investigation activities, innovative and interactive mapping tools, participation and sharing methods aimed at collecting opinions, evaluations and suggestions to improve the valorisation, promotion and fruition of the cultural and natural heritage.

The use of methods and solutions based on the involvement, participation and sharing of the multiple dimensions of the territory and landscape becomes valuable support for future programming and planning activities, especially in terms of resilience.



# Electoral earthquake:natural disasters and the geography of discontent

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<sup>1</sup>*Sapienza University Of Rome, Italy, Rome, Italy*

G25-O1 Institutions, Political and Decisional Processes, August 26, 2021, 4:15 PM - 5:45 PM

The recent literature on the determinants of populism has highlighted the role of long-term trends of progressive isolation and prolonged economic stagnation in engendering discontent and, in turn, demand for political change. We investigate, instead, the potential of unanticipated local shocks in shaping the 'geography of discontent'. Using comprehensive data at a fine spatial scale and a comparative natural experiment approach, we document that the occurrence of two destructive earthquakes in Italy resulted in sharply diverging electoral outcomes: while the 2012 Emilia quake did not alter voting behaviour, the 2009 L'Aquila earthquake paved the way for an impressive and persistent surge in right-wing populism in the most affected areas. Such heterogeneous patterns mainly originate from a stark contrast in post-disaster reconstruction processes and shifts in institutional trust. Our findings are consistent with the idea that not only "places that don't matter", but also "places that don't recover", can become populist hotbeds.

# On the economic and health impact of the Covid-19 shock on Italian regions: A value-chain approach

Mr Tommaso Ferraresi<sup>1</sup>, Leonardo Ghezzi, Fabio Vanni, Mattia Guerini, Francesco Lamperti, Giorgio Fagiolo, Alessandro Caiani, Mauro Napoletano, Andrea Roventini, Severin Reissl

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S04-S2 Geography of COVID-19 outbreak and policy answers in regions and cities, August 24, 2021, 2:30 PM - 4:00 PM

In this work, we evaluate the exposure of Italian regions to the risk associated with the spread of COVID-19 through a two-step value-chain approach. First, we estimate the degree of participation of Italian regions in a plurality of value-chains linked to consumption, investment and exports. We distinguish between value-chains aimed at satisfying essential needs and supply chains activated by needs characterized by a lower level of necessity according to the measures implemented by the Italian government. Second, we investigate the different levels of contagion risk associated with each value-chain and the possibility of reducing it through remote work. A policy exercise on the measures implemented during Fall 2020 by the Italian government completes the paper. Our results provide a comprehensive overview of the exposure of Italian regions to the economic and health risks associated with the spread of COVID-19, and with the implementation of lockdown and social distancing measures. Regions are affected differently due to both the high variability in the degree of embeddedness of Italian regions within different value-chains and due to their sectoral contributions to each of them. As a result, Italian regions are associated with very diverse potentials for mitigating contagion risk via teleworking practices.

# Appennine as innovative social habitat. Architecture and creativity for the re-activation and resilience of the Marche mountain areas.

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G05-O1 Mountain, Rural and Marginal Issues, August 24, 2021, 12:00 PM - 1:30 PM

In the book “Atlante dell’Appennino” (Symbola 2018), the Appennine region is described as a unique and lively area where more than 10 mil. people live and work. This figure strikes our imagination when we think that mountains are often described as marginal areas. According to the SNAI (2014), some of them are actually defined as ultra-peripheral areas. In common sense, the word “periphery” is generally associated to a marginal, under- developed contexts. This contribution proposes a change of perspective addressing the focus area of the Marche central Appennine as test-field for new dynamics of development.

Within the project Branding4Resilience (1) our group is exploring the cultural landscape of the Appennino Basso Pesarese Anconetano through the lens of architecture, urban design and planning. The goal is to investigate ongoing processes of re-activation and regeneration carried on by communities and social innovators that have a determining role in the care of this territorial capital. The exploration included also a series of qualitative analyses to outline challenges and strengths for social innovators in the area. A stakeholder analysis was followed by a series of semi-structured interviews to collect local actors’ information, positions and activities. The investigation highlighted interesting creative experiences as impulse and possible paths to a resilient territorial development. Also, it showed that built heritage is an essential asset for the region and yet it could be better valued. To this regard, creativity and design can have a major role and impact on architectural and urban regeneration processes for the enhancement of these territories and the empowerment of communities.

In front of the challenges of rural and mountain regions and the role they will play in the future of European territories, this contribution focuses on the enhancement of spatial resources and the regeneration of architecture and heritage through the creative and inventive capacity of social innovators and changemakers. Indeed, in these “marginal” contexts, change can be realized through the relentless and caring action of communities. Yet, a crucial factor and asset is represented by the spaces that people inhabit (Sennet 2018), which tremendously influence their quality of life and capacity of action. The project thus ultimately envisages the Appennine as a new social habitat to link places and people, to achieve a higher community resilience (Italian Pavilion 2021), and to re-activate the architectures and territories of the Marche mountains region.

(1) [www.branding4resilience.it](http://www.branding4resilience.it). PRIN 2017, Funded by MUR (20–23).

# Economic responses to changing water availability in Scotland

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S08-S1 Spatial CGE, Input-Output, land use and transport modeling, August 24, 2021, 12:00 PM - 1:30 PM

Changes in climate will impact on water availability at global, national and regional levels, and this likely to have significant economic impacts. In addition, policies targeted at reducing water use will not only affect water use, but also economic activity. In this paper we develop an economic modelling framework to analyse the links between water availability/supply and economic activities, and applying this to Scotland. Previous studies that have used similar techniques have focussed on water scarce regions and analysed the impact of droughts and other supply shortages. Freshwater is relatively abundant in Scotland and typically sufficient to meet demand. However, unexpected prolonged dry periods (such as that in the summer of 2018) have resulted in increases in water used for irrigation and increases in the frequency of drought events are forecast. In addition, the majority of Scotland's freshwater supply reservoirs are located in the west of the country where rainfall is significantly higher. However, end-users are principally concentrated in central and eastern regions, making these areas more subject to water shortage and droughts.

We develop a computable general equilibrium (CGE) model of Scotland with detailed treatment of metered water. The model is calibrated on Input Output accounts for Scotland. Detail on industrial metered water consumption is provided by Scottish Water. The supply side of the economy is represented using conventional production functions, where water is combined to other intermediate inputs, capital and labour to produce output at each sectoral level. However, an important element of novelty is that we increase the spatial dimension of our model to capture idiosyncrasies of different Scottish regions in terms of agricultural production and water use.

We illustrate the potentials of the model by simulating the impact of an illustrative demand and supply shock. The (water) demand shock is conceptually equivalent to the impact of a drought caused by unexpected dry weather. The supply side shock represents policies aimed at improving water distribution efficiency and leakage reduction. Results from the demand shock demonstrate how crowding out effects given by limited supply capacity may negatively impact output especially in particularly water intensive sectors such as, refined petroleum, chemical and pharmaceutical, agriculture, forestry and fishing. The supply side shock shows how negative crowding out effects may be mitigated by increases in transportation capacity and efficiency gains.

# Digital transition versus agro-ecological transition? Lessons from the Agronov cluster

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S29-S1 Territorial dimensions of green and digital transitions, August 24, 2021, 12:00 PM - 1:30 PM

Please see extended abstract

# From Sectorial Composition to Growth and Reverse. The Italian case

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G14-O2 Spatial Econometrics, August 25, 2021, 4:15 PM - 5:45 PM

In the latter thirty years, the Economic theory has enlarged the epistemological horizon by considering Economics as intimately a complex environment. There were essential contributions even in the '50s, but they were neglected and criticized by the mainstream; nevertheless, they gained more interest among researchers over time. By overcoming the traditional approach of the "conservative system" characterized by a unique and stable steady state, the "dissipative approach" typical of the "hard" sciences (physics notably) introduces multiple equilibria, non-stable long-run attractors, phase transitions, and chaos. Broadly, we refer to such an approach as "Evolutionary Economics". Since the pioneering contributions by Krugman (1980), the New Economic Geography (NEG) is part of it. The Evolutionary Economic Geography approach takes a more holistic approach to the analysis of economic phenomena, which is to conceptualize a problem in terms of space, place, scale, and time.

Societies, cities, markets, and industries result from a self-organizing process that obeys forces involving the economy, society (norms and values), individual behaviour and beliefs, environmental and natural resources, etc. These elemental forces interact over time and space in a mutual relationship. We observe in the real data just the final process of a more complex scenario that we barely know and control.

In this paper, we want to assess how the distribution of firms in sectors and industries in Italian provinces affects the economy's performance. The firms' distribution represents our microcosm and the observed economic variables (employment growth in our case) the hidden tissue results. We empirically investigate how the evolution of the firms' distribution (measured by entropy indexes) affects the employment growth rate. However, from an evolutionary perspective, the nexus is never unidirectional. So, we want also to assess the reverse, i.e., how the employment growth rate shapes the firms' distribution.

This bi-directional nexus involves time and space; for such a reason, we will estimate a spatial vector autoregressive (SpVAR – Beenstock and Felsenstein, 2007; Baltagi et al., 2019) model. It allows us to study how the variables evolve both in time and over space, the presence of long-run equilibria, the transitional path, and, in case, the speed of adjustment. Moreover, it allows analysing how external shocks affect such dynamical paths.

# Tackling pockets of loneliness in Functional Urban Areas. Do urban development strategies benefit migrant integration?

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S16 Places left behind or places of opportunities?, August 24, 2021, 4:15 PM - 5:45 PM

Migrants in cities tend to concentrate in relatively disadvantaged neighbourhoods, often triggering a mechanism of downward spiral when it comes to access to services, quality of living, social capital and opportunities. In this sense, disadvantaged areas where migrants tend to concentrate can be seen as lonely places, pockets of loneliness.

If places can contribute to migrants' exclusion, the opposite is true as well, that is to say that places can contribute to their integration. In particular, place-based policies aimed at reducing the disadvantage between and within urban areas, and at raising the quality of life in disadvantaged neighbourhoods may be an effective instruments that generate the enabling conditions that eventually lead to migrants' integration. In this vein, this chapter focuses on a specific type of urban policy, that is to say integrated strategies of Sustainable Urban Development supported within the EU's Cohesion Policy during the programming period 2014-2020. More precisely, the study considers if and to what extent these strategies are able to support directly or indirectly migrants' integration in functional urban areas (FUAs).

The choice of focusing on functional urban areas depend on the fact that even in the context of supposedly connected and attractive areas like main European FUAs, it is possible to detect pockets of exclusion, here defined as lonely places. FUAs seem the right territorial scale to understand the spatialisation of migrants daily life, which evidently transcend administrative boundaries.

Ultimately, the research will contribute to understand whether the goal of Cohesion Policy to reduce the economic, social and territorial disparities that still exist between EU regions may have a key beneficial impact on pockets of loneliness within EU regions.

(see extended abstract)

# Hydro-geological Risk assessment in the Abruzzo region, Italy: the case study of the Municipality of Canistro.

Dr. Lorena Fiorini<sup>1</sup>, Dr. Rosa Marina Donolo<sup>1</sup>, Sophie Fontana<sup>1</sup>

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S52-S3 Building territorial and community resilience through disaster risk reduction in marginal areas of rural Europe, August 27, 2021, 12:00 PM - 1:30 PM

In recent years, natural disasters, and natural risks, such as hydrogeological risk, have increasingly intensified, mainly due to climate change. Natural disasters have increased in frequency and intensity and have led to a huge loss of both human lives and socio-economic and cultural assets. Human activities have a strong impact on territories and natural ecosystems in terms of carbon footprint, land footprint and water footprint. For this reason, it is necessary to orient territorial planning towards more sustainable forms of urban transformations management, in accordance with the international environment policies (i.e. the Sendai Framework for Disaster Risk Reduction 2015-2030, the Agenda 2030), especially for the marginal areas which are often characterized by high levels of fragility. Currently, many countries are making efforts to increase their urban and social resilience and to improve their risk and disaster management systems, by adopting specific frameworks for action. This work shows an analysis of urban risk conducted on the case study of the Municipality of Canistro, in the Abruzzo Region, with particular reference to hydrogeological risk. The main objective of this study is to characterize the area, highlighting its vulnerabilities and the exposure to risk for population, urban structures and infrastructures. The analysis developed were compared with the contents of the Municipal Emergency Plan elaborated according to the Civil Protection Department guidelines. The comparison identifies some limits of the planned interventions. The work carried out is a first analysis that lays the foundations for future developments aimed at investigating the limits highlighted and at proposing new disaster risk reduction strategies. Land planning should be oriented to improve territorial capacity through: structural interventions to reduce the exposure and the vulnerability of the territory itself, the implementation of monitoring and early warning systems and actions to educate and raise awareness of the population.



# The role of urban planning in climate adaptation: an empirical analysis of UHI in European cities

Mr Nicolò Florenzio<sup>1</sup>, Prof. Gianni Guastella<sup>1,2</sup>, Prof. Filippo Magni<sup>3</sup>, Prof. Stefano Pareglio<sup>1,2</sup>, Prof. Francesco Musco<sup>3</sup>

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YSS2-G07 Global Warming, Health and Environmental Issues, August 26, 2021, 10:15 AM - 11:45 AM

This paper empirically analyses the relationship between urban form and Urban Heat Island (UHI) in a dataset of 631 European cities that matches remotely sensed land-use and surface temperature data. A UHI event is defined as an uninterrupted streak of days where the temperature differential measured at 12.00 A.M. between the city core and its surroundings is higher than 2.5°C. To explain the probability of being exposed to UHI, few landscape metrics are included in a binary regression model. These metrics include city size, fragmentation, built-up density, porosity and urbanization. The model controls for the local climate condition and the geographical location of the city. Evidence links urban form to the likelihood of being exposed to a UHI event, but it does so only for cities located in Mediterranean countries. Among the landscape metrics, built-up density and porosity are the most influential determinant of the probability of UHI exposure. UHI risk reduction may be achieved by lowering the built-up density of the city core and by increasing its porosity. Hence, the study finds that urban planning may play a meaningful role in the adaptation to UHI phenomena, but the results suggest that this conclusion is only valid for Mediterranean cities.

# Patent analysis as a path to Island Resilience

Mr Pierre Fournie<sup>1</sup>

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S42-S2 Sustainable development of the Islands between tradition and innovation, August 25, 2021, 10:15 AM  
- 11:45 AM

Islands are currently facing an increasing number of challenges. The complexification of the World; the rarefaction of natural resources, the globalization of the economy; the climatic changes that affect all together fauna, flora, communications, habitat and ways of life; the modifications of the physical and virtual networks that link insular territories to the rest of the planet, do endanger those “territories of exception” . Considered as “extremely fragile” islands have to create without delay their own way to resilience. Built over time at the fringe of dominant political, economic, cultural and social models; islands have forged a unique imaginary and identity. Because the changes are inevitable and already started, innovative solutions integrating all recent parameters shall be brought in without delays. The current COVID-19 pandemic further stress the emergency. (Fournié, Dou, & Juillet, 2020) and demonstrates that islands could be considered as areas of observation, testing and in which preventive or fighting methodologies could be implemented.

Strategic Intelligence, by bringing a holistic vision and elaborated research solutions, offers an alternative path to take into account global changes, to facilitate economic planning and development, , to integrate islanders’ cultural singularity, to create comprehensive models. (Fournié & Dou, 2020)

The current article intends to demonstrate how « Patent Analysis” could be used in Insular Territories to built such a “territorial resilience”. We will concentrate as an example on the fight against “erosion” and “subsidence”.

# The Policy Environment of Resource-efficient Urban Agriculture

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S20-S1 Urban Agriculture and Urban Resources – New approaches for resilient and sustainable urban food systems, August 25, 2021, 12:00 PM - 1:30 PM

With urban agriculture (UA) being on the rise since at least four decades city administrations and civil society initiatives are becoming increasingly aware of their potential influence on the food system (Doernberg et al., 2019; Milano Urban Food Policy Pact). Recently, this development has been accelerated by the COVID-19 pandemic, by which the potential of UA to increase the resilience of the food system in case of disruptions has become more and more obvious (Gulyas & Edmondson, 2021; Vittuari et al., 2021). On the other hand, cities are the most prominent users of resources such as land, water, energy, and food (Covarrubias, 2018) but the relationships of UA policies to urban resource flows and resources used so far are still largely unexplored.

The aim of this research is 1) to examine how existing food, energy and water policies directly or indirectly relate to UA and 2) to identify policy „best-practices“ which support resource-efficient UA. To this aim, we analyse the actual and potential role of UA within existing food-water-energy-NEXUS-related policies, and analyse policies that are indirectly relevant to UA (such as green infrastructure and climate change resilience policies).

The analysis is based on policy data from five case study areas in Europe and the U.S.: New York (U.S.), London (U.K.), Nantes (France), Gorzow Wielkopolski (Poland), and the Ruhr Area (Germany) taking part in the FEW-meter project, in which scientists and urban farmers measure the efficiency of UA. In this contribution, we present key results of the analysis of 79 policy documents related to UA and the NEXUS and of a ranking by urban agriculture policy experts of 16 generalized urban agriculture policies derived from the 79 policies to identify the most effective UA policies in promoting resource-efficient UA.

The results illustrate the most important policy measures and their level of interventions in each location related to energy production and efficiency, food distribution and consumption, and water and highlight differences in addressing the different NEXUS elements. Results reveal that UA policies which consider all elements of the NEXUS are scarce while in contrast the high number of NEXUS policies which include UA indirectly only may serve as an indicator for the future potentials for integrating resource-efficiency in UA. Results also reveal the differences in policy support among the five compared countries. The research further provides insights into what extent existing governance structures can support or inhibit a nexus approach in the different cities.

# Climate Change and Nature Based Solutions: the Oases model and the Pocket Sm-Art Urban Forest

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S60-S3 ORMA - Opportunities and Risks of new Modalities of Anthropization between sustainability, innovation and fragility, August 27, 2021, 2:30 PM - 4:00 PM

The dense city can be considered among those habitats concerned by climate changes impacts where citizen's well-being is an issue of research and design.

Here phenomena such as heat island, air pollution, the water run-off determine conditions of environmental and individual stress.

It is possible to contain these impacts, taking inspiration from Nature Based Solutions (APAT, 2003; EU, 2015; Naturvation, 2017) and Urban Green Infrastructure - UGI (EU, 2013, Green Surge 2017) as the results of the European Program Horizon 2020 demonstrate. Still NBS struggle to be adopted in local urban agendas and there is an urgent need to spread good practices in order to increase rapidly environment quality in cities and citizen's wellbeing.

In compliance with the indications of the 2030 Agenda (point 11.7), the paper illustrates how to fulfill that specific goal through a multipurpose action aimed to create an inclusive public space where it is possible to get in touch with nature, develop scientific information about the role of the nature in the city, diffuse the data through an artistic performance to attract visitors and make the information user-friendly.

This action is the Pocket Sm-art Forest. According to the scientific hypothesis of biophilia proposed by Edward O. Wilson, the human being develops

"an innate tendency to focus attention on life forms and on everything that reminds them and, in some circumstances, to become emotionally affiliated with them".

Focusing on the attractiveness of nature and its ability to awaken empathy, the "Pocket Sm-art Forest" is proposed as an artistic, scientific and cultural performance to increase citizens' awareness of the vulnerabilities linked to climate change and of the solutions offered by nature (NBS).

The first form of Pocket Sm-art Forest, was created in 2017 at the San Lorenzo airport in Rome with 100 potted trees, 18 of which donated by the Presidential Estate of Castelporziano. Here, the integration between nature, sensors and animation conveyed a cultural message on the importance of the functions developed by nature in the city, catalyzing a wide audience.

Based on the success achieved, with a large number of visitors, adults and children, and over 20 websites that have told about this exceptional nature form, the "Pocket Sm-art Forest" has been transformed into a prototype to be replicated everywhere, from city squares to railway stations to tell, where, through a network of sensors, "what trees do for us".

# Mapping Transportation Innovation Ecosystems (TIE) in Cities

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G13-O1 Methods in Regional Science or Urban Analysis, August 25, 2021, 12:00 PM - 1:30 PM

The future of our urban mobility systems depends on numerous framework conditions, including technical, political, regulatory, social, cultural, and economic parameters. These conditions are city-specific and serve as the building blocks of what we define here as the Transportation Innovation Ecosystem (TIE) of a city. However, many cities do not have a thorough understanding of their TIEs. This limited understanding reduces the ability of cities to define, adopt, and implement policies that aim at promoting innovative solution in light of the mobility challengers they face. For this propose a methodology was developed that made it possible to map the ecosystems of innovation in urban transportation, as well as the strengths and weaknesses of the systems. The study funded by the EIT Urban Mobility, a consortium established by the European Institute of Innovation and Technology (EIT), of the EU.

The methodology developed in the project was applied to three cities: Munich, Budapest and Prague. The project was carried out in collaboration with local research teams and senior local government officials in the three cities. Mapping the ecosystems of transportation innovation in the three cities included collecting data through local experts. The macro analysis presented here included database analysis using statistical and mathematical procedures that estimated the level of relationships between the components of the systems. The resulting mapping indicated significant differences between the systems in the three cities. Munich's TIE is a stable and complex system made up of many stable pillars. Munich, enjoys from a diverse and unique set of capabilities/assets (anchors) that (can) support the advancement of the transportation ecosystem. However, anchors that have the potential to support processes are sometimes underutilized, which presents many non-existing ties between anchors and processes.

Budapest's TIE is a system in transition in which the linkage between anchors and processes is not well established. Moreover, the TIE is relying on a few major anchors (mostly Governmental institutional infrastructure) with a limited ability to address challenges due to the centralized form of capabilities. Prague's TIE indicates on the potential of the ecosystem which is in an initial stage of development. Most of the processes that have been identified by experts are in either declarative phases, early implementation stages or have been proposed for future implementation. Thus, the significant relationships identified are mainly indicative of the city's significant potential through capabilities to stabilize the system in the future.

# Typology of Coworking Spaces in Israel: Location, Type and level of Services they Provide to Members

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S27-S2 New working spaces, resilience, and peripheral areas during the Covid-19 pandemic, August 25, 2021,  
4:15 PM - 5:45 PM

see extended abstract

# The Legacy of a Socialist Innovation System: Surprising insights from a long-term perspective in East Germany

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S13-S1 Historical Roots of Regional Entrepreneurship and Innovation, August 24, 2021, 4:15 PM - 5:45 PM

Lower levels of innovation activity in East Germany are often believed to be a heritage of socialistic regime and its suppression of competitive attitudes (e.g. Hanson & Pavitt 1987; Grupp & Hinze 1994). In this paper, we investigate by means of a Difference-in-Difference approach how forty years of a socialist regime and the shock transition to a market economic system affected innovation activity in East Germany. To this end, we compare patenting activity in East and in West Germany before and after the socialist period. Indeed, in the early 1990s the level of innovation activity in East German regions was substantially lower than in the West (IWH 2019). However, contrary to our expectations, we do not find any significant socialist treatment effects on the level of innovation activities across East German regions when comparing with the level of innovation activity in East and West Germany before World War II. However, the innovation gap between East and West Germany increases since the late 1990s. This pattern can hardly be regarded a direct effect of the socialist period but is probably a result of adjustment processes of the transformation. Our analyses support an ever-increasing structural similarity of the technological profiles in West and East Germany after the reunification. This similarity is triggered by an increase in East German patent production in those technological fields where West Germany was mostly active prior to the reunification. However, despite an overall gradual alignment of two previously separated innovation systems, we detect several technological fields, that appear to be crucial for the East German backwardness. Technology domains, in which the East-West gap seems to be rooted, are mostly ICT-related and comprise, among others, digital communications, IT-methods for management as well as semiconductors. These technologies have been notoriously failed to deliver supreme achievements during the GDR era despite the large-scale efforts by the state leaders aimed at promoting their development. Overall, we find that the weakness of the East German innovation system can only partly be blamed to its socialist legacy. Contributions of our study are manifold. First, we analyze the impact of socialist regime and transformation to a market system on innovation activity and its long-run geographic organization. Second, we contribute to the emerging strand of literature on the historical roots of innovation processes.

# A question of regulation or motivation? Green innovation activities in transition economies (note: Paper eligible for Epainos Award)

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YSS2-G07 Global Warming, Health and Environmental Issues, August 26, 2021, 10:15 AM - 11:45 AM

Containing the global rise in temperature and achieving sustainability without a significant deviation from 'business as usual' is not possible. A deviation from business as usual can be innovation activities as Schumpeter defines innovation as a combination of factors in a new way (Schumpeter 1939) or in other words "doing things differently". However, solely doing things differently is not sufficient, processes toward sustainability are essential. Environmental Innovation (EI) are thereby broadly defined as product, process, organizational, social or institutional methods that are novel to the firm and contribute to reduce environmental harms and resource use (Rennings 2000, Kemp 2010, OECD 2009).

This paper examines the determinates of companies' environmental innovation activities in transition economies of Eastern Europe and Central Asia, which completely restructured their innovation systems in the course of the transformation from planned to market economies relatively recently. Environmental innovation activities play an important role in the development of a low-carbon and climate-resilient economy and enable new opportunities for economic diversification. This is especially important in the countries under study as they rely on more energy-intensive technologies.

There are already existing several studies of environmental innovation activities. Though, results differ depending on the characteristics of the nationality under study (del Río et al. 2015). The recent environmental literature mostly focuses on Western countries (see e.g. Arranz et al. 2019, Kesidou and Demirel 2012, Marchi and Grandinetti 2013). However, there are few studies looking at Eastern European countries, but only within the EU context (e.g. Biscione et al. 2020, Horbach 2016, Hojnik and Ruzzier 2016). Therefore, this study is broadening the scope and includes all 29 transition countries of Eastern Europe and Central Asia. Using the most recent EBRD-EIB-WB Enterprise Surveys (ES) data for 29 former transition economies conducted in 2018-2020, a logit regression analysis was employed.

Preliminary results show that environmental regulation increases the likelihood to introduce energy efficiency measure in firms. Customer demand for environmental standards stimulates innovation in all areas of environmental innovation activities as well as general product and process innovation. This is indicating that market pull factors create incentives that go beyond environmental activities. These findings are in contrast to Horbach (2016) and Biscione et al. (2020) who found that demand push factor is less relevant than environmental regulation in Eastern EU states. Furthermore, the results suggest that collaborative R&D is still quite weak in these countries, while external knowledge transfer is an important determinate.



# Handing over to the next generation: An exploratory analysis of factors impacting business succession results

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G36 Business and entrepreneurship, August 26, 2021, 4:15 PM - 5:45 PM

The economic significance of business successions lies in the continued use of already existing, valuable entrepreneurial resources and structures. If a business succession fails, resources are lost. Therefore, a low rate of transgenerational succession can have drastic implications for local economies. Against the background of the current Covid-19 crisis, the topic of business succession is more updated than ever: Plans for business successions have taken a back seat for the time being in the face of the imminent problems of the crisis. In the medium term, however, the uncertainty created by the pandemic is prompting entrepreneurs to take a closer look at their succession planning.

This paper aims to identify factors contributing to a successful handover and exploring the biggest challenges for a succession. What is needed to bring a business not only from the first to the second, but also to the third and fourth generation? What characteristics does an entrepreneur need to navigate a business through a crisis? In order to get deeper insights, qualitative data were gathered via interviews with experts in the province of South Tyrol in northern Italy, including business and financial consultants, lawyers, accountants and mediators. Further insights were drawn from case studies of business successions in the same geographical area.

The results support research expectations that various factors, both entrepreneurial, social and psychological, play an important role in securing the generational succession. Too little attention is still being paid to the many alternatives to a succession within the family, even though the decoupling of biological from entrepreneurial succession is gaining in importance.

# House Prices in Rural Tourist Regions

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G16-O3 Real Estate and Housing Markets Issues, August 26, 2021, 12:00 PM - 1:30 PM

The amenity value of natural beauty and of the environmental quality of landscapes has been documented in the extant literature. Although many of the regions that score highly on these factors are relatively remote and lacking in the economic and physical infrastructure that underpin land values in agglomerations, empirical evidence suggests that the environmental attractiveness of a region is capitalised into house prices. Using a comprehensive county-level panel dataset from 2013-2021 and various local indicators of tourism intensity and national park delineations, we seek to test if this amenity value is indeed reflected in local and regional house prices in Germany. In particular, we investigate if the attractiveness of residing in a tourist region with high natural amenity value has increased over recent years, as evidenced by excess price growth, and if the recent pandemic has accelerated any such trends towards more rural living in attractive areas.

# Resilience of Industrial Districts: Lessons from the Great Recession

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S14 Regional Resilience in Low-density Territories: overcoming the effects of COVID-19 pandemic, August 24, 2021, 4:15 PM - 5:45 PM

Over the last years, resilience has been a trending topic in regional studies focused on the analysis of recent financial and economic crisis (Pendall et al, 2010). Resilience is a concept taken from psychology and biology and is defined as the ability of a person or a system to cope with the consequences of an external shock. In this work, we try to analyse the resilience of local labour systems, and especially those identified as industrial districts, of the Valencian Region in Spain.

The main question is whether industrial districts have been able to face the consequences of the economic crisis than other local productive systems. In short, have industrial districts been resilient or not? Therefore, the aim of this work is to analyse the resilience of local productive systems in the Valencian Region in Spain where a relevant number of these systems are industrial districts with a long manufacturing tradition. In addition, a distinction between metropolitan areas in the Valencian Region and the rest of local systems is introduced to observe differences in their performance during the period of analysis.

To achieve this, a dynamism and resilience indexes, following Martin et al (2016), are calculated for the period 2002-2013 to see the evolution of these territorial units during the phases of growth and decline during the crisis. In a second phase, we carry out an analysis to enhance the knowledge about the territorial determinants of economic resilience based on the influence of agglomeration economies and the role played by productivity, specialization and diversification of the productive structure. The competitive advantages originated by agglomeration economies (location economies, urbanization economies or competition economies) inside industrial districts should provide them a higher resilience than in other territorial agglomerations. Specially, in terms of production as the recovery of employment appears to be slower. Variables as related and unrelated variety, knowledge bases for industry and business services and specific variables to estimate the effect of the several external economies are included in a multivariate regression model to estimate which are the specific-place determinants of resilience. The results will be useful to highlight which industrial policy measures could be applied to reinforce the productive structure improving the resilience for future external economic shocks or in the event of a similar shock as the current pandemic.

# Does FDI generate regional growth? The role of FDI in regional economic growth in Eastern and Central Europe

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S33-S1 Geoeconomic challenges: the role of FDI revisited in the Central and Eastern European regions,  
August 26, 2021, 12:00 PM - 1:30 PM

In Central and Eastern Europe (CEE) economic restructuring since the 1990s was primarily driven by foreign direct investment (FDI), which in the short term contributed to the increase productivity and competitiveness. Our starting point is the finding in studies focusing on Central and Eastern Europe that manufacturing FDI is a driver of regional GDP growth. According to our hypothesis the positive effects of FDI on economic growth and Gross Fixed Capital Formation (GFCF) are much less pronounced in the long run in CEE. The paper examines the effects of FDI on GDP growth and GFCF, and tests the causal relationship between these variables in the Hungarian regions. Based on the econometric analysis, the study argues that it is not FDI that causes GDP growth, but more FDI flowing into the already more developed, higher-growth regions. The inclusion of GFCF into the model also eliminates the significant positive effect of FDI. Government and EU-funds-generated investments play a much greater role in GDP growth than foreign direct investment.

# Cognitive proximity, network structure, and MSEs' innovation: evidence from Johannesburg

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S06-S2 Smart specialization for peripheral areas? From failure to solutions, August 25, 2021, 12:00 PM - 1:30 PM

See extended abstract

Cognitive proximity, network structure, and MSEs' innovation: evidence from Johannesburg

There is still little understanding of how cognitive proximity and network structure are associated with innovation in developing countries. Our findings suggest that the knowledge diffusion in a context of cognitive proximity between firms and their embeddedness in a knowledge network are both essential to innovation in manufacturing micro and small enterprises (MSEs) in South Africa. As modern economies can be represented as intricate networks linking specialised production units, we employ cognitive proximity as a driving force behind the formation of the knowledge network in which the nodes are SMEs, and the links represent that proximity.

We analyse a database obtained from a survey with 711 MSEs in Johannesburg and find that cognitive proximity plays a role in the innovation process of MSEs. Our dependent variable is binary and takes a value equal to 1 if a firm introduces an overall innovation or product innovation and zero otherwise. Our main variables of interest are (i) cognitive proximity, computed through co-occurrence from a matrix with information on the types of skill most needed for each firm, the sector of activity, and the types of information that each firm usually exchange with its pairs; (ii) degree centrality which computes the number of connections that each firm has; and (iii) betweenness centrality which refers to the extent to which a firm is located between other pairs of firms.

Employing a logistic regression model, we find that the probability of introducing an overall or product innovation increases with the cognitive proximity. In accordance with the 'proximity paradox', firms closer to others in a cognitive space tend to elevate their probability of innovating until a certain threshold. After that, the likelihood of innovating decreases, and the relationship between cognitive proximity and overall innovation assumes a U-inverted shape. However, for product innovation, that relationship does not show the same relationship: the quadratic term of cognitive proximity was not significant.

MSEs also take advantage of their privileged position in the network since the likelihood of innovating increases if a firm is more often located 'between' the information path of firms pairs. However, we do not find evidence that the number of connections is associated with a higher likelihood of introducing any type of innovation.

# City Shape and Air Pollution: Evidence from India

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G07-O1 Global Warming, Health and Environmental Issues, August 24, 2021, 2:30 PM - 4:00 PM

Air pollution has become a severe health threat for the local population in many cities around the world. In 2016, the WHO estimated that globally 7 million premature deaths were attributable to air pollution (WHO, 2018). Especially the fast growing cities in developing countries such as in India face high levels of air pollution. According to the World Air Report 2019, 21 out of the 30st most polluted cities worldwide are located in India (World Air Report, 2019). Although there is clear evidence that air pollution has severe negative effects on human health, there is relatively few literature in urban economics on the role of urbanization and local air pollution. Using high resolution satellite imagery on nightlights and particulate matter (PM 2.5) for the years 1998-2013, I study the contemporary nexus between city shape and air pollution in India. The study sample consists of all 673 Indian cities, that had at least 50.000 inhabitants according to the Population Census of 2001. Surprisingly, I find that more compact cities are associated with a significantly higher degree of air pollution. The results are more pronounced in larger cities and robust to different compactness measures and alternative night light thresholds for creating the urban footprints. Furthermore, the results are externally valid when applying the same approach to all African capital cities instead of cities in India. One potential channel could be that in less compact cities people make less trips within cities due to higher distances and thereby reducing the overall road traffic within cities leading to fewer congestion, which is considered to be one of the main contributors to ambient air pollution. The work of this research project is inspired and based on previous work by Harari (2020) and Dingel et al. (2019).

# A spatial Durbin stochastic frontier model with inefficiency spillover effects: a new proposal

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G14-O2 Spatial Econometrics, August 25, 2021, 4:15 PM - 5:45 PM

In the last decade it has been widely demonstrated that biased estimates and invalid statistical inference can occur in evaluating the level of productivity of firms using stochastic frontier models (SF) if spatial correlation is not taken into account. Indeed, firms tend to cluster toward similar locations to take advantage of geographical proximity thanks to emulation, an extensive local market for specialized inputs, and shared knowledge. Therefore, to consider spatial dependence and to capture global, local and inefficiency spillovers, Authors began to extend SF models in order to include also spatial terms. Specifically, spatial dependence is usually introduced in SF models through the spatial lag of the dependent variable (SAR term) or the spatial lag of the production inputs (SLX term). Nevertheless, at our knowledge, no models have yet introduced the possibility to evaluate whether the determinants of technical inefficiency of neighbouring firms can affect the productivity level of neighbours. Therefore, we propose a novel SF model which includes three spatial terms capturing global, local and knowledge spillovers among firms. This model enables us to evaluate different sources of spatial dependence using a spatial Durbin stochastic frontier specification introducing spillover effects also in the determinants of technical inefficiency (SDF-STE). The first relevant feature of the SDF-STE model concerns his general and comprehensive specification allowing to capture different kind of spatial spillovers across firms. Second, this model nests several existing spatial and non-spatial models, allowing to select the model that best fits the data testing different restrictions through likelihood ratio tests. The SDF-STE model can be estimated using maximum likelihood estimation techniques, and we provide some Monte Carlo experiments testing the goodness of estimated parameters. Finally, we show a brief application to the Italian accommodation sector.

# Administrative reforms, urban hierarchy, and long-run local population growth. Lessons from Italian unification

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G01-O5 Regional and Urban Development, August 25, 2021, 12:00 PM - 1:30 PM

We analyze the local-level demographic effects of the 1865 Italian “Lanza administrative reform”. This reform established the skeleton and functioning of the entire public administration in the Kingdom of Italy, unified in 1861, by re-assigning administrative functions to municipalities throughout the country. We focus on municipality-level population dynamics over the period 1861-2011, while also providing evidence of more recent local-level economic performance. We rely on difference-in-differences and matching techniques, and find that municipalities that emerged from the reform with new or increased administrative functions at the supra-municipal level gained a population growth premium, persistent over time. Moreover, the long-lasting effects of the reform are visible looking at local labor markets’ productivity in the early 2000s.



# Foreign Direct Investment Spillovers and the Geography of Innovation in Brazilian Regions

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G30-O1 Innovation and Regional Development, August 26, 2021, 12:00 PM - 1:30 PM

In the last decades, the world has seen a rapid change in the innovation landscape. Some emerging countries have displayed rapid catch-up trajectories, with the incorporation of new and important capabilities (Lee and Malerba, 2017). However, most developing countries, and their regions, continue to suffer from the lack of domestic technological capabilities and rely mainly on technology transferred from advanced countries (Fagerberg et al, 2010). Main learning channels traditionally available to domestic firms in emergent countries include technology licensing, reverse engineering, labor mobility, exchange of information and knowledge with suppliers and buyers, learning from trade exchange, and spillovers from Foreign Direct Investment (FDI) (Amendolagine et al., 2018).

As for the sources of knowledge creation, literature has focused on discussing the role of the Foreign Direct Investment, as an engine of regional growth and technological catch-up and innovation. Knowledge spillover effects have been studied both at the firm and regional levels, besides studies at the national level. Literature in this line of research also pointed out the conditions that enable major knowledge spillovers from FDI in the recipient regions (Wang et al., 2016). For example, studies on the absorption capacity of host regions show that it can be a determining factor that affects the magnitude and importance of FDI spillovers. Also, other factors such as an effective link between foreign and domestic companies upstream or downstream of the value chain, and the local stock of local human capital and mobility are important as drivers of the effect of the inward FDI on innovation.

Based on these assumptions, we aim to analyze the main effects of the entrance of FDI in the innovative performance of Brazilian regions. We also consider the role of local factors such as the role of the industrial structure (specialization and diversification) and qualified human capital. Our preliminary results show that Brazilian regions that received inward FDI present better innovative performance, which allows us to conclude that FDI represents important flows of new knowledge to local agents.

# Measuring the quality of Government at the regional level: a preliminary analysis for a developing country

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G30-O1 Innovation and Regional Development, August 26, 2021, 12:00 PM - 1:30 PM

A wave of recent research, at both national and regional levels, has pointed out the positive consequences for countries and regions from the high levels of “quality of government” (Charron et al., 2019). Quality of government (QoG) is usually defined as ‘the impartiality of institutions that exercise government authority’ (Iddawela et al., 2021). Most studies on quality of government have focused on the national level. Nevertheless, in recent years a growing set of research has increasingly sought to investigate how sub-national governments affect geographical differences in economic output and economic development, using new indicators to measure sub-national government quality. Recent research on quality of sub-national government found that it plays an important role in explaining sub-national differences in economic performance in Europe (Charron et al., 2014; Crescenzi et al., 2016; Rodríguez-Pose & Garcilazo, 2015). However, research on sub-national government quality has mainly focused on Europe, and the rest of the world, and particularly the developing countries, remains a black box (Iddawela et al., 2021). Based on these assumptions, the aim of this paper is to propose an application of the index of quality of government to a developing country, as Brazil. In order to build our index of Quality of Government (QoG), we try to measure the role of local institutions at a regional level and their change over time (Rodríguez-Pose & Ketterer, 2020). To operationalize the index of QoG, we follow Charron and Lapuente 2013, and we developed a composed index with four main set of indicators. The first indicator is an educational index at regional level, which measures local government spending on basic and elementary education. We use data from investments in teachers, teaching materials and total investment per student, as well as an indicator of the quality of primary and secondary education. The second indicator is a crime index, measured by the murder rate at regional level. The third indicator is about corruption, by using data of the rate and the value of legal process at regional level. Finally, the fourth indicator is for the regional health system, which is measured by the expenditures of local government with public health, and the infant mortality rate at regional level. In this way, we adapt and apply this indicator to Brazilian regions. Following, we regret the Brazilian index of Quality of government (BR-QoG) with the economic growth rate of Brazilian regions, and with innovation at regional level.

# Spanish disadvantaged territories and the ESF: between cohesion and resilience

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G23-O2 Segregation, Social and Spatial Inequalities, August 27, 2021, 10:15 AM - 11:45 AM

The objective of this work is the analysis of the expenditure linked to the European Social Fund through the Multiregional and regional Operational Programs during the 2014-2020 programming period. The principles of the European social model are too generic and entail the existence of multiple variants. But, in addition, the data show that the greatest differences appear within each of the States. In the case of Spain, the management of the social model depends largely on Autonomous Communities with broad powers. It is also necessary to take into account that the pandemic –as in other aspects– has forced us to restructure the vision that we had of the period previously, becoming one more element of socioeconomic divergence that affects both territories and people. The completion of these projects overlaps a new period marked by the pandemic and the Recovery Funds. The reinforcement of the resilience of the territories will be compromised if they do not have the sufficient capacity to absorb these investments. The work uses a descriptive methodology applied not only to the expenditure already made and approved, but also to the socioeconomic characteristics that determined the allocation of funds and that currently have to be adapted in order to face the challenges derived from the pandemic. .

The results point to marked territorial inequalities that in many cases are structural, but in others will depend on the adaptation capacity developed by regional governments within a common strategy.

# Transport resilience: a literature review and research agenda

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G17-O3 Transport and Accessibility, August 26, 2021, 2:30 PM - 4:00 PM

The transport networks are pillars of the societies' economy. A resilient and efficient transport system allows the free movement of goods and people and fosters trades and cohesion between regions and societies. In the everyday life, these systems, both at an infrastructure and a system level, are constantly exposed to risk from external shock. Climate change related rise of temperatures and the increase in frequency and intensity of extreme weather events, like heavy rainfalls, wildfires and floods, put a strain on the resilience of the passenger transport systems. In addition to that, other phenomena, like maintenance works, protests and other external shocks (like the COVID-19 pandemic or political unrest), could alter the normal operations of the transport systems. In the last decades, several articles have been studying the resilience of the transport systems in relation to these events and several metrics have been built to analyze the evolution of the networks' performance through the different phases of a disruption and assess objectively the resilience of the transport systems. Furthermore, many different related concepts, like robustness, vulnerability and reliability, have been conceptualized to deepen and provide additional instruments to the transport resilience theory and computation. Anyway, a common and shared definition of resilience does not exist, nor a metric, and it could seem challenging to find a link between different interpretation, related concepts and metrics. This paper is aimed at reviewing the on-topic relevant literature to analyze the different interpretations of resilience and its related concepts building direct interconnections between them to give an overall overview of the transport resilience theory. On the other hand, resilience performance metrics are analyzed in detail and a clustering work is made to categorize them and strengthen their comprehension. This paper contributes to the literature by (i) analyzing recent works on transport resilience interpretation and computation, (ii) building a connections net between resilience main concept and related ones, (iii) giving a cluster classification of the resilience performance metrics and performance indicators and (iv) identifying relevant research agenda items and research gaps to further deepen the studies on transport resilience

# Reignite tourism in Lisbon towards a more resilient, inclusive and sustainable model

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S25 Searching for tourism resilience in the post-pandemic world, August 25, 2021, 10:15 AM - 11:45 AM

The last decade's Lisbon urban tourism model has been too unregulated, excessive, predatory and exclusionary towards the resident communities. With the pandemic, many tourism companies might have to re-evaluate their operational and business models in the short term and new pressures on tourism can be expected to rise again in the urgency of getting business back on track. International markets will likely take some time to recover from the pandemic's serious effects and regaining the trust of tourist confidence. Nevertheless, Lisbon will not become a sustainable tourist destination if it returns to the same model. Therefore, this unprecedented moment is a good opportunity for tourism destinations to redefine their tourism models towards a more sustainable, equitable and resilient recovery. In Lisbon, this means guaranteeing the quality of experiences offered for tourism consumption while avoiding the critical effects of overtourism on the city's daily life, safeguarding residents and users' quality of life and allowing many to return to the city. For stakeholders, this may also involve readapting business models, to make them more resilient to similar situations, with a more collaborative and equitable approach, in terms of value production.

A consistent focus on Cultural and Creative tourism (CCT) might be a disruptive solution to the recovery of a tourist destination of reference such as Lisbon through the experimentation of products, services and experiments capable of valuing the endogenous territorial resources and promoting jobs resilience. This perspective highlights the advantages of linking CCI with the tourism sector to promote smart and sustainable tourism dynamics and especially, to involve local communities in designing distinctive and engaging experiences, through placemaking strategies.

This presentation aims to explore this approach through the outline of a project that is taking its first steps and contribute to the discussion of more innovative, resilient and sustainable urban tourism models.

# Cross-border cooperation along the French border: the role of euroregions especially during the pandemic

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S57 Progress, regress and change in European cross-border regions, August 27, 2021, 2:30 PM - 4:00 PM

Nowadays euroregions cover all European borders and play a great role bringing people together. They all have the same objectives: developing a coherent space, building a common cross-border living area and reducing the border barrier role. The EU encourages their development as they are part of the European integration process; they contribute to an economic and social cohesion and stability beyond borders. For the past few decades, cross-border cooperation has been getting stronger in different fields, even though obstacles remain to their efficiency. But they have to experience a new situation due to the pandemic since last year. It will be interesting to observe the consequences on the activities of these cross-border structures and how they react to this new Covid-19 situation. This study will analyze the situation along the French border where many cross-border cooperation structures have been in operation since the 1960's, having different legal bodies and different aims. Each one has its own advantage and disadvantage, but despite this they have developed good practices in many fields. However, the pandemic has revealed that euroregions appeared weak in terms of governance and decision making. What lessons can be drawn from this situation to improve their efficiency in the future? The study will focus on what happened along the French border, how euroregions addressed their weakness and what can be done to enhance cross-border cooperation. (see extended abstract)

# Failing Infrastructure, Market Access, and Productivity: Evidence from German Firms

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G17-O1 Transport and Accessibility, August 25, 2021, 4:15 PM - 5:45 PM

While the economic impact of accessibility improvements through new transport infrastructure has been analyzed in multiple studies, little research focuses on the effects of infrastructure restrictions. As a significant share of bridges in the German highway system is classified as not fulfilling stability or transport requirements, posing a significant risk of accessibility losses due to road restrictions and closures, this paper asks:

- How accessible are firms in Germany within their market environment?
- How does market access affect the productivity of firms?
- How high are the risks posed by infrastructure failures in terms of production losses?

A three-step procedure is employed. Firstly, I develop an accessibility indicator defining accessibility as company-specific access to potential suppliers, customers, and other business partners by combining travel times for road freight traffic with an inter-industry weighting scheme. Secondly, the effect of market access on firm production is identified by including the accessibility indicator in a Translog production function. To approach endogeneity, I compare a GMM estimation procedure with an IV approach using historical accessibility. Thirdly, I identify potentially failing bridges using data on their condition, and combine them with the results of the previous steps to estimate the effect of potential closures on accessibility and productivity. As a result, the paper quantifies the potential economic effects of infrastructure failures that are directly caused by market access losses.

The main source of data used in this project is the ORBIS firm database, containing information on the location, revenue, employees, and asset structure of more than a 110,000 firms in Germany in 2018. The size of the dataset allows us to estimate a variety of specifications of the model and compare the results for subsets. An analysis of the dataset reveals the large variation as well as the representativeness of our sample for the entire German economy both in terms of its structure and its spatial distribution.

Currently, an in-depth analysis of the dataset has been conducted and the firm-specific accessibility values are to be calculated. The subsequently estimated production function will identify the economic impact of the accessibility measure, which is expected to confirm the hypothesis that accessibility is positively correlated with production. As previous results point out that worse infrastructure quality is associated with lower output (Gaus & Link, 2020), I further expect that closures of highway constructions cause production output losses through increased travel times and decreased accessibility.

# Effects of telework on human capital distribution and sorting: a skill-biased-commuting-costs QSE model

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G03-O2 Demographic Change, Population, Migration and Mobility Behaviour, August 24, 2021, 2:30 PM - 4:00 PM

The Covid-19 outbreak brought telework under the spotlight, as firms were forced to adopt it to maintain business continuity. These circumstances fuelled the debate among regional economists on the effects of extensive adoption of telework in terms of workers relocation, population trends and city-sizes. The aim of this article is to participate in the discussion by analyzing the effects of telework in terms of sorting and distribution of heterogeneously-skilled workers, through the lenses of a quantitative spatial economic model.

Telework, also referred to as telecommuting or remote-work and defined as any contractual arrangement allowing to work from home at least occasionally, has been slowly but steadily growing in the last twenty years to a phenomenon involving 25 percent of US workers in 2017 (US BLS, 2019). Having now interested policy-makers and researchers for more than five decades, telecommuting is still regarded by the former as a desirable way to decrease congestion, transport-infrastructures burden and pollution, notwithstanding the inconclusive results obtained by researchers in terms of its effects on residential relocation and commuting behaviors. Telework is unevenly distributed among skills, salaries and city sizes, concerning mainly the last quartile of each of these distributions: an unevenness that was confirmed during the pandemic and deemed to be linked to the need for physical interactions and the levels of autonomy entailed in the job and position held (JRC,2020; McKinsey 2021).

Building upon the aforementioned evidences of the uneven access to telework, I extend the QSE model by Behrens et al. (2014) to include skill-biased commuting costs. The model, calibrated on 1990-2018 US data, is expected to show the agglomeration and skill-polarization reinforcing-role of telework, against the widespread idea that it could increase smaller cities population. Since remote-workers exhibit lower commuting-frequency, they should be more indifferent to commuting costs and thus better-off than in-place workers especially in large cities where such costs are higher.

Given the pandemic is not yet resolved, neither the persistence nor the sector-specificity of its effects can yet be assumed from available data. For these reasons, the model exploits pre-pandemic data to infer future trends through counterfactual levels of local telework adoption.

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# Proximities and access to Venture Capital: evidence from Italian innovative start-ups

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G21 Regional Finance, Fiscal Issues, Investment or Capital Markets, August 25, 2021, 4:15 PM - 5:45 PM

Is there 'a place to be' for innovative young firms to receive finance? May those who locate outside financial cities, effectively attract risk-capital by providing counterweights to geographical distance with potential investors? How can we make sense of the abundant evidence on regional equity gaps and local biases in investment selection that clashes with Venture Capital funds managers stated indifference to spatial proximity in deals selection?

This paper aims to investigate the role that a manifold notion of proximity has in the access to Venture Capital by innovative startups. We claim that, while spatial proximity is relevant for successful VC deals with young innovative firms, different forms of tangible and intangible proximity also matter and could explain the absence of location-mirroring relationships.

Referring to the population of Italian innovative startups and to VC investments in them, we find that spatial proximity accounts for their matching, but rather marginally and more in functional than in geographical terms, revealing a concave pattern and an interesting substitutive relationship with cognitive proximity. Cognitive and institutional proximity matter too, but with some atypical non-monothonic patterns. The greatest impact is exerted by a relational kind of proximity, combining aspects of social and organizational proximity: based on the network distance between funds and startups in terms of their ownership and investment structure, and the professional history of managers and advisors, it exhibited an exponential effect on the probability to observe a successful match.

We conclude that relational (social and organizational) networks should be regarded as a lever by startup firms seeking finance and by policy makers addressing regional equity gaps.

# How to locally foster Community Resilience amid a global pandemic? The case study of Merano (South Tyrol, IT)

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G06-O1 Adaptive and Resilient Cities and Regions, August 24, 2021, 12:00 PM - 1:30 PM

The spread of the coronavirus and its global consequences have made it urgent to develop strategies to build and increase resilience at the local level. In addition to the immediate health emergency, the current pandemic has contributed to a climate of uncertainty and fear, which, together with the economic and social consequences, adds an additional threat to individual and community well-being.

Recent studies on resilience have been attempting to shift the focus from a characteristic of the individual to one of a cultural process and community, where community indicates a group of individuals in a shared geographic area, linked by socio-economic interactions and engaging in collective action (Sharifi, 2016). Following the framework of Contreras (2016), community resilience can be measured locally considering six dimensions that are affected in case of disruptions, namely physical, social, economic, institutional, cultural, and social factors.

This study will present some preliminary results of a case study aiming at defining, measuring, and enhancing community resilience to COVID-19 by focusing on a local urban reality, the small town of Merano in Northern Italy. Merano has been striving to position itself as a pioneering health promoting city, by facilitating active lifestyles, closeness to nature, and cultural activities, all deemed as sources of resilience, well-being, and social cohesion. Particular attention will be given to sub-communities that have been impacted the hardest by the pandemic, such as older people, young mothers, children and adolescents. The research design is a mixed-methods, inductive study incorporating both quantitative and qualitative data gathered through surveys, individual/group interviews, and ethnography. The study seeks to define concrete recommendations for public policies to strengthen social cohesion and resilience at individual and community level.

# The local labor market effects of earthquakes: evidence from a Difference-in-Difference approach with multiple time periods and multiple groups

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S52-S2 Building territorial and community resilience through disaster risk reduction in marginal areas of rural Europe, August 27, 2021, 10:15 AM - 11:45 AM

In this paper, we assess the causal effects on different local labor market outcomes of the main earthquakes occurred in Italy over the last fifteen years. We focus on the latest three significant episodes: L'Aquila 2009, Emilia-Romagna 2012, and the seismic sequence that took place in Central Italy in 2016.

Most of the extant literature on the impact of natural disasters on labor market and other economic outcomes concerns a single event (i.e. earthquake) and the results on the effects on the local labor markets in affected areas are generally quite heterogeneous and can vary according to their type, intensity and to the level of development of the region.

In this work, we focus on the impact analysis of the three events mentioned above occurred in the same country (Italy) in the period 2006-2018, in order to find out if the effects are heterogeneous by time of earthquake occurrence, if they increase over time and if short-run effects are more pronounced than long-run ones. Furthermore, the study allows us to investigate whether the dynamics of earthquake effects differ when local labor markets are first treated in recession years versus expansion years.

We perform our analysis using a balanced panel of 610 Local Labor Market Areas (LLMAs) and adopting a new Difference-in-Difference approach with multiple time periods and multiple groups. This methodology allows to consider the possibility that the treatment starts in different years for different groups of spatial units (treatment time variability) and that the treatment effect varies over time (dynamic treatment effects). The outcome variables are the local employment rate, the local unemployment rate, and the local participation rate. The treatment variable is the occurrence of a destructive earthquake.

The results show highly heterogeneous effects of earthquakes on the labor market: the earthquake occurred in 2009 had significant negative and persistent impact on the employment rate and on the participation of the LLMAs involved, while we find no adverse effect of the earthquakes occurred in 2012 and in 2016 on aggregate labor market outcomes of the LLMAs involved. Extending the analysis at the sectoral level, it emerges a positive impact of the earthquakes only for the construction sector, while the other sectors do not reveal any effect.

# Support for University Science Parks in Central Europe

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G30-O2 Innovation and Regional Development, August 26, 2021, 2:30 PM - 4:00 PM

Universities play an important role in regional development. University science parks are also one of their tools that can help with this role. Especially in the countries of Central Europe, it is a relatively new instrument with very limited tradition, which is nowadays massively supported from the financial sources of EU cohesion policy. The aim of this article is to analyse the effects of this support on the operation of university science parks in selected Central European countries and the consequent impact on the regional innovation systems in which they operate. At the same time, it compares the results in different types of regions (more and less developed regions) as well as the results of different universities (technically and humanities-oriented universities). The research is carried out in the form of collecting key data on support and the results of this support in the form of monitoring indicators, which are supplemented by qualitative research in the form of an interview. The results show a relatively significant inefficiency of this support and only a small impact on the prepared innovation environment in the given regions. Especially in less developed regions, the problem is the excessive concentration of support only on the hard infrastructure of these science parks.

# Italy's Covid-19 Waves: An Evaluation of Forecasting Procedures

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G14-O1 Spatial Econometrics, August 25, 2021, 2:30 PM - 4:00 PM

In this essay several procedures of time series analysis are evaluated concerning their accuracy in forecasting COVID-19 infection numbers. Therefore time series of daily new infections and other variables of the Corona issue in Italy's regions and provinces are used. It is checked for each procedure if its forecasting accuracy can be increased by incorporation of spatial information (i.e. spatial structures and values in neighbor regions). Thereby it is illustrated how the (percentage) forecast error evolves for an increased forecast horizon.

In the course of the Corona years 2020 and 2021 the society regularly discussed about upcoming events like the holiday seasons and public holidays (Christmas, Sylvester, Easter). It was conjectured about reasonable political measures to prevent extreme case numbers for these times. Further epidemic scientists tried to prospect the highest case number of a wave and their corresponding dates. So this study especially illustrates how the (percentage) forecast error evolves with declining temporal distance to the date of a special event. For several forecasting procedures it is demonstrated with which temporal advance an accurate forecast can be received.

Since this paper is written from the view of an economist and data analyst, it focus solely on the evolvement of the time series process. However, the results should be interesting for researchers of several disciplines and from different perspectives.

# Forecasting Market Diffusion of Innovative Battery Electric and Conventional Passenger Cars in Federal States of Germany

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G22-O1 Energy and Ecological Transition, August 26, 2021, 2:30 PM - 4:00 PM

In view of the announced transition to electric mobility market participants are insecure about the prevailing propulsion technologies in the near future. Car manufacturers, who arrange production processes, as well as consumers, who make purchase decisions, are confronted with a choice between different technologies and related investment risks. While some literature about consumer choice between propulsion technologies (depending on household and car attributes) at the micro level is available, literature about straightforward forecasting procedures at the macro level is scarce. This research paper reports about the forecast accuracies (Percentage Errors, MAPE) of variants of ARIMA-, Exponential Smoothing-, Growth- and Deterministic Trend-Models. It compares a broad range of univariate procedures in forecasting accuracy of passenger car new registrations at the German national and federal states' levels. Further the forecast accuracy of an ARIMAX-model as a multivariate extension incorporating lagged information about new registrations in neighbour federal states is investigated. So the opportunity is taken to compare in a common framework a set of procedures in forecasting new registrations of passenger cars and especially numbers of the innovative Battery Electric technology. Also the pooled (i.e. summed up) forecasts for the German federal states are compared with the (unpooled) forecasts of new registrations in Germany based on the time series of the historical national values. The results show that the Logistic-model provides accurate forecasts of All Technology new registrations (which are still predominantly conventional Gasoline and Diesel internal combustion engines). In forecasting new registrations of the innovative Battery Electric technology the Bass diffusion model usually defeats other procedures, but nevertheless often significantly underestimates actual registration numbers.

# The impact of COVID-19 on the demographic dynamics of a highly aged country. The role of international migration in Spain

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G03-O2 Demographic Change, Population, Migration and Mobility Behaviour, August 24, 2021, 2:30 PM - 4:00 PM

The Covid-19 pandemic not only has had an enormous and unforeseen impact on people's lives, first indications are that it is also having an impact on the demographic structure of many countries. Most of the studies that have analyzed the impact of the pandemic on demographic dynamics have focused on excess deaths and losses in life expectancy. However, much less attention has been paid to the effect of Covid-19 on births and international migrations, despite the fact that the second factor constitutes the most important demographic component in the population growth of ageing societies.

The objective of this work is therefore to quantify the incidence of Covid-19 on deaths, births as well as international immigration and emigration, which we do for Spain, one of the countries that was most affected by the pandemic during 2020. To do this, we compare the demographic dynamics recorded with a population projection based on trends observed in recent years, assuming there had been no pandemic. We use a projection methodology based on the modelling of each demographic component by cohort.

The results reveal that population growth was slightly negative during 2020 (-22,000) when it should have increased by around 0.9% (+425,000). An excess of 80,000 deaths has been documented, 25,000 more than the official figure reported by the government, and the loss of close to 30,000 births. Consequently, the observed natural growth was even more negative than what would have been according to the non-pandemic scenario (-160,000 vs. -55,000). However, the main demographic component causing most of the population loss was not excess mortality or a reduction in births but a drop in international immigration, which was 55% less than the expected figure (namely, 460,000 fewer immigrants). On the other hand, perhaps due to international travel restrictions, emigration also decreased, reducing by 35% (-127,000). As a result, net migration was also much lower than expected (480,000 vs. 138,000).

Although all high-income countries have begun administering vaccine doses to their adult population (albeit with very diverging rates), the pandemic is far from over. In this sense, its impact over the coming years presents much uncertainty regarding demographic dynamics in ageing countries. Even if the excess deaths can be reduced with vaccination programs, the economic consequences and restrictions on mobility could continue to have a considerable impact on fertility and, above all, on international immigration for years to come.

# Did Unilateral Divorce raise house prices in Europe?

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G16-O1 Real Estate and Housing Markets Issues, August 25, 2021, 2:30 PM - 4:00 PM

In this paper, we analyse the impact of divorce law reforms on house prices for a sample of ten European countries between 1960 and 2008, taking advantage of the real house price index developed by Knoll et al. (2017). The period of reforms began in 1970, and differences in the timing of entry into force of unilateral divorce laws across countries provide a quasi-experimental setting. We estimate the static and dynamic effect of divorce law reforms, finding a positive and significant effect of these reforms on real house prices, mainly concentrated in years 3 to 6 after the reforms, even after controlling for a set of country-specific variables, as well as country-specific linear and quadratic time trends. The dynamic effect of unilateral divorce law reforms accounts in those years for 22% of the average interannual increment in the real house price index.



# A time series analysis of foreclosures rates in Spain

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G16-O2 Real Estate and Housing Markets Issues, August 25, 2021, 4:15 PM - 5:45 PM

Recent research has examined the effects of the legal reform passed in 2012 in Spain to protect mortgage debtors. Under the new regime, it is difficult for low-income debtors who meet certain requirements to be evicted. Using panel data models with regional, year, and quarter fixed effects, linear and quadratic region-specific time trends, and other relevant control variables at the regional level (house prices, inflation, and unemployment rates), those results reveal that the reform significantly reduced the number of foreclosures, but that this effect was transitory, fading six years after the reform. However, the negative effect on the mortgage loans market was permanent throughout the period under consideration. Nevertheless, the same study suggests that, although the change in the law affected all regions at the same time, the spatial impact of the law reform was uneven across units.

To disentangle the regional differences across regions in the effectiveness of the law reform, this paper explores the frequency of permanent shocks in foreclosure rates (defined as the number of judicial foreclosures per 1,000 inhabitants) for 50 Spanish provinces (NUTS III regions) during the period 2001(Q1) to 2019(Q4) using time series analysis. We examine whether the foreclosure rate is a stationary series, exhibits a unit root, or is stationary around a process subject to structural breaks. A clear finding from this analysis is that not all shocks have transitory effects on the foreclosure rate. The percentage of unit root rejected is around 40%, thus providing evidence of both stationarity around occasional shocks that have permanent effects, and of a unit root, where all shocks have a permanent effect on the foreclosure rate. To test for the presence of unit roots, we run the Augmented Dickey-Fuller test. We also test for unit roots allowing for the presence of one and two structural breaks. When two breaks are allowed, we find evidence of a negative change in the mean of the foreclosure rate series after the law reform in 22 out of the 50 regions, most of them located in the North of the country. Supplementary analysis considering the loans rate (defined as the number of mortgage loans per 1,000 inhabitants) reveals that the effect in the mortgage loans market was permanent in most of the cases, with a percentage of unit root rejected around 20%, and negative breaks in the mean of the series are found in almost all regions.

# Green Technological Diversification and International Co-Inventor Linkages

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G30-O2 Innovation and Regional Development, August 26, 2021, 2:30 PM - 4:00 PM

This paper studies the role of international co-inventor linkages in encouraging green technological diversification. The development of technologies with environmental benefits is a central process for the transition towards a more sustainable economy. Past research has shown that diversification in general is strongly path dependent: countries tend to diversify into new technologies that are related to existing technological capabilities and as countries diversify, they tend to gravitate towards more complex and valuable technologies. Interregional or international linkages represent another, albeit often overlooked, factor for encouraging technology development. Linkages, such as trade, migration and collaborations can act as a vehicle for the introduction of external capabilities, upon which countries can innovate and diversify. Linkages among countries, that have complementary capabilities may be particularly encouraging for the diversification process (Balland & Boschma, 2021). Since the transition towards a more sustainable economy can be regarded as global public good, understanding the role of international collaboration for diversification is particularly pertinent with respect to green technologies.

To study this issue, we utilise USPTO patent data between 1975-2015 across 49 countries and 250 7-digit CPC “green” technologies in the patent classes Y02 and Y04S. Using an entry model of new green technological specialisations in a country, we investigate the relationship between diversification and international linkages, measured by the number of linkages inventors in one country have with inventors in other countries and apply Balland & Boschma (2021)’s measure of complementary capabilities.

The results confirm that related green diversification prevails, and that technological complexity is an obstacle for entry, especially in catching-up economies. However, we find, that co-inventor linkages among countries with complementary capabilities support the development of more unrelated and more complex green technologies. In countries outside the OECD as well as the BRIICS, co-inventor linkages in general are positively associated to the entry of more unrelated and more complex green technologies. This suggests that green technology development in emerging economies essentially benefits from any international collaboration, whereas high-income countries mainly profit from collaborations with countries that have complementary capabilities. Thus, policies that aim to support the development of green technologies for the sustainability transition should emphasis and support the need of international collaboration in all countries.

# Long-term decline of regions and the rise of populism — The case of Germany

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S11-S3 Challenges and Opportunities of Rural Regions, August 25, 2021, 12:00 PM - 1:30 PM

What characterizes regions where right-wing populist parties are relatively successful? A prominent hypothesis proposed in recent literature claims that places that are “left behind” or do “not matter” are a breeding ground for the rise of populism. We re-examine this hypothesis by analyzing the case of Germany. Our results suggest that the high vote shares of populist parties are not only associated with low regional levels of welfare as such, but the long-term decline of the regional position as compared to other regions. Hence, it is not the regions that do “not matter” that are most prone for the rise of populism but the regions that mattered a long time ago before severely declining. Moreover, we find that regional knowledge represents an important channel through which the historical decline in wealth explains voting behavior in German regions.

# Human Agency and Economic Change in Regions

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S38-S1 Regional Growth Against All Odds, August 26, 2021, 2:30 PM - 4:00 PM

Striking imbalances in regional development, global warming and environmental degradation require a change to economic activities in regions. A key question is how such change unfolds and what role human agency plays. This paper studies human agency in relation to 40 phases of regional industrial development in 12 Nordic regions over 30 years. The paper contributes with a theoretical framework to study human agency and a carefully conducted qualitative comparative analysis based on a unique dataset including over 200 interviews. Economic change in regions is explained by different combinations of regional preconditions, change agency, and extra-regional events.

# Characterizing new mountain commons in the Swiss Alps

**Prof. Leila Kebir<sup>1</sup>, Dr. Marjolaine Gros-balthazard<sup>1</sup>**, Dr. Seraina Hürlemann<sup>1</sup>, Léa Canevet<sup>1</sup>, Dr. Yann Decorzant<sup>2</sup>, Dr. Roberto Leggero<sup>3</sup>, Pr. Luigi Lorenzetti<sup>3</sup>, Dr. Iago Otero<sup>4</sup>, Pr. Stéphane Nahrath<sup>1</sup>, Pr. Emmanuel Reynard<sup>1,4</sup>  
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S19-S1 Commons as enablers of territorial transition- evidences, assessment and theoretical perspectives,  
August 25, 2021, 12:00 PM - 1:30 PM

"In recent years, new self-managed collective structures have developed in mountain areas around the preservation or development of resources. While historical natural or land-based mountain community management systems meet the original definition of Ostrom as common-pool resources (Ostrom, 1990), these new commons (on the sense of Hess 2008) are built upon new objects (tourist destination, ski lifts, urban features, etc.), with more flexible contours and institutional arrangements (Kebir, Nahrath and Wallet, 2018) than historical commons (pastures, water, forests, etc.).

New commons have been, so far, mainly studied in urban contexts (Festa, 2016; Foster and Iaione, 2015). Based on an interdisciplinary project, the objective of this paper is to document the existence of such new commons in mountain areas and highlight their specificities. It aims at contributing to current debates on new commons, especially regarding their potential to address issues such as climate change, tourism transition, lowland-upland relationships.

During the past year, our research team has identified more than 80 new mountain commons, mainly in the Swiss Alps, dealing with infrastructures such as ski lifts or energy production, heritage (community projects for architecture renovation of bread oven, watermills, pastoral hamlets...), local service production (community groceries, cafés, BnBs', maternity ward...).

This paper will present a first overview on these new mountain commons and emphasize their main characteristics.

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# Practical insights on the relevance of climate change for cascading effects in critical infrastructure networks of urban areas

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G06-R Adaptive and Resilient Cities and Regions, August 24, 2021, 4:15 PM - 5:45 PM

Addressing climate change adaptation in urban areas is increasingly urgent and requires fundamental transformations of supply infrastructures such as transport and mobility, electricity and water supply, or telecommunication as well as an improved understanding of the interactions of these critical infrastructures. Practical experiences show, that in general there is an awareness of these interconnections, but for example emergency plans often fall short regarding the growing indirect influences of climate change on infrastructural failures expected in the future. Therefore, there is also a growing need for research and systemic approaches to overcome this isolated sectoral view of climate change impacts to gain a holistic understanding of the critical infrastructure networks. Against this background, the paper highlights the relevance of climate change impacts on critical infrastructures, infrastructure interdependencies and potential cascading effects. The analysis uses a system dynamics approach that has been applied within a case-study for the metropolitan area of Hamburg, Germany. It is based on transdisciplinary research methods, connecting the realms of scientific knowledge about regional climate change with real-world experiences. Thereby specifically a participatory approach – e.g. using a stakeholder mapping process, interviews, group model building techniques, workshops and impact matrices – has been carried out with key stakeholders from different sectors to identify climate-related drivers causing the most severe failures and losses in the system – either directly in the same sector or indirectly due to breakdowns in other sectors. Thereby it introduces the topic of adaptation to climate change as a starting point for a better understanding and management of systemic risks in order to build and maintain resilient critical infrastructures and to make urban areas safe, resilient and sustainable.

# COVID-19: Impacts on Foreign Immigrants and rural European regions – challenges and chances to recover

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S14 Regional Resilience in Low-density Territories: overcoming the effects of COVID-19 pandemic, August 24, 2021, 4:15 PM - 5:45 PM

The COVID-19 pandemic has brought not only a serious health (system) crisis but also severe impacts on the globalized economy, interconnected labour markets, and the mega-trend 'glocalization'. In general, migrants and asylum seekers can be seen as one of the most vulnerable groups in the COVID 19 pandemic. As pointed out by the International Organization of Migration there are several specific ways migrants have been affected by the pandemic and a variety of conditions which makes migrants more vulnerable in times of such a pandemic, such as limited awareness of recommended prevention measures due to linguistic barriers, limited right to receive health care or inability to respect social distancing because of crowded homes.

While considering the impact of COVID-19 pandemic, the spatial and territorial dimension comes into play as fundamental for understanding socio-economic dynamics. While metropolitan cities and urban areas have become hotspots of the pandemic, followed by lock-downs all over the world and high numbers of COVID-19 victims, the rural, mountain and even remote regions have received increased attention as places of higher safety, livability, and producer of regional available food and utility items in times of border closers. Nevertheless, these areas show at the same time specific problems related to their often marginal position with respect to the access to services, territorial inequalities and job markets.

This paper will take up the first results of a European survey, conducted in 2020-21 within the Horizon2020 project MATILDE (Migration Impact Assessment to enhance Integration and Local Development in European Mountain and Rural Areas). Based on the results of this survey, the paper will focus on how COVID-19 is affecting the vulnerability, living, working and educational conditions of TCNs in rural and mountain areas of the 10 MATILDE countries. At the same time, it will discuss actual and future impacts of COVID-19 on rural, remote and mountain regions of Europe, with a particular attention on how the pandemic is strongly influencing their development paths while impacting on migration flows, in terms of shortage of locally needed labor forces and potential demographic decline. An attempt in the direction of combining the two analytical areas, migration/migrants and rural areas, will be started in order to get insight into the COVID-19 triggered challenges and opportunities of urban-rural-migration nexus.

## Landscape Plan: "A resilient territorial challenge in a time of pandemic crisis".

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S07-S2 Pandemic and territorial government, August 24, 2021, 4:15 PM - 5:45 PM

The recent pandemic affecting the World has highlighted the strong criticisms of societies and territories in the resilience lack to promptly react and face the crisis. In such a context, spatial planning assumes a relevant role to protect and regulate the territory in order to improve its quality of life, in the view of sustainable development and in line with the integration and development processes of the European area, combating climate change and increasing competitiveness.



## Determinants of financial inclusión. Does the regional context matter?

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G01-O2 Regional and Urban Development, August 24, 2021, 2:30 PM - 4:00 PM

See extended abstract

# Clustering countries in the context of the pandemic COVID-19

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G06-R Adaptive and Resilient Cities and Regions, August 24, 2021, 4:15 PM - 5:45 PM

Nowadays, governments have managed the pandemic given such pre-existing conditions. The response of governments in terms of regulations and actions to halt the spread of the pandemic was a decisive factor. Such responsiveness has been varied across governments. The measures ranged from travel to lockdown restrictions. Some countries acted more rapidly than others and not necessarily according to their development level. Although it is expected that developed countries perform better in face to the COVID-19 pandemic, different dynamics are in play and developed countries are highly affected. In this respect, this study aims to classify countries in function of COVID-19 variables such as the lethality rate, the contagion growth and the number of days that elapsed until the country registered the first case with respect to China.

To determine the clusters, we use a set of 209 countries from all regions for two periods: 30 days and 150 days. The k-means partitioning method is used to conduct the clustering analysis. This approach consists in constructing partitions and evaluate their intra-class and inter-class similarity. The results show that the collection of observations is partitioned into 4 clusters. The first cluster corresponds to the countries that first presented confirmed COVID-19 cases after China and report lower contagion growth and lethality rates with respect to other countries. The second cluster is characterized by countries that experienced confirmed COVID-19 cases after the first cluster countries, the highest contagion growth rates and low lethality in the first 30 days but high lethality rate in the 150 days. The third cluster corresponds to countries with more days of the first confirmed COVID-19 cases with respect to China. These countries present low contagion growth and lethality rates. Finally, the fourth cluster is characterized by the largest period of time that elapsed until the first confirmed COVID-19 case with respect to China. These countries record a low contagion growth rate but high lethality rate at first and then a moderate level of the lethality rate. Based on these characteristics, we have named these four identified clusters as:

1. Very rapidly infected countries with low but increasing contagion growth rate and low lethality.
2. Rapidly infected countries with severe contagion growth rate and relatively high lethality.
3. Slowly infected countries with relatively high contagion growth rate and relatively low lethality
4. Very slowly infected countries with relatively low and decreasing contagion growth rate and high but decreasing lethality rates

# Spatial Price Discrimination, Online Competition, and Zoning under an Urban-Rural Framework

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G04-O2 Urban-Rural Relationships, August 24, 2021, 2:30 PM - 4:00 PM

This paper analyzes the optimal zoning in an urban-rural linear market where a uniform pricing online firm enters into a duopoly market and competes with two physical firms who engage spatial price discrimination. In contrast with previous spatially differentiated prices, online competition results in partially equalized prices, and physical firms serve the urban segment, while the separated rural segments are occupied by the online firm. Online competition induces the physical firms to move closer to the market center and then the equilibrium locations are different from the social optimum. Average price levels and price variations are considerably reduced after the entry of the online firm. The implication for various zoning policies is also discussed.

# Good data and where to find them: the challenges in modelling the pandemic

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G10 Big Data and Regional Science, August 25, 2021, 12:00 PM - 1:30 PM

The Covid-19 pandemic has been the first of its kind in the digital age. Government agencies and institutions around the World have been releasing a daily stream of information reporting the spreading of the disease. Most of these data are openly accessible on the web and reported with high frequency by the mainstream media.

Having access to high quality data is a first fundamental step in the scientific community's efforts to model the pandemic in order to contain it and, at the same time, assess its impact on society. However, the extreme variety of sources leads to a variety of formats and conventions in the data. For this reason it is of extremely importance for researchers to have access to comprehensive, well-formatted and easily accessible databases.

In this talk I will present possible sources of Covid-19 information with a particular focus on the OxCOVID19 project, a freely available relational database that contains time-series data on epidemiology, government responses, mobility, weather for all countries at the national level and for more than 50 countries at the regional level. Data are gathered from multiple official sources and linked at various levels of administrative subdivision using the GID from the Global Administrative Areas (GADM) database as a geographical identifier.

I will then discuss the different parameters that have been used to describe the pandemic (such as number of infections, hospitalization and deaths) and how each of them could require different techniques and analysis. I will consider as an example the task of linking such parameters to various socio-economic indicators both at a national and a regional scale.

# What can we learn from labour demand during the pandemic? Evidence from Burning Glass data

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S63 OECD-Bank of Italy joint session: Regional competitiveness and growth: Macroeconomic trends, August 27, 2021, 2:30 PM - 4:00 PM

We study labour market dynamics in EU regions during the COVID-19 pandemic and document the complex geography of the labour demand collapse and recovery. Our main research question is: Do changes in labour demand point to a structural shift post-crisis or are we back to business as usual?

The analysis is based on web-scraped job postings data from Burning Glass Technologies. The data set covers 27 European countries and spans three last years (2018-2020) plus the first quarter of 2021.

# Innovation policy of cities lock in self-reinforcing paths according to path dependence theory.

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S13-S1 Historical Roots of Regional Entrepreneurship and Innovation, August 24, 2021, 4:15 PM - 5:45 PM

Theoretical foundations of the path dependence concept were laid by Paul A. David (1985). He defined a path-dependent process as a process that evolves as a consequence or function of its own history (1997, p. 13). The process is triggered by a random historical event, which directs it towards a particular development path (David 1985, p. 332). The choice of a solution is also “accidental”, which is why the solution is not necessarily the best or the most efficient of all available options (Mahoney 2000, pp. 511–513; Gwosdz 2004, p. 30; Vincensini 2001, p. 2). David saw the substance of a path-dependent process, first and foremost, in increasing returns, which reinforce the development trajectory chosen at its onset (1985, pp. 335–336). These increasing returns include any process that exhibits positive feedback (Gwosdz 2004, p. 439). Depending on the mechanism which triggers the development and strengthens the process alongside the path, we may distinguish two types of paths: self-reinforcing or reactive.

Cities with self-reinforcing path tend to lock in on the paths. Lock in the path can apply to a variety of industries and regional specialties. However, it is most commonly associated with old industrial cities in which often monoculture industry dominates. Breaking a lock-in of path and generating a new trajectory of growth usually requires a lot of resources. This raises the question of whether these cities have difficulties implementing innovation policies. The aim of this paper is to show whether the lock-in on the self-reinforcing path limits the innovation capacity of cities in the future.

## Off We Go! Value Chain of E-hailing in Brazil

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G20-O1 Cities, Regions and Digital Transformations, August 26, 2021, 12:00 PM - 1:30 PM

By the mid-2010s, e-hailing apps emerged and quickly consolidated in major urban centers around the world. This market expanded quickly, becoming one of the most vibrant and dynamic sectors of the sharing economy. Although its main activity – the intermediation between drivers and passengers, suppliers and customers of private urban trips – takes place in a digital, online environment, its consequences are tangible and spillover to the traditional, offline economic environment. This study aims to assess the nature and the magnitude of the productive links of consumer operations made possible by the revenue generated by ride-hailing. In other words, we seek to map the interdependencies that are established between the consumption decisions of drivers that use 99 app, a leading e-hailing provider, with other sectors and segments of the Brazilian economy. The dataset is formed by operational data from 99 and inter-regional input-output matrices for the Brazilian economy. In 2019, the intermediate runs only for 99 unfolded in more than 12 billion (BRL) added to the Brazilian GDP (equivalent to 0.18% of the total), each sector of the Brazilian economy being affected in different magnitudes. This study shows the degree of interdependence between these sectors and 99's business. In addition to the value added, indirect taxes were collected in the order of 11 billion (BRL) and 108.3 thousand jobs were generated.

# Uptake of residential energy efficiency measures: Do spatial factors matter? The Dutch case

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G22-O2 Energy and Ecological Transition, August 26, 2021, 4:15 PM - 5:45 PM

Energy efficiency is a key pillar of the energy transition, which is high on the policy agenda of governments and organizations around the world in the face of the climate crisis. Within the larger climate policy framework of the EU, the Netherlands is facing challenges and opportunities to contribute to emissions reduction goals. In this paper, we empirically assess factors to support policy for enhancing the uptake of energy efficiency measures (EEMs) using data from the latest release of the 2018 Dutch Housing Survey. A distinction is made between owners and tenants, as well as by specific EEMs in the econometric analyses. In addition to building features, socioeconomic characteristics and motives, we explicitly address the role of spatial factors. This has received much less attention in the related literature and merits more attention. Local and regional conditions can result in different pro-environmental behaviors, as well as distinct spatial barriers. It is found that spatial differences do matter in the uptake of EEMs, which calls for more place-sensitive policies. Insights from this paper are pertinent not only for the Netherlands, but more widely as the spatial context can also be pivotal to take on board in energy policy formulations in other countries.



# Necessary conditions for Integrating Low Socio-economic Minorities in a Mixed Region into Technological Entrepreneurship and High-Tech Activities

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G12-O4 Regional Competitiveness, Innovation and Productivity, August 26, 2021, 12:00 PM - 1:30 PM

This study attempts to identify the conditions necessary to promote the integration of very low socioeconomically disadvantaged minorities in mixed majority-minority regions into technological entrepreneurship and high-tech activities. We also look at how the smart specialization model can be adapted to these situations.

This experimental study was conducted in Israel and focused on the mixed region of Beersheva-Rahat and the surrounding Bedouin dispersion, where the minority population is ranked extremely low on the socioeconomic scale – on the lowest level.

The current study is a continuation of an earlier study conducted in the mixed region of Haifa-Nazareth, where the minority is ranked higher on the socioeconomic scale. The findings in that case show that smart specialization in mixed regions requires a pre-phase of social-relationship and business-network building between the majority and minority populations.

The findings of the present study indicate that in mixed regions with a minority population that is ranked very low on the socioeconomic scale and has low level of readiness for technological entrepreneurship and high-tech activities, a pre-preliminary-phase is needed in order for smart specialization to work – a phase in which educational and training infrastructures are improved and the population gains awareness of its own potential for future integration in the high-tech sector. This phase constitutes an addition to the smart specialization model.

The study findings also point to the important role of the local and regional entrepreneurial initiatives in improving the minority population readiness to take part in that technological entrepreneurship and high-tech activities.

The study employs qualitative methodology. Primary and secondary data were gathered and analyzed, and in-depth interviews conducted.

The study findings have a theoretical and practical contribution by expanding the smart specialization model for implementation in mixed majority-minority regions with a population that ranks very low on the socioeconomic scale, while showing the need for preliminary phases and for governmental policy tools that promote these pre-phases.

This research was supported by the ISRAELI SCIENCE FOUNDATION (grant No. 836/16)

# The impact of COVID-19 on small businesses performance and innovation

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S04-S2 Geography of COVID-19 outbreak and policy answers in regions and cities, August 24, 2021, 2:30 PM - 4:00 PM

This study looked at the impact of the COVID-19 pandemic on the revenues of small businesses operating in industrial sectors, and at the extent to which these businesses changed or adjusted their business activity, or changed the extent to which they utilize open innovation tools and implement innovation promotion processes.

The findings show that, despite COVID-19's far-reaching impact in all areas of life, the revenues of most small businesses in industrial sectors were not adversely affected, and most of them did not adjust their business activities or the extent to which they employ open innovation tools and engage in innovation promotion processes.

The findings also indicate that small businesses, most of whose revenues derive from subcontracting work are likely to cope better under conditions of economic uncertainty.

The findings also show that businesses that are active in international markets succeeded in adapting their activity to the changing demands and various trade restrictions.

This study's contribution lies in its focus on small businesses, and its examination of how subcontracting strategy and international operations help them contend with problems and conditions of economic uncertainty.

On the practical plane, the findings suggest that policymakers should foster programs that assist small businesses with these work strategies, which can help them survive, enhance their stability, and thereby also promote the economy resilient.

# On spatial cognitive survey of children using the colors

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G13-O2 Methods in Regional Science or Urban Analysis, August 25, 2021, 2:30 PM - 4:00 PM

The urban space is full of various colors such as green from trees, various colors of buildings and cars, and people indifferent clothes. The colors of urban spaces themselves have a great influence on our impression. At the same time, the liveliness of the space provides a bright color impression and lonely street gives dark color impression. The shops you visit often have cheerful color, and the noisy street has vivid color. By capturing these colors, it may extract an image of urban space.

In this study, it was assumed that children use colors on cognitive maps that they can freely draw with rich images without being influenced by stereotypes. The purpose is to extract the impression of the space by extracting the color. We extracted the elements drawn on the cognitive maps of adults and children and compare the results. Then we clarified the difference in the image of the city between children and adults, and examine the method of study. Our goal is to propose attractive and comfortable urban space design, which people wish to inhabit longer.

The research method is to investigate by the Basic Drawing Method. By extracting the drawn elements and analyzing the colors, we grasped the spatial cognitive structure of the street, which we usually use.

The result indicated that adults tend to color with a fixed concept, but children use their favorite colors wherever they like, and their image has a big effect, and There was a clear difference between adults and children in color use. In addition, there was a common bias in the colors used in specific place such as parks. Therefore, the image of the place was extracted and classified by the image of color. As a result, we clarified the places that are considered to be important in urban space.

# Regional Divergence in Italy: A Tale of Culture or Competitiveness?

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G12-O4 Regional Competitiveness, Innovation and Productivity, August 26, 2021, 12:00 PM - 1:30 PM

In the aftermath of the Great Crisis of 2007 economic activity in Italy has been characterised by two stylized facts: First, overall GDP growth per capita measured in current prices has been anemic with a rate of 1.8% over the ten year period from 2007 until 2016. Second, the regional divide between northern and southern regions has further increased in this period of time (Odoardi and Muratori 2019). A closer inspection of the regional data reveals a third reality: By far the best regional growth performance has been posted with a nominal rate of 15.3% by the northernmost territory, the Autonomous Province of Bozen/Bolzano. The main objective of the paper is to investigate the possible determinants of these uneven development processes. We hypothesize that regional economic activity is either driven by factors seen as directly influencing the productivity of its companies and is thus determined by its ability to compete with other regions for resources and firms. Or alternatively we propose that economic growth is facilitated by “soft” factors rooted deeply in the local culture of a territory. Such factors shape the quality of local administrative institutions and strengthen a meritocratic and inclusive society. The basic methodical approach consists of a conditional beta convergence analysis performed with data from the 137 Italian Nuts 3 provinces. In order to measure the competitiveness of a region we use indicators referring to innovation (patent applications million inhabitants, R&D expenses per capita) and human capital (share of workers with a tertiary degree). The culture of a region is assessed with the institutional quality of a regional administration (Charron et al 2014) and a novel dataset associated with the degree of social mobility in Italian provinces (Acciari et al 2019). The spatial dependence of the adopted indicators is modelled with the implementation of spatial autoregressive and spatial error models. The results of the analysis shed light on the nature of the growth processes in Italian regions and on potential policy measures to reduce regional growth differentials.

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# A Framework for Multidimensional Assessment of Urban Agriculture at the City-Scale

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S20-S2 Urban Agriculture and Urban Resources – New approaches for resilient and sustainable urban food systems, August 25, 2021, 2:30 PM - 4:00 PM

Growing food in and around cities - urban agriculture (UA) - is seen by many as key to making cities more sustainable. Case studies have demonstrated that UA can provide nutritional food to underserved populations; aid in social cohesion, job training, education, and combating neighborhood blight; and produce food using fewer resources and with lower environmental impacts than the food chains that typically supply cities. Despite promising results at the site-scale, there is a distinct lack of work looking at the positive, potentially problematic, and multiplicative effects of food production at the city-scale. The few studies that have explored city-wide impacts of upscaled UA have focused on resource use, yields, and other biophysical aspects, but have not provided a holistic assessment of the multifaceted impacts of large-scale deployment of UA in a city. Here, we introduce a generalizable conceptual framework to assess the sustainability of UA at the city-scale across environmental, economic, and social dimensions. This framework combines heterogeneous data – spatial, demographic, consumption, hydrological – to (i) identify potential UA sites in a city; (ii) capture interactions between farms and local biophysical flows (e.g., water consumption; food waste capture as compost); (iii) estimate food output; and (iv) quantify the social benefits (e.g. nutrition provided), economic benefits (e.g. jobs created), and environmental change (e.g. reduced carbon emissions) from UA at the neighborhood and city scales. By doing so, this framework provides a roadmap for researchers to better clarify how UA can contribute to more sustainable cities and the foundations for a decision support tool for cities to maximize the potential benefits UA.

# Hydropower – a key to regional development in the Swiss Alps

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S13-S3 Historical Roots of Regional Entrepreneurship and Innovation, August 25, 2021, 12:00 PM - 1:30 PM

Historically, hydropower has been a specific industry location factor of mountain regions. Cheap and abundant labour and hydropower in combination with process innovation enabled the development of industry plants in the late 19th and early 20th century. Hydropower became an important industry location factor in the Swiss mountain regions, which likewise benefited from an innovative environment along with a cheap and skilled labour force and a good connection to the international transport system (railways). Then, the globalisation of markets and changes in relative factor prices undermined the competitiveness of those typically energy-intensive industries and induced a dis-industrialisation in some regions.

Additionally, the increasing demand for electricity in the cities North and South of the Alps, attracted “foreign” investors to exploit the hydropower potential to produce and export electricity to those regions. Later, the era of nuclear power enabled a new business model for hydropower in the Alps, based on electricity trade and the intertemporal arbitrage between excess supply and excess demand. In Switzerland, the owners of the electricity companies, mainly the lowland cantons, benefited from higher profits and the mountain cantons from higher water fees (royalties). The latter generated additional financial resources to build-up local infrastructure in these regions.

Currently, the low energy prices and curtail the profitability of hydropower, while the renewal and expansion of hydropower is a key to the Swiss Energy Strategy 2050. This prompted a political debate about reducing water fees and granting subsidies to hydropower plants, without taking into account the regional impacts of such changes. To fill into this gap, we investigate the drivers of industrialization and the direct impacts of the water fee payments on public finances in the Swiss cantons and on municipal level in the canton of Grisons. In addition, we examine the related effects on the local economies and industrial development, and discuss our findings from a political-economic, regional policy and sustainable development perspective.

# Internal (and international) migration during the COVID-19 pandemic in Italy: an early first assessment

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S34 Human mobility, Migration and Stay-in-Place Patterns and Changes During Pandemic times, August 24, 2021, 2:30 PM - 4:00 PM

Italy is one of the countries earliest hit by the COVID-19 pandemic and it entered a first national lock-down on 10th of March 2020.

The contribution aims to assess the changes in migration intensity and patterns that occurred in Italy in 2020, or more precisely, after the start of the pandemic. Even if focussing on the aspects of internal migration international migration will be considered. Preliminary data of the municipal population registers with information on nationality, sex and age will be used.

Estimating changes in internal and international migration intensities for Italy and for selected areas we intend to assess the effects of the pandemic. The areas will be selected according to the degree of exposition during the first wave of the pandemic, because this first wave was geographically focussed in some northern provinces, even if the lock-down was national. However, the second wave starting after the summer interested most of the national territory.

In the past abrupt changes in the number of internal and international migrants were often linked to administrative (census operations, changes in administrative procedures of the population registers) or political (amnesties for irregular migrants) measures and usually short lived. Also the drop in registered changes of residence between Italian municipalities in 2009 was only temporary and linked to the great recession. The temporariness could be explained by the low level of internal migration in Italy that could hardly decrease further. So, our hypothesis is that also the observed decline of internal changes of residence during the pandemic will be only temporary. Whereas an increase of internal migration flows towards rural areas will depend on the future possibilities of working from distance. In the case of international migration the situation is more complex: some foreign residents returned to their home countries whereas others took advantage of a special amnesty made necessary by the shortage of workers in the essential sectors of the economy. Observed changes in internal and international migration during the pandemic could be attributed to delays and changes in migration behaviours and, to a minor degree, to the difficulties of the registration process during the lockdown.

It might be premature to try to assess the effects of the COVID-19 pandemic in Italy with official statistical data. However, we still trust more in the data than the hearsay to know that 'that's the way it is' and share these preliminary results.

# Industry 4.0 in industrial district SMEs: understanding collective knowledge transfer by research and transfer institutes

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S02 Industry 4.0 in clusters & industrial districts, August 27, 2021, 12:00 PM - 1:30 PM

We analyze research and transfer institutes' (RTIs) contribution to digitizing in traditional low-tech settings as Marshallian Industrial Districts (IDs). We answer: how to digitize SMEs in IDs capitalizing on RTIs? As collective actors, RTIs introduce change in local/regional innovation systems where they are embedded. Using qualitative evidence on digitizing the Vinalopo footwear district in Spain, results show how RTIs perform R&D and R&D-related activities to digitize, facilitated by anchor firms that easily engage with RTIs. Subsequently, anchor firms interact and diffuse Industry 4.0 within their networks of SMEs. RTIs activate knowledge transfer in districts avoiding the manifested reluctance of SMEs to engage with them, capitalizing on inter-firm collaborations. For policymakers, this study responds to the paradox of how to activate knowledge transfer from RTIs to SMEs, when the latter are resisting engaging in that transfer mechanism



# Rural & Urban families of children with disabilities: Resources, quality of life and distress during the COVID-19 pandemic

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G06-O2 Adaptive and Resilient Cities and Regions, August 24, 2021, 2:30 PM - 4:00 PM

People with disabilities and their families are vulnerable to unique disadvantages that place them at greater risk for disparate COVID-19 outcomes. The unforeseen changes in everyday life resulting from the COVID-19 pandemic, along with required and unavoidable measures of self-isolation and social distancing, has been especially challenging for children with disabilities and has made an unprecedented impact on their families. However, there is insufficient information on families of children with disabilities resources in rural and urban areas.

In this study family resources were assessed by a scale that is based on the Conservation of Resources Evaluation (Hobfoll & Lilly, 1993), which is based on Hobfoll's resource conservation theory, and which describes stress as a phenomenon affecting resource management, creating a risk of resource loss and causing their actual loss, or inhibiting their growth.

The study aims to examine the gaps in family's personal and community resources, family quality of life and family distress among 182 Israeli families of children with disabilities during the Covid-19 crisis in urban and rural areas.

Results: Regarding the family quality of life, there was a significant difference in the physical well-being of families between families from rural areas compared to families from urban areas, so that the physical well-being of families belonging to rural areas was higher, compared to the physical well-being of participants associated with Urban areas. The gap is particularly noticeable in the way the family copes with the expenses during the Covid-19 period. In contrast, a significant difference was found between the groups in relation to the care of the child with special needs, so that families from urban areas have more time to take care of the personal needs of the family member with disabilities, compared to families from rural areas. In both urban and local areas, Structural equation modelling showed that FQOL during the first wave of COVID-19 in Israel was explained most strongly by family personal resources ( $\beta^{***}0.48=$ ); Higher levels of family resources predicted increased FQOL.

The results highlight the differences between rural and urban families of children with disabilities and therefore the importance of different disability policy & services needed at each living area to encourage resilience.

# Digital Inclusivity and Changing Agglomeration Geographies

Dr. Tim Hinks<sup>1</sup>

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S36-S1 Digital Inclusion and Cultures of Discrimination across Regions, August 26, 2021, 12:00 PM - 1:30 PM

Both within and between regional inequalities in access to and adoption of new technologies is something that is likely to increase in the post-pandemic economic period. This project will look at whether previous inequalities in adoption of and investment in new technologies have played a role in agglomeration rates diverging between and within regions and whether this has contributed to between and within regional economic inequality. With it being clear from recent surveys that digital technologies such as artificial intelligence and blockchain are expected to be utilised more in the post-pandemic world, possibly as ways to hedge against future pandemics as well as satisfy and extend the reach of increased digitization of consumer and producer behaviour, to understand how regions have differed in previous take-up of new technologies can lead to lessons in how to improve take-up. At the heart of this paper is the relationship between existing (core) agglomeration pockets within and between regions, inequality in income and in growth rates within and between regions and what role technological adoption has played and can reasonably be expected to play in a post-pandemic economic recovery. Is agglomeration complementary to technological adoption? What chance can new technology have in growing the periphery of regions and help form new agglomerations that can reduce within and between regional inequalities?

# Evaluating the Covid-19 effects on new working spaces (NWS): a multiple entry European study

Adjunct professor, PhD Mina Akhavan<sup>1</sup>, **Mr Marco Hölzel**<sup>2</sup>, PhD Divya Leducq<sup>3</sup>

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S27-S1 New working spaces, resilience, and peripheral areas during the Covid-19 pandemic, August 25, 2021,  
2:30 PM - 4:00 PM

The Covid-19 Pandemic, officially declared in March 2020 (WHO), has dramatically restructured our ways of working in general and consequently workplaces. Due to several phases of lockdowns, curfews and safety rules and issues, many employees were forced to work from home. Although the phenomena of remote working (also known as teleworking and e-working) and home office are not new, it is evident that the pandemic outbreak has given a sharp rise to the number of people working-at-home.

New Working Spaces (hereinafter NWS) as coworking spaces, FabLabs, Makerspaces, etc. are relative new manifestations of spaces of work, starting as the first coworking space, the 'Spiral Muse' in San Francisco in 2005. In the last 15 years this kind of collaborative was spreading fast and successfully over the world and settled prior in urban environments. In recent years NWS spread from their main habitat, the inner cities to more peripheral districts, smaller towns and scattered remote regions. This new kind of space where work is performed, was seen as a promising application for several challenges, as mobility, new social structures, urban regeneration, rural development and much more.

As a location where people come together to work together or at least to work not alone at home, these new work spaces were highly impacted by the contact restrictions during the lockdowns due to the Covid-19-pandemic.

We collect narrations of 16 European countries (COST members) and from the USA, as an international partner country, on the effect of the Covid-19 pandemic on remote work, new working spaces, mobility and further effects. The narrations are based on national news, from media, own experiences and research.

# Governance challenges in Hungary, especially in Baranya county

Dr. Réka Horeczki<sup>1</sup>, Dr. Ilona Pálné Kovács<sup>1</sup>

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G29-O1 Regional and Urban Policy and Governance, August 26, 2021, 4:15 PM - 5:45 PM

The problem of economically-socially lagging regions is becoming more significant within Europe, since this problem is the cause of social-political tensions as it hampers the territorially homogenous development of a given nation state. In a European comparison two third of Hungary's regions belong to the lagging areas and the region of South-Transdanubia is in the lastten even as compared with those. The target of the presentation is therefore to explore why the region of South-Transdanubia and within that Baranya county is characterised more by the trends of lagging and not by catching up despite of several intervention attempts. We will examine and identify the factors that can hinder or strengthen the successful implementation of development policy targets. The focus of the presentation is the investigation of internal resources, forms of local governance and types of external interventions in lagging areas, since previous research point out that these factors basically influence the heredity of peripheral character or the potential for change itself. The expected research outcome will help the better understanding of social capital and the characteristics of endogenous resources, and the levers of local participation-based decision-making, development and governance mechanisms in peripheral regions. All these may enhance the success of external interventions like the "Hungarian Village Program" or the European "Smart Villages" initiatives in the peripheral areas of the country. In addition we will be show one part of the research: the questionnaire of the Baranya's elite during the COVID-19.

# My Kind of Town: The effect of regional technological specialization on inventor migration

Mr Ryan Hynes<sup>1</sup>, Mr Bernardo Buarque<sup>1</sup>, Professor Ronald Davies<sup>1</sup>, Professor Dieter Kogler<sup>1</sup>

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S22-S2 Drivers and impacts of migration: new insights and (in) pandemic crisis, August 25, 2021, 4:15 PM - 5:45 PM

-----SEE EXTENDED ABSTRACT-----

This paper investigates how regional technical specialization influences where skilled workers choose to live. We map European patent data from 1978-2015 at the NUTS2 level and construct measures of both inventor and regional specialization. We then observe the location and migration of inventors across European NUTS2 regions throughout our panel. Furthermore, we disambiguate inventor names to infer inventor gender and nationality. We find that inventors are more likely to live in and migrate to regions with existing specializations in technology sectors that complement the inventor's own expertise, especially when the inventor has personal ties to a region. However, we also find considerable crowding-out effects in regions with an existing stock of similarly-skilled inventors. Furthermore, we find that male inventors are more mobile than their female counterparts. This is a significant result for understanding the agglomeration and knowledge spillover effects of skilled labor.

# Tourism-induced resilience of rural destinations in relation to spatial accessibility

Dr Bogdan-Constantin Ibanescu<sup>1</sup>, Dr Mihail Eva<sup>1</sup>, Dr Alexandra Gheorghiu<sup>1</sup>, Dr Corneliu Iatu<sup>1</sup>

<sup>1</sup>*Alexandru Ioan Cuza University, Romania, Iasi, Romania*

S25 Searching for tourism resilience in the post-pandemic world, August 25, 2021, 10:15 AM - 11:45 AM

Tourism plays a vital role in many rural areas and has been proven a highly resilient sector following an unforeseen shock. Recent evidence points out its capacity to transfer resilient properties to the economic landscape of destinations. Yet, little is known about the way structural features of a destination impacts the tourism-induced resilience. Our study builds a mediation model for tourism-based economic resilience of rural destinations in relation to the accessibility towards urban areas. The results suggest that the accessibility towards the larger cities does not have a measurable effect upon the tourism-induced resilience. However, when the accessibility index took into consideration the medium cities and towns, a clear, distinguishable, effect was observed but only for time-distances up to 76 minutes. Therefore, we were able to map all rural areas that could benefit in a recovery period from their proximity from a city. The study increases our understanding of cone-like relationship model in tourism studies and completed previous approaches which established a relation between tourism growth and economic growth. Moreover, it confirms the role that accessibility plays during the recovery period and the contributions of tourism activities to strengthening the urban-rural synergies. Several policy recommendations regarding an integrated and efficient destination management are addressed as well.

# Spatial implications on job insecurity during COVID-19 pandemic

**Dr Bogdan-Constantin Ibanescu<sup>1</sup>**, Dr Alexandra Gheorghiu<sup>1</sup>, Dr Gabriela Carmen Pascariu<sup>1</sup>, Dr Mioara Cristea<sup>2</sup>,  
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S50-S2 The geographical dimension of social and income inequality, August 27, 2021, 10:15 AM - 11:45 AM

Unemployment caused by the COVID-19 pandemic is of the utmost importance for governing bodies worldwide. Its constant increase during the last months is subject of major concern for both citizens and policy makers, as individuals might experience increased feelings of job insecurity due to the pandemic context and to the latest developments on the job market. Job insecurity refers to a perceived threat to the continuity and stability of employment as it is currently experienced, which has a negative impact on the individuals' quality of life. Many researches have linked job insecurity with low levels of well-being and high levels of stress, as well as local or national measures taken in job creation and job retention. Aside individual factors, there are other critical influences that should to be considered in order to better understand the dynamics of job insecurity against COVID-19 pandemic. Such influences can come from regional features such as spatial or economic characteristics, or demographic characteristics, like gender, age, or education. We used in our analyses the PsyCorona database, a self-reported survey deployed in 116 countries all around the world, that monitored various psychological variables starting March 2020 (and still ongoing). In order to get a better understanding of the spatial distribution of self-reported job insecurity, we chose to focus on a case study based on eight European countries (France, Germany, Netherlands, United Kingdom, Greece, Romania, Spain, and Italy). Respondents from Central Europe countries have shown lower scores on self-reported job insecurity and less variance over time while those from southern and eastern periphery displayed higher scores for job insecurity and more variance. Moreover, we found that higher the overall job insecurity is perceived in a country, higher the discrepancies between age, gender, and education categories tend to be.

# Human capital development and global value chains: Evidence of foreign direct investment and vocational training in Southeast Asia

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S47-S2 Foreign Direct Investments, trade and local development: drivers and impacts, August 27, 2021, 10:15 AM - 11:45 AM

As middle income economies increase their participation in global value chains (GVC), human capital development has become ever more critical for competitiveness and economic upgrading. However, national education systems in these countries often present an imbalance between technical and vocational education and training (TVET) and academic education, which results in undersupply of the required skills by multinational enterprises (MNEs). Failing to keep pace with the changing skill demand, these economies might eventually experience a slowdown in economic growth rates and risk becoming stuck in a middle-income trap. It has been argued that foreign direct investment (FDI) can potentially enlarge and improve host regions' human capital base. By providing attractive employment opportunities, FDI may modify educational choices of the population and incentivise the uptake of TVET certifications. Over the last decades, Southeast Asia has experienced rapid economic development, partly spurred by successful attraction of substantial inward FDI. Moreover, there have been some efforts to strengthen national TVET systems to match the skill requirements of GVCs. Vietnam and Indonesia are among the top inward FDI recipients within the region and have a very similar FDI value chain structure, with new foreign jobs mainly concentrated in production activities but increasing in other service activities. The aim of this paper is to explore whether inward FDI in different value chain segments generates broader regional impacts by rising numbers of graduates in host regions' TVET systems. Our findings suggest that increasing foreign jobs in greenfield FDI projects in value chain segments such as logistics, sales and marketing, and support and servicing are associated with an increase in the supply of TVET graduates in the host region. Conversely, foreign jobs in headquarters or production may lead to declining technical skills in the region. Whilst FDI has the potential to contribute to the host economy's human capital development via the introduction of incentives in the local labour markets, we argue that the heterogeneous effects across value chain segments, largely depend on the types and skill intensity of the economic activities in which investment is made, as well as on the flexibility of TVET systems to adapt their output to changing skill demand of higher value adding stages of the value chain.



# Sustainability and University: Strategic Options and promoting factors for Campus Sustainability at Higher Education Institutions in Japan

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G25-O2 Institutions, Political and Decisional Processes, August 27, 2021, 10:15 AM - 11:45 AM

This study evaluates campus sustainability initiatives in Japanese higher education institutions over the 10-year period since a related important political declaration was made. This is one of the first empirical studies on Japanese higher education institutions where implementation of sustainability actions was still largely lacking. By using the data of institutions that conform with the Assessment System for Sustainable Campus (ASSC), this study aimed to identify key factors that promote robust campus sustainability among Japanese institutions. Cluster analysis was applied, and four groups were identified: “lagging-behind”, “asset-driven”, “top-of-the-class”, and “networkers” clusters. An important finding of this study was that the asset-driven and networkers clusters showed significant positive scores with respect to asset management and networking. Addition to this, a survey about institution size revealed two major findings: (1) despite the general dependency of campus sustainability on resources, both large and small institutions were capable of attaining the top-of-the-class cluster by adopting a holistic strategy; (2) small institutions are able to implement campus sustainability initiatives by focusing on asset management or networking. Furthermore, the strategic options of institutions that conform with ASSC will be examined based on the result of cluster analysis and on-site survey conducted on several universities. Among the key factors, this study focuses on which fields and factors best prompt Japanese higher education institutions to initiate campus sustainability initiatives.

# Innovation and local labour markets: A regional analysis of France, Germany and the UK - (note: Paper eligible for Epainos Award)

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YSS9-G18 Regional and Urban Labour Markets and Entrepreneurship, August 26, 2021, 10:15 AM - 11:45 AM

see extended abstract

# Impacts assessment on the road transport network and freight flow caused by volcanic ash fall in Japan

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S08-S2 Spatial CGE, Input-Output, land use and transport modeling, August 24, 2021, 2:30 PM - 4:00 PM

There exist 110 active volcanos in Japan. Eruption of volcano may provide huge amount of volcanic ash fall. The ash fall directly disrupts road transport function. A few centimeter ash fall on the road can completely halt traffic.

In case of Mt.Fuji eruption, for example, the ash fall will directly affect to the Greater Tokyo area. Trunk expressway may be closed until the ash is removed from the surface. Halting road traffic due to ash fall influences on traffic condition. Shortest route and minimum (generalized) cost for region-pairs can change. O-D commodity flow demand may also be changed. Understanding how the volcanic ash fall influences on commodity flow and transport network, which road is critical and which region is vulnerable is important issues to prepare the volcanic eruption.

Volcanic ash fall will cause the sequence of the following influences. As a direct impact, the road sections on which the ash falls loses the traffic capacity partially or sometimes completely. Shortest path and travel time between origin-destination pairs may differ from normal situation. Some detours of traffic affect congestion in bottleneck of the transport network. Then generalized cost of transport of the O-D pairs becomes worse. Rise in the generalized transport cost causes price competitiveness of goods. If the rise of transport cost exceeds acceptable level of consumers, they will reduce the demand or find other suppliers. As a result, inter-regional trade pattern is changed.

We introduce 'interregional commodity flow model (ICFM)' developed by Kim, Ham and Boyce (PIRS2002). ICFM is an integrated system of transport network and input-output modeling, which describes the interaction of transport network flows and commodity trade demand and estimates regional and inter-regional commodity flows and transport network flows simultaneously. The model furthermore estimates the changes in shortest path and minimum generalized cost of each region-pair.

We apply the model to Japanese inter-prefecture transport network for the estimation of impacts by volcanic ash fall. The application study estimates the impacts of two eruption scenarios, Mt.Fuji and Mt.Asama. Assuming that capacity of transport link including the road sections where the volcanic ash falls decreases, we estimate the influences on transport network flows and commodity flows. The results show remarkable changes in shortest route of specific O-D pairs and generation of new bottlenecks caused by traffic concentration. Thus, the study can contribute to the discussion of vulnerable network and regions when volcanic eruption takes place.

# Urban Mobility Challenges and Cities' Transportation Innovation Ecosystems

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G13-O1 Methods in Regional Science or Urban Analysis, August 25, 2021, 12:00 PM - 1:30 PM

Urban mobility systems are complex and place and time specific. They are defined in the present study as Urban Transportation Innovation Ecosystems (TIE). Cities find it difficult to understand these systems and lack an integrative and in-depth mapping of their TIE. The shortage reduces their ability to advance policies aimed at improving transportation mobility in the city. The current study proposes to reveal the basic dynamics of innovation, in the context of urban transport ecosystems. The project that was funded by the EIT Urban Mobility, was implemented in 2020 in three cities: Munich, Budapest and Prague. It developed a methodology that maps cities' TIEs, and presents their analysis, in the context of different mobility challenges and the ability of TIEs to successfully tackle them.

The project included data collection using local experts, who among other things, assessed the capabilities and resources of the cities, in the context of transportation mobility and the defined challenges. The analysis included mathematical procedures, which demonstrated the relationships between each of the TIEs' components, and demonstrated the ability of the ecosystems to address the said challenges. The analysis was accompanied by a visual mapping, through which it was possible to assess the ability of the TIEs to tackle the urban mobility challenges. The results indicated differences between the cities.

Munich's TIE presents a large set of resources and capabilities, along with processes and initiatives through which the city can tackle some of the challenges, it suffers from a significant lack where processes are not buttressed on existing resources and anchors. This cavity reduces the ability to apply needed amendments that may improve the city's capacity to address the challenges. Budapest's TIE on the other hand relies on a few government infrastructures, that provide a limited support for processes and initiatives addressed to tackle the challenges. While Prague's TIE benefits large capabilities in the field of mobility, in the context of the said challenges it utilizes only a handful of existing resources and anchors. These are mainly centered around its human capital, local science infrastructure and know-how. The city's lack is also reflected in the bulk of the TIE's processes and initiatives, which are irrelevant to the defined challenges, and against which we examined the Prague ecosystem. The TIEs' mapping and analysis enabled to set policy recommendations tailored to the improvement of the cities' mobility systems, and facilitating their ability to tackle the urban mobility challenges.

# Physical and digital accessibility of education in sparsely populated regions during the COVID-19 pandemic: case study of the Yakutia, Russia

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S32 Regional Disparities in Social Infrastructure, August 25, 2021, 4:15 PM - 5:45 PM

Availability and penetration level of social welfare institutions, hence, rates of per capita expenditures on health care, education, culture, physical culture, and housing and communal services vary considerably across regions of the Russian Federation. The development of social infrastructure in Russia's regions, cities, and settlements is a complex, multi-component process, interconnected with economic and investment cycles, demography, living standards, and other factors. The quality of life and living conditions depend largely on the development of social infrastructure, among the priority sectors of which is the system of elementary, general, and secondary education, i.e., schools. There are 610 schools functioning in Yakutia; they are located in 1,347 buildings and structures. 60% of buildings and structures were commissioned before 1990. The total design capacity is 150,245 places, providing services for 134,115 students or 154,215 children aged 7 to 17 years (according to the Russian Census 2010). The analysis of variance from prescribed area ratio shows that, in total, the Sakha Republic (Yakutia) has a deficit making 281.3 thousand sq. m., or 16.8% of the actual area. At the same time, in Yakutsk, the design capacity is 22,234 places and number of students is 33,951, which is 53% above the capacity.

In 2020, the issue of ensuring access to education has become a challenge for the authorities of Yakutia. On the one hand, severe restrictions were introduced as for school attendance, which required an urgent transition of the education system to online learning platforms. On the other hand, high-speed Internet access was available only in some parts of the vast territory of Yakutia, besides, many families did not have enough devices (laptops and tablets) to provide children with access to online education.

A year after, both the mistakes made in countering the pandemic and the achievements in adapting the system of social services to its conditions, became evident, which allows us to analyze the efficiency of the efforts undertaken. The following issues will be addressed in the report:

- efficiency of measures taken by the region's authorities in order to ensure access to education during the pandemic;
- assessment of physical and digital accessibility of education in settlements and municipal districts, taking into account various geographic and demographic factors, including population density, settlement size, isolation, etc.

# Time to act!

Prof. Daniela Jacob

PL1- Opening Session & Keynote Lecture, August 24, 2021, 10:15 AM - 11:45 AM

The effects of climate change are becoming more and more tangible. Especially in recent years extreme events such as heat waves, floods and storms have been more frequent. Climate research and in particular climate modeling investigate the processes associated with climate change and its effects on extreme weather conditions, on the natural carbon cycle, and on regional climate developments. It has already been shown how differently the various regions are affected by climate change and that the impact still is increasing and will become more severe. This poses major challenges for the regions to ensure the future functioning of their infrastructures, e.g., for energy supply, drinking water supply, transport infrastructure, and wastewater disposal etc. Consequently, there is an urgent need to better promote climate protection and adaptation in these regions. It is the time to act now!

# Bilateral Aid and Migration

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G03-O4 Demographic Change, Population, Migration and Mobility Behaviour, August 25, 2021, 10:15 AM - 11:45 AM

South Korea officially became the 24th member of OECD DAC in 2010 and successfully transitioned from an ODA recipient country to a “significant provider of ODA (OECD, 2018).” Korea is highly appreciated among OECD DAC member countries for its strong commitment for the 2030 Agenda for Sustainable Development, which stressed the importance of 2030 Agenda for Sustainable Development to transition out of development issues, such as Migration, and also is playing a central role as a bridge between the developed and developing world (OECD, 2018). Foreign-born population within South Korea has been sharply increasing since 1990s, and as of 2019, international migrants accounted for 2.3 per cent of the total population (UN DESA, 2019). Globally, people are on the move, and migration has been publicly recognized as a global development agenda being considered as the 2030 Agenda for Sustainable Development. With the rise of the importance of Migration issues in the international society, this study examines the determinants of migration in South Korea with a focus on the impact of aid. Using comprehensive panel data covering 148 migrants sending countries listed in OECD DAC ODA Recipients List as a recipient of South Korean ODA from 2000 to 2019, we ask 4 questions: (1) Does aid attract migrants? (2) What are the major determinants of the international migrant flow into South Korea? (3) Are there common traits of countries of origin that are significantly affected by aid? (4) Are the implications or shifts of significance when dummy variables such as ‘Income Group, Freedom Status, Fragile States, Korean ODA Priority Partner Countries, New North and Southern Policy Countries, and Region’ are introduced?

To state the conclusion up front, results confirm that bilateral aid is a very significant determinant of migration flows to South Korea, and traditional gravity model well explains the international migration flows to South Korea. Moreover, political, economic, and social factors such as GDP per capita, Trade, Political Rights, Civil Liberty, Freedom Status are confirmed to influence country of origin with statistical significance. This study is constructed as follows. Having provided a brief introduction of the background information regarding the current discourse on migration with a review on previous studies on aid and migration in Section 1, Section 2 provides data and methods used in this study. Section 3 discusses data based on the statistical analysis and the result, this paper comes to an end with implications in Section 4.

# Polarization of migration discourse in Europe and North America

Prof. G. Eric Jarvis<sup>1</sup>

<sup>1</sup>*McGill University, Montreal, Canada*

S35 Subversive Narratives and Polarization across Space, August 25, 2021, 12:00 PM - 1:30 PM

There has been a long history of polarized discourse regarding migrants and minorities in Europe and North America. These discourses have tended to stereotype non-majority groups and portray them as undesirable freeloaders that capitalize on the generosity of nations to feed, shelter, educate and employ them at the expense of the majority population, who are displaced and suffer as the result. Age-old stereotypes of Jews and the Roma people led to the genocides of the 20th century and paved the way for new generations of subversive ideologies in the post-War period. This paper will explore how nationalism, populism and xenophobia foment polarized migration discourse in Europe and North America, with subsequent radicalization of native born and migrant communities, and increasing acts of violence. Literature espousing an anti-migrant, anti-minority position tends to derive from a zeitgeist of decline and decay of majority (White) populations. Jean Raspail's *The Camp of the Saints* (1973) is one such novel from France, while *The Turner Diaries* (1978) by William Luther Pierce is another novel with similar themes from the United States. These works have become foundational texts of the white supremacy movement. In recent years, populism has gained influence in many European and North American countries. Anti-migrant themes from *The Camp of the Saints* turn up in contemporary populist political party slogans and speeches of the U.K., France, the Netherlands, and Hungary, to name a few. While European populists have not specifically cited Raspail's work, the book has gained a sizeable following in the United States, which has just emerged from a populist presidency. Even more alarming, perhaps, is the way that political leaders of powerful western democracies, such as Donald Trump and Marine Le Pen, have become radicalized in the service of subversive white supremacist discourse. These developments have solidified the political right, polarized debates about migration, and undermined civil society in Europe and North America.



# Global supply chains and risk disruption from an multiregional input-output perspective

Ms Sofía Jiménez<sup>1</sup>, PhD Lucía Bolea<sup>1</sup>, Professor Rosa Duarte<sup>1</sup>, Professor Julio Sánchez-Chóliz<sup>1</sup>

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G06-O2 Adaptive and Resilient Cities and Regions, August 24, 2021, 2:30 PM - 4:00 PM

Since the beginning of globalization countries have been each time more interconnected. As a consequence, production has been organized around the so call global supply chains. Globalization has had mixed effects on the different economies, sectors and social groups in terms of global allocation of income and income. Moreover, some disruptive events such as natural disasters (e.g. the earthquake and tsunami in Japan in 2011) or more recently, the COVI-19 pandemic has shown the risks associated to global supply chains in case of disruption and the need to go deeper into the metrics of countries and sectors regarding risk and exposure issues.

In this context, previous literature has focused on risks models and inoperability input-output models. With them, they estimate the impact of different possible shocks at multisectoral level. However, neither of them measures explicitly the risk of disruption of a supply chain. Thus, this work goes deeper in this issue working under a MRIO framework. The main aim is to propose different indicators of risks and draw the taxonomy of countries and sectors based on them.

In that way, each indicator will measure risk from different perspectives. First, we will work with the interdependency matrix  $A^*$  that uses the inoperability input-output models that can be built from the original input-output model. The elements of a particular row of an interdependency matrix tells us the additional inoperability added by each column (e.g., country-sector). Our view is that the average of each row can be interpreted as the average dependency of each chain. Besides, business and management literature claim that in the last decade there was a tendency towards concentration of supply, increasing the vulnerability of the chains. Because of that the standard deviation of the technical coefficient matrix should also be considered as a proxy of previous idea. We also build other indicators based on particular measures of global value chains, such as position, and final demand.

Empirically, we will use EORA database. It covers the period 1990-2015 and it is constituted by 189 countries. As results, we expect China to be the less vulnerable as its chains are quite diverse. Besides, it is expected that the US will increase it along the period studies because of the relation with China, becoming each time stronger.

# Occupational specific wage curve in Germany: Evidence from linked employer-employee data

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S22-S2 Drivers and impacts of migration: new insights and (in) pandemic crisis, August 25, 2021, 4:15 PM - 5:45 PM

Germany will suffer a sharp decline in workforce as a result of demographic change in the near future. To avoid negative consequences related to this decline an annual influx of 400.000 migrants is required. One neglected aspect in this context is a possible deteriorate economic situation and its effects on the labour market situation of migrants. This paper analyses whether and how wages of migrants and natives react and depend on occupational unemployment ratios. We use an extensive data set with information on 10 percent of all employees in Germany, which we expand with information on firms and regions. Our preliminary results indicate that changes in the unemployed to employed ratio within occupations and regions lead to similar wage effects for Germans and foreigners. Our results thus indicate no structural differences between foreigners and Germans on the German labour market. However, the composition of the unemployed with regard to education and long-term unemployed affects wages differently between the groups.

# Spatial analysis of regional productivity based on $\beta$ -convergence models

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G12-O4 Regional Competitiveness, Innovation and Productivity, August 26, 2021, 12:00 PM - 1:30 PM

**Aims.** Productivity growth rates convergence means faster growth in low-productivity regions in the long term. The main aim of the work is to assess the unconditional and conditional  $\beta$ -convergence of the gross regional product per capita growth rates of the employed population and the impact of technological innovations on productivity in the regional economy on the basis of spatial-econometric models. The study is based on the works of [Barro, Sala-i-Martin, 1992; S J. Rey, B. D. Montouri, 1999]. Based on [Barro, 2004] and the aims of the work, two main hypotheses can be developed: spatial dependence contributes to the productivity growth rates convergence in the regional economy; technological innovations have a positive impact on productivity growth in the regional economy. **Methods.** The data sample is obtained from the "Regions of Russia. Socio-economic indicators. 2020" journal. The boundary weight matrix, global Moran and Geary spatial correlation indices, and local Moran indices (LISA) are used to account and detect spatial dependencies. In the R software environment (plm package, splm package), models of unconditional and conditional  $\beta$ -convergence are constructed on panel data of the SAR, SEM types:

$$1/T * \ln(Y_i(t_0+T)/Y_{it0}) = \alpha + \beta * \ln Y_{it0} + \sum \gamma_j X_{jit} + \rho W \ln(Y_i(t_0+T)/Y_{it0}) + \epsilon_{it}$$

$$1/T * \ln(Y_i(t_0+T)/Y_{it0}) = \alpha + \beta * \ln Y_{it0} + \sum \gamma_j X_{jit} + \lambda W_{uit} + \epsilon_{it}$$

**Conclusion.** Local Moran indices revealed a local clustering of hydrocarbon-oriented regions by gross regional product per capita of the employed population and by the level of expenditures on technological innovations per capita of the employed population. Most of the industrial regions of central Russia belong to clusters with low costs for technological innovations. There is a positive spatial correlation of the gross regional product per capita of the employed population and a negative spatial correlation in the costs of technological innovations. In the context of technologies convergence by strong regions, this predicts an increase in inequality in the development of regions. This fact can be explained by the absence of the process of  $\beta$ -convergence of the average productivity rate in the regional economy in 2009-2019 under conditions of increasing dispersion of internal and external economic shocks. The models showed a statistically significant impact of technological innovations costs per capita of the employed population, the volume of investment in fixed assets, the number of university students on the productivity growth rate in the economy. This result is consistent with the work of (Demidova, Ivanov, 2016) and does not contradict the theoretical meaning. The positive spatial impact of productivity in neighboring regions on this region was found.

# Land Quality Adjustment in Technical Efficiency Analysis.

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G05-O2 Mountain, Rural and Marginal Issues, August 24, 2021, 2:30 PM - 4:00 PM

Employing non-parametric methods in regional agricultural contexts is a growing subject of technical efficiency analysis. Quite surprisingly, considered inputs (e.g., land, labor, capital and fertilizers) and outputs (e.g., gross outputs) do not differ between farm-level and regional applications. While some studies do acknowledge the fact that regionally varying technical efficiency estimates might (too) be explained by mostly environmental and spatial factors, such as climate, soil quality and temperature, an approach that incorporates such unmanageable factors into the technical efficiency measurement, is not yet available. This paper seeks to solve this issue by adjusting the input land by a land quality factor. The calculation of the land quality factor is based on the results of the nonparametric conditional methodology applied to technical efficiency results for European regions. The sample consists of crop production panel data for 122 European regions (FADN) and the period 2004 to 2019. Efficiency scores for the regions are calculated employing the order- $\alpha$  quantile frontier measure. The ratios of conditional to unconditional frontier measures are compared to analyze the effect of unmanageable environmental factors on technical efficiency. Afterwards a flexible nonparametric regression analysis is used to model the effect of all considered environmental factors on efficiency variation within the sample. Finally, the land quality factor is derived from the yielded model results. Preliminary results for a reduced sample of 2018 suggest that precipitation and temperature determine the distribution of technical efficiency among European crop producers. A preliminary adjustment of the land variable, by weighting a specific regions value for an external factor divided by its sample mean, yields structurally different results for technical efficiency. This leads us to the conclusion that analysis which do not directly incorporate environmental factors in their framework cannot simply rely on bias-correction procedures and might overestimate a decision-makers capacity of increasing its degree of production efficiency.

# Regional diversification, smart specialization and their role in regional development

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G12-O4 Regional Competitiveness, Innovation and Productivity, August 26, 2021, 12:00 PM - 1:30 PM

The concept of smart specialization has been at the forefront of EU policy debates over how regions can grow in a sustainable economic path. A key feature of smart specialization is innovation and therefore, unsurprisingly, researchers have examined in detail how new innovative endeavors emerge across regions (Balland et al., 2019; Santoalla 2019). By and large these studies approximate innovation with patent application data from the European Patent Office (EPO) or other large offices where patenting requires a thorough examination process. Further, while less studied, researchers that examine new innovative marketing activities focus on large trademark offices such as the European Intellectual Property Office (EUIPO), (Drivas 2020). While such approach has the advantage of providing objective metrics of innovation activity, it also creates a drawback. Many regions across the EU have limited activity both at the EPO and EUIPO. Therefore, with such metrics we may not be able to observe how innovation is generated in these regions.

In this paper, we take Greece as a case study. While Greece has one NUTS3 region (Attika) responsible for more than 60% of both EUIPO's and EPO's applications during 2000-2016, for statistical purposes it counts forty-six NUTS3 regions.

Our objective is to first map the domestic patent and trademark activity at the NUTS3 level. Consistent with the literature, the first approximates technological inventions (Griliches 1990; Hall and Harhoff, 2012) while the second innovative marketing endeavors (Mendonça et al., 2004; Millot 2009; Flikkema et al., 2019; Castaldi 2020). Then, by applying the original branching framework by Hidalgo et al., (2007), as extended by Neffke et al., (2011) at the regional level, we examine how NUTS3 regions diversify to new technological and marketing endeavors. Finally, we examine whether these new specializations at the domestic level translate to new international technological and marketing activities as evident by applications at the EPO and EUIPO. In this paper we make two important contributions in the literature of regional diversification. First, by examining a single country's subnational regions, we are able to shed light how domestic activity that includes lower caliber technologies and marketing activities evolves over time. Second, in line with recent studies (Catalán et al., 2020; Drivas 2021) we examine how cross-relatedness contributes to own activities. Unlike previous studies however, we find a disconnect between such activities for Greece, highlighting structural challenges of how the innovation stages are linked at the regional level.

# Crisis and Entrepreneurship: business dynamics, firm level, sectoral and regional determinants

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G33-O1 Innovation and Entrepreneurship, August 27, 2021, 12:00 PM - 1:30 PM

The recent recession in Greece had a profound effect in the economy and society overall. The fiscal consolidation programme that was followed included major reforms that affected the financial, labour and product markets, as well as the functioning of the business environment both at the national and regional levels. However, there is little ex-post analysis of the impact of some of the major policy changes that were instituted, as well as a systematic analysis of the impact of the crisis on entrepreneurship and business dynamism at the . According to official data from the Ministry of Economy (GEMI), there were 222,000 firm closures and 175,000 during the period 2011-2014 but to our knowledge there is no study that has investigated the characteristics of these firms, in order to identify patterns and possible causal links. Our study offers a systematic analysis of the impact of the crisis on entrepreneurship and firm-creation considering a spectrum of suitable factors, from various administrative and survey datasets, that include firm level microdata, as well as sectoral and regional data. Various empirical and econometric approaches are utilized in order to capture how firm level, sectoral and regional characteristics affect entrepreneurship, as well as the bidirectional interplay between regional institutions and various types of entrepreneurs. Furthermore, our analysis examines the interplay between entrepreneurship and innovation during the years of the crisis, using patent and trademark data. Our analysis examines three key aspects and offers new evidence for academics and policy makers. First, we explore which firms were more resilient during and after the economic crisis and which firm and regional determinants were critical for their survival. Next, we examine the creation of new firms, their survival rate and which characteristics were vital to their success. Finally, we investigate how entrepreneurship changed in the various regions during the crisis years and how it has shaped regional economic outcomes. Besides firm level, sectoral and regional factors that might affect firm creation and entrepreneurship, the analysis provides interesting results on how the changing institutional setting and particular policy changes might have shaped business outcomes.

# Economic Dependency Patterns along the Eurasian Axis: Tracing the Trade-Investment Nexus in the BRI context

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G12-O5 Regional Competitiveness, Innovation and Productivity, August 26, 2021, 2:30 PM - 4:00 PM

China's Belt and Road Initiative (BRI) has long prevailed as a strategy to promote and sustain economic growth along the Eurasian continent, mainly by narrowing infrastructure gaps discouraging economic openness through international trade. Strengthening the interconnection between two of the major trading partners worldwide, such as the European Union and China, is expected to contribute significantly to the expansion of trade relations, including energy interconnection investments in the countries along the Eurasian axis. Geopolitical developments in the wider region will undoubtedly be affected by the economic dependency status of the Eurasian countries on the aforementioned major trading partners. From the EU side, such a development could potentially promote a more resilient Europe in terms of economic prosperity, bridging the development gap between rich and poor European states. From the Chinese side, previous studies (Kolstad and Wiig, 2009) have already shown an interactive effect of institutional development and natural resources on Chinese outward foreign direct investment.

The present analysis seeks firstly to assess the context of economic dependency of states along two major trading routes, namely the i) China – Central Asia – West Asia Corridor (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan) and the ii) New Eurasian Land Bridge Corridor, which additionally includes eleven eastern EU members (Bulgaria, Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia). Secondly, the study will attempt to update the validity of two assumptions assessed by Kolstad and Wiig (2009), namely that Chinese outward FDI is attracted by states with large natural resources or poor institutions. The degree to which countries attract FDI is both a criterion of economic development and dependency from investor countries. In this context, the methodological approach is based on a log-linear econometric model, in which the economic dependency of states is represented by a foreign direct investment variable, whether FDI come from China or the EU. Statistical data related to FDI value during the period 2009-2019 derive from the Coordinated Direct Investment Survey (CDIS) of the International Monetary Fund, while data for the explanatory economic and trade-related variables come from the UNCTADStat database and the World Bank.

# Core-periphery patterns and dynamics in European borderlands: What difference scale makes

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S57 Progress, regress and change in European cross-border regions, August 27, 2021, 2:30 PM - 4:00 PM

See extended abstract



# Economic impact of UK joining Asia Pacific Trade pact CPTPP: A Global CGE Approach

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YSS4-G02 Macroeconomic, Transregional, Regional and Urban Policy and Governance, August 26, 2021, 10:15 AM - 11:45 AM

Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) is one of the Mega Regional Trade agreements with the main objective of liberalized trade among the fast-growing Asia Pacific member countries. CPTPP (formerly TTP) members consist of eleven countries in wake of the secession of the United States (US). After Brexit, the United Kingdom (UK) government seeking new trade agreements with a major focus on trade in goods between the UK and non-EU countries. The UK recently applies to join CPTPP. Against this backdrop, this research quantitatively seeks the economic impact of the UK joining CPTPP using the Global computable general equilibrium (CGE) approach. Results show that if United Kingdom joins CPTPP, there is optimistic and encouraging growth in UK's economy. However, countries like China, EU-27, India, and Brazil have adverse implications. This research indicates that UK membership in CPTPP would not only boost UK economy but also result in an expansion in real factor return of the UK resulting in higher investment and employment in the country.

# Social Capital aspects of high-skilled migration from academia to industry - (note: Paper eligible for Epainos Award)

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YSS9-G18 Regional and Urban Labour Markets and Entrepreneurship, August 26, 2021, 10:15 AM - 11:45 AM

The need for innovativeness in a knowledge-based economy poses a challenge for small and medium-sized enterprises (SME) limited in human and financial resources. While budgets for public research are rising, R&D investments in SMEs are sinking. They may overcome these internal restrictions by utilizing external sources. Hiring poses one strategy to internalize external knowledge and allowing further knowledge flows. This paper focuses the effect of incoming high-skilled individuals with a professional background in academia on the hiring decisions of SMEs. Social capital theory states that individuals through their professional experience not only gain knowledge and skills but also become members of a community. This gives hiring firms the opportunity to tap into new networks. Once having the connection, firms might be able to exploit these links for further recruitments. This can lead to the hiring out of the same organization or similar ones as well as the recognition of the need to strengthen the internal knowledge base and therefore absorptive capacity. Furthermore, the hiring of scientists can function as signaling encouraging other high-skilled individuals to follow the path.

An extensive data base on linked employer-employee data allows to track individuals who have been employed at a university for at least three years moving into a SME. This analysis focuses on whether one hiring leads to further recruitments from the same or similar organizations. Furthermore, the regional aspect of the migration and how individuals can bridge the gap of geographical distance between a SME and a university is to be explored.

# Fleeing the nest: Effects of high-skilled employee migration from academia to industry

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G30-R Innovation and Regional Development, August 25, 2021, 12:00 PM - 1:30 PM

Small and medium-sized enterprises as an essential part of many economies need to keep up with technological change. To be steered, firms need to strengthen internal resources such as the workforce. This article aims at shedding light on SMEs employing high-skilled individuals with a scientific background and their impact on firm performance. We use linked employer-employee-data from the German labour-market statistics to identify SMEs that hire high-skilled individuals directly out of the university. Following the literature on high-skilled migration, we assume that the hiring of individuals formerly employed by universities brings in human and social capital and contributes to the performance in our case growth of the employing firm. As not only innovative outcomes but also an innovative strategic such as personnel decisions can foster firm growth.

By applying a NNM approach, we identify the development of the firm after hiring a former university employee. To investigate if geographical proximity to the university of origin is beneficial for the hiring of former university researchers we differentiate between incoming individuals from within or outside the region. We find a significantly positive effect in firms, which hired a former university employee compared to their statistical twins. We also show that the effect is larger in firms situated farther away from the university of origin than in firms located closed to the university of origin.

# Do cooperation or competition effects dominate in the European labour markets?

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G14-O1 Spatial Econometrics, August 25, 2021, 2:30 PM - 4:00 PM

While unemployment and employment indicators are related to the overall equilibrium in the labour market, their spatial interactions are likely to differ in terms of strength and type of the relationship. There is still a gap in the literature in terms of these interactions, as it remains unclear, whether cooperation effects, which lead to positive spatial dependence, or competition effects, characterised by negative dependence of regional labour markets, dominate. This study is aiming to answer the research question on which types of spatial interaction exist in European labour markets by analysing spatial dependence at the regional level in terms of unemployment and employment indicators. Confounding factors characterize regions' human capital, demography, industrial composition, and country specific conditions such as institutional settings etc. Empirical part of the study relies on the data of European NUTS-2 regions' implementing spatial econometrics methods. Spatial lag model (SLM), spatial error model (SEM), spatial autoregressive model with spatial autoregressive disturbances and spatial Durbin model are used to account for the spatial interactions in unemployment and employment indicators. Spatial interaction effects are calculated and analysed. To check for the robustness of the results over time, panel data models with fixed effects are also estimated. The estimation results are robust. Both substantive and nuisance forms of spatial dependence exist for labour market indicators. Spatial interaction in employment rates has slightly raised starting from the Eastern enlargement of the European Union. The findings show that cooperation effects have so far dominated in the large European regional labour markets. These effects should be considered by the elaborating strategical views as well as long and short-run plans of regional development and business activities allowing more efficient matching of workers to jobs based on their skills.

# Public Awareness and Determinants for a Proactive Retirement Planning

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G03-O2 Demographic Change, Population, Migration and Mobility Behaviour, August 24, 2021, 2:30 PM - 4:00 PM

European pension systems are increasingly challenged by growing life expectancies and low fertility rates. Thus, private retirement planning is becoming more and more important in order to maintain an adequate standard of living in old age. To understand why some people fail to plan for retirement, a survey is conducted with 2000 inhabitants of South Tyrol and Trentino. The purpose of this survey is to determine the public's perceptions and attitudes towards retirement planning, as well as their current state of planning. The sample is representative with the exception of age, which we narrow down to 20 to 49 years in order to focus on the target group for proactive retirement planning. To identify the relevant factors for retirement planning decisions, we examine the role of financial literacy, institutional trust, risk-taking and time preferences next to socio-demographic factors in a structural equation model. In addition, we investigate whether there are role models effective for retirement planning and examine their influence relative to the one of financial literacy. We also expect risk aversion and institutional trust to be reflected in retirement investment choices. Furthermore, we hypothesize that high time preferences and low social capital explain the behaviour of non-planners to a large extent when sufficient financial resources are available. The aim of this study is to provide valuable insights for future policy in this area.

# Towards the peripheral metropolis ecosystem model. The case of Lublin (Poland)

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S30-S2 Linking entrepreneurship and regional policy, Room 7, August 26, 2021, 4:15 PM - 5:45 PM

The objective of the study is to determine the model of developmental trajectories of a peripheral metropolis based on the example of Lublin (Eastern Poland). The research covered the period of rapid development of the city (after 2007) as a result of the application of unique methods and solutions of strengthening the endogenous potential. The paper analyses the mechanisms of building wide-range business ecosystems and presents the paths to achieving a position of Lublin as a potential peripheral metropolis. These analyses provided the basis for the development of the Peripheral Metropolis Ecosystem Model (PMEM), which can be replicated and formulate recommendations for regional and national development policy

# Strategies for implementing the circular economy in architecture and urban design

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S03-S2 Circular economy: challenges for regions and cities, August 24, 2021, 2:30 PM - 4:00 PM

In recent years, the European cities have implemented numerous initiatives aiming at increase of the efficiency of the resource use and to reduce the impact on the environment by promoting shifts towards the Circular Economy (CE) approaches. One of the ways to implement and manage the transition from linear to circular economy in built environment is the realization of strategies of urban policies, what introduces new challenges to the planning practices. Thus there is an urgent need to investigate the applications of the CE model from the perspective of local strategic planning. This comparative case study explains the outcomes of the different national approaches to the CE implementation within the architecture and urban design. For a broader understanding the chosen cases represent the “old” (Copenhagen) and the “new” (Ljubljana) European Union. Referring to the three main trends in research regarding the approaches to the adaptation of the CE in architecture and urban design: (1) Management for sustainable cities, (2) Urban services and consumer practices adapted to the circular economy, (3) Cleaner manufacturing and construction, the paper introduces the original methodology of selecting indicators to assess the implementation of the strategic approach in the transition to the CE. The in-depth desk analysis had been conducted in order to evaluate different dimensions and levels of the transition and to identify the main factors that drive the connected transformation processes. The article seeks to answer the research questions: What are the main goals of the strategies implemented to transform the linear economy into the CE in terms of architecture and urban planning? What actions are recommended to initiate a change of the circulation model from linear to circular? The contribution of this research is twofold. On the one hand, the methods and strategies undertaken by European cities to implement the CE in the architecture and urban design were identified and verified. On the other hand, the possibilities of implementing the concept of the CE in European cities were demonstrated in relation to the key points of urban strategies and programmes. The research indicates the recommendations for cities seeking to create a new socio-technical regime based on the CE systems. The emerging experiences of European countries in establishing the close loop design strategies might be successfully used also within non-European cities.

# Possibilities and limitations in the ex-ante modeling of regional development paths

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G01-O3 Regional and Urban Development, August 24, 2021, 4:15 PM - 5:45 PM

The economic development of a given territory can be considered as a non-linear, socio-economically and regionally strongly embedded phenomenon. It is controversial namely, whether the given countries/ regions' development paths follow an economic-social law or they are the results of spontaneous interactions. The literature is divided on this issue. According to some researchers, the different initial conditions are leading to different development paths. However, other authors emphasize that there is a strong convergence among them.

In their presentation, the authors seek to answer four questions:

- What indicators characterize the development path of a NUTS-3 territorial unit (region)?
- What typical development paths can be differentiated?
- How can be modeled the ex-ante paths?
- Based on empirical studies, what are the limitations of an expert panel in the econometrics?



# An Exploratory Study of Inter-Organizational Cooperation and Communication

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G08-O2 Cooperation and Local / Regional Development, August 25, 2021, 12:00 PM - 1:30 PM

The paper will present survey data from an exploratory research study of inter-organizational communication and cooperation addressing social capital in local development associations. These social and educational organizations represent civil society within a community or territory. They have linkages and relationships to governmental organizations and similar oriented non-profit organizations in their territory. The relationships have been explored based on a questionnaire directed to the associational directors and a description of organizational concerns, management arrangements, inter-organizational communication and institutional governance will be described. The study will also address decentralized decision-making process and inter-organizational relationships to benefit local development.

# Voting, space and place: a multilevel modelling approach to disentangle the Brexit vote

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G37 New methods in Regional Science, August 27, 2021, 2:30 PM - 4:00 PM

A large number of studies have analysed the role of individual and regional characteristics of voting behaviour in the context of the 2016 EU referendum ('Brexit') in the United Kingdom. We review previous relevant literature and extend it, aiming to understand the reasons for individual decisions to vote Leave in the EU referendum, and the extent to which these decisions were affected by the characteristics of the local area. This could be due to the shared economic, political and cultural heritages that are often fundamental in shaping voting behaviour of the 'left behind'. In particular, an important issue is the extent to which individuals with very similar characteristics (demographic or socio-economic) voted differently in Remain and Leave areas. Therefore, we examine whether particular types of individual long-term social and economic experiences translate into the Leave vote. Additionally, this paper examines links between the effects of economic and non-economic factors on the geography of discontent using individual social values and cultural norms, while at the same time considers contextual factors at the local level. Methodologically, we adopt a multilevel modelling approach to analyse the voting behaviour and to also examine additional indicators in relation to factors of political geography. We employ data from the UK Household longitudinal Study (UKHLS) to estimate the effects of economic and non-economic factors across the UK. The analysis uses the UKHLS data (wave 8) on Brexit support available to this project, as well as previous panel waves on individuals in households and regions.

# Of Biden and Brexit: Structural Gravity Estimates of Major Trade Shocks in 2021 and Their Implications for Trade and Welfare

Prof. Dr. Steven Brakman<sup>1</sup>, Prof. Dr. Harry Garretsen<sup>1</sup>, Dr. Tristan Kohl<sup>1</sup>

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G02-O2 Macroregional, Transregional, Regional and Urban Policy and Governance, August 25, 2021, 2:30 PM  
- 4:00 PM

The withdrawal of the United Kingdom from the European Union has had disruptive effects on international trade. As part of its 'Global Britain' strategy, the UK is pursuing a series of Free Trade Agreements with countries around the world, including Canada, Japan, Korea, Mexico, Norway, Switzerland, Turkey and possibly the United States. Yet, closer to home, the UK is under mounting pressure to dissuade Scotland, Northern Ireland and Wales from seeking independence to regain their severed ties with the EU. We analyze the economic consequences of these scenarios with a state-of-the-art structural gravity equation for major economies around the world. We find that 'Global Britain' yields insufficient trade creation to compensate for Brexit-induced trade losses. Our results also reveal that independence from the UK in itself would inflict greater post-Brexit economic harm on the devolved nations, yet these effects would be entirely removed conditional on a renewed trade deal with the EU.

# Digital vs Old School Alternative Food Networks during COVID-19 Pandemic: Diverse Economies Approach and the Performance of Alterity

Ms Chika Kondo<sup>1</sup>

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S49-S2 The impact of COVID-19 on alternative and local food systems (ALFS) and the potential for sustainability transition – case studies and theoretical considerations, August 27, 2021, 12:00 PM - 1:30 PM

While the COVID-19 pandemic revealed many vulnerabilities within industrialized food systems, the digitalization of food and agriculture experienced surges in growth and adoption for online platforms that directly connect producers and consumers. As many consumers turned to both prepared food and fresh food home delivery, digital tools have become access points for additional markets for alternative food networks (AFNs). This particular crisis reveals a turning point to evaluate the use of digital technology, AFNs, and its performance of alterity. Based on interviews, online participant observations, and discourse analysis, this paper compares two differing alternative food network models: online e-commerce dedicated to connecting producer and consumers and the Teikei/CSA model. E-commerce sites have witnessed significant participation from both consumers and producers pointing to its advantage of scalability, while more traditional models of Teikei continue to struggle to adapt without diluting their principles. Drawing on the work of Gibson-Graham's diverse economies approach, we argue that the alterity of these practices (alterity of product, mechanisms for distribution, and economic practice) is often conflated and creates discrepancies in the space between idealized vision for postcapitalist futures and reality of consumer needs and organizational capacity. These models further illuminate the dialectic between alterity and mainstream as containing a wider spectrum of varying polarities in how AFNs live up to its idealized visions. How AFNs address the gap that sits between an idealized equitable food system and the socio-cultural-economic reality can better inform the potential and constraints of holding a diverse space of possibilities that support shifts away from linear and extractive food systems.

# Spatial Machine Learning – new opportunities for regional science

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G37 New methods in Regional Science, August 27, 2021, 2:30 PM - 4:00 PM

Machine learning (ML) entered probably all disciplines which use quantitative methods. Its progress is often driven by the needs of specific data and questions that should be answered. Regional science and spatial data are also experiencing the inflow of machine learning methods into its toolbox. However, the spatial dimension requires exceptional treatment and re-designing the methods when transferred from other areas. Especially, that the new sources as OpenStreetMap and GoogleMaps with background maps, points of interest, roads, traffic, etc., as well as geo-referenced images as satellite photo, night light photo, drone photo, and also geo-tagged social media posts on Twitter or climatic sensors, are very demanding.

This paper is a methodological overview of spatial machine learning. It catalogues and summarizes the existing solutions which treat spatial data with machine learning tools. It analyses the algorithms and spatial “tricks” used together with typical ML methods as well as the new methods designed to address spatial challenges. The paper goes through unsupervised learning with clustering methods, and supervised learning with classification and regression models. The goal of the paper is to put the line between problems solved and still waiting for solutions. It is the methodological study which balances between classical and spatial statistics, econometrics and machine learning.

There are three essential aspects of this research. Firstly, these are the scientific implementations of spatial machine learning studies and outlining what kind of new questions one can ask when using ML methods in regional science. Secondly, it shows a set of old methods that combined in a new framework of spatial ML work fine. Paper proves that spatial ML is like LEGO construction in many applications, consisting mostly of well-known small parts and occasionally with new concepts added. Third, it is to talk about available software implementations, which make the computations feasible.

Paper is based on the functional approach. The methods are analysed not due to their formal classification but the general mechanism, input and output. This pragmatic way of presentation seems to be attractive for spatial non-methodologists, who are simply curious about what else can be done with data and what knowledge can be found.

# Artificial Intelligence, Firm Growth & Clusters An auspicious relationship?

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SO2 Industry 4.0 in clusters & industrial districts, August 27, 2021, 12:00 PM - 1:30 PM

One of the latest trends of the digitalisation process is the technology of artificial intelligence (AI), which has been identified as a general purpose technology (GPT) and an invention of a method of inventing (IMI). On the one hand, both concepts indicate that AI drives innovation in firms as a) IMIs increase the research productivity, as they are invention methods and b) GPTs drive inventions in their application sectors through innovation complementarities. On the other hand, AI drives productivity growth in firms as a) GPTs drive productivity gains in all application sectors and b) innovations are a key factor for economic growth. Furthermore, GPTs can drastically change methods and procedures. They are essential complement in the emergence of innovations and function as enablers of new opportunities, thus leading to rather radical innovations. However, on the firm-level this relationship remains to be properly investigated. Thus, we investigate, whether AI knowledge in firms has an increasing effect on the growth of the firm. Subsequently, we are particularly interested in one of the main challenges that accompany the proliferation of AI, namely the inequality. Recent studies point out that low-skilled workers will become redundant and through this already existing (income) inequalities will be increased, if an efficient redistribution policy is missing. We contribute to this ongoing discussion by focussing on the firm-level and on the corresponding regional contexts. Despite their widespread distribution and their economic relevance, apart from a few important exceptions, clusters have not been comprehensively researched in the context of the underlying developments of Industry 4.0 (particularly for AI). Thus, we additionally investigate, whether AI knowledge in firms located outside of regional clusters leads to larger divergences compared with firms located within regional clusters. Furthermore, we are interested in potential moderating variables from the firm-level (e.g. firm size) and the cluster-level (e.g. cluster size). In order to empirically analyse these three research questions, we make use of various data sources. We employ the extensive firm database ORBIS in order to analyze the effects of AI knowledge in a firm on its revenue. To identify the AI knowledge in firms, we use patent data from PATSTAT. We apply the actor-based method by Brenner (2017) to identify regional clusters. Based on our findings, policy implications could be derived aiming at supporting fundamental convergence processes, which could contribute to a more inclusive rise in productivity and to higher social well-being.

# Renewable Minigrids For Rural Electrification in Ghana: Analysis of Households' Willingness to Pay

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G22-O3 Energy and Ecological Transition, August 27, 2021, 2:30 PM - 4:00 PM

The deployment of renewable energy (RE) minigrids in the peripheral and rural regions in Africa is an important development both from livelihood and sustainability viewpoints. The study seeks to provide one of the first willingness-to-pay (WTP) estimates for rural RE-based off-grid electrification in a developing economy context, setting the stage on how to decarbonize the rural energy sector and spur low-carbon rural development. A Contingent Valuation (CV) survey was undertaken using structured questionnaires in 5 pilot solar minigrid project communities in Ghana, located in 3 of the 16 regions of Ghana. Two hundred households were interviewed adopting a combination of cluster and simple random sampling approaches. We establish that rural households are willing to pay for RE-based electricity (available 24/7) twice the amount they are currently paying based on the Uniform National Tariffs, which would amount to about 10% of their discretionary incomes. This suggests that any form of business model to be considered and adopted by the government in the long term, must consider the households' demand for more and more stable electricity. Household income, type of electricity use, household size and education level proved to be important factors explaining the WTP. We show that education level is particularly important for the WTP of lower-income households.

# Does the economic panacea for demographic problems exist? A case of Poland

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G03-O3 Demographic Change, Population, Migration and Mobility Behaviour, August 24, 2021, 4:15 PM - 5:45 PM

Depopulation and ageing are the biggest demographic problems in Europe. As a result, social care is becoming the most costly of all the EU public expenses. In Poland, after 2015 this expenditure has been growing the fastest in history. Considering the value of family benefits, Poland takes 3rd place in the EU. This is caused by "Family 500+" - the largest national social program after the systemic transformation. Initially, the benefit was paid monthly for the second and subsequent child in the family (500 PLN), without the income criterion. One of its main objectives was the need to increase the birth rate. The work aims to assess the demographic effects of the "Family 500+" programme in Poland, with particular emphasis on the spatial dimension and urban-rural relations. Firstly, the dynamic of demography in Poland since 2005 has been analysed. Secondly, attention has been paid to the assessment of changes in the population and on the labour market in the regional context before and after the implementation of the programme. Preliminary analyses indicate that the "Family 500+" program has not affected the steady increase in the number of births in Poland. It has not changed the late decisions of having children. It has also a negative impact on the occupational activity of women. The work uses data from Statistics Poland and the Ministry of Family, Labour, and Social Policy. The methods applied include spatial analysis, descriptive statistics, and demographic indicators.



# The EU – Turkey Migration Agreement (2016) and its effect on the Greece – Turkey relationship

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G03-O3 Demographic Change, Population, Migration and Mobility Behaviour, August 24, 2021, 4:15 PM - 5:45 PM

The 2016 deal between the EU and Turkey, was adopted against the background of more than one million refugees, mostly Syrian, streaming into the EU via Turkey, and today, as the EU – Turkey migration agreement reached the five-year mark, we think that it is important to research the effects that it had on Greece, the European country that was most affected by it, having to do the gruesome job of being Fortress Europe's gatekeeper. While Turkey seemed to follow the rules of the agreement at first, in February 2020, its president triggered a major humanitarian crisis at the border with Greece, finally enacting his longstanding threat of sending millions of refugees to the EU. However, once Greece suspended asylum procedures and forcefully prevented migrants from crossing into Greece, the crisis came to an abrupt end, just as the COVID-19 pandemic compelled the Turkish government to close its borders.

The EU-Turkey deal brought in the light many important questions, like if Turkey is indeed a safe third country, but it also turned Greece's already overstrained reception facilities into make-shift detention centers, making already poor conditions worse. This is no excuse for the human rights violations currently unfolding, but it should be a call to action for policymakers in Brussels and the member states to find agreement. Without a reform of the European asylum system, situations like the current one will continue to repeat, and border states such as Greece will once again be under particular strain. This analysis is highly relevant to society today as it aspires to inform about this very important and historic agreement between the EU and Turkey and critically discuss its effects regarding the refugee matter in the EU, Turkey and more specifically Greece.

# COVID-19 and the Migration Regional policies of the EU

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S07-S1 Pandemic and territorial government, August 24, 2021, 12:00 PM - 1:30 PM

The Covid-19 pandemic has affected EU (as much as it has affected the whole world), with catastrophic effects, especially in these sensitive and already underprivileged populations, like the refugees. Immigrants and asylum seekers face additional obstacles when trying to enter the EU restrictions, and quarantines in reception centers are often stricter than coronavirus restrictions for the general population while many new arrivals are not registered at all or with a delay. Access to legal help is limited and in many countries people who were supposed to leave the reception centers, had to stay until the pandemic is over, while in others, unsuccessful asylum applicants or even recognized refugees have become homeless. Moreover, because of the pandemic, many asylum-seeking children cannot access education.

We consider the above, an important research issue, because it will give us an insight on what measures were taken by the policy makers regarding this matter and how this whole problem affected these populations and the EU until today.

As mentioned in a report by the European Asylum Support Office, measures that were taken in the Spring of 2020, mostly shutting down asylum and migration procedures, need to be closely assessed and probably a decision should be taken about their reversal, because the measures taken did largely restrict mobility and individual freedom, so the risk for stricter migration and asylum policy can be seen. An important aspect to think about, is that although coronavirus restrictions sent illegal border crossings into the European Union down to levels last seen in 2013, thousands of migrants pursued more dangerous routes that were rarely used before the pandemic, so the EU really has to reconsider some of its policies regarding coronavirus and refugee/immigrant populations, and should immediately lift discriminatory and unjustified restrictions on migrants' freedom of movement, protect their health, provide timely and fair examination of asylum claims, and massively and humanely reduce the overcrowding that has been a problem for years.

# Early Observation of the "left behind" Notion in Poland. Examining through the lens of Public Policies and Qualitative Approach.

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G05-O3 Mountain, Rural and Marginal Issues, August 24, 2021, 4:15 PM - 5:45 PM

## Background

Early Observation of the "left behind" Notion in Poland. Examining through the lens of Public Policies and Qualitative Approach.

## Questioning

The "left behind" notion in spatial regional dimension examines quantitative disparities, as well as inhabitants' perception and the expression of such term in public planning policies. Also the public discourse and discussion might reveal the inter-relations of regional differences.

## Method

The presented approach shares the initial phase of the research in Polish territory, both in regional practice and in more theoretical policy texts.

The used tool is desktop research and qualitative interviews.

# The Urban Commons' Role in the Territorial Transition and City Governance, Comparative Perspective of Study Cases in Warsaw and Paris

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S19-S2 Commons as enablers of territorial transition- evidences, assessment and theoretical perspectives,  
August 25, 2021, 2:30 PM - 4:00 PM

Keywords: urban commons, urban governance, cooperative urbanism, comparison, temporary urbanism, multi-actor spatial planning

## 1 SCOPE

The aim of this research is to examine commoning practices multi-scalar and multi-actor spatial planning initiatives in urban contexts, in different cities, cultures and countries. Although affected by pandemic time, the urban and territorial commons are often temporary by definition, so they can be governed and used in an adaptive way.

## 2 BACKGROUND

The concept of Common Good has a history in the human thought development through philosophy and politics since the establishment of first communities and settlements. The contemporary Common good (Ostrom 1990) understanding (Coriat, 2015; Dardot et Laval, 2015), is an interest of disciplines i.e. economy, sociology, anthropology, law, geography, architecture, and urban planning etc.

In spatial planning this concept is connected to the “just city” (Fainstein, 2010; Moroni 2019) and collaborative approaches to spatial planning – linked to the idea and application of civic participatory engagement to the public policy elaboration and implementation, but generated also skepticism (Swyngendouw, 2004).

The scientific discussion is ongoing, also in a socially engaged manner. The issues raised in the trans locality of the concept of commons, which remain similar in many aspects despite the diversity of locations of initiatives. The seminars are flourishing on this topic, reflecting political orientations of their organizers and participants. The new narration incorporating urban commons is taking a formalized dimension.

## 3 METHOD

The research material was collected through recent years, by desktop research, literature review, qualitative interviews, field visits, evidence collection and participatory observation both in institutional and subversive planning ways. The theoretical discussion was also studied through participatory observation in scientific and activists’ seminars. The questions asked touched upon the inclusivity/exclusivity of those actions and communities affected by their results and transition provoked.

## 4 RESEARCH

Two cases are compared: Polish – focusing on subversive temporary occupation and governance in the urban conservation of functions (Jazdów in Warsaw) and French (Grands Voisins in Paris) – dealing with heritage transformation, act within the Municipality interplay of forces and actors. Balancing formal and informal, each of chosen cases impacted its surroundings in varied scales.

## 5 RESULTS

The results highlight the challenges and opportunities of innovative planning, consisting of formal – institutional approach with participatory opportunities. The impact of local initiatives is spreading practices of examples impacts law and planning procedures. The adaptive role of collaborative governance is worth further study in post-pandemic times.

## Factors of COVID-19 mortality in Russia's Arctic cities

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S37 Resilient Arctic: regions, cities, and people, August 26, 2021, 12:00 PM - 1:30 PM

see extended abstract

# Models of rural shrinkage in East and West

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G05-O3 Mountain, Rural and Marginal Issues, August 24, 2021, 4:15 PM - 5:45 PM

The paper delivers findings of a recently finished ESPON project on shrinking rural regions. The project was implemented by a consortium whose composition permitted a comparative study of the structural causes of rural shrinkage in various macro-regions of the European continent represented by Spain, Finland, Germany and a number of Eastern and South Eastern European countries (Bulgaria, Croatia, Hungary, Poland). Two models of rural shrinkage were unfolding from the case study analyses. One of the models has been prevailing in the Southern and the Northern countries caused primarily by spatial factors and processes such as the complex phenomenon of peripherisation. The other model was identified in East Central European and South East European countries that transformed from state socialism three decades ago. In these countries causes of rural depopulation had been rooting in such historical cataclysms as establishment of the communist dictatorship in the 1950s, forced collectivisation during the 1960s, then – after some decades of relatively peaceful rural regeneration – a reversed cataclysm of political transformation during the 1990 with reprivatisation of collective property resulting in a deep structural crisis in rural areas and increased within country rural-urban migration flows. These domestic population flows were followed after the EU accession by labour migration and emigration to the West and South speeding up the process of population shrinkage significantly. What comes next in these rural contexts? Are there adequate policies at the national levels addressing the phenomenon of rural shrinkage? Mitigation or adaptation is the dominant policy response at the local levels? These are the questions the paper intends to reply.

# Public sector and productivity: Governance at the right scale

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S09-S1 Relaunch of Productivity for Regional Growth and Cohesion: Institutions, the public sector and productivity, August 25, 2021, 10:15 AM - 11:45 AM

Enhancing productivity is a common rationale for devolution, outsourcing and new institutional configurations and a recurring theme in public administration reforms. Functions such as urban planning, infrastructure development, water management, and transportation planning have clear spatial characteristics wherein their governance ideally spans their functional use and/or management. These considerations have led to municipal amalgamations in an effort to consolidate functions and build economies of scale and to the creation of special purpose, intermediate or regional bodies to manage public investments and deliver specialised services. While there is a growing urban literature on governance at the right scale in certain policy areas, far fewer studies explore these factors in lower density places (towns and rural and remote areas). Moreover, how effective and efficient governance might boost productivity both within the institution and more generally, across the local/regional economy is underexplored. This scoping review takes stock of how governance at the right scale can improve public sector (and private sector) productivity in different types of places—urban, rural and remote. It draws on theoretical, empirical and policy literature to explore: i) how scale matters to public sector productivity and governance; ii) how governance at the right scale can be enhanced (e.g., getting the incentives right); the barriers to productivity improvements in all types of regions and; future opportunities and challenges, including those related to the Covid-19 pandemic.

# Names, diversity and innovation (note: Paper eligible for Epainos Award)

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S13-S3 Historical Roots of Regional Entrepreneurship and Innovation, August 25, 2021, 12:00 PM - 1:30 PM

Cultural diversity of workers has a positive effect on innovativeness. However, diversity so far has been limited to being defined as referring to different nationalities only. In a novel approach I regard intra-country diversity in Germany by using the distribution of family names as a proxy. The distribution of family names proxies for historic family movements quite well because a large majority of families chooses the husband's last name as family name. Relocation of people induces cultural diversity because culture varies over space and even little deviations, such as within Germany, shape people differently. From these different interacting backgrounds innovation is expected to arise.

A data set containing all phone book entries from 1996 shows where in Germany names have spread throughout history and thus diversity of family names is high or low. I use measures of concentration and fractionalization to quantify this. I also regard the openness of municipalities, in terms of a changing pattern of names, throughout the past 100 years by comparing family names from the casualty list from World War I and the phone book entries from 1996.

I connect diversity to innovativeness of municipalities, measured by the number of patents. I confirm a positive effect of diversity on patents, when controlling for population density, share of foreigners, share of manufacturing and number of natural scientists and engineers as further relevant determinants.

I plan to exploit data on innovativeness and diversity in the late 19th century to find out about the endogeneity problem. For this I use historic railway data as an instrument for diversity because it accounts quite well for mobility opportunities.



# A matter of relations visualization of social relations in alternative food networks

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G04-O2 Urban-Rural Relationships, August 24, 2021, 2:30 PM - 4:00 PM

Globalised corporate food systems operate on economies of scale. Between the field and the plate, there are long supply chains, huge infrastructures and powerful services. Consequently, there are no direct relationships between farmers and consumers, and among most of the other actors along the chain such as the people responsible for processing, packaging, transporting, distributing, selling or cooking food. To compensate for this lack of transparency, trust, identity and social/emotional bonds, big food corporations invest massively in branding and advertising. These high investment brand images and the emotional bonds they create for consumers suffer when scandals reveal the exploitative realities behind these production models and their destructive impacts.

In contrast, Alternative Food Networks (AFN) try to create more direct relations in the food chain which generate more transparency, trust and social/emotional bonds between actors and, ideally, create a sense of solidarity. Therefore, in AFNs there is less need for branding and advertisement, but for real reciprocal understanding of needs, capacities and abilities, and of the potentials and restrictions each actor has in its specific situation. This includes the environmental conditions farmers deal with and their interrelations with other living beings and ecosystems (soil fertility, biodiversity, animal welfare, etc.).

There are many forms of AFNs, and new variants are emerging. The spectrum ranges from projects oriented towards commoning to projects, which are more commercially inclined with space in between for other variants. Much has been done and published on this topic, also in fields, which are not typically tackling agri-food or agricultural issues, including design, arts and humanities. This article focuses on visualising the relations in diverse types of AFNs alongside a short fact sheet for each case study. This permits an understanding of differences and similarities, in particular regarding diffusion, underlying shared values, types of involved people and actors, ways of distributing, sharing of benefits and risks, questions of power and governance. Additionally, the accompanying images to the illustration of each AFN provide an idea of the aesthetic and emotional dimensions in play.

# Utopiaing – imagining and enacting territorial futures

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G37 New methods in Regional Science, August 27, 2021, 2:30 PM - 4:00 PM

Apocalyptic fiction, dystopian science fiction, serious reports and publications on multiple crises and worse disasters to come, plus news on terrible things all the time, create an atmosphere of fear, hopelessness and powerlessness. While “smart” futures of tech-driven convenience and control are created and heavily propagated by big tech – hiding that this very probably leads to convenience and control for the elites only. At the same time, narrations and imaginaries from nationalist and extreme right forces are gaining more and more traction. They offer oversimplified and dangerous but for many people attractive answers to the multiple crises and (presumed) threats, and to the feeling of fear going along with it. Where are the narrations, imaginaries and practices of good life for all? Writers, researchers, movie makers, designers photographers and other storytellers together with all kinds of engaged people can co-create concrete utopias of inclusive, open and sustainable societies, which are inspiring and motivating. They can (co-)design environments, where people can imagine, experience and experiment such futures. Positive future trajectories motivate, reinstall hope and the ability to “do something” now.

The talk frames the issue and illustrates it with case studies focussing on local actions in rural and urban areas. It compiles diverse kinds of stories, images, interventions, practices, infrastructures and policies that nourish positive futures. This includes elements deriving from popular culture, such as music, movies, TV series and video clips. The power of such media formats cannot be overestimated, and therefore should be considered both as a source of inspiration and as an instrument in the engagement of moving towards positive futures.

A point is made on the pitfalls of utopias as ideal societies. I argue to see utopian imaginaries, narrations and practices not as perfect models, but as attractive possibilities and positive attractors. I analyse approaches, means and practices of the presented cases, and correlate them to theories and intellectual discourse on positive future visions and actions referring to diverse authors such as Ernst Bloch, Emma Goldman, Michel Foucault, Carl Boggs, Erik Olin Wright, Ruth Levitas, Uwe Schneidewind, Harald Welzer, Brigitte Kratzwald, Friederike Habermann and the I.L.A. Kollektiv.

Finally, from all this I try to derive practical rules of thumb for utopiaing. These are not thought of as recipes, but rather as a checklist, which can be useful when using utopiaing as a method for imagining and enacting territorial futures.

# Spatial organisation of the innovative business in the urban area – new framework

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G31-O2 Location of Economic Activity, August 27, 2021, 2:30 PM - 4:00 PM

Empirical analysis suggest that the spatial organization of the innovative industry is not stable over time. Over the years clusters of firms are shifting in terms of shape, density and their relative importance. All those alterations look like an evolutionary change in the spatial pattern of the business setting. Location decisions of the individual firms from the innovative industry aggregate into a herd-like behavior of the whole branch. Dynamic actions of the large group of companies are not really explainable by the current theoretical consensus.

In this paper I will analyse the spatiotemporal pattern of the location choices in a highly innovative business branch situated within an urban area. Although it may seem that for such a progressive industry like technological start-ups the office location should not play any major role, there is an evidence that this industry as a whole is creating intriguing non-random spatial patterns, that are gradually changing over time. I will investigate this non-stable spatial structure using a dataset consisting of individual-level information about the technological start-ups founded in Warsaw between 2010-2018. The empirical analysis will be conducted with a usage of machine learning methods supplied with more traditional econometrical framework. I will discuss the fluctuations in the general structure, presence of clusters, their location within the city and their temporal (in)stability.

Considering the evolutionary changes in the entrepreneurial herd behaviour I will propose a new framework which will allow for a deeper understanding of the urban organisation in the innovative business branches. Creating of such is needed due to the shortcomings of the currently prevailing theories. Classical and behavioural theories, New Economic Geography, evolutionary and co-evolutionary approaches – all of these are modelling the individual decisions about where to locate business in a context of unbounded space. Anyhow it seems that considering only stable-state, individual level solutions does not allow for deciphering the group behaviour of entrepreneurs. Especially in a restricted urban area those models do not seem to explain the temporal changes of the firms' organisation very well. In this paper there will be a solution proposed to tackle those shortcomings.

# Can EU money buy love? The evidence from Central and Eastern Europe

Dana Kubenkova

G25-O2 Institutions, Political and Decisional Processes, August 27, 2021, 10:15 AM - 11:45 AM

In the past, it was strongly believed that European integration is a fundamental pillar for establishing democratic changes in Post-Soviet countries and that the EU has created specific mechanisms to maintain strong democratic awareness within them. There is no doubt that something has gone wrong as we are witnessing the situation in Poland and Hungary and their political battles with the EU. To go further, in the programming period of 2014 to 2020, the EU Commission has spent one-third of its budget on investments. However, despite this huge effort of the EU we can still observe Eurosceptic waves across the regions that have been heavily supported. Based on the economic theory of utilitarianism, individuals should have a positive attitude toward the EU if they benefit from the process of integration, but practice shows opposite outcomes. As the result of the presumed discrepancy, over the last few years, many scholars found it interesting to investigate the relationship between EU Cohesion policy and support for Eurosceptic parties. Some of the studies proved the relationship e.g., Cohesion policy can reduce Euroscepticism (Rodriguez-Pose, 2020), others found that money simply can't buy EU love (Fidrmuc et. al, 2016). However, regardless of the contradictory results of these studies, we found a gap. These studies are mainly focused on the issue of the Brexit vote and the regions of Western Europe. We advocate that there exist different motives of rising Eurosceptic attitudes between the citizens of Western and of Central and Eastern Europe (CEE) that can lead to different implications within the research. Therefore, we extended the research question to CEE regions. Considering the above, this paper analyses the link between EU Cohesion policy and voting support for Eurosceptic political parties within CEE regions. We estimated whether greater levels of investments from cohesion funds i.e., improving job opportunities, quality of life, and human capital decrease Eurosceptic attitudes within CEE recipient regions. Our database was mainly built on voting results on the level of NUTS3 from the selected CEE regions based on the two last election periods. To determine whether a political party is Eurosceptic, we used Chapel Hill Expert Survey. To assess the information about the investment from the Cohesion policy we used investment per capita in CEE regions from 2007 through 2013. Other variables that were considered are age, education, GDP per capita, economic growth.

# Exploration or exploitation? Innovation behavior of SMEs and large firms during COVID-19 crisis

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S17 News and Geography, August 25, 2021, 10:15 AM - 11:45 AM

\*see extended abstract\*

The COVID-19 pandemic presents a previously unknown shock to the society via influencing not only the economy, but also the social, physical and psychological spheres (World Bank 2020; OECD 2020). For Germany, the negative consequences of the pandemic include an expected decline of gross domestic product of about 5% for the year 2020 (Sachverständigenrat 2020) and significant fell of employment by ca. 1,5% compared to 2019 (Federal Statistical Office 2021).

The literature often sees crisis not only as hindrance, but also as an accelerator of innovation, via pushing firms to introduce solutions to appearing challenges (Arvanitis and Woerter 2014; Archibugi et al. 2013a; 2013b). Here differences are observed between the behavior of SMEs and large companies: whereas SMEs opt for exploration of new market opportunities, large firms tend to explore existing capabilities (Latham 2009, Archibudgi 2013a, 2013b). This empirical evidence, however, normally relates to economic crisis exclusively and does not reflect the versatility of nowadays COVID-19 crisis. To the best of our knowledge, no empirical investigation of the innovation strategy of SMEs as compared to large firms in the current situation has been performed so far. This is where our paper ties in.

The purpose of this study is to analyse the innovation behavior of SMEs in contrast to large firms in Germany during the COVID-19 pandemic applying text mining techniques to most recent innovation data. We are doing this by filtering the articles on innovation activities from information database “Factiva” during the time period from 01.12.2019 to 10.01.2021. Further, we build a dataset containing 1.009 firms, which were mentioned in these articles and estimate the exploration/exploitation score for each firm by measuring the similarity of firm-related articles and reference dictionaries. Reference explorative and exploitative dictionaries are also built with the help of applying relevant filters to “Factiva” database. After subsequent econometric analysis with the score as dependent variable we can then indicate, which firms’ category tends to exploration and which to exploitation during the COVID-19 pandemic.

This study thus contributes to the development and application of new innovation indicators, based on the actual and constantly updated data and informs policy-makers about the trend of innovation activities of different types.

References available in the extended abstract version.

# Retail Externalities and Distance in Shopping Malls

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YSS5-G01 Regional and Urban Development, August 26, 2021, 10:15 AM - 11:45 AM

We measure the impact of retail externalities on the sales and productivity of individual stores using monthly sales data of 1,170 stores that were located in 9 Turkish shopping malls over a 4-year period. We focus on two specific retail externalities: (1) retail externalities generated by anchor stores, and (2) retail externalities generated by competing stores. We identify these retail externalities by using variation in the composition of stores within shopping malls over time. We find that the presence of an average-sized anchor store inside the mall increases the sales and productivity of a non-anchor store in our dataset by approximately 2.63%. With regards to the competition externality, we find that the sales and productivity of a non-anchor store decrease by approximately 0.23% as a result of the presence of an average sized competitor inside the mall. For both externalities we observe considerable heterogeneity across product categories and over distance.

# Radical Innovations and Industrial Structure of Regions: Insights from Russia

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G30-O5 Innovation and Regional Development, August 27, 2021, 12:00 PM - 1:30 PM

Radical innovations as a key driving force for long-term socio-economic progress are one of the vivid topics in regional science. The paper aims to shed light on the structure-specific factors of regional economies that favor the increase of a firm's radical innovations, considering the case of Russia. We use data from national innovation survey and measure radical innovations as the sales of new-to-the-market and new-to-the-firm innovative goods and services. The ordinal regression is applied to quantify the effects of independent variables on radical innovations. These indicators reflect how much the industrial structure of a firm's home region is diversified or specialized, and the shares of knowledge-intensive business services (KIBS) and creative & cultural industries (CCI) in a region's economy. We control regional market size, expenditures on technological innovations, and a firm's location in a region with a city of over 1 million population. The results show that, apart from expenditures, the industrial structure of regional economies affected the likelihood of higher sales of radical market novelties introduced by the firms located therein. More sales were detected in the firms, operating in the specialization industries of their home regions that were identified with cluster mapping of related industries. The shares of KIBS in the industrial structure of regions had greater impact on radical innovations, while the influence of CCI was not significant.

# How different patterns of urbanization affect regional innovation? Evidence from Russia

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G30-O3 Innovation and Regional Development, August 26, 2021, 4:15 PM - 5:45 PM

The present paper assesses the impact of general urbanization and urbanization patterns (the number of cities of a certain size in the region) on different phases of the regional innovation process: knowledge creation, implementation, and production of innovation production. Knowledge creation is measured by patent statistics, knowledge implementation – by the share of innovative organisations, innovation production – by the volume of innovation production produced by industrial organisations.

We apply the dynamic panel data model technique by using data from the period of 1998 to 2016. Our results suggest that general urbanization has a positive influence on every stage of the innovation process, while the impact of different urbanization patterns varies depending on its stage. Million plus cities affect knowledge creation in the region but have no considerable impact on knowledge implementation and innovation production. At the same time, the presence of cities with a population from 500 000 to 1 000 000 people in the region positively influences more mature stages of the innovation process: knowledge implementation and manufacturing of innovation production.

So far as the effective innovation development demands complete innovation cycle, not only million plus cities should be considered as the main drivers of innovation, but cities of lower size (at least with population from 5 000 000 to 1 000 000 people) as well should attend the innovation agenda.



# The role of dynamic capabilities in enabling new path development in old industrial regions

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G12-O5 Regional Competitiveness, Innovation and Productivity, August 26, 2021, 2:30 PM - 4:00 PM

Regions' adaptation to changing environment may involve the upgrading or renewal of industrial activities. The regional studies literature has addressed the issues involved in such processes with different approaches, focusing on both understanding how regions embark on new development paths and on the policies promoting new paths.

Path creation is envisaged in the literature as the rise of new industries, or more broadly the development of new economic activities in regions. In this view, new path creation, whereby entirely new industries are created, is one type of new path development, other types including path importation (attraction and anchoring of established industries from outside the region), branching and unrelated diversification (move to new industries based on related or unrelated knowledge combinations) or path renewal (change of the regional development path into new directions based on the infusion of new analytic or symbolic knowledge).

The role of place-specific legacies and conditions have been stressed, particularly regarding related diversification. More recently the literature has focused on the role of regional actors' decisions and actions, namely agency. Thus, Grillitsch and Sotarauta (2020) have shown how the "trinity of change agency" determines the opportunity space available to the region, namely the range of opportunities that can be pursued given regional pre-conditions.

How these processes translate into concrete policy action and structural transformation has been less discussed. Regions must deploy a capacity for change in order to seize opportunities and effectively adapt to changing competitive conditions. In other words, regional ecosystems must effectively adapt, integrate and re-configure internal and external skills, resources and competences in order to realise their transformation: they must deploy what the Strategic Management literature has called dynamic capabilities.

This paper therefore suggests that dynamic capabilities are essential to make regional path development effective, in the sense of implementing the regional industrial strategies that emerge from the trinity of change agency. In other words, they mediate between policy design and policy delivery: concrete transformation can only occur if dynamic capabilities are deployed, especially when required changes are important, due to the occurrence of multiple crises such as the current context of climate change, pandemics and industrial revolution, or due to the crisis of a major industry as in old industrial regions.

# The More You Give, The More You Get: The Impact of Material and Non-material Altruistic Behavior on Well-Being

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G08-O1 Cooperation and Local / Regional Development, August 24, 2021, 12:00 PM - 1:30 PM

According to the concept of “Hedonistic Paradox”, one can not seek pleasure or happiness for himself will not find it, rather one who helps others will. Therefore, generosity is part of human nature as social special. Generosity not only provides benefit for the recipient but also for the giver. Numerous studies suggest that generosity has positive impact towards well-being, including happiness, health and even delayed mortality. This study examines the effect of altruistic behavior on material and non-material well-being by using the case of Indonesia. This study specifically makes Indonesia a case study because of its unique characteristics. The Indonesian people uphold the value cooperation and communal work that is inherent in the Indonesian people's identity. Indonesia is at the top rank in terms of generosity but at the lowest rank when it comes to happiness index. This study utilized the data from Indonesia Family Life Survey (IFLS) 5. By using 2 SLS and ordered-probit methods, this study suggested that social charity as well as social participation in community services significantly affect one's income, happiness and the feeling of life sufficiency.

# Does the creation of 4.0 technologies foster the growth of local productivity? Evidence from the European cities

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S09-S2 Relaunch of Productivity for Regional Growth and Cohesion: Innovation, technology and productivity,  
August 25, 2021, 12:00 PM - 1:30 PM

In the last decades, and especially in the aftermath of the financial crisis of 2008, the growth of productivity has dramatically slowed down in most of the western economies. Given the difficulties in explaining this phenomenon, scholars and researchers started to speak about a real “productivity puzzle” (McKinsey Global Institute, 2018). Many possible explanations of the causes of productivity stagnation were developed and tested. However, an element that should be carefully considered in the analysis of the productivity puzzle is the role of innovation and technological change. In these regards, two opposite views exist. On the one hand, some scholars argue that the actual slowdown is just a “return to normal” after the relevant gains fuelled by the ICTs’ revolution. Furthermore, from this point of view, the productivity slowdown would be a permanent phenomenon and no relevant technologically-driven improvements are foreseeable in the near future given the actual technological trends (Cowen, 2011; Gordon, 2012; Fernald, 2015). On the other hand, other scholars embrace a quite opposite perspective. According to them, not only the benefits arising from digital technologies are far from being exhausted but they also argue that we are heading towards a fully-fledged Fourth Industrial Revolution that will have disruptive impacts on our economies and societies (Brynjolfsson and McAfee, 2011, 2014; Schwab, 2017). If this second point of view is true, the effects of the Fourth Industrial Revolution on local productivity dynamics can be particularly relevant and this makes the study of this phenomenon particularly challenging and interesting. The present study adopts an urban perspective for two reasons: first, cities account for a large share of national GDPs and thus drive the aggregate productivity dynamics (OECD, 2015); secondly, and perhaps more importantly, cities are acknowledged to be the places in which new knowledge creation concentrates, usually being on the edge of technological frontier (Carlino and Kerr, 2015). For this reason, it is reasonable to expect that the effects of the technological paradigm 4.0 on local productivity will start to manifest in urban and densely populated settings. The present work aims at addressing a specific research question, namely whether most 4.0 innovative cities are benefiting from the local development of 4.0 technologies in terms of higher productivity levels.

# Converting supply and use tables into a symmetric input-output table: An application to energy production reallocation and technological change

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G22-O2 Energy and Ecological Transition, August 26, 2021, 4:15 PM - 5:45 PM

Symmetric input-output tables (SIOTs) are extensively used in input-output analysis. They allow us to study sectoral impacts of economic policies, possible demand shocks, structural change in industries, production chains and many other structural aspects. These tables are usually obtained by the statistical institutions converting the supply and use tables (SUTs) into one single matrix that can either be a product-by-product or industry-by-industry framework. Four different approaches can be computed by using the methodology proposed by Eurostat. Product-by-product tables describe the technological relations between products and can assume either product technology (called model A), if products are produced with the same technology independently of the industry where it is produced, or industry technology (model B), if products are produced according to the technology of the industry producing it. Similarly, industry-by-industry tables describe the technological relations between industries and can assume a fixed industry sales structure (model C), if industries have their own specific sales structure independently of their product mix, and a fixed product sales structure (model D), if each product has its own market sales, independently of the industry which is offering it.

Prior works have addressed the choice of these methods. However, up to our knowledge, there is a lack, in the existing literature, about the implications of the choice of the model for deriving a SIOT from the SUTs when a technological or structural change occurs in the SUTs.

In this paper we analyze and compare the different effects estimated by different symmetric input-output tables. Those effects are evaluated when an energy production reallocation – associated, as an example, with a higher energy self-production – is implemented into supply and use tables. To this end, we use the supply and use tables for Spain by 2015, published by the National Statistical Institute. We convert these supply and use tables into a symmetric input-output table by using alternative methodological options (the four EUROSTAT models), which involves different pictures of the economic structure represented in different symmetric tables. Our findings show that different results are obtained by using the different methodological options. Thus, the selection of the methodological proposal is not trivial. Moreover, the choice done may apparently underestimate or overestimate certain highlights for a non-training researcher or politician, although they are describing the same facts. In this sense, one of our contributions is to shed light on the choice of the model depending on the objective of the researcher.

# Characterization, policies and inclusion of non-EU foreign immigrants in rural areas of Aragón, Spain

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S16 Places left behind or places of opportunities?, August 24, 2021, 4:15 PM - 5:45 PM

see extended abstract

Aragón is one of the 17 Autonomous Community in Spain. The region has few population, mainly concentrated in its three provincial capitals. Most of its territory is rural -both in the Pyrenees and in the Ebro river valley-. These territories are characterized by the lack of strong socioeconomic activity, which are highly focused on the primary sector (agriculture) and also on tourism activities.

Since the 1990s, this region has received many foreign immigrants, phenomenon considered very positive from the socio-economic, demographic and territorial points of view. In Spain, some migration policies are national in nature, but others are depending on the Autonomous Communities and are developed by social organizations and municipalities.

In this contribution, non EU-foreign immigrants will be analyzed, with some sociodemographic and territorial characteristics. Next, we will focus on the analysis of the main policies that manage this phenomenon, in order to identify and evaluate which ones have been most effective in favor of the arrival, settlement, integration and socioeconomic impact of immigrants in the rural and mountain areas of the region.

This work is carried out in the context of the development of the H-2020 MATILDE project (Migration Impact Assessment to Enhance Integration and Local Development in European Rural and Mountain Areas). Main sources for analyzing this phenomenon include diverse legislation and documentation on the subject, also available statistical sources (basically, the Municipal Register of inhabitants), and the development of in-depth interviews and discussion groups. This fieldwork has been carried out with different stakeholders including technicians, public managers at different territorial scales, and immigrants, and it was implemented in different stages of the project.

The results show the important presence and role of non-EU immigrants in the rural and mountain areas of the region. The analysis also reveals the transversal and universal character of the social and economic policies, focused on the entire population, regardless of their origin. Spain does not have a clear model for the integration of immigrants, and it is characterized by being a 'mosaic' model, in which the autonomous communities and municipalities have a great capacity to make decisions and implement policies. In addition, the regulations made by the government of Aragón and the role of the social agents of the region -mainly in rural areas- contribute to acceptable levels of integration of these immigrants.

# Measuring women's empowerment index and gender impact from microcredit program in Vietnam

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S43-S3 Counterfactual methods for regional policy evaluation, August 27, 2021, 10:15 AM - 11:45 AM

This study explores the influence of gender and business training on women empowerment among microfinance female borrowers in Vietnam. Using data collected at the TYM Fund, a comprehensive empowerment index is elaborated to assess different levels of empowerment, to evaluate the impact of training. Beyond theoretical interpretations, the index is developed based on factor analysis to select similar but yet complementary components, in order to categorize empowerment into three evolving levels: individual, household, and community. Thereafter, the impact of training is examined, using double-difference estimates with particular attention to the spillover effects. The results show that training has a positive influence on women empowerment at all three levels. Surprisingly, the impact is considerably stronger when male partners are invited to join. In case of partners' presence, the sense of self-confidence and community engagement considerably increases, especially in the longer period of time. However, the training loses its efficacy while women live in an extended family, since the ties and beliefs of the traditional role of the women in the family still prevail.

# Could Smart Specialization contribute to dynamic regional resilience?

Dr. Sana Elouaer-mrizak, Prof. Didier Lebert, Pr. Adrian Healy

G06-O5 Adaptive and Resilient Cities and Regions, August 25, 2021, 12:00 PM - 1:30 PM

The smart specialization concept considers that countries and regions would tend to specialize in different knowledge related sectors, by taking into account their capabilities (von Tunzelmann 2009). Wixe and Andersson (2013) asserted that “industry relatedness provides a breeding ground for productive local knowledge spillovers and cross-fertilizations and thus influencing regional growth”. However, there is a risk associated with this specialization in that it will be difficult to select domains in which to concentrate public funds. In other words, the identification of these domains/ niches could present potential risks of failure. Consequently, regions should be resilient to “bounce back” after these failings. Resilience, in general, is widely considered as a system's capacity to proactively adapt to external disturbances and recover from them (Ceré, 2017). Regions must have an adaptative capacity to readjust these choices, that is to be resilient. Regional resilience not just measure the regions' ability to deal with shocks, but it implies the regions' ability to reconfigure their socio-economic and institutional structures to develop new growth paths (Boshma, 2014). In this paper, we will adress the following question: what role might/could smart specialisation strategies play in promoting dynamic regional resilience?

To reach our goal, we use technology flows matrices (Scherer, 2002) to produce indicators of revealed technological advantages (RTA) of regions. These indicators are derived from economic dominance theory (EDT) which is an attempt to interpret and overcome input-output analysis (Miller and Blair, 1985) by mathematical graph theory (Lantner and Lebert, 2015). The way smart specialization strategy and resilience are linked is like a funnel. Smart specialization is the basic concept, resilience is one indicator of this concept and technological dynamic is one notion that gives an idea about the dynamic of regions in terms of specialization.

# Unusual Weather Change and Temporal Stability of Willingness to Pay for a Urban Heat Island Mitigation Policy in South Korea

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G29-O2 Regional and Urban Policy and Governance, August 27, 2021, 10:15 AM - 11:45 AM

Estimating an individual's willingness to pay (WTP) is useful in the cost-benefit analysis because it facilitates the valuation of the non-market effects of a policy in monetary terms. The WTP generally assumes that, as long as a policy is implemented, its effects will persist over time. This assumption is so-called temporal stability which indicates the WTP is stable and reliable over time. However, it is vulnerable to an unusual environmental change because an individual's preference is subject to environmental stability.

The literature shows that various studies examined the temporal stability of the WTP before and after environmental changes occur. However, most studies have paid little attention to the application of temporal instability to the cost-benefit analysis, even though the existence of temporal instability in abnormal environmental conditions has been verified in the literature. Failure to recognize the temporal instability can result in an over(under)estimation of the policy impacts. Hence, the recognition of the temporal instability should be made in the cost-benefit analysis in order to accurately evaluate a public policy.

This paper attempts to present a cost-benefit analysis method for the public policy, specifically urban heat island mitigation policy, focusing on the temporal instability of the WTP. The method was applied in Seoul, South Korea for two consecutive years (2019 and 2020). In 2020, there was an anomaly of a long, heavy rainy season that could affect the WTP for the amelioration of residents' thermal comfort. The results indicate that there is a statistical difference in the WTP between 2019 and 2020. They also imply that the recognition of temporal instability in the cost-benefit analysis is crucial in evaluating policy impacts. Finally, the paper concludes with suggestions for a method to estimate the policy impacts using historical data, based on the results obtained.



# Proxying Economic Activity with Daytime Satellite Imagery: Filling Data Gaps Across Time and Space

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S01 Night Light and Satellite Image Indicators of Regional Economic Activity, August 24, 2021, 12:00 PM - 1:30 PM

This paper develops a novel procedure for proxying economic activity with daytime satellite imagery across time periods and spatial units, for which reliable data on economic activity are otherwise not available. In developing this unique proxy, we apply machine-learning techniques to a historical time series of daytime satellite imagery dating back to 1984. Compared to satellite data on night light intensity, another increasingly used economic proxy, our proxy more precisely predicts economic activity at smaller regional levels and over longer time horizons. We demonstrate our measure's usefulness for the example of Germany, where data on economic activity are unavailable for detailed regional levels and historical time series. This is especially true for areas of East Germany before reunification. Our procedure is generalizable to other settings, and yields great potential for analyzing historical economic developments, evaluating local policy reforms, and controlling for economic activity at highly disaggregated regional levels in econometric applications.

# Productivity and Jobs in a Globalised World: (How) Can All Regions Benefit?

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S09-S3 Relaunch of productivity for regional growth and cohesion: Industrial structure, transitions and productivity, August 26, 2021, 12:00 PM - 1:30 PM

This report looks at how regional policies can support productivity growth and jobs. While there has been a remarkable decline in inequality in OECD countries, inequality among regions within certain countries has increased over the same time period. Regions that narrowed productivity gaps tended to benefit from economically vibrant tradable sectors and integration with well-functioning cities. This report considers in detail the role of the tradable sector as a driver of productivity growth and its relationship with employment. It addresses the possible risks of a growing tradable sector and how diversification is central to strengthening regional economic resilience. It considers how regions integrate global value chains and highlights the role of regional and policy links in fostering productivity growth and job creation. It asks what policies can help better anticipate or cushion shocks from trade in specific regions and, more generally, what strategies and framework conditions are conducive for regional productivity and employment growth.

<https://www.oecd.org/publications/productivity-and-jobs-in-a-globalised-world-9789264293137-en.htm>

# Towards a circular forest bioeconomy: the road travelled and the challenges of territorial implementation

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S03-S2 Circular economy: challenges for regions and cities, August 24, 2021, 2:30 PM - 4:00 PM

The circular economy (CE) and the bioeconomy (BE) are two concepts seeking to address sustainability issues. They were both developed over the last decades based on new approaches to the relationships between the economy and the environment which, in particular, propose alternatives to current linear economic models based on resource extraction. Although institutional efforts seek to promote common frameworks, the combination of these two concepts with shifting contours produces a complex nebula of interpretations, where the least ambitious conceptions of sustainability dominate, benefitting from these ambiguities.

From our perspective, there is an ongoing need to clarify the criteria defining a sustainable circular bioeconomy (CBE) as well as its goals and how strategies seeking to foster its implementation contribute to reaching them. This clarification requires an approach grounded into sectoral and regional specificities. We focus on the forest sector and investigate the challenges inherent to the assessment and implementation of a sustainable forest circular bioeconomy (FCBE) at the territorial scale.

In this article, our general aim is to clarify how BE and CE have been conceptualised and operationalised in academic research focused on the forest sector. Our first specific objective is to present a quantified overview of the scientific literature, and to identify the different definitions of the concepts used, how they relate to one another, and to document how they have been (and are being) developed across several (un)related research clusters and disciplines. Second, the systematic analysis of the literature draws our attention to two specific, transversal questions which, in our view, need to be specifically addressed, and which we investigate by performing a more in-depth, narrative reading of the corpus of retrieved publications. These two issues concern (1) the insufficient accounting for the spatial dimension of the forest CBE, particularly at the territory scale and (2) the need to clarify how sustainability assessments of the FCBE should be performed, especially in a context of transition.

# The new forest commons: Commons re-development and their transformative potential from a territorial perspective

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S19-S2 Commons as enablers of territorial transition- evidences, assessment and theoretical perspectives,  
August 25, 2021, 2:30 PM - 4:00 PM

Recently, the common “movement” gained traction on both political and academic fields. Commons tend to become a concept through which activists, thinkers, project initiators or opponents are defined or define themselves as commoners. Although forest commons remained aside of the so-called “third wave” of the commons studies, which tended to enlarge the scope of the analysis to knowledge and informational resources, their role is getting central again in view of the recent developments. The rise of environmental, social and economic concerns over the past decades replaces forest at the heart of global, national and local debates. This shift turned forests into multifaceted objects and opened new debates at the global scale yet also – albeit less studied – at the territory scale. This leads to the question of how these new territorial commons are technically, socially and politically constructed and what they envision. The ambition of this paper is to contribute to the discussions on the renewed roles of the commons from a territorial development perspective, including methodological ones, based on our empirical results. To do so, we spotlight projects carried by collectives of citizens and public actors that try to revive forest commons in a wider perspective, as catalysts for development and governance at different scales. We especially explore how different actors get involved in the development of new forest-related commons, how resources are identified and mobilized and how stakeholders organize themselves to support or reject these initiatives. Data were mainly collected through in-field interviews as well as participatory workshops on three well afforested and contrasted French regions. We show that forest commons are often developed with the intent to contest or to contribute to territorial development trajectories and to propose alternative resource management practices. We argue that neither a particular project nor a collection of property or use rights alone constitute this new type of forest common. Instead, they result from a cumulative nested web of initiatives carried by local actors that translate commons into tangible experiences. What remains uncertain and will be further discussed is the extent to which these experiences pave the way for a broader territorial transition.

# Uneven growth opportunities from Industry 4.0 and servitisation in European regions

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S09-S2 Relaunch of Productivity for Regional Growth and Cohesion: Innovation, technology and productivity,  
August 25, 2021, 12:00 PM - 1:30 PM

The creation and adoption of the new 4.0 technologies such as artificial intelligence, intelligent robotics, analytics, just to name a few, are expected to drive pervasive transformations and, potentially, radical socio-economic changes, especially in those sectors and markets that adopt (and under certain conditions co-invent) such technologies.

Despite the literature abounds in conceptual and empirical analyses supportive of the positive advantages obtained from the invention / adoption / production of the new technologies, important questions remain open, conceptually and empirically. Do more advanced and radical transformations pay off more than less disruptive ones in terms of GDP and productivity growth? Do increasing or decreasing returns exist from 4.0 technological adoption? Do GDP and productivity advantages always team together? Do growth spillovers exist across transformations in the same region?

This paper aims at filling this gap from both a conceptual and an empirical perspective.

On conceptual grounds, the paper distinguishes two main structural changes that can be associated with the production and/or adoption of 4.0 technologies: the transformation in the industrial production, i.e. Industry 4.0, and the transformation in the service provision and new service creation, i.e. Servitisation. Importantly, the paper offers an original comprehensive and systematic picture of their intertwined regional / sectoral effects, which is still missing in the literature. In particular, the paper separates out conditions for, characteristics of, main actors/sectors involved, positive and negative spatial economic effects of the technological transformation, taking place in industrial production processes and in the society because of the use of new, improved, differentiated or digitalised services.

On empirical grounds, the paper documents these transformations in European NUTS-2 regions by assembling an original dataset on regional 4.0 technology adoption by sector and assesses their impact on regional GDP and productivity growth over the period 2008-2016.

Results suggest that technological transformations generate positive effects for regional economies, but these effects are also heterogeneous in space and depend on the interplay between the adopted technology and the type of technological transformation prevailing in each region, with sizeable spillover effects across sectors and transformations within regions.

## Night Light as an indicator of the pandemic's impact on economic activity in touristic areas.

Prof Demetris Stathakis<sup>1</sup>, **Mr Leonidas Liakos**<sup>1</sup>, Prof Vassilis Tselios<sup>2</sup>, Dr. Pavlos Baltas<sup>3</sup>

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S01 Night Light and Satellite Image Indicators of Regional Economic Activity, August 24, 2021, 12:00 PM - 1:30 PM

See extended abstract

# Mapping Clusters in Central and Eastern European regions based on FDI, remittances and employment – a spatial statistics grouping analysis

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S33-S2 Geoeconomic challenges: the role of FDI revisited in the Central and Eastern European regions,  
August 26, 2021, 2:30 PM - 4:00 PM

CEE countries and Visegrad countries transform and develop in different spatial patterns in a global economy. Host labour markets benefit directly from FDI inward flows through jobs creation or increase productivity. On the other side, the labour force rises its geographical mobility and benefit from jobs in FDI's source countries, sending personal remittances. Global integration marks that the "receipts of remittances have become an important and stable source of funds that exceeds FDI" (indexmundi.com). Are similar the CEE /Visegrad countries concerning their spatiotemporal pattern of FDI inflows? These countries are identical regarding their development model, described by the coordinates FDI, remittances and employment? We applied for 35 European countries during the period 2013-2019 the Similarity check – Grouping Analysis ARC GIS-tool from the Spatially Constrained Multivariate Clustering (Spatial Statistics) family. The FDI inflow as input proves to be more inertial, according to the categories set by EuroVoc. Simultaneously, the FDI inward as output (employment growth or labour productivity growth) differentiate CEE countries next to labour/ human capital mobility as personnel remittances in more heterogeneous categories.

In conclusion, result that for CEE countries, capital mobility and labour & human capital mobility create different development patterns globally. Therefore, it is not enough to build policies to attract capital (FDI) and attract high human capital.

## Witch trials and gender differences in trust

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S35 Subversive Narratives and Polarization across Space, August 25, 2021, 12:00 PM - 1:30 PM

We document a strong, gender-specific association between witch trials in Europe in 1300--1850 and trust levels today. We link data covering more than 43,000 people tried for witchcraft across 21 European countries to the European Social Survey. Results suggest that women living in Nuts-2 regions where witch trials were more prominent significantly display lower levels of trust than men towards other people, the national parliament, the police, and politicians. These results suggest that historical events can have persistent effects on gender roles.



# The Mainstreaming of NBS in the SECAP of San Donà di Piave

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S52-S1 Building territorial and community resilience through disaster risk reduction in marginal areas of rural Europe, August 26, 2021, 12:00 PM - 1:30 PM

Climate change is a global phenomenon that poses local risks to sectors across society and the economy. All these growing risks have led the Municipality of San Donà di Piave—located within the Metropolitan City of Venice (CMVe)—to strengthen, over the years, its commitment to the adaptation to climate change in its plans and policies. Nature-based solutions can offer a perfect example of sustainable solutions to cope with climate change mitigation and adaptation challenges. In this context, thanks to the support of the LIFE Master Adapt project, San Donà di Piave, applying its methodologies and creating new territorial information, was able to insert, within its Action Plan for Sustainable Energy and Climate (SECAP), important and structural Nature-Based Solutions (NBSs) for the entire municipal area. This experience demonstrates how this process of mainstreaming adaptation actions and NBSs is possible at all levels of government of the territory. It also highlights the virtuosity of replicability in other contexts of the CMVe and the transition from theoretical concepts to concrete actions (NBSs) for adaptation into existing plans. This process happened with a climate-proof modification of the existing planning attitude, whether mandatory or voluntary.

# Uneven impacts of lockdowns on municipal revenues: challenges in emergency financial management and local resilience

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G25-O1 Institutions, Political and Decisional Processes, August 26, 2021, 4:15 PM - 5:45 PM

This paper analyses the effect of the political decision to implement lockdowns on municipal revenues, with emphasis on the heterogeneous impact of this measure at the territorial and socio-economic level. The method used to determine the effect of the policy on the rate of income growth was panel data analysis with two-way fixed effects. The results indicate that all municipalities were affected by the pandemic, particularly, the impact of the policy at the territorial level was greater in metropolitan municipalities and large municipalities, while at the socio-economic level, municipalities with higher poverty rate had lower income growth. Based on these results, public policy recommendations are associated with the financial management of emergencies and changes in local institutions and intergovernmental relations.

# The growth prospects of the Southern economy in the next twenty years in the light of recent demographic scenarios

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S63 OECD-Bank of Italy joint session: Regional competitiveness and growth: Macroeconomic trends, August 27, 2021, 2:30 PM - 4:00 PM

This work aims to offer an analysis of the growth prospects of Italy and of the two macro-areas of the country, i.e., Center North and South, in light of the available demographic projections and based on different scenarios on the evolution of the labor market and of labor productivity.

Preliminarily, we offer a reconstruction of the economic trends of the two macro-areas of the country starting from the 1950s. This exercise is based on our elaborations of data published by Svimez for the 150th anniversary of the unification of Italy, on the most recent data of Istat's regional accounts and on the AMECO database of the European Commission. Without the ambition to analyze in detail the economic history of the post-war period, this allows us to retrace the salient features of the north-south divide, highlighting long-term trends and new turning points arisen in the most recent years.

In the second part of the paper, Istat's demographic projections are considered and the consequences for long-term growth are analyzed. To this end, using the macroeconomic forecasts of the macroeconomic model of the Bank of Italy regarding recovery from the current crisis, some scenarios for the post-pandemic are designed, based on various hypotheses on the future evolution of participation and unemployment on the one hand and of productivity on the other, distinctly for the Center North and the South.

The analysis shows how, in the absence of a return to productivity growth, of significant increases in participation and of a reduction in the unemployment rate, the Italian economy would be doomed to contract by the end of the decade: the progressive decrease of the working age population and its aging would lead to a drop in work input. The decline would be stronger in the South, characterized by significantly worse demographic prospects, also due to the structurally negative migratory balance.

On the other hand, our simulations also show that – even in the presence of a progressive reduction and aging of the working-age population – Italy would have some room for growth. This would require recovering some of the ground lost in labor productivity compared to other European economies and triggering a process of convergence between South and Center North, both in the labor market and in productivity.

# Exploring the Socio-economic effects of Climate-induced Disasters in Italy

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G07-O1 Global Warming, Health and Environmental Issues, August 24, 2021, 2:30 PM - 4:00 PM

In recent years, climate change is getting faster. The last decade was the hottest ever, and climate-related natural hazard events are constantly increasing in frequency and magnitude. This turns out to have growing negative effects on local areas both in terms of worsening of natural habitats, depletion of resources and socio-economic impacts on the affected communities. Nevertheless, climate induced disasters are far to be homogeneously distributed in space. In fact, these hazards are particularly relevant in hotspot areas, that is developing countries characterized by high average temperature and huge rainfalls. However, these hazards frequently affect developed countries too, such as Mediterranean countries in the EU. This scenario underlines that an urgent action towards adaptation to and mitigation of climate events is required. Consequently, it exists an important opportunity for local institutions, in under-prepared areas, to rethink risk management policies as an integrated and proactive approach. Creating more resilient, less vulnerable and exposed territories may represent a priority for multilevel policy-makers.

Building on a recent work of Marin et al. (2021) that identifies hotspot areas for Italy in a multi-risk perspective, this paper aims at empirically testing the capacity of different 'disaster-resilience clubs' to recover after selected climate-related extreme events for Italy. A fixed effect model has been implemented to answer this research question. Since each event generates heterogenous direct and indirect damages, results are estimated for defined hazards such as floods and landslides. Our estimates show that impacts on socio-economic and natural damages are strictly connected with the type of disaster, the potential damaged area and its level of vulnerability, resilience and exposure.

Through the analysis and by accounting for multiple aspects of risks (hazard, exposure, vulnerability and resilience), that consider environmental hazards, economic, social, institutional and education information, this work can support policy decisions related to both ex-ante and ex-post disaster occurrence management.

## References

Marin G, Modica M, Paleari S, Zoboli R (2021) Assessing Disaster Risk by Integrating Natural and Socio-Economic Dimensions: A Decision-Support Tool. Socio-Economic Planning Sciences, online first

# Wages and Occupational Segregation of Asian Minorities: a US-UK Comparison

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G23-R Segregation, Social and Spatial Inequalities, August 25, 2021, 10:15 AM - 11:45 AM

We compare wages and occupational segregation of Indian, Pakistani, and Bangladeshi men in comparison with whites, in the US and in the UK. Indians and Pakistanis experience substantial wage advantages in the US, while in the UK only Indians experience a small wage advantage; the remaining groups experience wage gaps. Individual characteristics explain the positive performance of Indians in the US and the poor performance of Pakistanis and Bangladeshis in the UK but for the other groups the results suggest comparatively lower returns for positive characteristics. Occupations and geographical locations are important factors explaining wage differentials. Area characteristics explain occupational segregation of Asian minorities in the UK while in the US they increase differences across groups.

# ICT adoption and economic growth in countries. An analysis from developed and underdeveloped countries.

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G20-O2 Cities, Regions and Digital Transformations, August 26, 2021, 2:30 PM - 4:00 PM

The purpose of this study is to analyze the relationship between a country's economic growth and ICT adoption. In order to do so, we present a theoretical model of the ICT adoption process based on the TOE and DOI models and adapted to a country standpoint. Our model was tested by means of PLS-SEM, using a sample of 114 countries which include developed and underdeveloped states. This model analyzed direct effects of the explanatory factors on ICT adoption as well as indirect effects through mediation analysis. Next, due to the heterogeneity of our sampling, we carried out a cluster analysis which identified different groups of adopting countries, owed to their different nature, thus extracting different patterns of ICT adoption according to their level of economic growth. Thus, the characteristics of every ICT adopting group identified were analyzed according to our ICT adoption model. In addition to that it was analyzed the relationship between ICT adoption and economic growth for every identified group.

The results indicated that the built model explained 78% of the variance in ICT adoption and the main factors that favor adoption at the country level are, firstly the extent of the countries' globalization and, secondly, the accessibility to ICT capacities within the countries. Nevertheless, at different stages of countries' economic growth, the main factors that favor ICT adoption are different. At the lowest level of growth, the outstanding factor is globalization, at a medium level of growth the results enhance the role of institutions as an important mediator between the different factors that favor ICT adoption, and finally, at the highest level of growth the more outstanding factor is the access to ICT competencies within the country.

Finally, we tested the relationship between the countries' economic growth and ICT adoption through regression analysis, which turned out to be positive and significant.

# How to enter high-opportunity places? The role of Social Contacts in Residential Mobility

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S22-S1 Drivers and impacts of migration: new insights and (in) pandemic crisis, August 25, 2021, 2:30 PM - 4:00 PM

For people with limited resources, it has become increasingly difficult to enter places with economic opportunities. This does not only negatively affect individual prospects to secure employment and income, but also hampers the societal ability to adjust to structural changes in the economy. The objective of this paper is to investigate to what extent social networks promote access to high-opportunity places by analyzing the effect of contacts on inter-regional residential mobility. The paper is based on Swedish administrative data and utilizes a wide range of contacts, namely, family ties, former co-workers and university peers. Our findings suggest that there is a general positive correlation between migration and the presence of contacts in the target region. The effects are even stronger if we focus on constrained scenarios: when the target municipality is hardly accessible (if the target is the capital or has higher housing prices) or when the individuals are less privileged (e.g., low income). The presence of contacts might increase the chance of getting into – in absolute terms – opportunity-rich regions, but they can also facilitate movements to regions which are better (more populated or wealthier) compared to the individuals' previous location. The importance of weaker contacts is even more essential regarding the individuals' upward mobility. Based on additional checks, providing housing opportunities seems a relevant channel of the contacts' effect.

# On the Measurement of Variety in Studies of Regional Economic Growth and Innovation

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G13-O1 Methods in Regional Science or Urban Analysis, August 25, 2021, 12:00 PM - 1:30 PM

Since the publication of the seminal paper by Frenken et al. (2007), a substantial body of literature focusing on the differential impacts of so-called related and unrelated variety on economic and technological performance of regions and countries has emerged. The indicators for different types of variety used in these studies in 'evolutionary economic geography' are rooted in information theory. One of the appealing aspects of these entropy-based indicators is their decomposability.

In this note, we show that the indicators used in this literature are based on a particular and implausible implicit assumption regarding the distribution of the activities in economic or technological space. We relax this assumption by proposing a different set of indicators, based on cross entropy instead of 'regular' entropy. These indicators share the desirable properties of being rooted in information theory and being decomposable.

We explore the consequences of using cross entropy-based indicators using the data used in the original study by Frenken et al. (2007), on related variety, unrelated variety and economic growth in 40 regions in The Netherlands. We find that the correlations between the two sets of indicators are often small. Next, we replicate the regression analysis by Frenken et al. (2007) using the cross entropy-based indicators and find that some of its key results disappear. In the concluding section, we discuss the implications of this finding for the field of evolutionary economic geography.



# Competitiveness clusters in Wallonia: which impact on firm-level performance?

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S43-S4 Counterfactual methods for regional policy evaluation, August 27, 2021, 12:00 PM - 1:30 PM

Since their creation in 2006, the competitiveness clusters, oriented towards research and innovation, constitute a structuring axis of Walloon industrial policy. They are today at the heart of the regional strategy of smart specialisation, based on European guidelines.

This paper analyses empirically the impact of the Walloon competitiveness clusters policy on the performance of financed firms, i.e. firms that received a direct support to R&D from the policy. We focus on economic performance (productivity, added value, employment and exports) and R&D performance (R&D spending and R&D employment). Our approach is a counterfactual one, using difference-in-difference and matching techniques to address selection and simultaneity issues. We exploit a rich firm-level panel dataset. In the dataset, administrative information on the subsidy status is linked on the one hand to data from the European biennial R&D survey and on the other hand to balance sheet, trade and job structures information from Statbel (the Belgian statistical office). The data cover the period 2003-2017, for financed firms as well as for a control group, i.e. firms that responded at least once to the R&D survey.

This paper provides indications that the policy meets its objective of targeting companies that are "driving forces" in the Walloon economy and concentrate a significant share of R&D in the business sector. Our results also suggest that cluster firms see their number of employees, added value and value of exports increase faster than non-cluster firms. Cluster firms would also see their export profile change, with an increase in the number of different products exported and the number of destination countries. It seems however that the policy has no effect on productivity. For the R&D performance, only a positive and significant effect is detected for R&D personnel.

To our knowledge, our article is the first to analyse simultaneously the impact of the Walloon policy on the economic and R&D performance of firms, with firm-level data from the R&D survey. It also raises several methodological considerations for defining a suitable control group and implementing the difference-in-difference econometric method from an unbalanced panel, such as the R&D survey.

# Housing needs and housing affordability in Portugal: statistical analysis of spatial data

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G16-O1 Real Estate and Housing Markets Issues, August 25, 2021, 2:30 PM - 4:00 PM

Housing and the housing market play important roles in contemporary societies. Ensuring decent and accessible housing for everyone, independently of the income levels of a person, is a major concern that has gained special relevance in Portugal in the last years. The increasing of the housing prices (for purchase and for rent), accompanied by a worsening of territorial and socioeconomic inequalities, has led to major disparities in the access of housing. However, an accurate assessment of this statement, faces remarkable challenges, mainly because, the availability of reliable housing data, in terms accuracy and relevance, allowing an appropriate analysis on the complexities of urban housing theme, it's not how it should be. Using information from different data sources, such as, the Statistics Portugal (INE) and the Ministry of Labour, Solidarity and Social Security, this explanatory paper analyses the territorial dynamics of housing supply (total, type and values of dwellings) and demand (total, characteristics and socio-economic conditions of households). A set of spatial econometric analyses will be applied, in the context of municipalities and parishes, in order to capture the territorial patterns of the quantitative needs of housing and the level of territorial inequalities in access to housing.

# Building rural entrepreneurial ecosystems: Considering regional economic dependence

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G05-O3 Mountain, Rural and Marginal Issues, August 24, 2021, 4:15 PM - 5:45 PM

Rural communities utilize numerous strategies—business retention and expansion, tourist attraction, infrastructure investment—to grow and diversify their economies, but an entrepreneurial support strategy allows locally based actors to exert local control over the outcomes (Feser et al., 2014). As a result, entrepreneurial activity plays a vital role in generating regional economic productivity (Audretsch & Keilbach, 2005), and it is a source of economic resilience, opportunities and diversity in places with limited economic alternatives.

Little research, however, examines how policy factors should vary in different rural economies. Policymakers and practitioners have even less guidance. This paper focuses on three “types” of rural economies—agriculture-dependent, recreation-dependent and manufacturing-dependent. We argue that these regional economic differences may be critical for understanding rural entrepreneurship and creating meaningful policies to support it.

Specifically, we examined policy-relevant factors most likely to impact startup activity in agriculture-, manufacturing- and recreation-dependent counties, as defined decennially by the U.S. Dept. of Agriculture. We test our hypotheses econometrically using data for all rural U.S. counties (NUTS 3 equivalent). We measure entrepreneurship using the employer establishment birth rate. County-level policy-relevant covariates of interest include small business lending rates, female labor force participation, farmers’ markets, agritourism, local tax-burden, broadband internet adoption, highway expenditures, restaurants and creative sector employment rates.

We find evidence that the drivers of employer establishment births differ with a rural county’s economic dependence type. In agriculturally-dependent counties we found that quality of life factors (e.g., creative sector employment, restaurants, etc.) had positive impacts on the establishment birth rate, suggesting that place-making may enhance entrepreneurial ecosystems in rural farm-dependent economies. In counties with a recreation-dependent economy, the influx of people—net new residents and in-commuters—appeared to create a market for potential entrepreneurs and contributes to new business formations. Our findings provide less direction for manufacturing-dependent regions, where the policy factors had minimal impact on the establishment birth rate. The prominence of wage and salary employment in these communities may create an adequate number of economic opportunities, reducing entrepreneurship.

We conclude by suggesting rural economic development policy should consider a region’s economic type when promoting regional prosperity through building entrepreneurial ecosystems. Understanding these economic differences will allow actors in rural communities to develop more effective entrepreneurial support strategies.

# Spatial industry diversity and urban systems in bad times. Evidence from Italy.

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G06-O2 Adaptive and Resilient Cities and Regions, August 24, 2021, 2:30 PM - 4:00 PM

The concept of spatial industry variety has gained great relevance in the recent debate of regional economics and economic geography. In the last fifteen years an extensive empirical literature has investigated its effects on the economic performance of regions and firms. More recently some studies have also shown that spatial diversity may affect the resilience capacity of a region after an external shock such as a natural disaster or an economic crisis. On the contrary, the evolution over time of this dimension of a local industrial structure has been much less investigated. Using a dataset of 937,880 Italian manufacturing firms over the period 2007-2016, drawn from the AIDA database, we analyse the spatio-temporal dynamics of two different measures of spatial industry diversity – related and unrelated variety – for the nine largest Italian urban systems. Our main focus is on the effects produced in these large Italian cities by the Great Recession on the spatio-temporal dynamics of spatial diversity. Our paper contributes to the literature in two respects: (i.) by combining the spatial and temporal dimension, and (ii.) by applying biological diversity measures to study these phenomena. Preliminary findings show that the largest cities such as Rome and Milan seem to share common spatio-temporal dynamics, suggesting the existence of similar reaction mechanisms in terms of industrial structure adjustments to an external shock in these urban systems.

# Endogenous industrial development in an FDI-poor region: From scarcity to prosperity?

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G18-O2 Regional and Urban Labour Markets and Entrepreneurship, August 26, 2021, 2:30 PM - 4:00 PM

Foreign Direct Investment (FDI) flows have been dominant in the post-1990 development of Central and Eastern European manufacturing. The location decisions of foreign firms, usually large multinationals at the centre of global value chains (GVCs), have contributed to the renewal or decline of industrial centres, and the presence or absence of FDI plants has had a central role in the evolution of regional differences outside metropolitan areas. The winners of this process, mostly located in a Central European manufacturing core area embedded into European and global production networks (GPNs), have benefited from high growth, improving employment; and in the last decade, further investments and re-investments from FDI donors: altogether, a “virtuous circle” of socio-economic capital accumulation, improving socio-economic environment, and public investment rewarding successful, competitive regions.

Comparatively less attention has been levied on the manufacturing of regions which lie outside the core, and have failed to attract large-scale capital flows. In them, the presence of FDI has been less prominent and its transformative role less thorough. This contribution discusses the role of endogenous capital accumulation in Southern Transdanubia, a Hungarian region with a low FDI stock, and characterised by long-term, deep de-industrialisation processes. While large foreign investments have been scarce and often temporary, small and medium-sized family firms have paradoxically found some success in niche industries, exploiting their advantages in working with limited capital and persistent skilled labour shortages. The paper explores the outcomes, limitations, and possibilities of the endogenous growth model as an alternative to FDI-based development, drawing theoretical and policy implications.

# Innovation and sustainability transitions in European agriculture: Are farmers able and available engaging intensive long-term learning processes demanded by innovation?

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G33-O1 Innovation and Entrepreneurship, August 27, 2021, 12:00 PM - 1:30 PM

The European Union has established in the last 20 years the innovation as the backbone of economic growth and competitiveness. Different innovation types (e.g., technological vs. non-technological) and modes (e.g., open, collaborative) are currently acknowledged and promoted by policy-mixes associated with the implementation of successive growth agendas (e.g., Lisbon Agenda, Agenda 2020, Green Deal). The 2050 global societal challenges include the need to duplicate food production, with the challenge of doing it without jeopardizing the ecosystems and the biodiversity. The EU response has been to invest in new policy-mixes to boost innovation in agriculture as a manner to strengthen its sustainability. However, farmer's response is quite heterogeneous. Policy failures and gaps have considerable responsibility, although the extensive heterogeneity of regional farming structures across Europe poses an important defy. This paper brings in empirical evidence gathered by the H2020 AgriLink project ([www.agrilink2020.eu](http://www.agrilink2020.eu)) on the (not) uptake of different innovations by farmers in different regions of Portugal. The research question is to understand to what extent farmers are able and are available to engage in intensive long-term learning processes demanded by the innovation? Hence, data gathered comprised: a) farms resources, productive orientation, and business models; b) farmer's knowledge and information networks, including farming advisory support systems; c) the innovation process initiated with the awareness stage, eventually followed by the assessment and implementation. Interviewed farmers were selected through snowball sampling, including innovation adopters, non-adopters, and droppers. Three types of innovation were selected, considering its importance to respond sustainability challenges of respective regions. The selected innovations correspond to societal demands for sustainability transitions of European agriculture. These include greening farming practices ("ecologisation"), eco-efficiency through smart farming (digitalization), and getting farmers closer to consumers (shorten food supply chains). Our results show that support systems, namely knowledge and information networks, and advisory support systems, matter. Farm structures and the respective business model matter as well. However, a bottleneck is a need for incentives and support to smooth farmer's learning curves. Most farmers are not available to invest in these demanding learning processes. That often takes them to uptake innovation passively when that is possible (e.g., intelligent farming supported by good-fitted advisory services) and if advantageous without a great cognitive effort (e.g., benefiting from agri-environmental payments). These results highlight the need for designing innovation incentives focused on conveying learning skills and interactive learning processes (e.g., peer-to-peer learning networks).

# Sustainability-driven innovation policies for Low-Density Regions: What can we learn with local innovators transitions?

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S29-S1 Territorial dimensions of green and digital transitions, August 24, 2021, 12:00 PM - 1:30 PM

The research motivating this paper aimed to gather an in-depth understanding of the place-based innovation transition pathways of 10 innovative SMEs led by entrepreneurial individuals in two Portuguese LDR. The paper's goals are twofold. The first goal is to depict, using the MLP framework, particular place-based innovation transition pathways innovative SMEs led by entrepreneurial individuals in LDR. The second goal is to expand that learning to the broader regional context, contributing to design sustainability-driven innovation policies. Place-based innovation policies that could push broader unlock of path-dependency of “average”, less innovative, SMEs in LDR. Our work is based on primary and secondary data of agrifood and tourism entrepreneurs in Douro and Trás-os-Montes region, Portugal. We used the following data sources: interviews (primary); websites and Facebook of the firms (secondary); media coverage (secondary). Using multiple sources of evidence helped in triangulating the data and improved the accuracy of the thematic analysis. The interviews with the entrepreneurs were carried during March-April of 2020. These interviews lasted between one and two hours, and were open-ended. Finally, since some of these innovations had received press coverage, we also examined newspaper and journal articles covering both the innovator and the innovation.

The ten case studies show that there is a great diversity of options in terms of innovation patterns and dynamics, although these are not always obvious. A longitudinal look and a holistic approach to each case is necessary to understand what explains their success, sustainability and resilience.

Common landscapes are leadership and the ability of the promoters and partners, sometimes family members, to mobilise in-house knowledge (as a result of their experience and training). The most qualified, with more experience and greater collaborative dynamics sustain more transformative projects, associated with disruptive innovation, focused on long-term sustainability. Intergenerational continuity and the family inspire innovative business models based on collaborative innovation.

Transversal to the 10 SMEs is the importance of "place, region, specificity and/or specific resources". The capitalisation of territorial assets in the ecological transition is already evident in some of the cases through the focus on: the "low intervention product" paradigm - natural; sustainability (ecological and social) that underpins the matrix of the business model and differentiates the products; brand (e.g., Douro) and certification (e.g., DOC, Global GAP, food and environmental safety - ISO standards); strategy for anticipating healthy eating trends.

## Cycling (in) cities

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G06-O5 Adaptive and Resilient Cities and Regions, August 25, 2021, 12:00 PM - 1:30 PM

Cities worldwide are investing in cycling infrastructures in an attempt to tackle problems of congestion and air pollution. Changing mobility has also the potential to re-shape cities. This paper studies the causal effect of the construction of cycle lanes on the within-city spatial distribution of amenities. As a next step, it analyzes whether improved accessibility and changing attractiveness of the neighborhood capitalize on housing prices and change the composition of the population in the area. We study the case of Barcelona, where the total length of cycle lanes more than doubled in the last decade. The endogeneity of the location of both cycle lanes and amenities poses important identification problems. We address them through a diff-in-diff strategy which exploits time variation in the construction of lanes' segments. We focus on local consumption amenities, such as restaurants and bars. Web-scraped data from TripAdvisor provide us with granular information about the listed activities in the city. Similarly, geolocated data from taxes collected on transactions allow us to study the effect on housing prices. Data on socio-demographic characteristics of the population at the AEB level, as well as the year of construction of each section of the cycling network is provided by the City council of Barcelona. Our hypothesis is that cycle lanes could have an impact on the composition and growth of local consumption amenities and resident population. Reduced travel costs and changing amenities could increase house prices, with the potential to consequently exclude the least wealthy from the neighborhood.



# Wine Clusters Dynamics and its Success Factors

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G12-O5 Regional Competitiveness, Innovation and Productivity, August 26, 2021, 2:30 PM - 4:00 PM

The cluster has long been proven as beneficial for a firm's performance; consequently, they became a policy development subject, and now Cluster Strategy is in a fusion with Smart Specialization Policies. Clusters are not a static phenomenon; thus, their existence and structure can only be understood when studying their dynamics over time. They continually evolve, including the positive cluster effect on firms' performance is revealed to be not constant, replaced by congestion effects that negatively constrain firms in later stages of the cluster life cycle. Cluster dynamics should be taken into consideration and include its insights into the development of Smart Specialization Policies, to make cluster's policies effective. But, despite success factors and policies within CLC already have received some attention, the understanding of the role of cluster success factors (CSF) for a firm's performance is still lacking. So, what makes a cluster successful in a dynamic perspective?

Cluster Life Cycle (CLC) theory, is one of the prominent research areas on clusters dynamics. However, there is still no consensus on the model to apply, so a proper model that will be applied in the present research will be elaborated. Defining the stage of the cluster life cycle of a specific cluster may allow us to analyze cluster success and relevant policies going further its static understanding. Specifically, at the Congress, Wine Clusters Dynamics analysis will be presented based on four longitudinal case studies – Bordeaux (France), Douro Valey (Portugal), Napa Valey (USA), and Dolina Dona (Russia). These case studies will be analyzed through the Cluster Life Cycle theory approach. As they have entirely different periods of historical development, so it is most likely that these clusters are at different stages of their life cycle. As such, it is possible to make comparisons and to consider cluster success factors within different stages of the Cluster Life Cycle (CLC) but within the same sector – wine.

This research aims to contribute to the development of cluster theory, in particular, to the theory of Cluster Life Cycle and Cluster Policies. It intends to help to understand wine clusters' dynamics, and hoping to be a helpful tool for company managers and policymakers to choose their strategies.

# The role of cultural participation and cultural entrepreneurship in shaping human capital. Evidence from European regions.

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G24-O1 Creative Industries and Regional Development, August 27, 2021, 10:15 AM - 11:45 AM

If the relation between culture and economic development and the association of human capital with economic growth have been largely investigated, also from a regional perspective, the connection between cultural and human capital is still scholarly debated. In this framework, even if previous literature suggested that people's cultural participation may positively affect human capital, the role of cultural entrepreneurship, as the process by which entrepreneurs create and distribute both cultural products and cultural value, is still poorly studied.

This paper aims at investigating if social participation to cultural activities and/or cultural entrepreneurship affect human capital. It implements multiple OLS regressions and panel data analysis building on information collected from Eurobarometer reports and Eurostat data across 252 European regions. Findings suggest that both social participation to cultural activities and cultural entrepreneurship (i.e., different-sizes firms and self-employment in cultural sectors) have a positive impact on human capital. Several specifications including accessibility to education and traditional controls for human capital (e.g. GDP per capita; presence of universities, etc.) are included to better understand such an estimate of cultural entrepreneurship. For example, they show that the impact of cultural participation on human capital is heterogeneous across regions depending on accessibility to high-level education. Finally, results indicate several policy implications on the inclusion of measures of both cultural issues and human capital in evaluating economic development of European regions.

# Bayesian statistical methods for a finer-grained understanding of entrepreneurship: the effect of economic freedom and institutions quality in entrepreneurial ecosystems

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G33-O2 Innovation and Entrepreneurship, August 27, 2021, 2:30 PM - 4:00 PM

**Purpose:** First, propose bayesian statistics methods as ideal methods for better understanding environments with complex interactions between their elements; And second, to use this method to provide more light to the relationship between economic freedom, quality of institutions, and the entrepreneurial ecosystems.

**Design / Methodology / Approach:** A novel method is applied to understand the variable's relationship: The Weighted-Average Least Square (WALS) and the Bayesian Model Average (BAM). This article is based on a sample of 125 countries over eleven years, from 2008 to 2018, and analyze the information of the Index of Economic Freedom, The Worldwide Governance Indicators, as well as information from the Global Entrepreneurship Index (GEI), and the United Nations Conference on Trade and Development.

**Research Implications:** This research contributes to closing the current literature gap by providing a novel approach to analyze the phenomenon. Moreover, it examines whether and how economic freedom dimensions affect the allocation of attention when deciding whether to act entrepreneurially. Entrepreneurs Researchers can use this method for the better understanding of related entrepreneurship ecosystem understanding

**Originality / Value:** This study aims to determine the effect of economic freedom and quality of institutions in the national-level entrepreneurial ecosystem through the national economic development cycle providing robust results with a novel method in the entrepreneurship literature.

# Contextualizing the knowledge spillover theory of entrepreneurship: The Chilean paradox

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S30-S1 Linking entrepreneurship and regional policy, August 25, 2021, 4:15 PM - 5:45 PM

In this paper, we use a hierarchical linear modeling (HLM) approach to perform a systematic test of the KSTE in a developing-country context while studying different economic sectors based on the grade of knowledge needed. Our main empirical results are: (1) We show the low effectiveness of this theory in a developing economy, suggesting that additional dimensions are needed to completely understand this theory. (2) In reviewing the knowledge-intensive industry sector, the only sector in which we found partial evidence that the KSTE mechanisms apply, our data shows the importance of having diverse industries for technological innovation and thus for firms born out of spillovers, and (3) we find an interaction effect between the effect of human capital on high-tech firm creation and improving the ease of starting a business, showing the importance of institutional factors in fostering the crossover into entrepreneurship. Under a more bureaucratic system, to start a venture, high-knowledge human capital will have fewer incentives to switch from employment to self-employment. This paper also provides lessons for other developing economies that want to foster growth through the KSTE. In this context, this phenomenon is not particularly relevant for fostering new ventures, joining on the call of avoiding standardized strategies to build efficient entrepreneurial ecosystems.

## The many faces of migration – A view across disciplines

Dr. Aida Hajro<sup>2</sup>, Dr. Judith Kohlenberger<sup>2</sup>, Prof. Gunther Maier<sup>1</sup>, Prof. Wolfgang Mayrhofer<sup>2</sup>, Dr. Milda Zilinskaite<sup>2</sup>

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G03-O3 Demographic Change, Population, Migration and Mobility Behaviour, August 24, 2021, 4:15 PM -  
5:45 PM

see extended abstract

# The Economics of Overtourism

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S31-S1 Tourism in the post-COVID Era. Methods, Impacts, and Future Scenarios, August 25, 2021, 4:15 PM - 5:45 PM

see extended abstract - this paper extends work that was prepared for the ERSA congress 2020.

# Marginal Mountain Areas as core for the Smart Development: Montagne Vitali (Trentino) a path of community reactivation through its empowerment

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S07-S1 Pandemic and territorial government, August 24, 2021, 12:00 PM - 1:30 PM

Mountainous areas are vitally important from several perspectives: as centers of biodiversity, as 'water towers' in terms of hydrogeological protection, as highly valued landscapes, as food production area, and as space for recreation and tourism.

Besides these assets, more of mountain territories live in natural harsh conditions, due to topographic and climatic restrictions. They are often difficult to reach and far from the decision-making centers. These are the main reasons why they are often associated with the concepts of "marginality" from a cultural, social, economic and political point of view. Furthermore, they are particularly vulnerable to climate change, exposed to the land degradation, natural disasters and, in many cases, significant variations in the size of resident populations.

In Italy, the socio-economic changes in the past fifty years has led the concentration of population in urban and peri-urban areas, with a consequent population decrease in many marginalized mountain territories. Nevertheless, Italian mountainous territories produce about 16% of the overall wealth and are characterized by strong and hardworking social communities, that have developed a sustainable management of rare resources and - in some cases - adaptive strategies in noticeably harsh conditions territories.

The contribution describes a specific case of study in the north east of the Alps (Trentino Region), Montagne Vitali: a path of development through the empowerment of local community.

The authors describe the methodological approach used before the pandemic emergency and the change of perspective and project's course due to it. The contribution aims to discuss weaknesses and strengths highlighting the innovative aspects of a reactivation process carried out in remote, through the use of technology. In the end the authors want to emphasize on one side the importance of supporting mountain areas which are particularly dynamic and vibrant, on the other side the importance of adopting appropriate policies and tools to proactively overcome the specific disadvantages of mountainous environments and support real change. Indeed, similarly to the big cities the most mountainous areas need policies and tools to build up an overall development perspective and establish priorities for medium and long-term interventions.

The aim is to emphasize how mountain communities can become "new" strategic players of innovative and sustainable socio-economic development. The study wants to answer to some questions: How can be maintained vital communities in mountain areas? How can be supported their vitality and foster sustainable and smart development? What is the impact of the Covid-19 pandemic?

# Uncovering the inter- and intra-regional heterogeneities in the minimum wage – employment relationship

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G02-O2 Macroregional, Transregional, Regional and Urban Policy and Governance, August 25, 2021, 2:30 PM  
- 4:00 PM

We study the employment effects of minimum wage changes by uncovering and explaining inter- and intra-regional heterogeneities. For this purpose, we explore variations in the minimum wage bite across age groups, economic sectors, regions in time. Compared to previous studies, we use a novel, multidimensional panel data approach that allows us to simultaneously analyze the heterogeneous effects of minimum wage changes on employment elasticity among different groups of workers. We found regions characterized by factors that simultaneously stimulate employment elasticity and rigidity. Those factors influence different groups of workers and tend to mitigate the impact at a regional level.



# Managing urban landscape transformation in the absence of cross-sectoral collaboration in large European cities.

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G22-O2 Energy and Ecological Transition, August 26, 2021, 4:15 PM - 5:45 PM

60th ERSA Congress, Bolzano, Italy

Ordinary Session

Managing urban landscape transformation in the absence of cross-sectoral collaboration in large European cities.

MAJIDOVA, Pinar (PhD student)

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Urban sustainability is becoming an increasingly important factor in the success or failure of broader sustainability efforts as rates of urbanization have accelerated around the world. Transition to sustainability especially in urban areas, raises a question of which geographical futures will be created. It is obvious that significant change in an urban landscape is inevitable and the city's spatial form, the density of settlement, building design, even the choice of material should be re-considered. But previous researches have documented how the lack of operationalization and conceptualization of sustainability in urban sustainability plan prevents its transition. One of the main triggers that needed for moving towards the systematic change in urban landscape is cross-sectoral collaboration in local governments. But subsequent literature review reveals that cross-sectoral collaboration is largely lacking in almost all cities around the world. In this sense this study aims to discuss first of all What is the cross-sectoral collaboration? How does it contribute or not to sustainability transition? Is it possible to manage transition in the absence of cross-sectoral collaboration? Our findings suggest that while there has been an increase in the number of cities incorporation sustainability transition elements into their policy, their conceptualizations and implementations of sustainability remain highly constrained especially in a densely populated large cities. In the end , paper aims to give an example of three institutional designs that would accelerate the sustainability transition in urban areas in the absence of cross-sectoral collaboration and also will come up with solutions to achieve cross-sectoral collaboration in large European cities in sustainability transition.

Keywords: urban, transition, cross-sectoral, European

# Dynamics of changes in the number of retail and catering establishments in Poland over the years 2010-2020

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S12 The consumers behavior and retail market in polish cities in post-pandemic world, August 24, 2021, 2:30 PM - 4:00 PM

The decrease in the number of shops in Poland has been visible for years. Although the noticeable trend is slowing down, the most frequently closed shops are those selling clothes and textiles, as well as electronics or books. In these sectors (especially in recent months) there is a clear increase in the direction of e-commerce - caused by the COVID-19 pandemic. However, the last year has shown that grocery shops are also closing more and more often, and at the same time there has been a slight increase in those selling fruit and vegetables as well as bakery and confectionery products. It means that people often had like shop in place near home in last year. The presentation focuses on the characteristics of these changes depend on different type of trade and the typology of urban units.

# Analysis of Land-Use Change between 2012–2018 in Europe in Terms of Sustainable Development

Ms Agnieszka Majorek<sup>1</sup>, PhD Piotr Gibas<sup>1</sup>

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S08-S1 Spatial CGE, Input-Output, land use and transport modeling, August 24, 2021, 12:00 PM - 1:30 PM

The article presents the author's method of land use change assessment in the context of sustainable development and the results of its application based on the transformations that occurred in individual areas of Europe in the years 2012 - 2018. This method is based on data from the CORINE Land Cover program and local government units presenting the degree of urbanization (DEGURBA). The authors evaluate the transformations taking place in space, reducing them to economic, social and environmental dimensions. They then analyse the results in terms of space (covering almost all of Europe) and in terms of division into: large cities, small towns as well as suburbs and rural areas. It has been shown that: development of the economic dimension most often takes place at the expense of natural resources; the higher the population density and more important function in the functional system of a given country, the greater the sustainable development differentiation level in the analysed dimensions, of which the social dimension is characterized by the lowest differentiation and the economic dimension is the highest; development of rural areas is less sustainable than in case of large urban centres. The result interpretation also leads to the conclusion that the areas of Europe are very diverse in terms of sustainable development. However, the method itself, despite the imperfections observed by the authors, may be used in further or similar studies.

# Applications of the principles of economic geography to lead to the transformation of a city into a smart city.

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G13-O3 Methods in Regional Science or Urban Analysis, August 25, 2021, 4:15 PM - 5:45 PM

Economic geography, as an area of study that examines the geographical distribution of economic activities, is an important tool for analysing business and geographical processes. The economic activities of each city greatly shape their development and make them more competitive, both locally and globally. Spatial analysis provides an important tool that helps immensely in data analysis, focusing chiefly on the spatial information provided by the data. This paper aims to describe the importance of spatial analysis in the detection of spatial patterns of economic activities within the urban fabric, as well as the contribution of data mining to the development of the city. Volos, the pilot case study, is a small-to-medium-sized Greek city with typical morphological and economic characteristics of the Greek reality. The goal and the methodological framework of this paper are based on and guided by the principles and values of smart cities. The automation of the processes that originate from economic geography in the light of intelligence and are prompted by the new possibilities of technology can be a decisive lever for the development of the intelligence of a city.

# Principles of urban resilience in response to urban shrinkage. The case of a medium- sized Greek city

Dr. Stella Manika<sup>1</sup>

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G06-O3 Adaptive and Resilient Cities and Regions, August 24, 2021, 4:15 PM - 5:45 PM

Urban shrinkage, the phenomenon of cities that have faced economic, social, and demographic transformations, especially during financial or pandemic crises, is an emerging concern of Greek policymaking. According to recent studies, urban resilience strategies are adopted as a new frame to cope with urban shrinkage. The Greek experience in urban resilience is very limited. The only exceptions are the cases of two cities (Athens and Thessaloniki) which have developed similar strategic plans, following the example of other megacities around the world, through the “100 Resilient Cities” Program. This Program is an initiative of the Rockefeller Foundation to support an international network of cities to make them more resilient to contemporary physical, social, and economic challenges. In this article, we first describe the urban shrinkage of a medium-sized Greek city (specific demographic and economic characteristics), through the principles of spatial statistical analysis, and then, as a follow-up to previous findings, the spatially focused adoption of urban resilience principles, in response to shrinkage. This methodological framework, piloted in a Greek city, aspires to act as a lever for achieving urban resilience in Greek cities.

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# Prediction models and testing of resilience in regions: Covid19 Economic Impact in USA Counties study case

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G06-O3 Adaptive and Resilient Cities and Regions, August 24, 2021, 4:15 PM - 5:45 PM

A lot of research is performed regarding the resilience of the regions and the factors that contribute to make them able to face challenges, crises or disasters. The rising of promising sectors like Data analytics, Machine learning and Artificial Intelligence can boost this research using computing power in regional - economic, social and environmental- data analysis, to find patterns and create prediction models. The current research introduces the use of models through Machine Learning, that can predict the performance of a region in disasters -and specifically of USA Counties during Covid19 first wave period of pandemic and related restrictions- in order to find the obvious or hidden parameters and factors that affected their resilience and in particular their economic response and find interesting patterns between all the involved attributes. This paper, through the study of the specific case and the development of corresponding models, aims to contribute to a methodology and to offer useful guidelines in how regional factors can be translated and be processed by data and ML/AI tools and techniques. The proposed models are evaluated on their ability to predict the economic performance of each County and in particular the difference of its unemployment rate between March and June of 2020, based on several economic, social and environmental data -up to that point in time- using classifiers like neural networks and decision trees. A comparison of the experiments is performed and the best models are further analyzed and presented. Further experiment results that identify patterns and connections between regional data and attributes are also presented. Finally, an effort is made to decode and interpret all the results as well as the best models in terms of regional science and development in order to produce useful and meaningful conclusions.

# Unpredictable shock and subsequent predictable industrial behavior

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G06-O3 Adaptive and Resilient Cities and Regions, August 24, 2021, 4:15 PM - 5:45 PM

On April 2009 an earthquake rated 5.8 on the Richter scale hit the city of L'Aquila, the regional capital of Abruzzo, and its surroundings. This natural disaster caused the death of 308 people, around 65'000 people lost their houses, and overall damages were estimated in more than 10 billion euro, while until 2017 an amount of 13 billion euro has been accounted in the reconstruction activities.

Ten years after this tragedy several reconstruction activities, projects, and policies have been implemented, and the reconstruction, even if not concluded yet, is nowadays at a good point. A legislative intervention states that at least 4% of the amount provided for the reconstruction must be devoted to the economic development of the affected areas. This amount, which in the city of L'Aquila accounts for about 400 million euro, has currently been used by local administrations to promote re-localization in different areas of the region, opening of new business activities in affected territories, and reopening of pre-disaster economic activities in the city centre of L'Aquila.

These heterogeneous interventions work as "multiple-policy shocks" on new and old business activities in a context highly affected by an external and unpredictable shock such as an extreme natural event. This generates several effects on the entrepreneurial behaviour of the affected territories, acting as a quasi-experimental study. This is particularly interesting considering that the economic literature highlights how policy incentives aiming at improving and enhancing entrepreneurship might have controversial results, due to the distortion of the economic competition level in the interested regions. Therefore, the case of L'Aquila, thanks to its peculiarity, might help to provide a clearer pattern.

This study aims at providing descriptive evidence of the policies implemented in the city of L'Aquila after the earthquake and the evolution of entrepreneurship disaggregated by industrial sectors and legal status over a relatively long period of time (2000-2018).

The results indicate that, contrary to what expected, natural disasters such as an earthquake have a positive effect on entrepreneurship in the first aftermath of the event. This trend, however, shortly disappears if there is not an adequate policy support able to counterbalance the depressive effect of such an extreme event.

# The intensity of COVID-19 Non-Pharmaceutical Interventions and labor market outcomes in the public sector

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G18-O2 Regional and Urban Labour Markets and Entrepreneurship, August 26, 2021, 2:30 PM - 4:00 PM

This paper examines whether the intensity of Non-Pharmaceutical Interventions (NPIs) during the COVID-19 pandemic has differentially impacted the public sector labor market outcomes. This extends the analysis of the already documented negative economic consequences of COVID-19 and their dissimilarities with a typical economic crisis. To capture the intensity of the NPIs, we build a novel index (COVINDEX) using daily information on NPIs merged with state-level data on out-of-home mobility (Google data) to show that among individuals living in a typical state, NPI enforcement during COVID-19 reduces the likelihood of being employed (at work) by 5% with respect to the pre-COVID period and the hours worked by 1.3% using data on labor market outcomes from the monthly Current Population Survey and difference-in-difference models. This is a sizable amount representing the sector with the higher job security during the pandemic. Public sector workers in a typical state are 4 percentage points more likely to be at work than salaried workers in the private sector and 7 percentage points more likely to be at work than self-employed workers (the worst so far). Our results are robust to the endogeneity of the NPI measures and present empirical evidence of heterogeneity in response to the NPIs, with those in local employment being the hardest hit.



# Mértola Municipal Master Plan Rural redevelopment as a territorial model

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S11-S4 Challenges and Opportunities of Rural Regions, August 25, 2021, 2:30 PM - 4:00 PM

## Abstract

If the city-countryside relationship constitutes evidence and an inseparable commitment to social and territorial cohesion, in practice it has been somewhat removed from the strategies and public policies of spatial planning. As in many other regions, the development of the Lower Alentejo, originally based on agriculture and commerce, for a long time its economic engine has been replaced by construction and urban growth.

In recent decades, in rural regions the diversification of their infrastructure and job offer has focused on the economic activity of the secondary sector of small-scale or the tertiary sector, so that their social configuration does not differ much from that which occurs in urban regions.

In the proposal of the Mértola Municipal Master Plan (PDMME) its territorial model was defined based on the existing fundamental systems: natural system, urban system, social system, economic system and connectivity system. It is specifically intended to define a proposal for the implementation of multisectoral and multi-sectoral public policies.

The territorial model of the PDMME is also based on the concept of rural redevelopment, which corresponds to the activation of new development a process of the rural area economy and culture.

To achieve this goal, the territorial model proposed adopted a holistic approach to regional planning, capable of providing convergent answers to the environmental, social and economic issues facing territories in economic recession and demographic regression, such as the Baixo Alentejo Sub-Region (NUT III).

We highlight in this article the proposed settlement system, which was conceived in the logic of integration of rural and urban clusters into a single spatial system of settlement.

Thus, it is intended to implement a strategy of - rural redevelopment - in a vision anchored in the recovery of local rural logics, 'recycled' under new and creative practices of soil exploration, which can be translated into the concept of 'New Rural' and 'Smart Rural' that are based on a perception of the rurality and nature of each territory.

**Key words:** Redevelopment, master plan, rural, territorial cohesion, Mértola.

# Effects of community and networks on the adoption of sustainable fish farming certification: an extended MGB

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S29-S2 Territorial dimensions of green and digital transitions, August 24, 2021, 2:30 PM - 4:00 PM

The intention to adopt a sustainable certification of Amazonian fish farming was studied in the Model of Goal-directed Behavior framework, confirming that this theory is relevant to explain the processes involved in the deliberative action to adopt sustainable fish farming practices. Furthermore, the model was extended to accommodate contextual regional factors associated to the community of Amazonian fish farmers and the various networks they may be involved in, particularly in the state of Rondonia. A structured questionnaire was designed to measure the 12 latent variables involved in the model. The answers were collected face-to-face from 264 farmers between July and December 2019. The model was assessed by PLS-SEM, showing that predictors explain 64% of the variance of the intention to adopt the certification. Besides, blindfolding confirmed a strong degree of predictive relevance. The results suggest that access to extension services is an important factor to increase the feasibility of adoption, that is, to transform a desire into a more ready state of will. Social norms from the farmers' community also have an important role generating desire, in fact much more important than attitudes. This suggests that the regional ecosystem, reflected in the way farmers integrate community values and involve in networks, is an element to consider in studying the adoption of sustainable farming practices.

# Decomposing changes in regional inequalities: a shift-share approach

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S24 New developments on Spatial Shift Share Analysis, August 25, 2021, 4:15 PM - 5:45 PM

Numerous studies have documented the increases in within-countries income inequalities. Countries are composed by different macro-regions, regions and sub-regions where different factors are operating, generating the results of income inequality between territories. There is a growing empirical literature emphasizing the geographic dimension of income inequality. This paper provides a methodological framework for studying the changes in regional income inequalities by considering the influences of changes in income inequalities at different territorial levels. Starting from a hierarchical structure level, the main purpose is to decompose the change in a measure of regional income inequality by means the shift-share technique.

# Financial and fiscal conditions of farms in European Union regions: An analysis of agricultural accountancy

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G05-O4 Mountain, Rural and Marginal Issues, August 25, 2021, 10:15 AM - 11:45 AM

This research intended to analyse the financial and fiscal conditions of European Union farms. For that, data from Farm Accountancy Data Network (FADN, 2020) were used, disaggregated at agricultural regions level. From this database were used the following indicators (corrected for each region by the respective utilised agricultural area (UAA)): Gross investment; Interest paid; Balance of interest paid and received; Taxes; VAT balance excluding on investments; VAT balance on investments. These indicators were explored through QGIS (2020) software and through spatial autocorrelation approaches with the GeoDa (2020) software. The results show that the gross investment/UAA is greater, for example, in Hamburg (Germany), in Alto-Adige (Italy) and in the closer regions of The Netherlands and Vlaanderen (Belgium). The interest paid/UAA is higher in the same regions, including the Denmark. The results for Balance of interest paid and received/UAA and Taxes/UAA confirm, in general this pattern. In turn, for the VAT balance excluding on investments/UAA, the framework is a little different and in this case the higher values appear in several regions from Germany (Hamburg, Niedersachsen, Nordrhein-Westfalen and Rheinland-Pfalz), Luxembourg, Austria, Trentino and Veneto (Italy) and La Rioja and Murcia (Spain). About the VAT balance on investments/UAA the context is inverse (the exceptions are the lower values) and the agricultural regions with less VAT balance on investments by area are a relevant part of those from Germany. Austria, Slovenia, Vlaanderen (Belgium) and some regions from Spain (La Rioja and Navarra) present, too, lower values for this indicator (Alto-Adige from Italy shows the higher results for this variable). These results show that the financial and fiscal dynamics over the European Union farms are, in fact, diverse and deserve local and specific attention. This scenario is confirmed by the low number of clusters found with the spatial autocorrelation analysis.

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# Does gender matter for Related and Unrelated Variety? A sectoral, spatio-temporal analysis for the Italian provinces

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S10-S1 Determinants and Effects of Regional Differences in Gender Equality, August 24, 2021, 4:15 PM - 5:45 PM

The paper aims to investigate if and how knowledge spills between and within sectors when gender is considered. The data show that females and males are concentrated in different sectors. This different concentration can be a source of different proximity and cognitive distance between gender, and, therefore, the knowledge spillovers can be hindered by this different distribution due to the “gender barriers”. Furthermore, they have different skills and capabilities that can impact skill relatedness connectivity. This “gender diversity” can make the labor market stickier and polarized. Another two dimensions will be taken into consideration: sector composition and spatial spillovers. The latter aims to investigate if and how spatial units under consideration (provinces) are affected by their neighbors and vice versa. An SDM (Spatial Durbin Model) will be used to capture the spatial spillovers. The analysis will be carried out at the Italian provincial level over the period 2012-2017

# Student Preferences in Job Search – An Analysis for the euregio rhine-meuse-north

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S57 Progress, regress and change in European cross-border regions, August 27, 2021, 2:30 PM - 4:00 PM

See extended Abstract

# Exploring the Attractiveness of Higher Education Institutions in Border Regions: A Case Study of Fontys Venlo and Hochschule Niederrhein

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S57 Progress, regress and change in European cross-border regions, August 27, 2021, 2:30 PM - 4:00 PM

Regions and cities are increasingly competing with each other to attract relevant target groups such as companies, residents, skilled workers and tourists. Demographic change and other mega trends will exacerbate the situation, especially with regard to young and highly skilled employees. Smaller cities and rural regions in particular can be at a disadvantage here, as they are often perceived as less attractive than the metropolitan areas. In addition, border regions can be seen as a specific type of peripheral regions, since they suffer from border barriers.

Universities play an important role in supplying their region with highly skilled professionals. By offering attractive courses of study, they can attract young people to the location and train them as highly skilled workers who, in the best case scenario, remain in the region as human capital after graduation. To achieve this, however, the universities themselves must be perceived as attractive places to study.

Therefore, the aim of this study is to identify, which factors are important for students when deciding which university to attend, and what makes a university host city attractive from the students point of view.

The Fontys University of Applied Sciences in Venlo and Niederrhein University of Applied Sciences in Krefeld and Mönchengladbach are selected as case study for this research. Therefore a university-wide student survey was conducted at both universities and in total, 1,606 students participated.

In order to answer the research questions, questions from the topics personal data (e.g. origin of the students), university location (e.g. use and evaluation of the local conditions), university (e.g. factors in the choice of university, interest in cross border educational services) and choice of employer (e.g. preferred place of work) are analysed. Descriptive and multivariate analysis methods are used for this purpose. The results of this study are still 'work in progress', but will be part of the full paper and the presentation at ERSA.

Extended abstract will be submitted soon.

# Thrive, survive or perish: the impact of regional autonomy on the demographic dynamics of Italian Alpine territories - (note: Paper eligible for Epainos Award)

Ms Nadiia Matsiuk<sup>1</sup>

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YSS8-G16 Real Estate and Housing Markets Issues, August 26, 2021, 10:15 AM - 11:45 AM

Mountain communities face the threat of depopulation, as residents age or move to large cities in the lowland. This issue is pressing for Italy, where a large portion of the territory is mountainous and the overall population is rapidly aging. This paper analyses whether the autonomous status of a region affects the demographic dynamics of its mountain areas. The question is currently being fiercely debated in Italy, with border municipalities seeking to switch region in pursuit of perceived benefits, mainly in the form of the direct management of a larger portion of taxes. Our analysis relies on an adjacency-based estimation approach, including spatial regression discontinuity techniques, in order to compare population changes in mountain areas randomly selected from Northern Italian regions with special statutes vs. neighboring regions without special statute. Measuring population changes in the 2000s shows a significant difference in the demographic dynamics in border regions, with areas in autonomous regions experiencing more favorable population dynamics. Our hypothesis is that fiscal autonomy contributes to sustainable local development and the survival of mountain communities.



# Covid-19 pandemic and real estate market trends in historical centers

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S54-S2 Historical Centers and Inner Areas: resilient scenarios in the post (post) Covid era, August 27, 2021,  
12:00 PM - 1:30 PM

The real estate industry was severely affected by the Covid-19 disease in both the residential and the commercial sectors.

During the lockdown, houses became more important than before and the owners frequently discovered that the asset features are not optimal for living and working in the house for the full day. The demand is expected to radically change in the future and house types and location more requested by the market will be different.

The commercial real estate will change on the basis of lower rent sustainability and the different needs for the users. The changes will attain the office sector, the retail industry, the industrial and logistic building and the hospitality and for each type of real estate assets the perspectives are different.

Historical centers may represent an interesting solution for offering residential and commercial real estate that will satisfy the new trends in the demand.

# Real estate Crowdfunding during the COVID period: the role of social responsibility

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S54-S1 Historical Centers and Inner Areas: resilient scenarios in the post (post) Covid era, August 27, 2021,  
10:15 AM - 11:45 AM

During the beginning of pandemic crisis the equity and debt crowdfunding in Italy reaches its historical peak. The real estate crowdfunding has raised in only 12 months euro 48 mln € (+ 185% comparing the previous 12 months) and it currently represent a new asset class considered by investors in their diversification strategy. The sector seems to be appealing for both equity (19 mln €) and lending (29 mln €) investors even if the type of real estate project that will finances with the two solutions are totally different: riskier and long term in the former and safer and short term in the latter.

Nowadays the number of portals authorized by the Supervisory authority (Consob) are fifty and only last June it has been authorized the first portal focused on the third sector implementing the laws provided by the Third Sector Code of 2017.

The Third Sector aims to provide benefits to the public and it needs the real estate where to carry the activities. In this view the Crowdfunding can have a financial role as well as political/social one.

The paper will analyse the business model of the socially responsible crowdfunding platforms and the main opportunities for developing Third sector activities by using the crowd. By using the case study of the first Italian innovative start-up focused on real estate crowdfunding for the third sector, the paper will highlight the criteria normally adopted for selecting socially responsible initiative, the economic sustainability of the projects financed and the type of investors that could be involved in the fund raising.

The empirical analysis proposed will consider all the crowdfunding platform authorized by the CONSOB and will collect all their balance sheet from the authorization date up to 2020. Data collected will be used in order to construct a balance sheet analysis that will allow identifying the differences of the platforms focused on the real estate with respect to all other type of activities and to underline the difference of the third sector players with respect to the for-profit organization. The focus on balance composition indexes (asset and liability side) and on the income drivers and expected returns for the shareholders. Results will show that cost and revenue drivers are different for platform specialized in real estate with respect to others and also the not for profit strategy has an impact on the balance features for players of the crowdfunding market.

# The Covid-19 Shock in European Regions: A Multilevel-Hierarchical Analysis of the Roles of Geography and Institutions in Shaping the Pandemic

**Prof. Philip McCann**<sup>1</sup>, Professor Raquel Ortega-Argiles, Dr Pei-Yu Yuan

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S04-S1 Geography of COVID-19 outbreak and policy answers in regions and cities, August 24, 2021, 12:00 PM  
- 1:30 PM

We examine the regional mortality rates associated with the spread of Covid-19 in Europe. In particular, we analyse the potential contribution of the country's geographical and institutional features in shaping the virus's interregional spread and resulting local death rates. Our analysis is based on information from both pandemic waves from March to the end of November 2020. In a multilevel hierarchical regression estimation setting covering information from over 600 OECD-TL3 areas, over 120 larger OECD-TL2 areas and 21 national-level areas, our findings suggest that local death rates are affected by geographical and institutional features at the local, regional and national levels.

# The impact of 5% VAT reduction to the accommodation sector: an input-output analysis

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S05-S2 Sustainable Regional Tourism Strategies in Pandemic Contexts, August 24, 2021, 2:30 PM - 4:00 PM

Scotland has a reasonably large tourism sector that contributes around £8 billion to GDP, accounts for 1 in 9 jobs and is identified as one of the Scottish Government's "Sustainable Growth sectors". The Scottish Government, Scottish Tourism Alliance, VisitScotland, Scottish Enterprise and Skills Development Scotland produced a Scotland Outlook 2030 which highlighted that one of the challenges is creating jobs in the tourism economy that are not perceived as "low-skilled, low paid jobs".

Growth of the tourism sector has been identified as an area which could be boosted post-pandemic including through the use of reductions in tax on tourist-facing products, such as accommodation. Such policies however would reduce tax revenues and – if could come at the cost of reductions in government spending. This paper uses Input Output analysis to investigate the economy-wide impacts of an illustrative 5% reduction in VAT and the amount of tourism spending required to compensate these losses in GVA.

Tourism spending is disaggregated in our model into day and overnight tourists, and by place of residence (Scotland, Rest of GB and Rest of the world) which can then show how much of a spending increase in each tourist type is required to compensate for the equivalent losses in GVA. We find that the increase in tourism spending affects some sectors of the economy disproportionately and creates more jobs.

Given that job creation is positive but the change in labour income is negative, the simulations indicate that the net increase of a GVA-offsetting boost from tourism does create more jobs. However, income falls, which highlights that the industry is creating jobs that are low paid. This is the major challenge for the sustainability of the tourism sector going forward.

# Small-scale farming and local and alternative food system resilience during the COVID-19 pandemic: insights from Italy, Germany, Taiwan and Japan

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S49-S1 The impact of COVID-19 on alternative and local food systems (ALFS) and the potential for sustainability transition – case studies and theoretical considerations, August 27, 2021, 10:15 AM - 11:45 AM

Over the course of the pandemic, local level and grassroots initiatives belonging to the diverse galaxy of alternative food networks and short food supply chains have continued to play an important role in ensuring citizens' access to healthy, nutritious and sustainably grown food despite COVID-related restrictions that have been imposed since the beginning of 2020. To assess the impact of COVID-19 – particularly at the onset of the pandemic – on small-scale farmers and local food systems, we conducted a survey in four countries: Japan, Taiwan, Italy and Germany. By comparing the experiences of four Global North countries with different topographic, economic, and socio-cultural characteristics as well as varying levels of impact from the pandemic (low-impact Asia versus high impact Europe), we set out to identify dominant and universal factors that contributed to the success and failures of small-scale farming and their associated local and alternative food networks. Furthermore, we examine what those lessons can tell us about post-COVID sustainable agricultural and rural development. Overall the results show that in all countries small-scale farmers are strongly connected with local and alternative food networks for marketing their produce, and that many of these channels remained reliable during the pandemic, particularly direct channels to individual consumers. Farmers' degree of resilience was also dependent on the diversity of their market channels: a higher diversity ensured that respondents had a variety of sales outlets to fall back on. Most small-scale farmers engaged in highly diverse, alternative forms of production were characterized by relative autonomy from industrial input and food supply chains and from large agri-food system actors. The results also highlight how institutional choices (such as whether to close farmers' markets or keep them open) play an important role in strengthening or weakening small farmers' resilience.

# Geography and News: Potentials and Pitfalls of ‘Digital Regional Science’

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S17 News and Geography, August 25, 2021, 10:15 AM - 11:45 AM

About 70% of all texts contain geographical toponyms. This means that text archives provide a fabulous, but hitherto hardly used resource for geographical research, certainly now that many organisations put much effort and money into digitizing even more text resources. While this includes contemporary resources, such as the Web Archive or Social Media, also historical text archives are being digitized, such as newspaper archives and parliamentary archives. Such digitization comes coupled with advances in data science, or computational social science, to make sense of the context in which places and regions are mentioned in texts, and that allow to handle often large text repositories.

The potential for these new text resources have so far been mostly recognized in the humanities, where a new field ‘digital humanities’ has prospered over the last years. One may question whether these new data sources and approaches may also revolutionize the way we practice Regional Science: ‘Digital Regional Science’ could well be a key theme in the coming decade.

Building on a variety of recent studies that could be labelled ‘Digital Regional Science’, which prominently feature geographical analysis using news archives, the author will discuss the potentials of such an approach in allowing analysis with unprecedented geographical detail, and across so far hardly seen time periods. However, there are also many pitfalls to be avoided. Building on the experiences gained, an overview of such pitfalls in terms of quality of the data (incl. how it was produced) and methods will be presented. Will we soon experience a ‘digital turn’ in regional science?

# Workers mobility between regions – Results for different region types in Germany

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S11-S1 Challenges and Opportunities of Rural Regions, August 24, 2021, 4:15 PM - 5:45 PM

This paper focuses on the mobility of workers between region types in Germany. In particular, I am interested in the factors determining the decisions of workers who migrate between and within different regions regarding individual and regional characteristics. These region types characterize German municipalities in their level of urbanization or rusticity using information such as population density and settlement structure. In this context, particular interest is in the direction of the migration event. Who moves from rural to urban areas, who moves the other way round or who moves within the same region type. With the help of multinomial logistic re-gressions, I separate influencing factors, which matter according to the direction of the migration events. Further, I can differentiate according to workers' age and different stages of their work biography to analyze whether the determinants differ in various phases. To analyze these decisions, I make use of extensive secondary data, the Integrated Employment Biographies (IEB) of the Institute for Employment Research (IAB). The results show that workers are especially mobile at the beginning of their working lives and higher qualified workers tend to move from less dense areas to agglomerations or move between agglomerations. Rural regions only become attractive at a later point in the working life. Furthermore, a kind of habituation effect for region types can be observed. A person previously lived in another region of the same type as the current region of residence, the more frequently any migration within the same region type occurs.

# Autonomous climate adaptation in macro damage assessments: a roadmap for regional economic models

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G07-O1 Global Warming, Health and Environmental Issues, August 24, 2021, 2:30 PM - 4:00 PM

Urgent calls to accelerate adaptation to climate change require actions at various scales. Recent advances in adaptation modeling improved the ability of Computable General Equilibrium models to estimate effects of public planned adaptation by governments. Yet, it remains a methodological challenge to quantify complex effects of autonomous private adaptation actions of households and firms for the whole economy beyond the “traditional” supply and demand adjustments to price changes. We propose a roadmap for including a richer representation of autonomous climate change adaptation into Spatial Computable General Equilibrium (SCGE) models. Firstly, we clarify the channels through which direct damages from adverse climate impacts affect the representative actors in a SCGE model – governments, firms, and households – and the indirect ripple effects they may cause for the sectors in a regional economy. Secondly, we discuss the current macroeconomic specification of planned and autonomous adaptation strategies emphasizing limitations and potential advancements of SCGE models, with a particular focus on the possibility to capture heterogeneous autonomous adaptation processes prone to socio-psychological factors (perceptions, self-efficacy concerns, socially-constructed adaptation limits, etc.). Lastly, we illustrate the applicability of the roadmap for the EU regions, taking the example of the costliest of climate-driven hazards – flooding and anticipated sea-level rise. We are interested in the effects of autonomous adaptation on household’s income and welfare, in the firm’s responses to such exogenous shocks, and in the indirect effects of these adaptation efforts for regional economies. For our purpose, we improve upon the EU-EMS SCGE model with detailed representation of 61 economic sectors, ten representative households and a governmental sector. The economic core of the EU-EMS model is calibrated using the PBL-JRC EUREGIO MRIO database; for the autonomous adaptation analysis it relies on the novel datasets on autonomous adaptation of firms and households. To test the propagation of the climate change shock and the adaptation responses we use the scenarios and recent advances in damage and adaptation estimates from the EU projects COACCH and ESPON-TITAN.



# The effect of speed limits on accident frequency on the German Autobahn - A causal machine learning approach (note: Paper eligible for Epainos Award)

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S43-S2 Counterfactual methods for regional policy evaluation, August 26, 2021, 4:15 PM - 5:45 PM

The question of whether a general speed limit on German motorways would be beneficial for road safety is part of a controversial debate in Germany. Compelling empirical analyses for this country are however still lacking while findings from other countries only have very limited implications for the German Autobahn. The large effort involved in constructing a data set suitable to analyze this question, as well as the presence of unobserved heterogeneity make the task methodologically challenging. The present study approaches the first obstacle by processing and combining various geospatial data sources to derive a numerical data set containing rich information on the design, traffic, and environment of each 500-meter segment of large parts of the German motorway network. For the second challenge, two approaches are taken. First, a random parameter negative binomial regression model is employed. Random parameter models are a popular tool in accident research to study factors associated with accident frequency in the presence of unobserved heterogeneity. They are, however, exploratory in nature and thus not well suited for the identification of causal effects.

Therefore, a causal forest – an entirely non-parametric method for the identification of causal effects from the realm of causal machine learning - is used next. For it to allow for meaningful conclusions in the presence of unobserved heterogeneity, an assumption is made, which will be called the 'upper bound assumption'. It states that unobserved factors that increase crash frequency also increase speed limit probability and vice versa. Under this assumption, an upper bound of the true causal effect is estimated. Should a negative effect for speed limits on accident frequency be found, the corresponding true causal effect estimate would be at least this large in absolute value. The causal forest also allows learning about effect heterogeneity with respect to pre-specified hypotheses.

Spatial spillovers from observed characteristics shall be accounted for in the future by including selected characteristics of the last 250 meters from spatially lagged segments.

# Rethinking Cultural Policy: The Role of the Cultural Industry and Small Manufacturing Enterprises

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S13-S3 Historical Roots of Regional Entrepreneurship and Innovation, August 25, 2021, 12:00 PM - 1:30 PM

The use of cultural policy as a component of economic development and urban regeneration strategies is increasingly an uncontested issue. However, this consensus masks serious dilemmas regarding policy choices and implementation in economic and cultural development. Indeed, policy makers have traditionally viewed the cultural economy either as an annex of the knowledge or creative economy, or as a means to enhance consumption (Evans, 2009), implying that art and culture are consumer goods that enhance the attractiveness and image of the city. This has given rise to an increasing polarization and bifurcation of cities culturally and economically around the knowledge industries. These focus on highly skilled workers (Allmendinger, 2002) leaving traditional artisanal skills and self-employed workers on the margins (Girard, 2006). This has created a kind of opposition between the knowledge economy and the material economy (Hudson, 2012).

Moreover, and while these policies, overly focused on knowledge industries, seek to rid cities of the legacies of manufacturing and land use, there is a real resurgence of interest around custom manufacturing, artisanal production, and additive manufacturing (Thomas et al., 2013). This resurgence of interest is supported first by the realization of the vulnerability of consumer-driven development of the culture, and the questioning of its sustainability. Second, by an increased demand for unique, innovative and/or handmade objects. The growth of the fair trade movement has reinforced this demand and raised awareness of environmentally and socially responsible products (Blackburn, 2007).

This gives artisanal entrepreneurship a major importance because of its role in revitalizing economies. This role is all the more important in developing countries. Indeed, creative industries can potentially support economic growth by fostering global partnerships or adopting approaches that allow for the inclusion of vulnerable groups and contribute to achieving the Sustainable Development Goals (UNCTAD, 2010).

In response, we consider that reorienting cultural policy to focus on the promotion of craft and cultural production is an important opportunity that can reconcile the city with its industrial heritage. This allows cultural policy to reinvent itself and to overcome the limits of a cultural development based on consumption. Thus, we are interested in the articulation between the cultural economy and small-scale manufacturing and craft enterprises. We argue that cities can develop more equitably and sustainably if they consider and recognize their industrial and cultural heritage in their cultural and urban policy, by focusing on policies oriented towards cultural industries, small-scale manufacturing and craft entrepreneurship.

# Planning and Uncertainty: Building a Resilient City. A new approach

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G06-O4 Adaptive and Resilient Cities and Regions, August 25, 2021, 10:15 AM - 11:45 AM

This work aims at describing the role of planning in the resilience of a city. Urban resilience has become a major objective in our era, since various events (financial crisis, COVID -19, fourth industrial revolution etc) tend to destabilize or enormously grow the cities, including, though not being limited to, their markets, people's health, social cohesion etc.

The work is divided into six parts. Firstly, a hierarchy of the human needs, based on Maslow's diagram, is considered so that the roots of the vulnerability of cities be described. Secondly, the review of the literature indicates the factors on which urban resilience depends. Thirdly, the role of planning is presented and analyzed, in relation with black swans.

Additionally, the use of Planning in the decrease of Uncertainty in urban space is presented in the fourth part of the work. Moreover, in the fifth part, both positive and negative black swans are analyzed as the cities be able to handle them. In the conclusions, the main points of the work are presented.

However, it should be mentioned that not all black swans are examined in this work but only those that affect directly urban resilience.

# Distant learning and spatial student mobility

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G12-O1 Regional Competitiveness, Innovation and Productivity, August 25, 2021, 12:00 PM - 1:30 PM

Several studies have analyzed the choice of students on what university to attend. Besides the choice on what course to take, one can consider moving away from home to attend university. Neoclassical theories assume that individuals are rational and attending university is the result of a comparison of financial costs and benefits in the short and long run.

In this paper, a theoretical framework is developed to model the choice of students on where to attend university in the COVID-19 pandemic era. Students can go either to a local university or to one outside their local area. The COVID-19 pandemic has led to the introduction of nationwide containment measures including the closure of higher education institutions and a sudden transition from face-to-face classes to online learning. This is expected to produce a positive impact on the spatial mobility of students, but will also have effects on educational outcomes.

The model provides some theoretical results that are tested on Italian data. More specifically, we use administrative data from the University of Piemonte Orientale, a medium-size university with about 15,000 students spread over three campuses. The dataset provides information on all students enrolled at the university specifying the students' city of origin, income resources, the course taken, and their performance at the university (number of passed exams, number of acquired credits in passed exams, the average grade of exams, ...). We consider the last three academic years, from 2018-2019 to 2020-2021, that include the first lockdown occurred in March 2021 and the first enrollement to the academic year during the COVID-19 pandemic. The empirical methodology is based on a difference-in-difference approach. Students are divided in two groups: a control group with students enrolled in the academic years before COVID-19, i.e. 2018-2019 and 2019-2020; a treatment group with students from 2020-2021 who experienced the COVID-19 pandemic.

# The decline of small cities: Increased competition from external shopping malls or long-term negative trends?

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G31-O2 Location of Economic Activity, August 27, 2021, 2:30 PM - 4:00 PM

When shopping malls enter the outskirts of small cities, their range may overlap with that of incumbent firms located in city centres. Their larger size and wider offer, often focused on higher-order goods, give them a competitive advantage over firms in city centres. Smaller cities have, on top of this, also experienced negative development during recent decades due to a declining and ageing population, and lack of investment. On the other hand, external shopping malls typically also attract customers from farther away, which might result in positive spillover effects on firms located in city centres. The question is thus whether the positive agglomeration effects can outweigh the combined impact of the negative effects from competition and the long-term negative trends due to the declining populations of smaller cities and their attractiveness.

To isolate the effects of external shopping malls on the performance of incumbent firms in small city centres, we use the entry of 17 external shopping malls in Sweden and estimate a traditional fixed effects regression model while controlling for firm-specific heterogeneity. We find that entry by external shopping malls decreased the labour productivity of incumbent firms in city centres by 5.31%. Revenues decrease by 6.62%, while the reduction in the number of employees (0.45%) is small and not significantly different from zero. However, many small cities have experienced declining and ageing populations. To account for such negative trends, we also add time-specific fixed effects to the regression specification and estimate what amounts to a generalized difference-in-differences model. We find that all effects of external shopping malls on the performance of incumbent firms in city centres then become insignificant. Thus, our results suggest that incumbent firms in small cities have a negative development path mainly due to long-term economic trends, possibly because of the combination of urbanization effects and a lack of local investments, not because external shopping malls have entered areas outside these cities.

Our results thus suggest that new external shopping malls per se do not negatively impact the performance of firms located in small cities; rather, the impact occurs as a result of more general economic trends that these small cities have been experiencing for some time. The downward development path of small cities is not surprising. Such places have been regarded as 'places that do not matter' for a long time now, being characterized by economic decline and a lack of opportunities and, thus, investment.

# Estimating the impact of Business Improvement Districts on firm performance

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G36 Business and entrepreneurship, August 26, 2021, 4:15 PM - 5:45 PM

Business Improvement Districts (BID) have emerged as solutions for the revitalization of urban areas characterized by economic decline. While compulsory participation in BID schemes is internationally pledged as essential for their success, Swedish BIDs are voluntary in nature, which questions their effectiveness. To elucidate this aspect, we investigate the impacts of BID schemes introduced between 2012 and 2019 in five Swedish cities on the performance of firms both within and outside the boundaries of the designated BID districts. To avoid the possibility that the identification of the effect may be biased due to the non-aleatory choice of BID location we use a difference-in-difference setup and compare the performance of firms in BID districts, after the implementation of the BID schemes, with their performance before implementation and with a series of control districts that are similar to the treatment ones. The results indicate an average increase of 7% in labour productivity for firms located within the BID districts; this effect is due to the increase in firm revenue (by 11% on average), which is concurrent with small changes in firm employment (3%). The effects on neighboring areas are not statistically significant.

# Diversity, Identity and Tax Morale

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G21 Regional Finance, Fiscal Issues, Investment or Capital Markets, August 25, 2021, 4:15 PM - 5:45 PM

We study how the tax morale of individuals is influenced by societal diversity in their place of residence. Using data from the World Value Survey we compare the effects that diversity has on self-reported measures of tax morale both at the regional and at the individual level. We show first that within countries, sub-national regions characterized by greater diversity exhibit on average lower levels of tax morale. We then document that within each region tax morale is lower among individuals who are less similar to others from the region and this effect operates more strongly in regions characterized by higher levels of diversity. This pattern applies to diversity in terms of different attributes, including income, ethnicity, language or religion, but is particularly salient when it comes to diversity in terms of cultural values. It suggests that social identification may be important for how people perceive their responsibility of paying taxes.

# Territories and social disparity

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S60-S1 ORMA - Opportunities and Risks of new Modalities of Anthropization between sustainability, innovation and fragility, August 27, 2021, 10:15 AM - 11:45 AM

## Territory

For the term territory we are faced with an indication subject to evolution, elusive and wide. Starting from the definition of natural capital which includes the most immediately evident assets linked to the land, the water environment and the atmosphere. A thorough and recognized line of study adds to these resources a flow of services called ecosystems. To fully explain the benefits of natural capital, however, it must interact with other forms of capital such as social capital consisting of built capital and human capital (the economy), which in turn is embedded in natural capital. Ecosystem services are the relative contribution of natural capital to human well-being and, it must be emphasized, they do not flow directly. The territory is transformed from a simple delimiter of natural capital to a producer, through ecosystem services and in interaction with the social capital, of human well-being. This awareness of the territory can show us the way for a development that is not in contrast with the natural and architectural environment.

## Social inequality

It is not easy to delve into the theme of social inequality, but some studies help us that show that since 2011 the trend of increasing inequalities within the countries of the world has reversed, recording a significant reduction, especially in recent years. but on the other hand, this trend reversal was slow to take place in Europe and with an uneven diffusion. Despite these improvements, regional disparities remain high in many respects and the current pandemic contingency appears to accentuate this divergence.

## The new approach

From all this comes the idea of a new approach to the territory. It is necessary to have a vision of the territory based on a local and non-extractive approach, which leads to the analysis of the data flows generated by the platforms in order to create a shared governance that leads to the (re) territorialization of the data flows generated by the platforms, to create a local governance of shared resources among the members of a community. To this end, the technologies that pervade the collaborative economy acquire a proactive centrality. Ultimately, the contributory economy, based on interaction and aimed at the development of new forms of social and individual learning aimed at opening a new phase of development.



# Technological change, consumption patterns and income distribution: strategies for a low-carbon EU transition

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G07-O2 Global Warming, Health and Environmental Issues, August 24, 2021, 4:15 PM - 5:45 PM

The emergency of climate change has placed efforts to mitigate its effects and limit its sources at the international forefront. In this context, the European Commission has set the fight against climate change as one of its main priorities, supporting, among other international initiatives the Paris Agreement, which sets sustainable economic growth in a context of poverty reduction in the political agenda for the next decades. The environmental impacts of economic activity has been extensively analysed in the economic and environmental literature. However, nowadays, in a context of high globalization and production fragmentation, consumption and production patterns cannot be considered in isolation, being necessary models that integrate both perspectives for the formulation of comprehensive measures of progress towards low-carbon economies. Moreover, disparities in income distribution and lifestyles between and within each country also modulate the effectivity of those measures. These policies are called upon to coexist and be complemented with technological changes that accelerate the processes of diffusion and adoption of clean technologies in an increasing number of countries and sectors. In this broad context, this work develops a dynamic multiregional and multisectoral computable general equilibrium (CGE) model, covering consumption and production behaviour for all the European Union countries in its design. We extend this model to the different income groups for each country, taking into account the potential inequality reduction.

On the basis of this model, we design a range of scenarios to make environmental and inequality reduction goals compatible. We use the evolution of consumption patterns and production structures of each country, to design strategies to go toward a more sustainable and just economy for 2050. Besides of these sustainable and more equally trajectories, we use the evolution of diffusion patterns of innovation, clean technology and carbon intensity in key sectors. Therefore, this model is intended to be the base for the development of empirical applications and the generation of scenarios of technological, environmental and consumption pathways.

# Comeback policy after the COVID-19 lockdown in Denmark: Effects of spatially differentiated re-opening policies on regional unemployment

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S04-S4 Geography of COVID-19 outbreak and policy answers in regions and cities, August 25, 2021, 10:15 AM  
- 11:45 AM

A large shock from COVID-19 arrived in Denmark in early spring 2020. The Danish government responded with an extensive lockdown in economic activities to curb transmission of the virus and ensure hospital capacities. After the infection wave has been flattened through the lockdown measures, from April to August 2020, a gradual re-opening of economic activities was initiated that also took the evolution of regional infection rates into account. A specific policy initiative that has been implemented in a regionally differentiated manner was the opening up of public services. We investigate if this spatial discontinuity in re-opening the Danish economy had significant effects on regional labor markets. Results based on time-series regression for daily aggregate unemployment data in Denmark shows a clear structural break around the timing of the implementation of this regionally differentiated policy. As a more rigorous empirical identification approach, we then apply difference-in-difference estimation and find a 2-3 percent reduction in our measure of unemployment from the regionally differentiated re-opening policy. The result is found to be robust to alternative specifications that take into account intervening local lockdown events during the re-opening phase and also the likely endogeneity of the political decision to spatially differentiate re-opening policies against the background of the macro-regional infection dynamics. We conclude that regionally differentiated policies are important for aggregate and regional labor market outcomes in a comeback policy after large pandemic shocks.

# The Biogas dilemma: an analysis on the Social Approval of large new plants

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S03-S2 Circular economy: challenges for regions and cities, August 24, 2021, 2:30 PM - 4:00 PM

The degree of social acceptance of the biogas as a renewable green source of energy is still somewhat overlooked. While there are many initiatives aiming at the construction of new biogas plants around the world, with Italy as relevant actor in the field, local protests around the construction of new plants are frequent in some local areas. This study aims at analysing the determinants of citizens perception regarding the construction of new biomass plants in their neighbouring areas. In particular, the focus is on the prior knowledge of the production process of the biogas as well as on other individual characteristics. The investigation is based on two repeated surveys administered on citizens living in the proximity of two Italian local areas, where the construction of new large biogas plants is planned, namely in the province of Oristano in Sardinia and Andria in Apulia. The first survey analyses the main variables correlated with the degree of biogas acceptability focusing in particular on the role played by biogas knowledge. The second set of surveys instead, focuses on the role of participatory process and information campaign undertaken by policy maker and environmental associations in order to increase the social acceptance of the communities regarding the construction of new biogas plants.

# Analysis of COVID-19 vulnerabilities in Piedmont Region, Italy

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S04-S4 Geography of COVID-19 outbreak and policy answers in regions and cities, August 25, 2021, 10:15 AM  
- 11:45 AM

Recently, the Covid-19 pandemic has been studied by many scholars from a wide range of academic disciplines. Among those, urban planners and regional scientists have developed numerous investigations in order to identify the spatial variations of impacts due to the COVID-19 crisis. Many of them tried to read the relationship between the emerging spread of the virus and the vulnerability of the environment. However, most of these studies are developed at an international or national level and mainly from a comparative perspective. Due to several limitations including the scarce availability of data, such studies fail to consider the variations in transmission speed of the virus and the correlations between the spread pattern and the morphological-settlement and socio-cultural characteristics of the places. In order to more accurately unpack the dynamics of the virus spatial transmission and orient the possible solutions that different territories could implement during the phases of epidemic change, it becomes necessary to analyze the spread of the virus in a localized manner over a longer period of time. This paper is part of the debate that questions the relationship between urbanization and the spread of the pandemic and analyzes the geography of COVID-19 outbreaks by reading two analysis variables in an integrated manner: population density and the territorial evolution of the contagion. To this aim, our study investigates the pattern of virus transmission in 1,181 municipalities of the Piedmont Region, Italy of which the positive cases for each municipality were analyzed daily, from March 2020 to February 2021. (<https://storymaps.arcgis.com/stories/f8eb0d6557ad4d3b884fb8cddb8c1e5e>). In general, this study aims to answer several research questions; What do the territorial changes of the covid-19 hot spots -during one year of pandemic- tell us? Which cities are the most and the least vulnerable? What are the territorial characteristics of the most and the least vulnerable cities? Are the major and most dense cities -like Torino- the most vulnerable areas? The results presented show that in the Piedmont Region population density of municipalities and spread of the virus present a non-linear relationship. This outcome allows outlining a working perspective for future regional strategies in managing the pandemic transition.

# Where does the EU Cohesion Policy produce its impact? Simulations with a Regional Dynamic General Equilibrium Model

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S08-S1 Spatial CGE, Input-Output, land use and transport modeling, August 24, 2021, 12:00 PM - 1:30 PM

Cohesion Policy is supposed to support convergence of EU countries and regions. Thus it devotes most of its resources to the less developed regions. At the same time, the EU budget is largely financed by the contributions of the Member States, which is proportionate to their GNI. As a result, Cohesion Policy implies a transfer of resources from the richest to the poorest EU Member States and regions, which is an expression of the European solidarity.

A question keeps coming back in the discussions on how the benefits and the costs of the policy are shared among the Member States: what are the returns to the net contributors from the policy interventions in the net beneficiaries? Cohesion Policy is likely to produce important spatial spillovers, with the programmes implemented in a given region having an impact in the rest of the EU. This can considerably affect the costs-benefits balance of the policy. As a result, the net contribution or benefits of the Member States cannot be properly assessed by simply looking at the amounts they pour into, and receive from, the community budget.

In this paper, we use a spatial dynamic computable general equilibrium model (RHOMOLO) to analyse the spillovers associated to the EU Cohesion Policy for the 2007-2013 programming period. Our main findings are the following:

- Cohesion Policy programmes has a positive and significant impact on the economies of the EU Member States and regions. The impact is higher in the main beneficiaries but, in the long-run, it is also positive in more developed countries and regions in spite of the fact that they are net contributors to the policy.
- The impact is much higher in the poorest regions of the EU, suggesting that Cohesion Policy fulfils its objective of reducing regional disparities.
- Spill-overs account for a substantial share of the total impact of the policy. In the long-run, around 15% of the impact on EU GDP stems from international spill-overs which means that Cohesion Policy is a positive sum game and generates cross-fertilization of Member States economies. Spill-overs are particularly important for the main contributors to the policy. In the long-run, more than 45% of the impact in the countries not eligible to the Cohesion Fund come from countries benefiting from this Fund. For some Member States, spill-overs constitute the main source of benefits from Cohesion Policy.

# Spatial heterogeneity in pro-independence vote in Catalonia: analysis of local voting and its relationship with potential economic impacts

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G25-O1 Institutions, Political and Decisional Processes, August 26, 2021, 4:15 PM - 5:45 PM

Support for independence from Spain has sharply increased in the last decades in Catalonia. While national identities could partly explain this phenomenon, literature shows that considerations regarding a better economic performance of an independent Catalonia may also explain independence's support in the region. However, although some studies provide an overall assessment of the economic consequences of secession in Catalonia linked to its electoral support, a more localized spatial study of these effects is still lacking. In this paper, we address this shortcoming by examining the relationship between the economic impact of the Catalan independence and the electoral behaviour of Catalan citizens at the municipality level. To that end, we analyse the spatial distribution of pro-independence voting in the 2012, 2015 and 2017 elections to the Parliament of Catalonia. Furthermore, this paper applies a Multi-Regional Input Output (MRIO) framework to estimate the potential jobs at risk in the event of a secession both from Spain and the European Union. We found a weakly positive correlation between the estimate job loss and the pro-independence vote. Therefore, we can conclude that there is no strong evidence of an association between the potential economic impact and the support for the Catalan independence.

# Behind closed doors: Crime composition in gang territory

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G23-R Segregation, Social and Spatial Inequalities, August 25, 2021, 10:15 AM - 11:45 AM

Gang activity is a big concern in many cities nowadays. Besides the worrisome involvement in local crime, concerns are exacerbated as they cause distress in residents. This paper identifies a gang presence tipping point in an urban area in a developed country. To do so, we use registered crimes in the Metropolitan Area of Barcelona that are attributed to members of local gangs. We also test for discontinuities in crime composition exploiting a regression discontinuity method. We find that the number of crimes is not significantly different passing the tipping point. Yet, there are significant differences in its composition: once the tipping point is passed, there is a larger share of crimes against the person and male offenders to female victims.

# Greenfield Foreign Direct Investments and Regional Environmental Technologies

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S47-S3 Foreign Direct Investments, trade and local development: drivers and impacts, August 27, 2021, 12:00 PM - 1:30 PM

This paper builds on (eco-)innovation geography and international business studies to investigate the effects of greenfield Foreign Direct Investments (FDIs) on regional specialisation in environmental technologies. Combining the OECD-REGPAT and the fDi Markets datasets with respect to 1,050 European NUTS3 regions over the period 2003-2014, we find that FDIs can positively impact on regions' specialisation in green technologies. This effect is statically significant when FDIs occur in industries wherein environmental patents represent a relatively high share of total inventive activities (green FDIs), and it is further reinforced if such foreign investments involve R&D activities. We also find that the relatedness of environmental technologies to pre-existing regional specialisations exerts a negative moderating effect on the role of green R&D FDIs in shaping environmental patenting patterns. In particular, green R&D FDIs have a larger effect in regions whose prior knowledge base is highly unrelated to environmental technologies. This result is consistent with the idea that MNEs inject the host region with external knowledge, which makes the development of green-technologies less place-dependent.



# Culture and the cross-country differences in the gender commuting gap: Evidence from immigrants in the United States

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G03-O4 Demographic Change, Population, Migration and Mobility Behaviour, August 25, 2021, 10:15 AM - 11:45 AM

see full (draft) paper

This paper explores the role of gender equality culture on the cross-country gender commuting gap differences. To avoid the inter-relations between culture, institutions and economic conditions in a simple cross-country analysis, we use the epidemiological approach. We merge data from the American Time Use Survey for the years 2006–2018 on early-arrival first- and second-generation immigrants living in the United States with their corresponding annual country of ancestry's Gender Gap Index (GGI). Because all these immigrants (with different cultural backgrounds) have grown up under the same laws, institutions, and economic conditions in the US, the gender differences among them in the time devoted to commute to/from work can be interpreted as evidence of the existence of cultural impact. Our results show that more gender equality culture in the country of ancestry may reduce the gender commuting gap of parents. Specifically, an increase of one standard deviation in the GGI increases the women's daily commuting time relative to men by almost 5 minutes, a sizeable effect representing 23 percent of the standard deviation in the gender commuting gap across countries of ancestry. Supplementary analysis provides possible mechanisms through which culture is operating and is transmitted, showing the possible existence of horizontal transmission and the importance of the presence of children in commuting. Our results are robust to the use of different subsamples, geographical controls, and to the selection into employment and telework.

# Gender Stereotyping in Sports

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G32-O1 Tourism and Culture, August 27, 2021, 12:00 PM - 1:30 PM

see Full paper

This paper contributes to the literature of gender differences in academic attainment by putting together several sources of data going back several decades to investigate how gender stereotypes and parental time investments shape sport choices of boys and girls during high school. Using data from the 2002-2019 National Federation of State High School Association, which provides information for every state on the total number of high school participants by gender in each sport, we document that states with more gender-equal norms are also states where boys and girls tend to break stereotypes when making sport choices in high school. We also identify parental time investments as being an important cultural-transmission mechanism.

# An Agent of Change Against all Odds? The Case of Ledger in Vierzon, France

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S38-S1 Regional Growth Against All Odds, August 26, 2021, 2:30 PM - 4:00 PM

The literature in economic geography is increasingly interested in the role of human agency in local and regional development. The understanding of the role of agents of change on path development is especially critical for small- and medium-sized towns (SMSTs), which are less diversified and have lower localised capabilities. The town of Vierzon in region Centre-Val-de-Loire is a medium-sized old-industrial town in a structural crisis that suffers from population decline, unemployment, and poverty. The article takes a micro-perspective with a case-study approach to explore the creation and growth of Ledger, a start-up that designs, produces, and commercialises hardware wallets for cryptocurrencies, against all odds in Vierzon, France. It underlines the role of chance, serendipity, and the wider institutional context in the location of Ledger in Vierzon and the subsequent path creation. The article contributes to the debate on agency-structure by linking agents of change in SMSTs to the wider institutional context and to the understanding of the emergence of place-based leadership.

# Innovation in territorial planning and programming: governance models for inter-municipal network systems

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S60-S1 ORMA - Opportunities and Risks of new Modalities of Anthropization between sustainability, innovation and fragility, August 27, 2021, 10:15 AM - 11:45 AM

The 2014-20 programming cycle announced new development policies that seemed to contribute to the conclusion of the long season of public investments, aimed at stemming the socio-economic hemorrhage in the South and inland areas, through structural interventions, essentially aimed at human capital. and infrastructure. From forms of state intervention that can be confused with pure welfare, to participatory interventions promoted by the National Strategy on Internal Areas or spontaneous processes of territorial enhancement for the sharing of services, equipment and infrastructures. However, the effects of the Covid-19 pandemic have necessarily reopened with the Recovery Plan the availability and direct management of the State of huge EU resources, to which must be added the funds of the new programming cycle 2021-27. Within this overall framework of resources and new objectives on the national agenda, the redefinition of new growth scenarios in territorial systems must be given a decisive role to the formally recognized local communities in the network.

The contribution aims to reflect on the possible forms of governance of territorial policies in consideration of the incoming financial resources and the next sectoral choices made by the central power, to create a plan of territorial regeneration that is congruent and compatible with local contexts. The case study, field of experimentation of a new governance model of regeneration policies, the city of Benevento and the network of minor municipalities that make up an environmental, social and economic system not attributable to the paradigms of: gravitation areas, dust communes, and average cities. The constitution of inter-municipal political communities appears as a component of the strategy to optimize the effects of financial resources aimed at remedying the weakness of the individual municipal units. No longer autonomous functional areas but a process of construction of local inter-municipal communities is hypothesized through various legal instruments already available. The attention to be devoted to the construction and functioning of territorial governance becomes the precondition for giving credibility to the strategies for the next seven years of planning, avoiding the breakdown by sector skills, and preventing them from moving away from the general vision of resilience of the system of large area.

# Municipalities' budgetary response to natural disasters

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G21 Regional Finance, Fiscal Issues, Investment or Capital Markets, August 25, 2021, 4:15 PM - 5:45 PM

The purpose of this study is to analyse the causal impact of natural disasters on municipal budget choices. While many papers investigate the impact of natural disasters on public spending at the national level (Bevan and Cook, 2015 ; Noy and Nualsri, 2011 ; Melecky and Raddatz, 2011), few articles focus their interest at the local level (Masiero and Santarossa, 2020).

For this research, we use an original database created from the French municipal accounts, natural disaster decrees as well as risk prevention plans between 2000 and 2019. These data allow us to study a sample of several thousand municipalities, of which 22,972 were affected by a natural disaster during the period. Moreover, focusing on exogenous shocks such as disasters provides a quasi-experimental framework, which allows us to start by using a matching approach in order to analyze the variations in expenditures between the municipalities affected by a shock and the others. Then to estimate the causal impact of a natural disaster on budget choices panel regression models are used.

The first observation is that there was a significant increase in current expenditure at the time of the shock for municipalities that faced a natural disaster. In addition, the total expenditures of municipalities that have ever been affected by a disaster are higher than those of municipalities that have never faced a shock. Our preliminary results show that a natural disaster causes a persistent increase in municipal current expenditure.

# Entrepreneurial education for immigrants: a tool for local development

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S30-S1 Linking entrepreneurship and regional policy, August 25, 2021, 4:15 PM - 5:45 PM

This paper "Entrepreneurial Education for Immigrants a Tool for Local Development" is a qualitative and exploratory study that relate Entrepreneurial Education (EE) with Immigrant Entrepreneurship (IE) and with Local Development (LD). Intends to reflect on possible axes of intersection between them that will permit the understanding of how Entrepreneurial Education for Immigrants (EEPI), adults, in non-formal education context, can contribute to and promote LD. Supported by endogenous development conceptions the immigrant is see as an active social actor that articulate your own potential, with institutional, geographical and economic local factors for sustainable growth that can help improve the quality of life and the well-being of society. Becoming a key element, a driver of LD, for its capacity to stimulate the potential local entrepreneur and provoke transformation via innovation, and (re)grouping of regional resources. Highlighting that it is important to construct an inclusive entrepreneurial educational model, that will consider the people who are part of this community, their competencies, abilities, shortcomings, frustrations, dreams, and desires; and stimulate the critical perception of the problems involved in the world that surrounds them by means of an innovative destructive-creative vision, capable of transforming thoughts, perceptions, and values. All this basing on an andragogical view, where the immigrant should be encouraged to understand the new context in which they are inserted, its history, geography, legislation, culture, environment, politics, technology, and social relationships, to be able to contribute to the attainment of community goals through the exploitation of all its potential. Under this view point the non-formal educational environment here is [...] a set of sociocultural learning and knowledge processes, involving various organizations, activities, means and forms, as well as a multiplicity of social programs and projects. Within the non-formal domain, EE, is a tool centered on the learner, assists them in awakening their potentialities, starting from the concrete world around them, enabling them to deal with uncertainties, lack of resources and the making of decisions when facing risk, to become entrepreneurs in the face of life). Like this, EE is a tool for optimizing the contribution that the immigrant can make to the local entrepreneurial ecosystem. So last, it shows a project created by the High Commission for Migration (ACM), in Portugal, called Promotion of Immigrant Entrepreneurship (PEI), that reinforce the viewpoint about the crucial contribution that the entrepreneurial educations for immigrants can give to local development.

# Path dependency or profound reconfiguration of a labour intensive industry? The case of clothing industry in Poland

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G31-O2 Location of Economic Activity, August 27, 2021, 2:30 PM - 4:00 PM

The paper will focus on the spatial distribution of firms in the clothing and apparel sector and its changes observed in Poland in the last three decades. Both economic and political transformation taking place in the country after 1989 and general processes of relocation and decline of traditional labour intensive industries in Europe have led to a profound decline in the number of firms and employment in the clothing and textile industry as well as its contribution to GDP. In recent years however new phenomena are also emerging showing that the sector, although smaller in size is still active and has developed some resilient practices in response not only to negative trends but also to new opportunities in the fashion market. Our aim is to both look at the current location and size of this industry from the point of view of its resilience and (potential) continuity of traditional location patterns and clusters (imaginative use of existing industrial knowledges) and the emergence of new opportunities that this sector has been (often successfully) exploiting in recent years (e.g. consumers' patriotism, issues of quality, sustainable fashion trends). Challenges linked with sustainable development of the downsized clothing sector such as the generational gap in terms of practical skills and formal schooling in line with the sector's current needs and its persistent negative image as a declining, outdated industrial branch as well as problems linked with the COVID-19 pandemic will also be discussed as important factors which limit its ability to benefit from new development impulses.

# Location factors and sustainability of independent fashion retail and services in historic city centres. The case of Krakow, Poland

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S54-S2 Historical Centers and Inner Areas: resilient scenarios in the post (post) Covid era, August 27, 2021,  
12:00 PM - 1:30 PM

In recent years many (traditional) clothing retail establishments and services have disappeared from the historic, inner city areas of major Polish cities as their customers switched attention to large shopping centres and big fashion chains while pressure of tourist-oriented retail and new, non-retail functions (e.g. catering) speeded up this process. This does not mean however that establishments linked with fashion have completely disappeared from city centres. As follows, the paper aims to explore the relatively recent phenomenon linked with the survival and (re)emergence of downtown independent fashion establishments focused on the sale and/or production of sustainable, ethical and ecological fashion as an alternative to fast, mass produced clothing and apparel. The historic city centre of Krakow, the second largest Polish city, will serve as an illustration of the issue. Basing our analysis on field work (mapping) and interviews with independent fashion designers and owners of fashion shops, independent fashion brands and other spaces linked with fashion design and production which function in the inner city of Krakow conducted in the first half of 2021, we will inquire into their creative and business motivations, location factors and networks of cooperation such firms are involved in. While doing so we will also consider the impact of the COVID-19 pandemic on the economic sustainability and business and location strategies of independent fashion firms, looking at the pandemic both as a challenge and a threat but also as an opportunity for this type of businesses to function in the historic city centres and contribute not only to their economic sustainability but also to the sense of place and general attractiveness of centrally located historic quarters for residents and visitors.



# Exogenous investments and development of mountain regions: the Aosta valley.

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S55-S1 Exogenous development in rural and remote regions, August 27, 2021, 12:00 PM - 1:30 PM

This paper focuses on the case of Aosta valley, a mountain region in Northern Italy. The main objective of this paper is to investigate and analyse the characteristics, the determinants, and the effects of the external direct investments in the Aosta valley (foreign direct investments and investments from other Italian regions). Ultimately, the paper aims to study the attractiveness for investments of rural and mountain regions, as a key for regional economic development.

The paper is based on a qualitative methodological approach. We carried out a series of case studies on examples of FDIs and investments from other Italian regions in Aosta valley in several sectors (tourism, manufacturing, services, etc.), through semi-structured direct interviews. In addition, we conducted some direct interviews with key informants.

The results show that Aosta valley, while attracting a limited number of external investors, has great potential in terms of attractiveness. Quality of life, environmental assets, social relations, institutional quality, represents positive location factors. However, other factors, like accessibility, human capital, are negative location factors. Moreover, regional ruling class still appear short-sighted with respect to these new opportunities offered by globalization. A concrete improvement can only be achieved with a decisive political turn in favor of investment attraction.

# Attractiveness and competitiveness of highly peripheral regions at the continental scale: the case of Tierra del Fuego and Calabria.

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S55-S2 Exogenous development in rural and remote regions, August 27, 2021, 2:30 PM - 4:00 PM

This paper focuses on two highly peripheral regions at the continental scale: Tierra del Fuego in Argentina, and Calabria in Italy.

The main objective of this paper is to investigate and explain the model of economic development of these highly peripheral regions, their competitiveness and attractiveness (for firms and people) in the global markets. Therefore, we investigated the characteristics and the determinants of their socio-economic development, the competitive and locational advantages and disadvantages, the location factors. We also investigated the role played by the government and by the policies.

Our analysis follows a case study approach, methodologically mixed, based on quantitative data and qualitative investigations. Quantitative data have been collected respectively in Argentina and Italy, due to the unavailability of an international database for statistics at the regional (sub-national) level. Qualitative data come from a set of direct semi-structured interviews with key informants conducted in Argentina and Italy.

Evidence collected suggests that both regions have strengths and weaknesses. However, demographic, and socio-economic characteristics and trends are rather different, with different sign, showing that peripherality does not always represent a decisive constraint on economic development. Even in the case of remote and isolated areas “hidden” competitive and locational advantages can be found in some sectors and exploited (potentially and actually) to boost economic development. Public policies are fundamental for supporting entrepreneurship and firm location, at least in the first development stages.

# Improving the economic returns of decentralization: Government quality and the role of geographical space

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G29-O2 Regional and Urban Policy and Governance, August 27, 2021, 10:15 AM - 11:45 AM

Research on the impact of decentralization has generally overlooked the fact that the economic returns of transferring powers and resources to subnational tiers of government greatly depend on the quality of the devolved government. Scholarly literature has also neglected the idea that these returns may similarly be affected by the level of autonomy of neighbouring areas and their government quality. In this paper we use panel data fixed effects analyses and spatial Durbin econometric models to assess the extent to which the economic returns of overall and fiscal decentralization at a regional level in the European Union (EU) between 2000 and 2015 are mediated by local government quality and that of neighbouring regions. The results suggest that the economic benefits of regional autonomy are greater in regions with a better government quality, while regions with a low quality of government grow less, regardless of their level of decentralization. The gains of decentralization mainly accrue through indirect effects, as regions grow more if surrounded by other, more decentralized regions than through their own level of decentralization. In all cases, local government quality is a powerful driver of growth, irrespective of whether a region is considered individually or in relationship to its neighbours.

# Social Capital Vs. Anonymity? 3Ds Urban Form and Social Capital Development in Indonesian Cities

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G06-O4 Adaptive and Resilient Cities and Regions, August 25, 2021, 10:15 AM - 11:45 AM

The debates on the nexus between urban form and social capital have long been of growing interest and are well documented in the literature. Empirical exploration, however, on these issues, is still limited. This study offers a relatively new point on the link between 3Ds (Density, Diversity, and Design) elements of urban form and social capital in Indonesia. As the first contribution, the present study covers almost all cities in Indonesia. Hence, we can apply a general inference in a broader context, rarely found in the existing literature. As another noteworthy contribution, this study also distinguished three types of amenities: public, retails, and recreational essentials, to disentangle the contribution of each kind of public convenience to social capital development. Furthermore, the present study also provides an additional analysis to observe whether there is a difference in the role of urban form in social capital development for small-medium and large cities.

Employing the linear multilevel regression, interestingly, this study consistently found a contradicting result according to which higher residential density was negatively associated with several social capital indicators. The results further suggested the importance of 'third places' for social capital development. Meanwhile, more retail areas in cities are surprisingly negatively associated with generalized and institutional trust. High connectivity did not necessarily support the development of social capital. Indeed, this study revealed different associations between density and social capital in small-medium, and large cities, with consistent results regarding land use mix and connectivity.

# Excluded. The reproduction of multiple marginalities in the CEE industrial periphery

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G23-O1 Segregation, Social and Spatial Inequalities, August 26, 2021, 2:30 PM - 4:00 PM

Currently, studies on spaces of economic restructuring focused on key agents' strategies and powerful transformative mechanisms driving growth have been scrutinized and amplified by critical research on multiple forms and spaces of inequalities produced by global flows of capital. In this paper, we unpack the interrelated processes of Central East European peripheral re/industrialization put forward by neoliberal (central and local) state policies and the production of socio-spatial marginalities in local spaces. We focus on entangled and conflicting institutional strategies that promoted economic restructuring in old industrial regions favouring the interests of (dominantly global) capital thus, gave way to structural changes that marginalized the unskilled and the poor as labour force (confined to precarious and underpaid segments of the market), as consumers (having no access to basic goods) and also as citizens (limiting their access to public assets/goods).

Our key arguments are:

- (i) The socio-spatially marginalized status of urban poor is produced and maintained by the mechanisms of post-socialist economic recovery and the subsequent waves of semi-peripheral industrialization in CEE.
- (ii) The spatial lock-in position of the poorest is embedded in the institutional strategies of the unfolding welfare state that turn systemic conflicts to local problems, to silence the marginalized, to distance formal (institutionalized) market-driven processes and the world of poor moreover, provide cheap labour reservoir for future growth primarily, for domestic capital (SMEs).
- (iii) Racialization is mobilized by various institutions as a narrative strategy for dividing social groups (workers), disciplining the poor and implementing selective social (e.g. housing) institutional strategies. We relate our analysis to the critical concept of space and the ongoing debates on spatiality of state power to reveal changing and intersecting institutional strategies that supported socio-spatial polarization and the spatial lock-in of poor in an old industrial town recovered from structural crisis in post-transition Hungary. We grasp the spatial logic of CEE semi-peripheral capitalism through institutional practices that fixed marginality in space along with 'outsourcing' state social care functions to an NGO that undermined the social status (rights rooted in citizenship) of urban poor. Our analysis rests on a fieldwork we conducted in a former mining town that has been a scene to industrial recovery since the 1990s, yet also to the reproduction of class, ethnicity, and also place-based marginalities in former mining colonies on the edge of the town.

# Housing cycles of non-metropolitan cities in post-socialist context - the case of Hungary

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G16-O1 Real Estate and Housing Markets Issues, August 25, 2021, 2:30 PM - 4:00 PM

After the collapse of centrally planned economic structure a rapid, but fundamental change began in housing sector of post-socialist countries. This process marked with: i) closing the state-financed large-scale investments (particularly housing estates); ii) emerging the market in housing sector; iii) rapid privatisation (or restitution) of formerly state-owned, local municipalities owned, or cooperative owned flats, and as a result iv) increasing dominance of personal ownership (instead of rental forms) in housing markets. Following the results of East-European researches there are well defined 'turning points' in the development of housing sector, not independently with the changing geopolitical status of the macro-region (e.g. EU-accession process), changes in national level legislation related to housing markets, the increasing embeddedness into global economy (especially global financialisation processes). As a consequence of them, between 1990 and 2020 we identified two cycles in housing markets in national level, with some inner turning points inside.

In our research project "Transforming local housing markets in regional centres in Hungary" (financed by NKFIH, identity No.: K 131534) we make an investigation in local and sublocal levels to identify the common features and unique characteristics of changes in the non-metropolitan, regional centres. In this geographical scale, the available data sources are very rare, so we had to limit our investigation to the 1997/2000-2019 period. What we miss on the one side the transformation period (between 1990-1996) is suffering, but all the other milestones of the transformation of housing market could be analyse: i) the setting up mortgage lending institution after 1997; ii) the first period of state-subsidies in 2000-2003; iii) the overshooting years of forex-based lending in 2004-2008; iv) the long-lasting period of global financial crisis between 2009 and 2013; and v) the recovery of housing markets in the period of 2014-2019. Using a database developed by CSO Hungary, we are able to analyse not just the city-level trends, but identifying the quartier level characteristics, such as activity level, structure of demand, price level inequalities. At the end, we will able to add a sketch about the possible effect of COVID-pandemic on local housing markets in the 2020-2021 years, using the information of interviews with local decision makers, local planners, national and local experts of real estate markets.

# Differences beyond homogeneity - Preferred and underestimated housing estates inside a regional centre

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G16-O3 Real Estate and Housing Markets Issues, August 26, 2021, 12:00 PM - 1:30 PM

Housing estates became important segments of socialist towns and cities between the 1950s and 1980s. The multi-storeyed blocks of buildings built by prefabricated elements were major instruments to fight against lack of flats in urban centres and improving comfortability level of living.

At the first period, just after finishing the blocks, the housing estates became quite popular for workers' families and young couples, but after a decade, the critical voices became louder. The lack of institutions (child care, schools, retail, personal services), the undersized traffic connections towards workplaces, or with the city centre, the bleak public spaces were the major push factors for families. From the 1990s, there was an ageing process in housing estates and a change of local society, as well. Well off families were moved out, towards family houses in the outskirts, newly built detached or semi-detached, or terraced houses inside the cities.

Reacting the negative trends, the national and local governments began large-scaled programs to renew these blocks of flats with improving insulation, change into more effective heating system, changing windows and doors, elevators, upgrading the electricity network, internet accessibility etc., and in parallel, improving the quality of public spaces around the blocks. After 15 years of the so called 'Panel programme' in certain cities appr. the half of the stock of flats in housing estates were renewed.

In our research project "Transforming local housing markets in regional centres in Hungary" (financed by NKFIH, identity No.: K 131534) we make an investigation in local and sublocal levels to identify the common features and unique characteristics of changes in the non-metropolitan, regional centres. Using a database developed by CSO Hungary, we are able to analyse not just the city-level trends, but identifying the quartier level characteristics, such as activity level, structure of demand, price level inequalities.

As a part of our research, we try to investigate the large scaled changes among housing estates in a non-metropolitan regional centre – Szeged. There are 6 large-scaled units were built up between 1963 and 1990, in different parts of the city. In the first ones, the flat structure is mixed (partly used bricks and pre-fabricated elements), the later ones dominated by the products of local 'house-factory'.

We were interested in, are there any differences in prices comparing the different housing estates by age, location, renovation process, quality of public spaces, accessibility, available institutions, services.

# What drives exporting activity in rural and peripheral regions?

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S55-S1 Exogenous development in rural and remote regions, August 27, 2021, 12:00 PM - 1:30 PM

Due to the growing globalisation, regions' economic situation becomes more dependent and affected by external factors, such as trade and FDI. An inquiry into regions' socio-economic performance depicts profound differences in GDP per capita, unemployment, employment rate, entrepreneurship, etc. However, inequalities in regions' participation in foreign trade and in exports characteristics in particular, do not gain proper attention. While the literature on region's exports is becoming more available, little is known about the nexus between FDI and exports in the specific context of the peripheral and rural regions.

The paper aims at identifying factors and paths through which rural and remote regions can boost their export competitiveness, with a particular focus on externally-related factors, including the role of FDI. The empirical evidence on factors affecting export competitiveness in rural and peripheral regions is scarce. The proposed paper focuses on drivers and the persistence of the obtained revealed comparative advantages (RCA) in time. By a detailed analysis of trade flows in statistical and econometric terms, the paper discusses, in particular, the drivers of the quality upgrading processes in exports and the role of internal and external factors (like FDI or investments in human capital) catalysing the positive transitions in exports.

The paper uses a unique dataset of Polish counties' data (LAU 1) on the scale of exports, including its product-level composition (at the 4-digit level of CN) with a distinction for exports originating from domestic and foreign-owned entities (FOEs). The dataset enables verifying the extent to which FOEs activity affects identified RCA in particular types of regions. By comparing the unit values of particular products in exports in rural regions vs the whole economy (or other types of regions), we inspect their competitiveness sources. Apart from statistical analysis of trade flows, we also envisage the results of econometric analysis to be presented in the paper. A series of system GMM equations are employed to obtain robust findings.

The implications stemming from the research are essential for regional policy, especially in terms of equalising peripheral regions' chances to overcome a series of obstacles on their growth path. In this respect, we fit into the broad discussion on how to overcome remoteness in peripheral regions. By showing drivers of the export upgrading process, we direct the regional policy attention to internationalisation, which can be seen as an important driver of competitiveness as it represents a true market validator of economic processes.



# Sectoral and Regional Dimensions of Innovation Support Distribution in Slovakia

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G30-O4 Innovation and Regional Development, August 27, 2021, 10:15 AM - 11:45 AM

Different regions face different challenges to which support policy in the European Union seeks to respond. The aim of EU regional policy is to support development by allocating funds to various areas of development. Promoting Innovation in companies is an important part of this assistance, as innovation is seen as a key driver of economic growth. As this is a huge amount of funding for an important sector of the economy, an assessment of the implementation of this assistance is essential. Evaluation of the support is extremely necessary at the end of the 2014-2020 programming period. The aim of this article will be to evaluate the distribution of innovation support in companies in Slovakia. The created database of supported projects will be analyzed in terms of sectoral view and regional dimension. In the evaluation study, we confront theories of aid distribution with real distribution in Slovakia.

# Determinants and regional economic effects of public spending for social infrastructures

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S32 Regional Disparities in Social Infrastructure, August 25, 2021, 4:15 PM - 5:45 PM

see extended abstract

# Neighbourhood-level variation in the risk of private credit default – a driver of urban residential segregation?

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S50-S2 The geographical dimension of social and income inequality, August 27, 2021, 10:15 AM - 11:45 AM

Credit default is a dramatic consequence of disadvantageous private financial decisions. Using regression methods which eliminate spatial autocorrelation at the level of 1 km<sup>2</sup> grids and further identification problems, we observe considerable and reinforcing residential segregation between households facing payment difficulty and more solvent households. Two findings give reasons for concern. First, data from North Rhine-Westphalia reveals that a high local risk of credit default coincides with a lower share of children taking the highest German secondary school track (Gymnasium). Since birth rates are currently high in these (inner city) areas, the outlook on educational attainment for many pupils is bleak. Second, hedonic price estimations using microdata on housing offers find that local agglomeration of households facing credit default provokes significant (detrimental) neighbourhood effects on housing markets. Segregation is thus unlikely to diminish, which implies increased efforts should be made to overcome unfavourable neighbourhood effects in various fields of policy, especially education.

# COVID-19 and Canadian's Attitudes Toward Immigration During the Pandemic: Shifting Mindsets?

Prof Bruce Newbold<sup>1</sup>

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S34 Human mobility, Migration and Stay-in-Place Patterns and Changes During Pandemic times, August 24, 2021, 2:30 PM - 4:00 PM

See extended abstract

# The Urban Geography of Segregation

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S62-S1 TRSA Special Session: The Economic Geography of Cross-Border Migration, August 26, 2021, 2:30 PM -  
4:00 PM

See extended abstract

# Post-study migration behaviour – differences between native, foreign and international university graduates in Germany

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S22-S1 Drivers and impacts of migration: new insights and (in) pandemic crisis, August 25, 2021, 2:30 PM - 4:00 PM

We investigate differences in mobility behaviour between graduates who completed secondary school in Germany (German, foreign) or abroad (international) and analyse factors that might give rise to disparities in mobility after graduation. Our analysis focuses on the importance of job-relevant networks and work experience for mobility decisions that are linked to labour market entry because these factors are likely correlated with spatial job-search and the migration decision. The results of an event history analysis show that the long-term share of 'stayers' in the study region is relatively low among international graduates. Regression results indicate that differences in the probability to leave the region of study are associated with individual, study-related and regional factors. In particular, pre-study mobility and work experience turn out to be important predictors. The probability to stay in the university region does not significantly differ between German and international graduates, once we account for these factors. In contrast, foreign graduates who attended school in Germany show a higher propensity to leave the region of study for labour market entry than other graduate groups conditional on covariates.

# De-facto vs. de-jure security of property rights: evidence from the cross-country Prindex survey

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G16-O2 Real Estate and Housing Markets Issues, August 25, 2021, 4:15 PM - 5:45 PM

Land and housing are often the most valuable assets possessed by households. Identifiable and enforceable property rights to such assets are the key to efficient market transactions with real estate and to operation of several other interlinked markets. However, there is no consensus on what secure tenure is, how to measure it, or how to achieve it. This paper uses new data from 33 nationally representative samples of adult population collected by Prindex project to compare contribution of formal documentation (de jure tenure) vs. de-facto practice of property rights in forming citizens' perceptions of tenure security.

The results suggest that improvements in preventing evictions, provision of primary education and information about property rights and protection in courts, increase de-facto security overall and make de-jure security more impactful. Programs aimed at improving both de-facto and de-jure security of individuals should target the most responsive groups of people and places: new owners and residents of urban areas, which also is likely to generate spill-over effects to other groups. The paper also demonstrates that effectiveness of formal titles on forming perception of tenure security has significant variation across the countries and forms of tenure.

# Mapping territorial vulnerability to forest fires to orient risk-reduction planning and improve resilience in south-eastern France

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S52-S3 Building territorial and community resilience through disaster risk reduction in marginal areas of rural Europe, August 27, 2021, 12:00 PM - 1:30 PM

Forest fires are one of the major climate-related hazards in Southern Europe. They are likely to increase in the next decades as a result of climate change and global warming, threatening social, economic and environmental assets. South-eastern France is routinely affected by forest fires, with very contrasted occurrence and intensity patterns across space. As a result of territorial heterogeneity, fire-related stakes are both high and diversified, encompassing threats to economic activities, in both urban centres (tourism, industries) and rural areas (agriculture, forestry), as well as to environmental (protected areas) and human assets. Managing forest fires and reducing the risk of damages from this hazard is a major concern for both the coastline area, which comprises large urban centres concentrating most of the population and economic activities, and the hinterland, which comprises agricultural, marginal rural and often mountainous areas. We address the question of territorial resilience to forest fires through the concept of vulnerability. We propose a conceptual framework where territorial vulnerability is defined through three sub-components (exposure, sensitivity, adaptive capacity) and assessed for three categories of exposed assets (infrastructures, populations, ecosystems) based on indicators from the specialised literature and expert advice. These indicators are mapped using spatialised data and GIS software, and aggregated through a participative multi-criteria decisions analysis process involving local stakeholders.

Final vulnerability maps form a useful basis to inform risk management strategies and define priorities for vulnerability reduction efforts at the local scale. Understanding what may be the causes of heterogeneity in territorial vulnerability to forest fires may also help build more resilient communities through better oriented strategies and actions. This kind of analysis, transposable to other hazards, can provide communication support to be used in discussions with stakeholders such as forest managers, local officials and administrations, in order to provide them with arguments in the perspectives of the definition of management schemes.

(See extended abstract)



# From Brownfield to Business: Exploring the regional patterns of firm exits and brownfield land

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G31-O1 Location of Economic Activity, August 27, 2021, 12:00 PM - 1:30 PM

While land as a resource is not scarce in Sweden, with 81% of the Swedish municipalities registering under 100 inhabitants per square kilometer (SCB 2019), land is often not effectively used. Instead of redeveloping sites that were previously used but are presently un- or under-utilized, patches of virgin land are deforested to make place for new developments, contributing to urban sprawl. The purpose of this paper is to determine the extent of the brownfield land problem resulted from large plant closures in Sweden. Which regions suffer from high incidences of brownfield land related to firm exits? In which regions have brownfields been cleaned and redevelopment taken place? Using a unique combination of two databases, a database with firm information and a database with information about all possible contaminated sites in Sweden, we categorize the types of closures according to the level of contamination and the presence or absence of redevelopment at the site. Based on this categorization, we identify municipalities and regions that stand out when it comes to the concentration of large closures with/without contamination and redevelopment, and show that although redevelopment is likely to occur within the first year of the closure, the new firms entering at the site of closure are much smaller than the closing plants, and thus lacking the power to reverse the potential negative effects of the large closures on the regional economy and attractiveness.

# On the Association between Housing Deprivation and Urbanization: Evidence from South Asia

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G29-O3 Regional and Urban Policy and Governance, August 27, 2021, 12:00 PM - 1:30 PM

Housing is a basic human need; however, in the last decades, slums are the face of the urbanization in developing economies. Urban centers drive economic growth. Thus, urbanization plays an important role to provide adequate housing and reducing poverty. In this paper, we report an investigation about the association between housing deprivation characteristics and urbanization at regional level for South Asia countries. To do so, we use data as collected in the micro-household's surveys used for the Health and Sociodemographic surveys (HDS) to build a deprivation index based on material characteristics of households and housing assets. Two indexes are built: one is an aggregated dummy variables indicator, labelled as Slum index, the second option is based on PCA index. To measure urbanization, we use satellite imagery to define urban cores and measure the level of urbanization of the region. Then, we use a two-step procedure to identify the relationship between urbanization and deprivation, in a first step, we regress our material deprivation indexes on households' characteristics and region fixed effects, and in a second step, the estimates fixed effects of the first step is regress on our variable of interest is the urbanization of the region. Our results indicate that there exists a significant negative association between material housing deprivation and urbanization at regional level for the full studied sample of South Asia countries. Moreover, we verify that age, gender, and higher levels of education (of the head of the household) are negatively associated with our deprivation index in South Asia households. Furthermore, a greater number of children in a South Asia household is related to higher levels of deprivation in such household. However, studying every sample of countries independently, we find different patterns of urbanization. For example, in India, a lineal trend is not significant, but a quadratic one is significant. This relationship is verified using IV estimates using lag of population and railways of the British India. The Underidentification, Weak identification and Overidentification test suggest the evidence of an inverted U-shaped for India regions. Similar polynomial function is found in other countries. Consequently, this study confirms the problems of housing in South Asia countries and the clear heterogeneity of the countries.

# Scenarios as collaborative tool empowering the policy making process. The case of Medtech sector in Europe

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G37 New methods in Regional Science, August 27, 2021, 2:30 PM - 4:00 PM

Building on the collaborative approach to a more knowledgeable policy-making, we propose a methodological toolkit and a pragmatic case study of MedTech sector. The scenarios developed with the application of foresight techniques can be dealt with both as a mapping exercise bringing knowledge on the impacts defining the probable future of the sector as well as a process enabling deep learning opportunities to the policy-makers and meaningful STI stakeholders. The paper presents key recommendations and potential solutions for multiregional projects involving various stakeholders of the MedTech sector in Europe.

# Proposal and Evaluation of the Elderly Welfare Taxi Business Utilizing Renewable Energy

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G08-O1 Cooperation and Local / Regional Development, August 24, 2021, 12:00 PM - 1:30 PM

Renewable energy power generation projects are being considered in many regions of Japan, but in many local cities, problems such as the declining birthrate, aging population, and regional economic stagnation are urgent, and it is difficult to prioritize these projects. In addition, although local cities are rich in natural resources such as solar power, wind power, hydropower, and forests, it is not possible to raise funds for the project due to financial difficulties. However, the essential reason why renewable energy power generation projects are slow to progress is thought to be that the methodology for evaluating environmental and economic policies that contribute to sustainable community development has not yet been established. On the other hand, in the year after the Great East Japan Earthquake, 2012, the operation of the feed-in tariff (FIT) for electricity began based on the Act on Special Measures. FIT has a mechanism that "as the amount of renewable energy introduced increases, the burden on the public increases", and it is not always continued in the medium to long term. The purpose of this study is to propose environmental and economic policies that contribute to sustainable community development. Here, assuming the end of FIT, we will draw out administrative support based on the social value of the power generation business using renewable energy. Then, we propose and evaluate the elderly welfare taxi business that utilizes the electricity generated by this business. The elderly welfare taxi proposed in this study is positioned as a policy to encourage return of driver's licenses while ensuring convenience of transportation for the elderly against the problem of car driving accidents by elderly drivers, which has been attracting attention in recent years. By developing such policies that anticipate social value under the renewable energy business, new social value will be added to the renewable energy business. And, the social and economic value of the renewable energy business is the original "reduction of greenhouse gases" and "improvement of welfare for the elderly". Furthermore, if the local community recognizes these values and many local residents participate in renewable energy projects, it is possible that community ties will deepen and new social value will be created. As a result of the evaluation, incentives for the government and the local community were recognized for the renewable energy project, and it was found that the elderly welfare taxi project proposed in this study can be introduced.

# A Multilevel Approach to European Firm Dynamics in European Countries and Regions

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YSS6-G01 Regional and Urban Development, August 26, 2021, 10:15 AM - 11:45 AM

This paper uses data derived from the Eurostat and the OECD databases to analyse firm dynamic interrelationships. An unbalanced panel is assembled which covers the majority of EU regions and covers the time period of 2008 to 2017. This novel dataset assembled contains business demography information pertaining to 178 regions across 24 countries and provides 1,004 observations (after extensive data cleaning). Specifically, this paper analyses the extent to which firm births and deaths influence future firm births and deaths across European NUTS 2 regions through competition, multiplier, and Marshall effects [see Pe'er and Vertinsky (2008); Albiol (2014); Resende et al. (2015) for examples] from a regional perspective. Given recent calls within the literature for greater use of multilevel modelling (Audretsch et al., 2019), this paper adopts a multilevel model mixed effects approach to account for aggregate national factors as well as more decentralised regional factors which may influence firm dynamic activity. The results of the multilevel mixed effects regression indicates that the multiplier effect dominates the competition effect at an aggregate level. Meaning that firm births in one year induce future firm births and that firm deaths induce future firm deaths the following year. However, increased time lag lengths of 2 and 3 years show that the competition effect becomes present. Meaning that firm births induce future firm deaths. Random effects estimates indicate there are significant variations in firm birth and death rates across European regions. As well as advancing the stock of knowledge within firm dynamics research, the findings of this paper are of clear relevance to European Commission (EC) policy makers behind the 'Smart Specialisation' plan which intends to increase growth and employment levels in European regions via investment into the fostering of and support of SMEs.

# Social networks as the basis for agri+touristic value creation in Alpine regions

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S11-S4 Challenges and Opportunities of Rural Regions, August 25, 2021, 2:30 PM - 4:00 PM

In large areas of the Alps, agriculture and tourism have great economic and social importance. Due to their comparatively low value added both sectors face major challenges, which have to be met with new offers and organizational-structural innovation. This requires not only improved framework conditions and economic support. A more comprehensive understanding of “agritourism” is needed that includes on-farm activities and that is also geared towards developing synergy and cooperation potentials between all involved sectors in the regional system of value chains. We refer to this as “agri+tourism”, which is essentially built upon social networks. Those can have different characteristics and structures in different regions and constitute an essential basis for the development and functioning of business relationships within industries and regions.

The aim of this paper is to illustrate the importance of actors’ networks for the development of regional systems of value chains at the interface of agriculture and tourism and the possibilities offered by the method of social network analysis in this regard. For illustrative purposes, we use results from three case study regions in the canton of Grisons, Switzerland.

Social network analysis is a method that is particularly suited to capturing and analyzing connections between individual actors in a network and their interactions from an overall perspective. It enables to measure the strength of a network and to derive recommendations for further development. The results reveal potential in all three regions to further develop business relations between agriculture, the food processing and hotel/restaurant sectors, and thus to strengthen regional value chains.

Against this background, it seems appropriate to use these findings to strengthen regional networks and value-chain systems in other regions as well. However, it must be kept in mind these results cannot be transferred unconditionally and not in every case to a different environment. Rather, cooperation must arise from the respective environment (network).

# Relatedness, complexity and structural change in German regions: identifying regional trajectories based on a social sequence analysis approach

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S18-S2 Smart Specialisation and Policy, August 25, 2021, 2:30 PM - 4:00 PM

Smart specialization is at the heart of European regional innovation policy with the aim to improve the composition of regional economic portfolios. The central critique is the missing fundament of empirical evidence and theoretically grounded methodologies of this policy paradigm. Recent contributions to smart specialization are theoretical foundations and evaluations of policy frameworks which allow to identify regional diversification opportunities into related and more complex economic activities with regard of the current industrial portfolio. Yet, 'temporal' and 'geographical wisdom' on the historical formation of regional economic structure is considered as crucial for a better understanding of the current regional coherence and for the design of sustainable regional development strategies. The aim of the paper is to shed light on the historical co-development of regional relatedness and complexity to provide a better understanding of the formation of current industrial portfolios. In this paper, we analyze the evolution of the economic structure – co-developments of relatedness and complexity - in 401 NUTS-3 regions in Germany from 1993 to 2018 based on aggregated social-security micro data. We apply social sequence analysis methods to uncover different patterns of regional trajectories. We use optimal matching techniques to cluster different sequence patterns and identify five types of regions with different trajectories. We briefly highlight important differences and commonalities between these five types of regions relying on a broad set of regional characteristics. Then, we illustrate these different co-developmental patterns of relatedness and complexity with more in-depth regional case studies. The findings in our paper may help to assess the persistence or fragility of regional path development in the light of the regional industry mix and its complexity. While smart specialization policies support innovation through focusing on the current regional economic portfolio, our results reveal that some regions are characterized by rigid path-dependent processes and others by highly fragile structures. These long-term regional conditions should be taken into account in region-specific innovation and industrial policy, which becomes particularly crucial in the context of recurrent exogenous shocks and vulnerable regional resilience.

# The subnational crowding out effect of mining windfalls: Does the level of local provision of public goods matter?

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G25-O2 Institutions, Political and Decisional Processes, August 27, 2021, 10:15 AM - 11:45 AM

Although the resource curse offers evidence for the national crowding out generated by resource windfalls from mining, subnational crowding is not fully understood. This knowledge gap is problematic because these windfalls should cover the negative externalities that exist in host zones. Additionally, these communities have different fiscal responsibilities due to the mining industry's environmental, economic, and social costs. This article estimates the subnational crowd out of mining windfalls on local tax collection by considering different levels of fiscal responsibility. We employ panel data for 322 Chilean municipalities between 2008 to 2019 using an exogenous rule for assigning mining windfalls in order to attribute causality. Our results confirm the crowding out hypothesis. First, a US\$1.0 increase in mining windfalls results in a US\$0.2 decrease in the property tax collected. Second, subnational crowding out is twice as high in municipalities with a high level of fiscal responsibility; a US\$1.0 increase in windfalls crowds out US\$0.4 in non-resource revenue. Third, considering the influence of nearby neighborhoods and the spatial interdependence, crowding out is four times higher than non-spatial estimations. These results call for local policies that consider the fiscal capacity of a municipality in order to disincentivize undesirable behavior from extra resource revenues.



# COVID-19 in German News Media

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S17 News and Geography, August 25, 2021, 10:15 AM - 11:45 AM

Since its first appearance, the COVID-19 pandemic has massively impacted mankind. Both the disease and the measures taken to stop its spread, changed the established patterns of people's daily lives suddenly and drastically. The large uncertainty the pandemic brought about, increased the demand for timely information and general news consumption. As a critical information source, news media have significantly impacted their audience's risk perception and health beliefs. Yet, the news media are not the same across locations and their reporting varies in space. Similar to the exposure to COVID-19, information on the topic has been diverging as well. However, we know little about the degree of spatial variation that the news media reports on the pandemic at different points in time and across locations. In particular, it is unclear if, and if so, how this variation relates to the course of the pandemic in the respective locations. The present paper seeks to fill this gap by exploring the coverage of COVID-19 in German news media. Empirically, we relate spatial variations in the frequency and sentiments of COVID-19 news to local COVID-19 infections and measures. The study utilizes the RegNeS database, which covers the most important national and regional newspapers in Germany. By using a range of text-mining methods, we investigate how news coverage in regions diverged as the virus began to spread and how this is driven by regional characteristics and the local COVID-19 situation.

# The impact of immigration on employment dynamics: Evidence from Europe

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G03-O3 Demographic Change, Population, Migration and Mobility Behaviour, August 24, 2021, 4:15 PM - 5:45 PM

This paper investigates the regional impact of immigration on native employment in a panel of 16 Western European countries over the 2010-2019 period. By exploiting the richness of the European labor force surveys (EU-LFS), we find that an immigration-induced increase in the labor supply in a given region has detrimental effects on the employment rate of natives in that region. However, we document that the estimated employment response to immigration is always weaker in the longer-run. We also show that fast-growing regions and high-skilled natives do not experience any adverse employment effects in response to immigration. As a result, immigration to Europe over the last decade mainly reduced the employment opportunities of the low-skilled natives living in the least dynamic regions.

# Do migrant networks boost regional trade? Evidence from EU regions

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G01-O6 Regional and Urban Development, August 25, 2021, 2:30 PM - 4:00 PM

This paper assesses the trade-creating impact of migrants on the international imports and exports of the European regions where they are settled. Using a novel database of regional trade flows between 267 European regions for 2013 and 2017, we examine how migrant networks affect imports and exports between European regions and the rest of the world. We use a gravity model to show that migrants boost trade between their country of origin and host region. We include country, region and year fixed effects in the regression and instrument the migrant shares with a shift-share instrument to claim causality. We find that migrants boost both imports and exports between their country of origin and the host region. The magnitude of these effects varies by both sectors of economic activity, the level of economic development of the region, and the sending country's institutional quality.

## Smart Specialization Strategy: any relatedness between theory and practice?

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S18-S1 Smart Specialisation and Policy, August 25, 2021, 12:00 PM - 1:30 PM

The smart specialisation strategy (S3) has been at the core of the 2014-2020 European Cohesion Policy, supporting regions to identify the technologies and economic sectors that might comprise sustainable growth paths. This paper provides the first attempt in the literature to assess empirically, for the whole of Europe, whether the choices made by regions in selecting their S3 sectors are consistent with their current or potential specialisation patterns. Results show that regional strategies have been highly heterogeneous. Only a few regions chose a new S3 path rooted in both their current specialisations and in related activities, most of them prioritised different combinations of un-specialised or unrelated sectors, thus limiting the potential for their S3 policy to trigger successful growth trajectories that leverage existing capabilities. Econometric results indicate that policy-makers decisions on S3 target sectors are robustly associated with the quality of local governments. This suggests the need for well-defined guidelines to drive future regional cohesion programmes.

# Regional variation of the quality entrepreneurship: the role of the entrepreneurial ecosystem

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S30-S1 Linking entrepreneurship and regional policy, August 25, 2021, 4:15 PM - 5:45 PM

This paper investigates the role of the entrepreneurial ecosystem in explaining the regional variation of the quality entrepreneurial activities. It addresses the research question, whether there is a significant relationship between the quality of entrepreneurial activities and the entrepreneurial ecosystem. We created a couple of new indicators to measure various types of entrepreneurial activities at the regional level. Each indicator reflects different quality aspects of the young firms. The preliminary results suggest that the role of the entrepreneurial ecosystem varies in the case of different types of entrepreneurial activities. Results also refer to the increasing significance of the entrepreneurial ecosystem as the quality of certain entrepreneurial activities are higher.

# Emergence of a biotech innovation system in a less favoured region: the case of Pécs city region

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G30-O4 Innovation and Regional Development, August 27, 2021, 10:15 AM - 11:45 AM

This ongoing research addresses the issue of innovation pathway creation in less favoured regions. The EU's Smart Specialization Strategy (S3) aims at strengthening the innovation capacity and competitiveness of regions that are structurally disadvantaged. However, political decisions on local or regional priorities often lack a sound scientific basis provided by economic modelling. In this research, we focus on the Pécs city region in southern Hungary where an S3 strategy is being implemented and biotechnology is a candidate for being selected as a priority topic. In this region, the university has outstanding educational and research activities, but the related industry is still weakly developed. We develop an empirically guided agent-based model (ABM) of new regional knowledge creation and early regional pathway development in the field of biotechnology to explore different policies with scenario simulations.

This ABM describes how the actors of the biotech innovation system individually and jointly create new knowledge. Compared to previous models of knowledge creation in the biotech sector, it focuses on the early stage of innovation pathway development including the university sector, regional characteristics, and region-external knowledge sourcing channels. The agents represent firms and university institutes and have individual characteristics. They are enacted to engage in independent as well as collaborative research activities, hereby changing their knowledge profiles and innovation outputs, and giving rise to innovation pathways at the system-level.

To underpin the model at the agent- and system-level with empirical data, different data sources are tapped. On the one hand, personal interviews were conducted with representatives of 14 biotech related firms in Pécs and its surroundings to gain information for region-specific model features. On the other hand, for initialization, calibration and validation we use patent data from PATSTAT, Framework Programme collaborations data from EUPRO and publication data from the Web of Science.

The next step of this research will be the model implementation in the NetLogo simulation environment. Agent characteristics will be initialized based on the abovementioned empirical data. Through the calibration process, we will set the model parameters in a way that provides the best fit to the observed output data. We will apply the model to analyse S3 policy scenarios by showing how prioritization of different fields of biotechnology would affect the dynamics of knowledge creation.

# Investigation of the Effect of Marmaray Line on Public Transportation Usage and Travel Behaviors in Istanbul

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G17-O2 Transport and Accessibility, August 26, 2021, 12:00 PM - 1:30 PM

The rapid increase in the world population and the tendency to urbanization have triggered the formation of large urban areas. In addition, the advancement of transportation technology has increased the diversity of transportation networks. People living in the cities are constantly on the move due to their needs such as working and having fun. The role of public transport systems is important in meeting the needs arising from this mobility.

The use of the rail system in urban transportation, which is widely used in developed countries, has become widespread in Turkey in recent years. Istanbul public transport system has many types of transportation, a high rate of daily passengers, population and mobility. Bosphorus bridges are insufficient in terms of transportation convenience and require the construction of new passageways. The Marmaray project is an urban rail system line that connects the Anatolian and European sides in Istanbul from the sea and is the longest route in the city with a total length of 76 km. The Marmaray line was built to ensure the passage of Istanbul's traffic and rail system, and to increase the passenger transit capacity between the two continents. Thus, with the opening of the new rail system line, there have been changes in the passengers' choice of public transportation.

The aim of this study is to determine the changes that occur in the share of other public transportation vehicles (ferry, bus, metrobus, metro) in daily trips after the Istanbul Marmaray line was put into use. Data obtained from four different institutions on urban transportation were used in the study. These data cover monthly travel data of public transportation vehicles (Marmaray, ferry, bus, metrobus, metro) between 2010 and 2020. Monthly travel data were analysed statistically and as a result of the study, significant changes in travel behaviour and use of other types of public transportation were determined with the opening of the Marmaray line. Finally, the spatial relationships between the lines with significant changes in the travel rate and the Marmaray line were analysed and policy recommendations were developed.

## “With no siblings, but with home”: single patent-class inventions (SPIs) and regional technological diversification in Europe.

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S18-S2 Smart Specialisation and Policy, August 25, 2021, 2:30 PM - 4:00 PM

This paper aims to investigate the extent to which the incidence of single patent-class inventions (SPIs) on the regions' knowledge base can affect their technological diversification. Drawing on the literature on technological relatedness, we argue that SPIs contribute to make regional knowledge bases more “siloeed” and reduce the opportunities of knowledge recombination on which technological diversification depends. We also maintain that SPIs contribute to attenuate the role of relatedness in regional technological diversification, as siloeed knowledge bases entail less dense local knowledge networks, with lower cognitive constraints for the entry of new technologies. Our empirical application, undertaken with respect to EU-28 NUTS2 regions over the 2008-2015 period, introduces different measures of regional SPIs and show that, as expected, they both negatively correlate with the regional propensity to technologically diversify and negatively moderate the effect of relatedness on the same capacity. Important implications are drawn with respect to the implementation of regional specialization strategies of research and innovation.



# Moving (within and across) labour market areas in times of pandemics:evidence on the spread of Covid19 using Facebook mobility data

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S34 Human mobility, Migration and Stay-in-Place Patterns and Changes During Pandemic times, August 24, 2021, 2:30 PM - 4:00 PM

We investigate the interplay between the local spread of COVID-19 and the patterns of individual mobility in Italy. Conceptually, we connect the debate on the regional development with the literature on spatial labour markets in the context of the perturbation caused by COVID-19. By looking at very granular flows of Facebook users moving within and across Italian labour market areas (LMAs), we analyse whether their heterogeneous internal mobility has had a significant impact on excess mortality, thus testing whether, and under which circumstances, LMAs have actually behaved as self-containing local systems or have rather exported/imported people (and possibly) infections to/from other labour markets. We further extend the analysis by exploring how individual mobility plays different roles depending on the typology of LMAs considered. Specifically, we focus on LMAs hosting industrial districts, which are characterised by a thicker local labour market and denser business and social interactions, as well as LMAs with a high presence of “essential sectors”, i.e. activities not affected by the COVID-19 containment measures taken by the Italian government at the onset of the crisis.

# Exploring the evolution of tax burden and income inequality between urban and rural regions in Greece

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S50-S1 The geographical dimension of social and income inequality, August 26, 2021, 4:15 PM - 5:45 PM

Inequalities in wealth and income are important for public policy. Existing studies suggest that the tax-benefit system is a key policy instrument that can be used for reducing income inequality. In this context, the geography of tax burden provides essential information about areas that need to be considered for social policy. At the same time, traditional differences between urban and rural areas in terms of socio-economic structure are a key element that needs to be considered when designing both tax and social policies, as the household income structure may vary significantly between these types of areas. Our analysis focuses on this perspective and explores the evolution of household income and tax burden synthesis between urban and rural regions in Greece for the period 2004-20015. To do so, we use available household income data from the EU-SILC database covering this period. We first decompose gross household income into three main determinants: income, benefits and allowances. We investigate the evolution of each one of these components during the period under investigation, considering any potential pre- and post-crisis pattern changes between rural and urban regions. Second, we calculate the corresponding household tax burden for urban and rural areas and calculate the contribution of each percentile. Finally, we are able to estimate the cyclicality of tax burden in relation to the equivalised household income for the pre- and post-crisis period.

# Cultural participation in Cultural and Creative Cities between positive regional spillovers and potential concentration effects

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G01-O3 Regional and Urban Development, August 24, 2021, 4:15 PM - 5:45 PM

Following the hype that has been given to culture as trigger and enhancer of local economic performance in the last 20 years, the cultural character of cities is considered as a strategic strength and opportunity that can favor the economic system of the entire regions in which the cities are located. According to this perspective, this work aims at assessing the impact of urban cultural spillovers on the development of their regions. In more details, the role of cultural participation and attractiveness in affecting regional output is explored. Exploiting a regional production function and data from the Cultural and Creative Cities Monitor (CCCM) provided by the JRC, the effect of cities' cultural participation on their region economy is econometrically investigated. Potential concentration effects in cities particularly well-endowed with cultural venues are also considered. The policy implications are thoroughly discussed: on the one hand cultural participation and attractiveness are in fact a strategic resource for sustainable development, on the other some concentration issues should be addressed.

# Attitudes Towards Refugees in Greece. A comparative analysis of nation-wide and locally contacted surveys in medium-small size Greek cities.

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G29-O2 Regional and Urban Policy and Governance, August 27, 2021, 10:15 AM - 11:45 AM

Over the past decade, Greece has received a significant number of migrants, refugees and Asylum Seekers, mainly from Syria, Afghanistan and Iraq, as a result of ongoing political instability and war in the region. Despite the fact that most of them want to settle mainly in countries of Northern and Western Europe, specific policies and actions of different countries and the European Union as a whole have resulted in a very significant number of people remaining “trapped” in Greece. Dealing with this situation was and still remains particularly problematic, given the prolonged economic crisis and the significant lack of available resources to meet basic living needs (housing, food, health coverage, education, job opportunities, etc.). The issue is further complicated by the fact that a significant part of the indigenous population is facing similar challenges due to the crisis.

Even though the influx of migrants or refugees in Greece is not new, the overall context makes policy particularly challenging, especially with regard to the spatial distribution of refugees throughout the country, as they often provoke reactions and involve great political costs, given that different localities exhibit different attitudes and views. These attitudes seem to be of great importance towards the success or failure of different policies and a number of recent nation-wide surveys sought to investigate the attitudes of Greek people towards migrants and refugees, with a view to identifying ways to strengthen resilience against the threats to democracy and inclusive societies. Even though, these studies advance our understanding about how the Greeks perceive all those issues, they also present serious limitations regarding the specificities of different localities. In this framework, the current work seeks to provide a comparative analysis between the nation-wide results of such surveys and one which was locally conducted in three medium and small size cities (Trikala, Larisa and Volos), in order to highlight points of convergence and points of divergence.

# Innovation in weak regions: A study of the Regional Innovation System of the Region of Kentriki Makedonia

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G30-O2 Innovation and Regional Development, August 26, 2021, 2:30 PM - 4:00 PM

During the last few decades innovation has evolved as the main factor accounting for growth and development across all spatial scales. Economists, regional scientists and geographers are even using innovation as a direct measure of development, while policy-makers around the world are struggling to come up with measures that will enhance the capacity for innovation of nations, firms and regions. More recently, innovation scholars have dissociated themselves from older conceptualizations of the notion that were linear and prescriptive, and embraced more nuanced understandings of innovation following a more complex and systemic notion. This turn has given rise to a multitude of concepts aimed at explaining the determinants, mechanisms and implications of innovation, among which the study of Systems of Innovation is prominent.

The main aim of the article is to combine two very interesting strands of literature; one that is quite mature and a rather more recent one. On the one hand, Regional Innovation Systems (RIS) is a literature that has developed rapidly over the last two decades around the idea that innovation is a systemic process that benefits from concentration and geographic proximity. One of the main features of the RIS concept is its evolutionary nature, according to which the current innovative performance of a region follows a path shaped by the social, economic and institutional history of the region. In this vein, the analysis of more developed and institutionally (organizationally and socially) "thicker" regions -traditionally regarded as successful cases- was favored in this bibliography. This leads us to the second strand which deals with the lack of attention towards the less successful regions. Although the more recent attention on the "places that don't matter" tends to focus on the geography of discontent in the least-developed regions, our viewpoint is on the regions labelled as "thin".

From this standpoint, we analyze the main elements of the RIS of Kentriki Makedonia, the second most populous Greek region. While our approach is based on two particular actors of the system (the region's largest university and the various knowledge-diffusion actors), we emphasize the role of evolutionary paths (and potential "lock-ins") and institutional legacies. Furthermore, we critically engage on what constitutes a "thin" region in consideration of future directions.

# The response of a Territorial Cooperation Programme to COVID-19. Operational and Strategic Challenges with emphasis on Sustainable Tourism

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S05-S1 Sustainable Regional Tourism Strategies in Pandemic Contexts, August 24, 2021, 12:00 PM - 1:30 PM

Policymaking acquires particular interest when society is faced with external shocks and unpredictable events. A great challenge in such cases rests on the adaptability of policies to the new conditions. This became evident with the COVID-19 pandemic as policies were adjusted towards the confrontation of the pandemic at various spatial scales. With the aim of examining the responsiveness in the COVID-19 pandemic, the present paper focuses on the INTERREG-MED 2014-2020, a territorial cooperation programme focusing on the Mediterranean region. The programme is implemented under a strategic framework covering seven years and the pandemic hit the programme at its final year of implementation. Considering the wide coverage of the programme, both in terms of thematic objectives, but also in spatial terms, it is interesting to examine how the programme adapted to this new reality. The analysis has a dual-orientation. Firstly, it reviews the response of the programme in incorporating the COVID-19 dimension for setting programme priorities in the succeeding operational period. Secondly, it examines the actions and procedures followed by the programme in order to deal with the disruptions of COVID-19 on on-going projects.

To do so, the analysis focuses on one of the Thematic Objectives of the programme, Sustainable Tourism, and elaborates on how the Sustainable Tourism Community (STC) of projects is adjusting to the new reality of COVID-19. Given that the STC has started its activities before the break of the pandemic, it is now changing its perspective on tourism implications and challenges while, at the same time, it is working towards adapting to the new conditions under COVID-19 impacts. Therefore, it has become imperative to link tourism with risk and crisis management strategies in order to build a more resilient tourism model for the future of the Mediterranean. The adjustments and the elaboration of COVID-19 implications for setting new future priorities by the STC are recorded through a set of questions answered by project representatives. The analysis is complemented by the elaboration of official programme documents addressing the COVID-19 dimension. The paper ends up with valuable implications for management and target setting under external shocks with a particular emphasis on the tourism domain.

# Improving coexistence with large carnivores in Romania: understanding the damages and their trend to refine management measures

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G35 Rural and farming areas issues, August 26, 2021, 12:00 PM - 1:30 PM

Human dominated landscapes are increasing worldwide, bringing humans and large carnivores closer to each other. Romania hosts the largest population of brown bear as well as one of the largest populations of gray wolf in Europe (outside Russia), as a result of different management strategies used in the last two decades.

We analysed the number and types of compensated damages that were caused by the brown bear and gray wolf in Romania within the 2015-2019 period of time.

The paper is highlighting that despite the high number of brown bears and gray wolves in Romania, the number of damages is still relatively low, especially compared to other countries, e.g. 1.3 times lower than in Norway where there are 50 times less bears and 33 times less wolves than in Romania. The lower number of damages in Romania can most probably be explained by the active presence of shepherds guarding their livestock as part of a long tradition.

The bear is causing much more damages compared to the wolf (86.27% vs. 13.73%). The damages are not necessarily directly correlated with the official reported densities, especially in the case of wolves.

Bears caused more damage to cattle (29.72%) followed by sheep (24.54%), while wolves depredated more sheep (87.09%).

The implementation of prevention measures is not promoted and implemented by the Romanian government. No public funds are allocated for such measures. Electric fences and specialised guardian dogs have been used to prevent conflicts with large carnivores since 2005 through various conservation projects implemented by various environmental NGOs. More resources have to be invested with priority in the areas with high densities of large carnivore individuals for preventing conflicts and increasing the coexistence with these species.

# Cross-Border Labour Mobility in Europe: Migration Versus Commuting

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S62-S1 TRSA Special Session: The Economic Geography of Cross-Border Migration, August 26, 2021, 2:30 PM - 4:00 PM

The high and persistent unemployment rates in most European countries, the growing economic imbalances and the widening social inequalities in the European Union (EU) have cast doubt on the EU's capacity to reach its goals of promoting stable economic growth as well as economic, social and territorial cohesion and solidarity. By operating as an adjustment and balancing mechanism, increased cross-border labour mobility can represent a viable approach to achieve inclusive growth within the EU, as emphasized by the Europe 2020 strategy.

Cross-border mobility is one of the pillars of the European integration and it is profoundly linked to the four fundamental freedoms set out in the Treaty of Rome: the free movement of people, capital, goods and services (Barslund and Busse 2016).

Even though still low compared to inter-state mobility in the US, crossborder mobility in Europe is growing and developing into new shapes and forms.

The benefits of cross-border labour mobility in all its forms have been proven to be numerous.

Nevertheless, large barriers

to cross-border mobility in EU still exist, particularly in terms of lack of information on rights and opportunities, language differences, legal and administrative obstacles, recognition of professional qualifications, etc. Reducing these barriers is then a key priority for the EU in order to enhance the integration process. However, this comes with a non-trivial list of challenges and risks.



# Text mining assisted analysis of the Arctic traditional food systems

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S37 Resilient Arctic: regions, cities, and people, August 26, 2021, 12:00 PM - 1:30 PM

The main focus of this paper is to study characteristics of Arctic traditional food systems literature as well as explore the areas that lack sufficient research, suggest future research avenues, as well as, present the current research findings that could aid practitioners, researchers, and vendors when embarking research projects on Arctic studies. The UN Declaration on the Rights of Indigenous Peoples (IPs) recognizes “the right to the lands, territories, and resources which [IPs] have traditionally owned, occupied or otherwise used or acquired”. Within this context, food sovereignty and the sustainability of indigenous traditional food systems are emergent issues within the sustainable development agenda as recognized by the UN Permanent Forum of Indigenous Peoples’ Issues. Indigenous peoples including Indigenous Peoples of the Arctic are particularly vulnerable to climate change and other environmental impacts. The degree of vulnerability to these factors depends upon their adaptation capacity and resilience. Understanding the complex relationships among climate change, socio-economic development and traditional food systems is crucial for informing adaptive strategies in line with international agendas such as the Paris Agreement and the 2030 Sustainable Development Goals.

The large number of articles being published annually makes it difficult for researchers to track new trends and progress in science and makes it difficult to conduct a literature review. In this paper we focus on the Arctic traditional food systems. If you make a search for the keyword «Arctic» using the Web of Science search engine, then make a selection among the results found by the keywords «traditional» OR «indigenous», then reduce the results using the keywords «food» OR «nutrition» OR «diet», then 535 records will remain. Of course, the number of articles will decrease when we remove duplicates and irrelevant articles, but still the number of articles that need to be read and analyzed is significant. Text mining programs can be a possible solution to this problem. In this paper, we will perform text mining in an attempt to facilitate the review of scientific literature published in relation to traditional Arctic food systems. In this article, we will focus on three main topics: Food security in the Arctic, Arctic (traditional) food systems, Arctic diet. For each topic, we will conduct a bibliometric analysis of the literature, focusing on a few key articles that will provide us with an understanding of the current state of traditional food systems in the Arctic.

# Accessibility, Environmental, and Socioeconomic Impacts of Zone-based Shared, Electric, Autonomous Vehicles (SAEVs): A case study of Vienna

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G17-O1 Transport and Accessibility, August 25, 2021, 4:15 PM - 5:45 PM

Shared, autonomous electric vehicles (SAEVs) are expected to enter the market in the coming decades. Using MATSim, we simulate a use case where a fleet of SAEVs becomes part of the transport system of Vienna (Austria). More specifically, SAEVs are introduced in multiple suburban zones at the outskirts of Vienna, which are characterized by relatively low population density but have access to at least one rail-based public transport stop. For all combinations of high and low SAEV fleet size and high and low fares, we find that the switch from cars to SAEVs remains low. Instead, SAEVs tend to be used for trips which in the baseline (without SAEVs) are conducted using active modes (walking, cycling). This switching behavior is undesirable from an environmental as well as public health perspective. We therefore also conduct a policy experiment where 50% of car users lose access to their car, and are hence being forced to choose a more environmentally friendly mode. We observe that the resulting emission reductions of approximately 20% come at the expense of significantly longer daily travel times that go up by almost an hour, with the increase varying substantially across population groups. A key policy implication of these outcomes is that without accompanying measures that dis-incentivize car usage and ownership, the analyzed SAEV use case is unlikely to convince a large number car users to switch to SAEVs.

# Communicating Regional Policy: A comparative case of Slovenia and Ireland

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G25-O3 Institutions, Political and Decisional Processes, August 27, 2021, 12:00 PM - 1:30 PM

What is the role of communication in meeting the objectives of regional policy? How does communication affect the realisation of regional policy objective and values? We analyse these two questions on the example of Cohesion policy - the regional development policy of the European Union.

Since the 2007-2013 programming period, an increasing number of communication requirements have been included in the regularity framework of Cohesion policy with the objective to increase the visibility of the policy among European citizens and boost the support of the EU. Increase communication can be understood also as engagement to connect institutions with people and strengthen the democratic delivery of regional policy. Yet, we know relatively little about how stakeholders in national, regional and local authorities approach communication compared to programme implementation.

Based on 29 interviews in two case studies (Ireland and Slovenia), we analyse the importance of communication through policy stakeholders' lenses. The paper presents a content analysis of the interviews outlining the approaches that managing authorities take to EU's communicate regional programmes. We explore the drivers and barriers to communication proposed in the literature on strategic communication, public sector and government communication. We also analyse the extent communication is a strategic priority: To what degree stakeholders conceive communication as a mean to an end (instrumental take on communication) or as a process to actively engage in debating and implementing the communication strategy, thus helping to attain policy objectives?

# New theory of Arctic and Northern development: multiscale interdisciplinary synthesis

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G01-O3 Regional and Urban Development, August 24, 2021, 4:15 PM - 5:45 PM

This abstract is based on the results of our work from two projects of the Russian Foundation of the Basic Research: New theory of Arctic and Northern development: multiscale interdisciplinary synthesis (18-05-00600), Urban Arctic resilience in the context of climate change and socio-economic transformations (18-05-60088).

Features of development of the Arctic cities are considered, the main types of the cities in the Russian and foreign Arctic are characterized. The main findings of the substantive study of the new "growth poles" of the Russian Arctic - natural resource development projects: 1) In the Russian Arctic, we can clearly distinguish a) new projects that are deployed on the infrastructure of the previous development; b) projects that are deployed from scratch. 2) a-group of projects is traditionally focused on the "southern, land" export of extracted raw materials through pipeline, rail and road schemes; b-group reflects a revolutionary change in logistics due to the orientation towards marine transport along the Arctic seas and the Northern Sea Route, using new unloading points, special ice-class vessels, new ports and port terminals. 3) Resource companies of Russia act as generators of the main spatial effects from new development projects. These are the effects of localized pairing on a compact production site-platform, an economic "island"; these are the regional effects of the connection of individual localized "islands" into a single network of labor, telecommunications and infrastructure links in the territory of one or more municipalities; these are the effects of inter-corporate cooperation in the joint development of "mixed" deposits. 4) Despite the general extraterritoriality of all Russian resource companies working in the Arctic, the degree of their social embeddedness significantly differ and is estimated by a) corporate social responsibility; b) participation in the local / municipal political system; c) a combination of shift and stationary forms in the new economic development. 5) The Arctic as a whole has a more corporate economy than the rest of the North. Therefore, the role of large resource corporations in its economic development is increased. 6) A cross-cutting feature of all the main elements of the 2.0 development process, which is deployed in the Russian Arctic from 2000-s years is the increasing impact of innovative technologies, which entail new "platform" forms of work organization, a revolutionary new logistics solutions, the implementation of remote control and management, etc.

# The impact of the coronavirus pandemic on the development trajectories of countries and regions

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S37 Resilient Arctic: regions, cities, and people, August 26, 2021, 12:00 PM - 1:30 PM

Globally, the coronavirus has changed the position of states in the system of international economic relations. The most vulnerable were the advanced capitalist, small privileged countries. A number of countries that were previously considered outsiders have gained unexpected competitive advantages - for example, due to their less involvement in global trade. Trends towards a low-carbon transition in the global economy have accelerated.

At the supranational level of economic blocs and unions of states, tendencies towards temporary isolationism and isolation of individual countries, the development of the phenomenon of "remote proximity", when the resulting gaps in the previous cooperation of neighboring countries began to fill by China began to appear. Depending on the specific integration system, the coronavirus either changed the trajectories of development (for example, MERCOSUR), or, conversely, accelerated the previously indicated trends towards disintegration (the European Union).

At the country level, in large federations of the world (Germany, Brazil, the USA, the Russian Federation were considered), the pandemic simultaneously intensified the centralization of political power; and was accompanied, for example, in Russia, by granting new rights and power to regions, cities, municipalities in pursuing their own policies in the field of regulation of personal communication and mobility of citizens. Regional and local levels are closest directly to society, specific social groups. It is at this level that the role of the coronavirus was most clearly manifested as a factor that changed the general direction of the development of the system. In large Russian urban agglomerations, this manifested itself, for example, in the spatial decentralization of consumption, rethinking the role of dachas, and strengthening the processes of disurbanization.

And Russian Arctic because of its young demographic systems had suffered less in Coronavirus' deaths in comparison with the rest regions in Russia. The only victim at the very beginning of Coronavirus pandemia was shift (fly-in fly-out, FIFO) settlements which had dozens of sick employees.

A change in the trajectory of development was most often observed in highly hierarchical systems. Individual states were least of all inclined to a rapid change in the trajectory of development; their stability turned out to be greater than that of supranational and global systems. Local social systems, for example, resettlement, turned out to be the most variable in the context of a pandemic.

# Modeling inter-regional patient mobility: Does distance go far enough?

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S32 Regional Disparities in Social Infrastructure, August 25, 2021, 4:15 PM - 5:45 PM

This paper estimates a theory-guided gravity equation of regional patient flows. In our model, a patient's choice to consult a physician in a particular region depends on a measure of spatial accessibility that accounts for the exact locations of both patients and physicians. Introducing this concept in a spatial economics model, we derive an augmented gravity-type equation and show that our measure of accessibility performs better in explaining patient flows than bilateral distance. We conduct a rich set of counterfactual simulations, illustrating that the effects of physicians' market exits on patient mobility crucially depend on their exact locations.

# What prospects for tourism in remote islands? The case of Saint Helena

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S42-S1 Sustainable development of the Islands between tradition and innovation, August 24, 2021, 2:30 PM - 4:00 PM

The theme of insularity has evolved: whereas previously the literature focused on negative aspects, faults or shortcomings, islands, especially small and remote ones, are now revalued as unique, authentic, unspoilt places. Limits and potentials are given by remoteness, which is not only measured in geographical terms but is also given by the connections of people, goods, capital and information. The purpose of this article was to try to answer the following questions: can careful tourism planning reduce negative impacts? How much will a small and remote island change once tourism is developed? The chosen case study is St Helena, a remote island located in the South Atlantic Ocean and belonging to the British Overseas Territories (area 122 km<sup>2</sup>; population about 4500). Until March 2017, the main limitation for tourism development was the remoteness of the island, which can only be reached by the RMS St Helena, one of the few transoceanic ships in the world; but the island was preparing for a big change because, in 2016, the construction of the commercial airport was completed. This airport was built by the British government with the long-term goal of reducing subsidies and making the island self-sufficient. Precisely because of the increase in the number of arrivals, St Helena is improving its tourism offer, other services and complementary infrastructure. The planning of tourism development is crucial: the aim is niche tourism interested in heritage, the environment and slow mobility. Thanks to a questionnaire, it was possible to ascertain the islanders' feelings about the new links, and they are aware of the risks and possibilities. In conclusion, I believe that the negative impacts of tourism can be limited through careful planning, but it is undeniable that there will be changes, as the literature also points out. What specifically they will be is an unanswered question for now. Being able to observe and research in the field has given a deeper meaning to this work because living for three months on a remote island allows you to understand the extraordinary and unique nature of these places: St Helena represents a different reality, difficult to describe in words. It was a unique experience of discovery but also of personal growth: it was possible to appreciate the slowness, tranquillity, the simple and genuine lifestyle of the saints.

# Towards an interpretation of labour productivity growth: patterns of regional competitiveness in European regions

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S09-S4 Relaunch of Productivity for Regional Growth and Cohesion: Productivity, competitiveness and resilience, August 26, 2021, 4:15 PM - 5:45 PM

The increase of labour productivity induced by technological progress is typically interpreted as the main determinant of regional competitiveness. In the last decades, however, the empirical verification of this mechanism provided contradictory results. We claim that labour productivity growth is just one of the sources on which regional competitiveness relies, being increasingly dependent on output quality improvements and that the combination of the different indicators is useful to produce different patterns of regional competitiveness. We offer a methodology for their measurement and an application to European regions. Our analysis shows that, even if structural differences persist, several regions in Eastern countries moved towards competitiveness strategies analogous to those of Western Europe.



# The role of knowledge enhancement for protecting the Alpine Cultural Heritage: insights on emergency management in the CHEERS project

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S52-S4 Building territorial and community resilience through disaster risk reduction in marginal areas of rural Europe, August 27, 2021, 2:30 PM - 4:00 PM

The specificities of the Alps according to their geographical localization, geomorphology and characteristics of the environment gave birth to the alpine cultural heritage. Because of the same physical conditions and dynamics, the cultural resources are often undermined by a wide range of risks and natural hazards, such as floods, earthquakes, fires and avalanches. The protection of such endowments of resources produces positive externalities and it becomes more and more important to identify and implement tools able to increase and ameliorate knowledge coupling the field of natural hazards with the one of cultural heritage in a stable and more effective way.

The CHEERS project, funded by the European Commission, aims at contributing to these goals by proposing a series of useful activities to prepare for emergencies involving cultural heritage, through the enhancement itself of knowledge and the development of assessment tools for supporting decision-making processes to be used during the preparation of salvaging activities and during the operational interventions, so to reduce the damage caused by disasters.

One of the central activities in the project has been focused on knowledge building and the development of tools for the dissemination of a concept of "know-how for the rescue of Alpine cultural heritage", the enhancement of the awareness about the need for a stronger and more stable knowledge about the cultural heritage and natural hazards in the areas involved in the project activities, and the offer of assessment tools to be used in "peace time" as a support for the salvaging activities involving cultural heritage sites, buildings and assets during the emergencies. Different tools have been developed in order to make the approach mentioned above become operational, starting with the methodology ATTACH - EvAluaTion Tool for Alpine Cultural Heritage. ATTACH has been conceived as a support to decision-making, meant to provide a list of priorities for the interventions: where to go first, what to salvage first, according to the assessment of the local cultural heritage values and the "matching of value assessments" developed by a variety of experts and stakeholders. The availability of such a list would therefore address cultural heritage salvaging operations and support on-the-field decision makers so to minimize heritage and values losses during emergencies. At the same time, the activity itself becomes an occasion for enhancing the knowledge itself of the local cultural values embodied in the art pieces, buildings and sites and the awareness about their fragility and vulnerability.

# Territorial dimensions of energy transition and new spatial inequalities in peripheral regions: the case of Sardinia, Italy

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S29-S1 Territorial dimensions of green and digital transitions, August 24, 2021, 12:00 PM - 1:30 PM

see extended abstract

# Do return initiatives promote interregional return migration? - Evidence from Germany

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S11-S1 Challenges and Opportunities of Rural Regions, August 24, 2021, 4:15 PM - 5:45 PM

This paper investigates whether the establishment of return initiatives increased the likelihood of interregional return migration of workers within Germany. For our analysis we merge unique panel data on return initiatives with information taken from the Integrated Employment Biographies (IEB) of the Institute for Employment Research (IAB) and combine discrete time survival data analysis and diff-in-diff estimation. On average, we do not find a significant effect of the establishment of a return initiative on the likelihood that the considered workers return to the local labor markets, which they have left after vocational training. However, further analyses suggest that at least some workers move back more frequently after a return initiative has been established than before.

# Cultural and Creative Industries as a Key to Interpret Social Transformations

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G24-O2 Creative Industries and Regional Development, August 27, 2021, 2:30 PM - 4:00 PM

Who are the actors in the cultural and creative field today? Who is involved in the development of communities living in inner areas? These two questions can provide an interesting overview of modalities adopted as resilient ways to face the process of depopulation and loss of attractiveness that peripheral and rural areas have been suffering in the aftermath of the crisis started in 2008. Today, one can observe a countertrend where artists and cultural workers do move towards peripheral areas -leaving metropolis and big art areas - in order to find new consciousness raisers to their creative experience.

This paper aims to investigate the differences between mainstream and underground CCIs as a dual model juxtaposing cities and peripheral areas. Starting from the qualitative data the DISCE (Developing Inclusive and Sustainable Creative Economies) project gathered with interviews with key informants in L'Aquila and its surroundings, the authors will combine them with the assumptions of the German biologist Andreas Weber about the world of feeling meant as an ecosystem made of meanings and expressions lying in the relationship between man and his territory. According to Weber, the interior of living beings automatically and continuously expresses itself outwardly. It is by this understanding that he brings feeling into the center of scientific investigation, and not only this but also in terms of how we should conceive our world in general, including our understanding of economics. A truly successful economic model is one in which people should feel more enlivened through the exchanges in which they participate.

The paper will provide a new framework to examine the role of the CCIs to favor inclusive and sustainable growth and economic-socio-cultural (SEC) development emphasizing their role in fostering local development in small-medium towns and peripheral areas.

# Multinational Companies and Urban Quality of Life

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G01-O4 Regional and Urban Development, August 25, 2021, 10:15 AM - 11:45 AM

This paper investigates the relationship between the presence of Multinational companies (MNCs) and urban quality of life (QoL). MNCs, as global actors, have several implications on people's lives. The evidence from the seminal literature suggests that the presence of MNCs benefits the local economy, thus enhancing people's QoL and well-being (e.g., Balasubramanyam et al., 1996; de Mello 1999; Sirgy et al., 2004; Potrafke, 2015). Cross-country analyses find a positive but weak effect of globalization on QoL and/or subjective well-being (SWB) (e.g., Tsai, 2007; Bjørnskov et al., 2008). Based on case studies in developing countries, other contributions find a positive impact on job satisfaction or quality of work-life of multinational workers (e.g., Anand and Arora, 2009; Bretones and Gonzales, 2011). Although some of this research hints towards a positive impact of MNCs, there is no solid theoretical background and consistent empirical literature investigating MNCs and QoL (MNCs and SWB) relationship. Moreover, the literature does not consider the geographical perspective that allowed understanding the within-country effect of the phenomena. Studying the relationship between MNCs and QoL employing the urban and regional dimensions allows us to understand the complexity of the phenomena, which might diverge significantly in magnitude and sign across cities and regions. Moreover, focusing on the urban dimension is important because of cities' centrality compared to the rest of the territory. We propose a new conceptual framework in which MNCs impact urban and regional QoL through four domains: economic, social, environmental, and institutional. Preliminary findings suggest that there is an ambiguous relationship between MNCs and urban QoL. Specifically, the effect of the MNCs appears to be heterogeneous across regions. The study focuses on the urban QoL and MNCs data of 79 cities from the European Union for the years 2012, 2015, 2019. The data come from the Eurostat database and Orbis-Bureau Van Dijk database. We will employ the panel data models (fixed effects and random effects) and the first-difference model. Moreover, we will use a Generalized method of moments (GMM) and instrumental variable (IV) estimation to control further endogeneity and robustness check.

# Institutionalisation of regional innovation dynamics in peripheral territories: learning from smart specialisation in Portugal

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S06-S2 Smart specialization for peripheral areas? From failure to solutions, August 25, 2021, 12:00 PM - 1:30 PM

Smart specialisation strategies (S3) were developed since 2012 in the majority of European regions and served as a crucial ex-ante criterion to access European Structural and Investment Funds (ESIF) in the period 2014-2020. In many territories, the implementation of a S3 was an instigator of change. For the first time or in a higher degree, through collective efforts, specially focusing the entrepreneurial discovery and a participatory governance of regional innovation, a variety of actors from different institutional domains were deeply involved in regional innovation processes. This was evident in the case of Portugal where S3 was used as an opportunity to strengthen regional innovation dynamics, with the participation of a wider group of actors. In fact, from several studies and evaluations concerning the Portuguese S3 implementation (Quartenaire, 2019; Laranja et al, 2020) this is one of the main positive aspects retained. S3 implementation can be seen in this way as a type of strategic research material (Merton, 1987) that exhibits with clarity the gradual institutionalisation of regional innovation dynamics and participatory governance. This communication uses a series of interviews, results from a focus group and ESIF data to debate the incremental institutional change stimulated by this policy tool. The study pays attention to the case of Portugal, a peripheral member-state in the EU context, often considered a country concentrated around two main metropolitan areas (Lisbon and Porto). In this way, this communication highlights the S3 implementation in the regions of the Algarve and Centro. Being both considered peripheral in the national context they represent very different profiles concerning innovation performance, economic fabric specialisation, and regional innovation system composition. These contrasts help to understand that the peripheral character of a region is far from being a homogeneous category. Smart specialisation strategies can be helpful and used in a variety of territories, despite their characteristics and existent vulnerabilities.

# Spatial justice on the horizon? A combined Theory of Change Scenario tool to assess place-based interventions

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G23-O2 Segregation, Social and Spatial Inequalities, August 27, 2021, 10:15 AM - 11:45 AM

The EU covers a large diversity of places, and place-based interventions addressing spatial justice therein. However, we lack a systematic approach to assess the internal and external coherence of such interventions, and their responsiveness to increasingly uncertain local, national, and international conditions. This paper presents a methodology designed for this purpose. The methodology merges elements of policy evaluation approaches, namely Theory of Change (ToC) and mechanism mapping, with scenario planning approaches. It was designed based on analysis of 33 interventions (including public policies and bottom-up initiatives) selected in the EU H2020 RELOCAL project to highlight the ways in which spatial injustices have been tackled across the EU. As a first methodological step, the underpinning logic of the intervention (i.e. the causal path(s) from its constituent action(s) to the long-term goal), its baseline assumptions, and its contextual conditions are illustrated in a so-called ToC mechanism map. As a second step, plausible scenarios for the locality are developed based on potential states of global and local macro-trends. This reveals how the contextual conditions are expected to change, and whether the intervention's baseline assumptions are likely to hold, allowing elaboration of spatial justice trajectories, and for the ToC mechanism map to be updated in the final step. Application of our methodology to the 33 RELOCAL case studies showed that, for achieving a sustainability impact through place-based policy, spatial justice objectives need to be decoupled from economic growth and efficiency, particularly in the context of population decline, and that integration into larger-scale programmes and planning for succession are key to achieve sustainable outcomes. By applying our methodology, policymakers could compare a broad range of interventions and improve future policy design.

# Regional Ports of International Reach in Greece: Potentials, Prospects and Planning Challenges

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G17-O1 Transport and Accessibility, August 25, 2021, 4:15 PM - 5:45 PM

In a highly globalized environment, port cities constitute a crucial parameter in transportation planning for local and regional development. In the context of climate change adaptation and smart development, where issues related to maritime spatial planning and integrated coastal zone management remain unclear, there is a broad concern regarding the developmental role of ports in the combined transportation system in respect to resilience and sustainability. In the era of blue growth, indubitably ports are “hubs” of transportation networks with an important contribution in international economy. Hence, in countries with important shipping history and activity, port city planning should be prioritized and included in their strategic development. Greece is such a case; due to its intense coastal / insular character and the diversity of its ports, as well as its geostrategic importance (part of the trans-European network and southeastern gateway to Europe). Nowadays, the focus of discussion at the national level is on regional ports of international reach operated in small / medium-sized cities of Greek mainland territory. It is noteworthy that, although the national port policy defines these ports as gateways and encourages their privatization, the host cities cannot always be able to support this goal, mainly due to lack of accessibility (airport, railway) and infrastructures. Within this framework, the question is: whether, and to what extents, Greek regional ports of international reach could support their global role and, at the same time, act as catalysts for local development. It is estimated that the answer could be sought by setting up a methodology based on the acceptance that ports should be approached in a framework which is shaped by their twofold role, i.e. port cities constitute parts of both transportation and urban network. The article argues that if we want to have a comprehensive understanding of port cities’ dynamics, a comparative approach is needed in order to better identify potentials, priorities and prospects. In this rationale, a typological classification for Greek regional port cities of international reach was conducted based on geographic, spatial and socioeconomic criteria. Special attention was given at regional ports’ specificities (size, range, functions, management); cities’ characteristics (location, population, accessibility, infrastructures of international reach and administrative role) in order to define differentiations among the investigated port cities. The research aims at contributing to the dialogue, in a difficult juncture for Greece, by underlining the need for an integrated national port policy. Towards this direction proposals are formulated.



# The Effects of Labor and Product Market Reforms on Regional Productivity: Implications for Cohesion Policies

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G01-O3 Regional and Urban Development, August 24, 2021, 4:15 PM - 5:45 PM

The aim of this paper is to assess the impact of national labor and product market reforms on productivity at the regional level and to explore how these effects vary with regional and macroeconomic conditions as well as cohesion policy.

Sluggish economic growth in several advanced economies has stimulated an increasing debate on the potential role of structural reforms. The hope is that such reforms could boost potential output over the medium term while also strengthening aggregate demand in the short term by raising consumer and business confidence (Duval and Furceri, 2018). Depending on the type of reform, the goal is usually to lift productivity, increase employment and/or strengthen resilience to macroeconomic shocks.

Although the topic has received increasing attention in the literature, especially after the Great Recession, the majority of the existing studies has focused the attention on the country-level effects of such reforms, without any investigation of the potential heterogeneous effects that they can generate at a sub-national level.

Using a new “narrative” database (Duval and Furceri, 2018) of national major reform shocks in a wide range of product and labor market areas we explore this hypothesis for several advanced economies over the past three decades. In detail, we estimate the dynamic response of regional productivity through Impulse Response Functions (IRFs) based on local projections of the effect of the shocks (Jordà, 2005). For each future period  $k$ , the change in regional outcomes through time is regressed against our measure of national labor and product market reforms, an autoregressive component to capture persistence, and a set of control variables.

In the second part of the paper, we investigate how structural reforms and Cohesion Policies interact, in order to disentangle their effects on regional productivity (as well as on its component, i.e., real output and employment). Indeed, Cohesion Policies work differently depending on the different local economic and social contexts (Crescenzi and Giua, 2017). The hypothesis is that structural reforms may magnify (or crowd out) the effects of cohesion policy.

Results provide support for an important role played by (national) labor and product market reforms at the regional level and they suggest asymmetric effects across regions depending on their economic conditions and on the interplay with Cohesion Policies.

# Energy transition in Sardinia; opportunities of a landscape-based transformation

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G22-O3 Energy and Ecological Transition, August 27, 2021, 2:30 PM - 4:00 PM

The need to transit towards alternative energy sources represents one of the challenges proper of the contemporary age that Europe is required to face with increasing urgency.

Transitioning towards alternative energy sources implies multiple transformation: modifying the way in which energy is produced also means to modify and to rethink the places where its production takes place and consequently, to eradicate the common perception based on the idea of an energy which fulfills the needs of our time apparently without leaving any trace of its passage.

The contribution will address this topic starting from the analysis of a case study and then moving into a reflection on the primary role that landscape actually plays on energy transition, by representing the main resource for it to be accomplished.

In fact, the need to transform these places of energy production can become the opportunity to give new attention to the theme of landscape and therefore become an occasion to enhance and revitalize complex territories.

The case study of this work, the Sardinian context, both for its position and for its physical, morphological and climatic features, has great potentials that could, in theory, turn it into a renewable-only producing and sharing energy spot. In practice, however, this is not yet possible due to technologies and aged infrastructures that are still not fully compatible with the intentions stated above.

In addition to environmental, economic and political advantages that would be entailed by the advancement of energy transition, the contribution at hand wants to place strong emphasis on the landscape-related opportunity that would result from a new way of designing and rethinking energy and its places of production. These places, whose boundaries are set at local and national level by in-force laws and regulations, in some cases correspond to complex areas, sometimes even damaged or altered by industrial past or on-going activities.

In all these cases, however, the urgency to transform them into future landscapes of energy, becomes an opportunity for architects and designers to reinvent and redesign these territories with a renewed and specific approach, capable of turning energy transition into a tool both for dealing with environmental and political emergencies as well as a chance for landscapes to express new values and forms and to improve the quality of these territories.

# Rising networks. Urban social movements for reconstruction and disaster risk reduction

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S52-S4 Building territorial and community resilience through disaster risk reduction in marginal areas of rural Europe, August 27, 2021, 2:30 PM - 4:00 PM

## Objective

The earthquake of central Italy in 2016 caused destruction and at the same time expectations of reconstruction that led communities to consolidate active forms of "rising citizenship" claiming their right to the city.

Not a simple right of access to urban resources, but the right to rebuild villages according to the social ties desired and to the relationship with the natural environment, the lifestyle and the aesthetic values that are pursued. It is a collective right more than individual, because rebuilding the city inevitably depends on the exercise of a common power on the processes of urbanization. Committees and associations of active citizens, born in the immediate post-earthquake, have developed community networks between real and virtual spaces as a new effective tool of protection and design related to the territories of the crater. Starting from these reflections, the research aims to analyze about 70 committees and associations of the four regions of the seismic crater (Marche, Abruzzo, Lazio, Umbria) that promote reconstruction and strengthening of local communities.

The purpose is to understand how these networks are triggered and fed, to know the value of digital media and participatory dynamics, to explore the relationship between urban space, quality of life and social phenomena such as community activism in the definition of a new model of urban environmental socialization for reconstruction and disaster risk reduction.

## Methodology

Websurvey on March 2021, aimed at analyzing about 70 committees and associations.

In particular, the study investigates the perception by these new forms of urban social movements with regard to some architectural, urban, socio-economic, cultural, psychological, communication dimensions, to identify: the main predictors of civic participation in the territories of reconstruction; relations of this civic activism with the institutions; the role of digital media both as an instrument of "proximal expansion" of urban communities, and as builders of double-development networks, digital and social.

## Results

A complex network of values and relationships has allowed the empowerment of local communities, where membership is based on geographical data but also on emotional or supportive proximity: not only the inhabitants (residents or owners) of the countries of the crater but also external skills and professionalism. This social network system, focused on the connection between identity, history and landscape, is able to create new awareness to prevent the problems related to the reconstruction processes, the risks associated with climate change and natural disasters.

# Italian Historic city in the post-Covid era. Towards a new centrality

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S54-S1 Historical Centers and Inner Areas: resilient scenarios in the post (post) Covid era, August 27, 2021,  
10:15 AM - 11:45 AM

The contemporary settlement dynamics and the intensive methods of exploiting territorial resources have progressively determined the loss of relationship between historic centers and urban-territorial context, that together with changes in use, obsolescence of mobility systems, urban voids resulting from changes in production models, as well as current pandemic condition from Covid-19, determine the emergence of profound territorial imbalances. This condition is also associated with the phenomena of marginalization that increasingly affect even the parts of the oldest plant, for which, as evidenced by the most recent research, the situation has profoundly changed compared to the years in which effective urban planning reforms preserving them in an emblematic way on the international scene.

The current process of metropolization tends to the homologation and trivialization of the cultural and identity landscapes that characterize the contemporary city and territories, dispersing a common heritage of values especially in those historic centers characterized by marginality, which experience phenomena of abandonment by the original population, increase in the average age, fragmentation of economies and de-signification of places, in which, however, there is a cultural heritage that is the result of identifying characteristics deeply stratified on the palimpsest.

The historic territories and, in particular, the centers that characterize them, in fact, are today increasingly threatened by new and old issues, in a generalized but often divergent way (tourism/depopulation, abusiveness/musealization, gentrification/abandonment), which take on specific characteristics according to the physical and socio-economic contexts of reference (metropolis, inner areas, etc.) and which therefore require new, effective and more current knowledge, planning and financing skills, also with a view to a context of reference in continuous evolution, as shown by the current condition of global health emergency. In this context, it is necessary to give a priority position to the historic city within urban regeneration strategies, reinterpreting cultural heritage as a common good, integrating conservation and innovation, socio-economic revitalization and socio-cultural enhancement, through strengthening the public city to restore urban quality and achieve new forms of well-being and social inclusion.

The contribution addresses a reflection on the instruments aimed at contrasting the processes of social, economic and spatial marginalization taking place in these contexts, supporting the reflection with the illustration of the national experience of the case of Città Vecchia of Taranto, reread in the face of the current pandemic situation, which finds convergence in the experimentation of integrated approaches and multilevel and multi-actor methods of design and implementation.

# The Governance of Urban Commons - Research and Practice

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S19-S2 Commons as enablers of territorial transition- evidences, assessment and theoretical perspectives,  
August 25, 2021, 2:30 PM - 4:00 PM

Cities are today laboratories for diverse forms of collective action driven by citizens: community gardens, co-housing, etc. Self-organised and gathered under the term of commons, they participate to the dynamics of cities. They reflect the aspiration towards a more localized, inclusive and sustainable development.

The aim of the paper is to present a model of governing urban commons. The model offers theoretical background based on both urban economics and Elinor Ostrom design principles of self-governing institutions of commoners. The model is composed on three interrelated elements: (1) relationships between commons and urban markets and public authorities; (2) relationships between commons and other types of goods in the city such as: public goods, club goods and private goods; (3) internal mechanism of commoning connecting shared urban resources and urban communities. All three levels of analysis are essential to understand the dynamics of governing the commons in the city.

The model is based on empirical studies where various research methods were used. International survey, field experiments and case studies of different types of urban commons in local context help to answer the questions: How do urban commons contribute to social innovations, citizens empowerment and territorial development? What are design principles of long-term self-organized institutions in cities? How local government can support and encourage commons initiatives?

The paper presents results of research project titled The Economics of Urban Commons (No. 2015/19/B/HS4/01695) financed by Polish National Scientific Centre. Head of the project: Dr Adam Polko.

# Economic resilience of Russian regions: indicator-based estimation

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G06-O4 Adaptive and Resilient Cities and Regions, August 25, 2021, 10:15 AM - 11:45 AM

Resilience is one of the most discussed topics nowadays.

However, there are only few papers about regional economic resilience in Russia (Klimanov, 2016, 2020).

For a country with great spatial contrasts and fragile economic systems of some regions this topic is crucial.

The aim of the research is to predict reactions to the shocks and to make recommendations how to improve resilience.

The calculations are conducted according to R. Martin's methodology (Martin, 2012). The resistance to and the recovery from each crisis is estimated. Then they are regressed by potential resilience factors: economic structure, location, agglomeration effects, social characteristics.

Data from Federal State Statistics Service of Russia is used (the book "Regions of Russia").

# The impact of tourism arrivals on growth performance in Italian provinces

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G01-O4 Regional and Urban Development, August 25, 2021, 10:15 AM - 11:45 AM

The tourism industry contributes significantly to Italian value added, accounting for almost one tenth of its gross domestic product (GDP). In this paper, we investigate the impact of tourism on GDP growth across 103 Italian Provinces (NUTS 3) comparing three different time periods: the post-crisis-, the crisis- and the pre-crisis-period.

We use a panel dataset where the dependent variable is the annual average rate of per capita GDP growth, computed over several three-year periods: 2016-2013, 2013-2010, 2010-2007, 2007-2004 and 2004-2001. We prefer this procedure to the use of year-on-year growth rates in order to reduce the influence of short-term business cycle fluctuations.

Following Marrocu and Paci (2013), we augment the standard growth model (with per capita GDP and stock of physical capital at the initial periods as explanatory variables) with the number of foreign and domestic overnight stays at destination and a set of territorial controls (human, technological, social and environmental capital; population density; industrial structure and export propensity; crime etc.). We introduce the tourism variable in this aggregate production function model as a proxy for the tourist attractiveness of each province.

Then we extend the basic specification by adding multiplicative dummies in order to appreciate the effects of some dependent variables in the crisis-period.

As a further original element, we employ the more disaggregated unit of analysis for which data on GDP growth are available for Italy, the Province. This allows us to better disentangle the effects of tourism, usually unfolding at the provincial level rather than at the regional one. However, our methodology controls for spatial correlation by introducing spatially lagged regressors. Moreover, we take into account the most recent spatial econometrics developments (Vega and Elhorst, 2013) for the specification of the spatial matrix  $W$ .

We tackle endogeneity problems as well, by including temporally lagged explanatory variables. We test the robustness of our results by performing several checks.

We expect to find a positive relationship between tourism and GDP growth in all periods and an even higher effect of foreign tourism in the crisis-period.

# What makes cities happy? Factors contributing to life satisfaction in European cities

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G13-O3 Methods in Regional Science or Urban Analysis, August 25, 2021, 4:15 PM - 5:45 PM

Despite the growing body of research in the field of perceived quality of urban life (QOUL), few empirical studies explicitly investigate the role of place and space on quality of life in a multi-country context. Furthermore, the relative importance of how various aspects of urban living contribute to QOUL remains mostly unknown. The research presented in this paper builds on the existing stream of work on perceived quality of urban life (QOUL). First, we study the determinants of satisfaction with city life from a European perspective, by using a sample of 83 cities in the EU, the EFTA countries and the UK. Data come from the fifth survey on quality of life in European cities. Second, we offer novel insights to shape evidence-based urban policies. More specifically, we examine the relative importance of socio-cultural amenities and inclusiveness of the cities on life satisfaction. In addition, we assess to what extent cities are aligned to results based on modelling assumptions. In other words, we compare satisfaction with life in cities according to our predicted (fitted) values and perceived satisfaction ('real') values in cities, as measured by the survey and discuss the possible reasons of under-/over-performance compared to the estimated model. Our results can help shaping more effective urban policies.



# Territory security and enhancement of the small historic centers. An experiment in three municipalities of Basilicata

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S54-S2 Historical Centers and Inner Areas: resilient scenarios in the post (post) Covid era, August 27, 2021,  
12:00 PM - 1:30 PM

In the season of the recovery of our country after the pandemic, cities will necessarily transform and credible conditions will be put in place for a gradual rebalancing of the relationship between more urbanized areas and inland areas.

The focus of this research is the recovery of urban heritage in the smaller centers of inland areas, according to a logic of priority driven by the ability of a settlement to withstand calamitous events. Increasing the resilience of the territory by mitigating natural risks is part of the effort to ensure that communities do not completely leave these areas of the country, which constitute a huge reservoir of cultural and natural heritage.

To test the integration of Condizione Limite dell'emergenza (CLE) and Struttura Urbana Minima (SUM) in concrete cases, were carried out elaborations on three settlements in Potenza Province, which have different characteristics, chosen in such a way as to represent an extended picture of settlement situations. The method proposed goes beyond the identification of the strategic elements necessary for the seismic emergency phase found in the CLE. In fact, the proposal is to make an evaluation of the CLE also from the point of view of urban compatibility, which is to make a summary judgment on the consistency of the emergency system with respect to the characteristics of the settlement and its possible contribution in the recovery capacity following a seismic event.

The evaluation of the CLE requires a preliminary cognitive phase focused on the configuration of the settlement (analysis of urban planning) and the identification of strategic components of SUM, useful to ensure the maintenance and recovery of ordinary urban, economic-social and relationship activities.

The positive outcome of the evaluation also implies a strong consideration of historical fabrics, in which the community recognizes itself; however, they constitute a fragile component within the CLE element system so much so that they are classified as critical elements interfering with emergency roads. It is precisely these places, therefore, that have priority in the recovery of the urban heritage because they are fragile places but representative of the historical-cultural-social values of a community and therefore fundamental for recovery; moreover, they can represent the ideal containers for the various strategies of reception and tourist accommodation to raise again the smaller centers. (See extended abstract).

# Sustainable tourism as an appropriate tool for the development of inner peripheral areas

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G05-O4 Mountain, Rural and Marginal Issues, August 25, 2021, 10:15 AM - 11:45 AM

The paper is going to explore the topic of sustainable tourism, with the aim of assessing if, according to the current literature and research trend, it can be considered a good tool for the development of inner peripheral areas.

The starting point is the great number of projects implemented in the past years and months (especially considering the implications of the Covid 19 pandemic), as well as the main theories and approaches on inner areas development, where cultural and natural resources and their touristic fruition have been presented by local administrators and researchers as the main solutions for the economic development problems of peripheral, inner and rural areas, sometimes without a real connection with the actual resources and characteristics of these territories.

The goal of this work is to define and explore the current research trends and main approaches, as well as the future challenges, regarding the relation between peripheral/marginalised inner areas and sustainable tourism, seen as a development occasion.

The paper, to define a complete picture of the situation, will consider literature and research work in the field of:

- Peripheral Inner areas,
- Sustainable tourism,
- Cultural and natural heritage led development in peripheral areas;
- Development policies evaluation.

The first two parts of the paper will be concentrated in clarifying the objects of this research work, whose definitions are sometimes fuzzy: Inner peripheral areas and sustainable tourism.

The third part will merge the two topics, researching the main trends, in the field of sustainable tourism in inner peripheral areas.

The fourth and last part will review the literature on the evaluation of policies connected to these topics, as well as defining the main scale of reference, gaps and further needed steps in the field.

The hypothesis is that current literature is concentrated on tourism as a solution for the development of peripheral areas, without proper consideration of the actual drivers, impacts, alternative solutions and follow up.

Sustainable tourism could be a good tool for the development of peripheral areas, but it cannot be taken for granted.

# Regional airports: runways to regional economic growth?

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YSS5-G01 Regional and Urban Development, August 26, 2021, 10:15 AM - 11:45 AM

Liberalizations in the European air transport market during the nineteen-nineties paved the way for the emergence of Low Cost Carriers (LCCs) and have triggered the creation and expansion of regional airports. While some airports have been successful in attracting traffic, most airports remain rather small and, due to the business model of LCCs, networks are in many cases unstable. Low and often fluctuating traffic have resulted in around half of all regional airports operating at loss, while relying on public treasuries for their upkeep as local governments try to boost international connectivity to stimulate regional development. Most evidence regarding the link between air accessibility and regional economic growth is derived from larger hub airports within metropolitan areas or from aggregate analyses ignoring airport heterogeneity. Yet, evidence from regional airports is ambiguous with some case studies indicating that economic benefits in some cases are far from anticipated.

In response, this paper sets out to assess the link between air accessibility and regional economic development from heterogeneous airport types across European regions using strongly balanced panel of 274 European NUTS-2 regions spanning the years 2000-2018. Air accessibility is using a gravity-based potential accessibility measure on the number and sizes of airports within a region's catchment. Subsequently, long-run relationships between air accessibility and regional economic output (GDP) are assessed for airports in general as well as specifically for large and regional airports through various estimators for heterogeneous co-integrated panels. These estimators allow for spatially heterogeneous long-run relationships between air accessibility and economic output. Causality directions are evaluated through Granger causality analyses. Finally, an attempt is made to explain which type of regions are likely to benefit most from regional airport accessibility.

Long-run relationships between air accessibility and GDP are strongest for large airports and much weaker for regional airports, while correcting for scale. Furthermore, causality mainly runs from GDP to air accessibility, especially in the case of regional airports. Models predicting the direction of causality between air accessibility and GDP suggest that dense regions with lagging GDP levels especially benefit from air accessibility. Regional airports are found to be more likely to contribute in regions in which they have a high contribution to overall air accessibility. This calls for a place-based approach regarding the justification of state aid to regional airports, as the benefits in terms of accessibility and economic growth of regional airports seem to be highly dependent on the geographical context.

# Perceived accessibility in Dutch rural areas

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S11-S1 Challenges and Opportunities of Rural Regions, August 24, 2021, 4:15 PM - 5:45 PM

In rural areas, scattered development and low densities are associated with growing distances to services and facilities as well as to economic and social opportunities. This entails a greater need for mobility, which may be difficult to meet particularly for individuals with limited mobility resources. Therefore, rural areas are increasingly seen as regions of concern in terms of accessibility. However, self-reported perceptions of accessibility often do not match accessibility indicators using land-use and transport system data. This means that conclusions drawn from accessibility measures and/or resulting mobility patterns may not reflect how accessibility is actually experienced, which may flaw the examination of transport-related issues such as exclusionary processes. Accordingly, for a better understanding of accessibility issues in rural areas, it is vital to understand how accessibility is actually perceived. In response, this paper aims to establish what factors contribute to individual evaluations of accessibility. Specifically, this paper looks at the interactions between features of the built environment related to accessibility and individual characteristics and preferences.

This study uses data from a self-administered survey distributed across Dutch rural areas with a sample size of 2,227. The questionnaire covered the following main topics: activity and mobility patterns, accessibility preferences and satisfaction, and individual characteristics. Looking at the main descriptive outcomes of the survey, accessibility is generally very positively evaluated. Regression models indicated that measures of accessibility based on data of the built-environment show very low correspondence to perceived accessibility and turn insignificant once individual variables are included. This means that accessibility to spatially dispersed activities may not just be a feature associated with a location but rather an individual trait. Especially the interaction between preferences regarding the environment and the actual environment is important, as this may reflect processes of self-selection and/or the adjustment of preferences over time to match the environment. About 14-20% of the sample could be identified as having higher accessibility preferences than the environment offers. However, only for half of this group, this dissonance leads to lower evaluations of accessibility. The results of this paper indicate that spatial policy to improve accessibility should not be based solely on spatial accessibility measures. Rather it should be focused on maximizing how accessibility is perceived. Insights in the mechanisms shaping perceived accessibility provided in this paper will assist in uncovering for whom accessibility is actually insufficient and, therefore, in designing responsive policies.

# External relations of unitary states sub-national regions under the framework of Integration Units (on the EU example) - (note: Paper eligible for Epainos Award)

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YSS4-G02 Macroregional, Transregional, Regional and Urban Policy and Governance, August 26, 2021, 10:15 AM - 11:45 AM

At the end of the XX century, the perception of subnational regions as a level of analysis and management was added by the understanding of them as actors in political processes. These entities are seen now as independent actors seeking to assert their right to act even at the international arena (I.Duhachek, M.Keating, D.de Rougemont, etc). While for the regions of federal states active involvement in political processes is logical and lays in a framework of administrative and legal practice of the country, the same situation for unitary ones is unusual and sometimes provocative. However, nowadays subnational regions make an important part of the multilevel world. A distinctive feature of the modern period is active involvement of unitary subnational regions in the political activities. This process is most clearly manifested in the EU under the conditions of the subsidiarity principle and multi-level governance.

The research aims to explore the external relations of EU unitary subnational regions under the framework of European integration. Firstly, the main reasons that boost the external relations of EU unitary subnational regions are revealed. Also the connection between these reasons is marked. Secondly, the main forms of implementation of such external relations are analyzed: both bilateral and multilateral, symmetric and asymmetric. That part of research is based on different EU unitary subnational regions case study. Thirdly, the benefits for subnational and supranational levels from the implementation of such external relations are shown, as well as the existing threats.

Finally, the mentioned external relations are necessary for all EU levels to achieve their goals and have a great capacity to support European integration. At the same time, the goals may not coincide, which leads to a conflict between the actors and reduces the actions effectiveness or leads to unpredictable results. However the modern European political architecture can't be imagine without unitary subnational regions involvement in the political process.

see extended abstract

# Social-Ecological Transformation through Participation in South Tyrol

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G05-O3 Mountain, Rural and Marginal Issues, August 24, 2021, 4:15 PM - 5:45 PM

The Covid19 crisis stimulated many debates, conferences, initiatives and programs aiming at finding trajectories out of the multiple crisis of climate heating, species extinction, mass migration, weakening democracies, social disruption etc – not pathways back to business-as-usual, but to “build back better” or even to gain momentum for a great social-ecological transformation.

In South Tyrol, Italy, engaged citizens with diverse backgrounds in research, activism and transformative economies joined in developing the platform “Zukunftspakt für Südtirol – Patto per il Futuro dell’Alto Adige”. In their manifesto they claim the urgent need for a transformation towards a more sustainable, resilient and solidary future. According to the platform, this transformation should be undertaken in an effective and long-term participatory process stating that a profound transformation can and should only be done considering the ideas and needs of the many.

The four authors of this paper are members of this citizen initiative and bring diverse disciplinary scientific backgrounds, namely climate physics, participatory processes, political education and eco-social design. We intend to use these multiple perspectives to discuss the venture of the Zukunftspakt through the lenses of complementary positions in the debate on societal transformation. We want to understand potentials and critical issues of the Zukunftspakt and of a societal and ecological transformation in South Tyrol in general. Among these lenses are:

1. The idea to regard the initiative as a part of a Social Movement, and to use the perspective Bill Moyer put forward in “Doing Democracy”.
2. The critical perspective on the "Socio-Ecological Transformation" of Ulrich Brand and others, as well as their constructive proposals for the same.
3. The means of the transition theory of the multi-level perspective developed by Frank W. Geels and Johan Schot, and expanded to include the concepts of power and politics by Flor Avelino.

This critical inquiry of an ongoing transformation initiative aims at better understanding respective strengths, limitations, challenges, and risks, thereby helping to improve the design of the process, to plan and implement steps forward as well as to better see possible long-term perspectives and greater contexts. Also, we hope to contribute to the academic discussion of transformation by monitoring and providing a relevant case of concrete transformation in an alpine region.

# Investigating the Non-Employer to Employer Transition in UK Small Businesses: A Regional and Gendered Inquiry

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G18-O1 Regional and Urban Labour Markets and Entrepreneurship, August 26, 2021, 12:00 PM - 1:30 PM

Self-employment in the UK has risen rapidly over the last 30 years, driven primarily by an increase in solo self-employment, with disproportionately high numbers of women forming non-employing start-ups (EUROSTAT, 2021). Non-employing businesses include sole traders, partnerships and limited companies without employees, and over 40% are located in the owner(s) home (BEIS, 2020). One of the major puzzles surrounding these smallest of enterprises is why so few – around 1 in 4 - create jobs for others (Criscuolo et al., 2017; Kraaji et al 2016). This is particularly concerning from a gendered perspective, as female business owners experience double disadvantage – they are both more likely to enter the market as non-employers and are less likely to go on to hire employees later in the business cycle (Henley et al., 2019; Fairlie & Miranda, 2017).

Little is known about the role of business location – both in terms of location in the home and wider regional disparities - in the transition from a non-employing to employing small business, nor whether location contributes to the gender-gap (Reuschke & Houston, 2017; Henley, 2019). Indeed, gendered variations in entrepreneurial outcomes are infrequently considered from a spatial perspective, despite evidence that women are more inclined to work at home, have different firm locations from men (Rosenthal & Strange, 2012) and may experience gender specific barriers to growth within particular regions (Kalnin & Williams, 2015; 2021; Murzacheva et al., 2020).

Therefore, this study will explore the regional and sub-regional drivers of the gender-gap in initial job creation in non-employing firms, taking into account how these may differ for small businesses based at home versus in commercial premises. Using the UK Longitudinal Small Business Survey (UKLSBS) 2015-2019, linked with micro-data from the Business Structure Database (BSD), the empirical quantitative analysis draws on a sample of 3366 businesses, capturing wave-on-wave transitions from non-employer to employer status.

Taking on their first employee is the biggest growth decision a small business will make, doubling their firm in size and paving the way for future job creation (Coad et al., 2017). Understanding how and why some non-employing enterprises are able or unable to become employers is imperative for supporting regional job creation in the small business sector, and closing the growth gap between men and women-owned micro-businesses. This research will help to inform geographically targeted policies to support women's enterprise, particularly identifying if different approaches are needed for home-based businesses.

# The Impact of Dissonant Heritage on Local Development

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G15 Cultural Heritage and Regional Development, August 25, 2021, 2:30 PM - 4:00 PM

Cultural heritage, as a material and nonmaterial civilizational legacy stands for ancestral value that defines the culture and history of each region, country or even the continent. Distinguishing a national's cultural or historical legacy as heritage is discretionary and may also be interpreted in various ways. There is in existence an undisputed worldwide heritage which is naturally regarded as worth noting and protecting, and also the heritage which is a value to a specific group of people, is less popular or evokes ambiguous emotional associations, that in consequence is completely incomprehensible and alien to other recipients of this good. In the case of heritage with an undisputed position and character, these monuments constitute a significant value for humanity, regardless of their culture, place of residence or professed religion. As a result they are most often awarded as a UNESCO World Heritage List monuments.

Local monuments that testify to the history or culture of a particular region or country, shape the local and as well national identity, building a sense of social bonds. Another group of heritage is dissonant heritage, characterized by an ambiguous emotional and associative perspective. This term is commonly used in relation to e.g. the shameful history of the nation, the totalitarian past and the regime of power, and even aesthetics. That particular category of cultural heritage will be analyzed in the context of the impact on local development of objects that may be classified as a dissonant heritage. One of the most important conditions for the development of cities are local (endogenous) factors. Currently, a common trend is to build the image of the city based on the internal (local) tradition and natural, social and cultural identity. That approach guarantees effective activities aimed at promotion and development of a region or a city. Cultural heritage have a special role in this process, because on the one hand it is reflected in its current development, and on the other hand, it reflect on social awareness, culture and traditions related to specific human activity. The inspiration for this paper is an attempt to answer the question whether and how objects with an ambiguously understood history affect for the processes of local development.



# Creative Industries South Tyrol as transversal power of innovation: how can Creative Hubs serve as multiplier in the regional context?

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S26 Territories and their communities, August 25, 2021, 2:30 PM - 4:00 PM

See extended abstract

# Measuring intra-metropolitan income inequality: evidence from Athens

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S50-S1 The geographical dimension of social and income inequality, August 26, 2021, 4:15 PM - 5:45 PM

see extended abstract

# Ecological and Digital Transition Paths in the EU: Smart villages as Innovation Laboratories

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S60-S3 ORMA - Opportunities and Risks of new Modalities of Anthropization between sustainability, innovation and fragility, August 27, 2021, 2:30 PM - 4:00 PM

The proposal is focused on the concept of smart village, considering the specific attention by the Commission and the European Parliament, through the document "EU actions for smart villages", with the aim of highlighting the challenges and opportunities to promote integrated sustainable development paths rooted in local contexts - with integrated approaches and interactions between different policy areas with a view to complementarity and coherence - which have settlements and rural communities as active protagonists, in many cases in marginal and lagging areas, but at the same time rich from the point of view of the naturalistic-environmental and historical-cultural heritage.

One of these actions is the Smart eco-social villages pilot project, launched by the European Parliament and completed by a consortium made up of Ecorys, Origin for Sustainability and R.E.D. between January 2018 and April 2019.

By reading some significant case studies, it is therefore intended to highlight how these experiences contribute to implementing the 17 SDGs of the UN Agenda 2030 locally, as well as being in line with the EU Green Deal and the more recent Plan for Recovery and Resilience (Pnrr) (2020), with the aim of helping Member States to deal with the economic and social impact of the Covid-19 pandemic by binding the use of resources to the adoption of economic plans able to contribute to environmental resilience and sustainability, to the digital transition, innovation, sustainability, ecological transition, urban and territorial regeneration to increase resilience with respect to social challenges and climate change; to the circular economy.

Despite the diversity of specific local contexts, many smart villages share common characteristics and are providing inspiring examples on how to address each of the identified challenges for effective transition and inclusive development. The wider purpose is not limited to wanting to bridge the distance that separates the major urban centres from the villages and rural areas, but above all aims at integrating their potential to obtain a mutual advantage in a wider territorial dimension, with a view of integrated planning.

# How post-Soviet states pushed the frontiers of entrepreneurship persistence between 1926–2018

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S13-S1 Historical Roots of Regional Entrepreneurship and Innovation, August 24, 2021, 4:15 PM - 5:45 PM

The present contribution seeks to find new frontiers of entrepreneurial persistence discovered so far by the evolutionary economics literature, which is the existence of knowledge-intensive (successful) entrepreneurship. We argue that the near-complete ban on entrepreneurship in post-Soviet states did not interrupt trends in the transmission of entrepreneurial values, and therefore today's level of entrepreneurship reflects that prior to 1931. We therefore pose the questions to what extent would the limits of persistence discovered so far apply in post-Soviet countries? The post-Soviet states may bring much more evidence on the causes of persistence than existing research and push its frontiers forward. The multifaceted diversity of these states in institutional, economic, ethnic, social, cultural and real peripheral contexts may allow to capture aspects of persistence that could not be observed in more homogeneous environments. We are especially curious about regions lacking enough successful entrepreneurship models and thus not passing on entrepreneurship sufficiently to indicate any regularities over several decades. This may be the case in most of the former USSR regions.

# Related diversification in times of great institutional turbulence: Is the evolutionary economic geography still in place

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S30-S2 Linking entrepreneurship and regional policy, Room 7, August 26, 2021, 4:15 PM - 5:45 PM

The evolutionary economic geography (EEG) literature has provided consistent evidence on how diversification in regional economies typically takes place over time. Diversification processes have proven to be intrinsically evolutionary, with continuous introduction and selection of industries with varying degrees of embeddedness to the technological and industrial core of regions. Most of the empirical evidence has been based on changes during relatively stable institutional conditions. However, in many countries and time periods, such stable conditions are absent and thus well-known mechanisms may not apply.

Therefore, the paper investigates how massive historical and institutional shifts affected regional coherence and related diversification processes in Poland over long periods of time across the manufacturing and service sectors. In all, we capture the qualitative evolution of regional economies between two cross-sections associated with turning points: 1931 (a decade after regaining independence) and 2000 (a decade after regaining market economy).

Results show that the path-dependent related-diversification logics stressed by EEG is present also across long time spans, post-war reconstruction and four decades of the command economy. Regions' production profiles are coherent and develop by adding related industries, also in the service sector.

The paper contributes to the growing stock of historical studies in EEG. By investigating the evolution of the Polish economy over seventy years, the paper shows the applicability of the EEG framework during varying institutional and "real history" circumstances and disruptive shocks. The basic capability-based arguments of EEG are relevant also for economies that draw on a socialist (planning-oriented) past.

# Chinese Returnees and Firm Innovation: A Quasi-experimental Study

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G33-O2 Innovation and Entrepreneurship, August 27, 2021, 2:30 PM - 4:00 PM

As Chinese economy shifts from factor-driven to innovation-driven development model, Chinese firms are increasingly lacking high-quality innovative talents. Among other channels, attracting highly-skilled returnees has proved to be an efficient way for Chinese firms to access frontier knowledge and technology. We investigate the relationship between global mobility of Chinese returnees and firm innovation of Chinese listed firms. To this aim we construct an original dataset with 20160 firm-year observations constituting by 2499 firms with a 15-year time span, ranging from 2002 to 2016. We build our dataset from four sources: CNRDS, PatentsView, CSMAR and LinkedIn data. Our findings show that returnees have positive and significant effect on firm innovation in general, and returnee employees and returnee managers have a complementary role on firm innovation, that is, returnee employees as the agents of national patenting and returnee managers as the ones for international patenting. As to different types of experiences, we find that overseas work experiences matter. As to firm heterogeneity, we find that returnees' positive effects on firm innovation is mainly driven by those in state-owned firms, big firms, and eastern region firms. These findings can be of great relevance for designing more effective company and regional strategies to attract skilled returnees.

# Value Free Analysis with Random Forest Algorithm – the Cultural Threats of Digital Exclusion

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S36-S1 Digital Inclusion and Cultures of Discrimination across Regions, August 26, 2021, 12:00 PM - 1:30 PM

Evidence based policymaking using value free analysis based on data and empirical techniques aims to ensure policy making that is based on facts and reason with potentially maximized equitable outcome. Our study showcases the three main threats in attempting to use AI algorithms for value free analysis in support of decision making, resulting in just the opposite outcomes. These threats are : missing data, over-representation, training model specification. Each of these three cases entails serious implications for the AI-based analysis that can generate digital inequality. Using data from all seven World Value Survey datasets, we compare the analysis of an identical economic policy question through standard econometric techniques and results obtained through applying AI (random forest approach). Variations in the spatial representativeness and modelling are the focal point of analysis. We also contrast the outcomes with and without accounting for cultural relativity in standard econometric techniques and in AI-related techniques. Implications for policy making based on quantitative techniques and what it means to make a value free analysis of economic and cultural values are discussed. The role of the cultural bias and the success with which standard econometric techniques and AI techniques can account for it are outlined. We demonstrate how accounting for this cultural bias can help towards a more equitable policy making ensuring better digital inclusivity across space.

# The neo-endogenous role of micro-entrepreneurship in the context of art festival tourism development in peripheral islands

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S55-S2 Exogenous development in rural and remote regions, August 27, 2021, 2:30 PM - 4:00 PM

Japan's nationwide population decrease, accompanied by its shrinking peripheral areas through aging, depopulation, and stagnation, are serious problems for island communities in the Seto Inland Sea. These issues have been addressed in multiple ways, including through the promotion of rural art festival tourism. An example is the Setouchi Triennale, which is attempting to revitalize twelve remote islands characterized by depopulation by hosting an international art festival to promote tourism. Previous studies indicated that the development of art festival tourism has caused a corresponding increase in in-migrants to the islands which have established micro-business. The successful factors also include the increase of relational and creative type micro-businesses. Those new businesses that serve both locals and tourists enhance resident-visitor interaction and help building island-level partnerships and networks. However, the contrast between top-down and bottom-up initiatives is weakening to reveal that art tourism and community development are characterized by a mutual relationship that relies on each other's existence. The concept of neo-endogenous development, which requires the integration of both top-down art tourism interventions and bottom-up community efforts, remains so far underdeveloped in the rural art festival literature. In the context of relational rural-urban flows brought by rural art festival tourism, the concept of neo-endogenous development can help scholars to understand urban-rural linkages, art-tourism-community social interaction, and networked community revitalization mechanisms from both creative and relational perspectives. The study uses Grounded Theory within a convergent mixed method approach. Data include a quantitative micro-business survey (n=99), qualitative semi-structured interviews (n=35), and field observation as both tourist and volunteer within three major art festival islands. Community micro tourism businesses include both community and non-community members with various mixed business types. The questionnaire findings present an overall picture of micro-business on the three islands. The interview findings further demonstrate their neo-endogenous role in both grasping art tourism opportunities and starting creative strategies in the communities. This research highlighted the role of micro-entrepreneurship emerging under the festival influence as the main force for community building and revitalization agenda. This study defines revitalization as creating the conditions necessary to return a community to long-term sustainable development. This study effectively unites rural art festival tourism revitalization research from the perspectives of local economy, community quality of life, social interaction, and sustainable development. The findings suggest that successful neo-endogenous development for rural art festival revitalization requires long-term co-efforts between exogenous art development and endogenous community activities through creative and relational approaches.



# The COVID19 differentiated impact on tourism. Pendulum between core and periphery

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S05-S2 Sustainable Regional Tourism Strategies in Pandemic Contexts, August 24, 2021, 2:30 PM - 4:00 PM

This mainly empirical contribution analyses the COVID19 lockdown impact on Estonian tourism industry and provides tourism development scenarios for the three coming years. The most remarkable change happened in tourism geography: capital city previously depending on 90% of foreign visitors lost its market almost entirely while most peripheral locations, notably islands enjoyed, internal tourism boom.

Crises change tourists' behavior remarkably. Time between making the decision and consuming the tourism product gets shorter, decision making is more spontaneous, tourists pay more attention to their health and security, investigate this when selecting places to visit. Most people avoid big crowds, preferring individual travel and one to one communication with service providers. Domestic travel and visiting neighbouring countries has become dominant travel mode. For now.

Dramatic change happened also in tourism business. When 2019 was the best year in the history of Estonian tourism then 2020 caused massive drop in turnovers and layoffs, despite generous governmental aid. But small appeared to be beautiful once again. When several big establishments just closed then small firms, notably those located in the peripheries, survived as the owners have multiple sources of income. Flexibility and innovativeness, offering personal approach and nature-based services, wider usage of ICT-tools and local-regional collaboration helped the Estonian peripheral tourism firms "stay on their feet".

A research conducted in Estonia from November 2020 till March 2021 includes analyses of previous reports and statistical data and interviews with tourism service providers and tourism organizations. Three scenarios for the next 3 years were elaborated: (1) "The crisis continues", (2) "Eurobubble" and (3) "Let's fly again!". When the health crisis continues, economic measures do not help, other sectors will growingly suffer from shrinking demand and this paints very gloomy picture to the tourism industry. Opening Europe and keeping most overseas destinations closed may cause rapid tourism regrowth within EU, and expansion of European tourism markets in the Baltic small spa towns. The third option describes the end of pandemic by 2022, recovery of long-haul travel and diminishing EU internal tourism markets.

# Regional centres in Central and Eastern Europe – From state socialism to dependent market economies

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S33-S2 Geoeconomic challenges: the role of FDI revisited in the Central and Eastern European regions,  
August 26, 2021, 2:30 PM - 4:00 PM

The research seeks to explore FDI-driven transformation and development processes in Central and Eastern European cities in the post-transition period. The geographical focus of the analysis is limited to post-socialist states, while the scale of the analysis targets the metropolitan and regional level. The study provides a brief summary of the first phase of the research constituted by literature review.

World cities constitute the nodal points of the global economy. While the position of leading cities is remarkably stable, the network of world cities is subject to continuous extension and geographical restructuring. The gradual global economic integration of post-socialist cities has been a dominant process characteristic of the past three decades. In each of the countries included in our research, the development paths of the capital city and the rest of the cities are highly divergent. This is a natural phenomenon considering that the „space of flows” of the global economy is constituted only by a limited number of prominent nodes. Polycentric development in the various countries requires long-term investments in the development of national urban networks. However, the development and size of a national economy, the specificities of the urban network and regional disparities crucially impact the efficiency of these measures. The integration of FDI-driven cities into the global economy is ensured by multinational manufacturing companies. While only a limited number of APS offices are located outside capital cities, their presence clearly indicates a certain degree of embeddedness of these cities in global networks. In addition to their nodal character, these cities also play a crucial role in the creation of networks. Besides their external, intercontinental relations, these cities also place a crucial emphasis on their internal, local networks and assets, since they regard mutually advantageous linkages with their immediate and integrated environment and agglomeration as a key factor of competitiveness.

Global economic integration is realized gradually and sporadically, with spaces unaffected by the movement of FDI. An increase of spatial inequalities is a natural byproduct of the era of integration into international networks. However, the past decade has seen a reevaluation of the role of the FDI due to the growing geo-economic dependence of the region on foreign capital and global value chains, which exposed systemic vulnerability and the inability of FDI to reduce the development gap between Western and Eastern Europe.

# The role of FDI and territorial capital in diverging development paths of Hungarian regional capital cities

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S33-S1 Geoeconomic challenges: the role of FDI revisited in the Central and Eastern European regions,  
August 26, 2021, 12:00 PM - 1:30 PM

The notion of territorial capital introduced in European Cohesion Policy (ECP) has gained prominence as a possible solution to the „rebalancing challenge” at the level of individual countries and the EU and the excessive concentration of innovation and economic activity in European MEGAs and FUAs. Alongside the S3, the most significant industrial policy initiative at the level of the EU, it represents an alternative approach to FDI-based economic restructuring of peripheral cities in less developed regions. The uniqueness of territorial capital emphasises the importance of location and anchoring as a source of advantages for firms and is related to the „city-as-product” approach which recognizes the importance of local policies focusing on untapped capital assets as possible drivers of innovation and growth. In this view, city policy can do much to raise a city’s profile to enhance its attractiveness and connectivity. Conversely, the structuralist-Marxist „city-as-byproduct” approach deemphasises local agency against the backdrop of large-scale social or technological processes, refuting the claim whereby city policies are able to influence city growth or decline in any meaningful ways. The notion of city power, in line with the growth-decentralisation hypothesis emphasises city agency and the primordial role of cities in tackling large-scale challenges. The increased academic appreciation of cities recognizes their political, cultural and economic role as engines of growth within their national economies and key generators of economic and social innovation. The city is the creative milieu par excellence, the „milieu of milieus”, a generator of relational resources specific to institutionally thick urban environments. The role of the creative milieu – or „genius loci” as presented by Reznitzer (2016) is to ensure the permanent renewal of the local economy by helping to avoid situations of lock-in stemming from monofunctionality. It highlights the successful growth trajectory of the regional capital city of Győr which, thanks to virtuous cycles of path dependence, has seen its position reinforced. City policy matters, as the case of the more peripheral regional capital city of Pécs clearly indicates (Egyed-Rácz 2020). The city, after the decline of its leading industry, was able to redefine its growth trajectory along previously neglected factors such as culture or health. Situated in a peripheral underdeveloped region, exposed to foreign capital flight and seeing its position decline in the national and global division of labor, it has to increasingly rely on its indigeneous assets to reverse processes of decline and marginalisation.

# Spurring regional (sustainable) development via new regional networks

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G08-O1 Cooperation and Local / Regional Development, August 24, 2021, 12:00 PM - 1:30 PM

Regional development paths are characterized by the interaction of historic (industrial) developments, the regional asset base, the cooperation history and behavior of various regional stakeholders and their innovative capacity (Boschma and Martin 2007; Asheim et al. 2019). Hence, cognitive, organizational or institutional proximity in networks plays a crucial role for regional innovation: while a certain degree is considered a beneficial precondition for learning and innovation (Boschma 2005), too strong or too little proximity can trigger detrimental impacts such as path dependencies, lock-ins or adverse learning and innovation impacts (Boschma, 2005).

Within our research project “Region Römerland Carnuntum 2040” we investigate to which degree new network structures and proximities among stakeholders can be incentivized to spur sustainable regional development. Within the project a new regional governance structure, the “Zukunftsrat” (Future Council) has been set up to co-create a future vision for the region, explore possible transformation pathways and implementation projects. While a certain number of members of the Zukunftsrat has been elected due to their formal position (e.g. mayors) around half of the 120 members are voluntary participants.

Within a quantitative social network analysis, we collect and characterize the network of core actors within the Römerland Carnuntum Region. We contrast the results with the members of the “Zukunftsrat”.

Furthermore we map new collaboration structures initiated within the frame of the project (e.g. working groups) in order to derive conclusions how new networks and proximities among regional stakeholders can be supported and as such innovation and new regional development paths spurred.

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# Innovation collaboration patterns in the European aeronautics

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G12-O6 Regional Competitiveness, Innovation and Productivity, August 26, 2021, 4:15 PM - 5:45 PM

The development of competitiveness based on smart specialisation principles has been on the EU agenda for more than a decade. As an evidence-based approach aiming at identifying the main strengths and potentials of economies, smart specialisation represents one of the crucial elements for the build-up of sustainable competitiveness. Identification, or mapping, of innovation priorities is in the essence of Smart Specialisation process and a key driver for exploring potential for collaboration between all relevant stakeholders in the innovation ecosystem. Smart specialisation also aims at identifying the place of identified priority areas in the regional and global value chains. Hence, it has the potential to reveal the cross-regional and cross-national potential for collaboration within priority areas.

Aeronautics prominently features as one of the identified priority areas for smart specialisation in European regions and countries. Being one of the critical high-tech sectors of the European Union on the global market, it is a strategically crucially important sector for European competitiveness. Currently, the EU is a world leader in civil aircraft production, including helicopters, aircraft engines, parts and components. It is recording a surplus in trade exporting aerospace products worldwide. This industry also shows above-average investments in research and development and intensive patent activity. Based on multiple different forecasts, aeronautics is one of the industries destined to experience a strong hit due to the effects of the COVID-19 pandemic. It is also foreseen that the industry's recovery will depend on the possibilities to streamline collaboration in further research and innovation activities.

The basis for selecting preliminary priority domains for smart specialisation lies in mapping economic, innovative and scientific potential, whereas patenting activity is one of the main elements of analysing the innovative potential of the regional or national economy. Therefore, this research aims to identify the characteristics and intensity of patenting activities in the regions and countries that base their competitiveness on the aeronautics sector. It also seeks to determine the scope and patterns of aeronautics collaborations between inventors from these and other European regions and countries. The used methodology included desk research combined with the analysis of patent data from EPO PATSTAT database as well as EU funded projects from the R&I framework programmes databases, covering the period between 2008 and 2017.

# Cost of Debt of SMEs and Local Credit Market Characteristics in Slovakia

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G21 Regional Finance, Fiscal Issues, Investment or Capital Markets, August 25, 2021, 4:15 PM - 5:45 PM

Our study analyses the differences between effective interest rates paid by small and medium-sized firms in regions with suboptimal credit market size. Based on individual firm data, controlled for quantitative and qualitative characteristics of firms, regional banking market structure along with regional characteristics, and spatial proximity to closest regional centre, we use two-stage panel data model to: i) derive long-term equilibrium size of local credit market, ii) estimate effect of local credit market disequilibria on firms' effective interest rate. We find that higher interest rates are charged to SMEs that are localized in regions where there are less than the optimal number of banks. Moreover, SMEs that are from low-tech industries, have higher ratio of equity over total assets, and, contra-intuitively, report higher credit worthiness have to pay higher interest rates than SMEs located in regions with higher-than-optimal number of bank branches. Positive bank characteristics translate into lowering of effective interest rates only in regions with surplus of bank branches. Contrary, regions with less than optimal number of bank branches do not benefit from competition in quality or quantity at the level of local bank branches. Instead, level of effective interest rate is purely driven by size of local credit market disequilibria.

# Independently owned coworking spaces and effects of the COVID-19 pandemic

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S27-S1 New working spaces, resilience, and peripheral areas during the Covid-19 pandemic, August 25, 2021,  
2:30 PM - 4:00 PM

The COVID-19 pandemic has affected the society and its economic activities worldwide. Primarily, it has significantly affected those economic activities for which everyday physical interaction is considered as elementary needed to create a service or a product. Such prerequisites have been supposed to be features of one type of new working spaces – coworking spaces (CWs). CWs operate as open offices or spots offering entrepreneurs and their customers collaboration at one place. Therefore, the aim of this paper is to examine and compare the effects of the pandemic on conducted activities in independently owned coworking spaces, located in metropolitan areas in Central and Eastern European countries. Collecting a sample from 85 independently owned CWs in Warsaw, Prague, Bratislava and Tallinn, we analysed the activities that CWs organized or were involved in. Specifically, we studied internal physical activities (1), which took place within the internal spaces of CWs, external physical activities (2), which took place in the external environment of CWs, and (3) all types of virtual activities. The subject of the investigation were activities which CWs informed about on their FB pages as events. To examine the impact of COVID-19 on CWs activities, we monitored pre-pandemic and pandemic activities. To get deeper understanding of the effects, we then conducted in-depth interviews in selected CWs. Preliminary results of the social media analysis reveal A) some similar effects of the pandemic on the investigated CWs such as radical decrease of physical activities – events, and limited increase of virtual effects vice versa, B) and some different effects, namely variations in temporary or permanent closure of CWs following applied measures, CWs business models, and local real estate market specifics.

# Challenges of teleworking and spatial trends in the context of the COVID-19 pandemic: the case of Greece

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G18-O2 Regional and Urban Labour Markets and Entrepreneurship, August 26, 2021, 2:30 PM - 4:00 PM

The global pandemic has led to an unprecedented shift to remote work that will likely persist to some degree into the future. Telecommuting results in the differentiation of the traditional, geographically given workplace. This is based on the fact that it can be provided much more flexibly and in different spatial and temporal work contexts. The mediation of work practices by ICT enables populations to telework from remote non-office locations such as their homes, or to work nomadically from multiple locations in a day. Greece entered the first wave of the public health shock as a laggard in digitalization and teleworking arrangements among European countries: In 2018, among the 28 EU countries, Greece ranks 27th according to the ESI indicator (European Skills Index, Cedefop-2018). It is thus a real handicap as regards the ability to successfully develop telework, especially in abnormal conditions.

The main purpose of the present study is to highlight the disrupt factors of Greek employees during telecommuting. A total of 2,000 employees completed an online survey during the first transmission wave of the pandemic in Greece (from April to May 2020). For the implementation of the field research, a measuring instrument was developed to determine the employees' perceptions toward both teleworking and disrupt factors, such as kids, other family members, social media, online shopping, and lack of infrastructure. Therefore, a spatial analysis was conducted across the territory of Greece as an important determinant, which highlighted the importance of the place relates to the disrupt factors. This provides important inputs for policymakers that aim to promote teleworking.

This survey is the most recent and comprehensive database on the characteristics and the typical profile of the Greek teleworker by including the important distinction of location and teleworking use.



# Entrepreneurial intentions of the Greek young in times of crisis

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G33-O2 Innovation and Entrepreneurship, August 27, 2021, 2:30 PM - 4:00 PM

Entrepreneurship is an important source of economic growth and social change and has never been as “popular” as it is today, especially among young people. All over the world, young people are more and more coming up with business ideas, trying to be successful in their professional life. By getting involved early in entrepreneurship, they could reap many benefits.

At an individual level, entrepreneurial activities - in terms of “thinking outside the box” can give to young people an advantage of inventiveness and thus competitiveness. In developing such activities, young people can contribute to boosting technological innovation, providing their own employment opportunities. At national and regional level, young entrepreneurship is an important component of long-term economic development and business resilience. Moreover, during periods of intense crises, such as the Greek outgoing economic recession and the current pandemic of COVID-19, it can be considered that the difficulties in entering the labor market could encourage young people to create their own business, thus contributing to support the local economy.

In this context, the main purpose of the present study is to investigate the impact of the economic crisis on the entrepreneurial intentions of Greek university students. The choice to focus on highly educated potential entrepreneurs stems from the fact that entrepreneurs’ education is generally associated with higher levels of entrepreneurial skills, higher rates of firms’ hiring, and better firm performance. In this sense, students at the end of their university course represent the most promising segment of the future entrepreneurial supply, and their reaction to any crisis may have interesting policy implications.

The methodological framework is based on a sample survey with a questionnaire addressed to students aged between 20-25 years old from three of the biggest Greek Universities. The statistical treatment of the data survey results in a series of findings concerning the characteristics and the intentions of youth toward entrepreneurship in a period of crisis, which contributes to define more relevant policy proposals.

# Policies for women participation in politics: assessing different territorial impacts

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S10-S1 Determinants and Effects of Regional Differences in Gender Equality, August 24, 2021, 4:15 PM - 5:45 PM

The paper addresses the issue of gender equilibrium in politics and how the outcomes of gender rebalancing electoral mechanisms may be assessed. It relies on data and results of an evaluation of the effects produced by regulatory measures introduced in Italy for gender rebalancing in the elective offices. Women still encounter huge difficulties in being included in political decision-making. Even when they have the chance of participating to political competition as candidates, this is not a guarantee that they are elected and assigned to important political positions. Many countries have introduced rules and mechanisms to accelerate the rebalancing process. The general feeling is that their effectiveness may vary a lot, because they need to be well designed and effectively implemented to achieve good results, so asking an important evaluation question.

Different types of mechanisms may be designed to ensure gender balance in politics. The main adopted options (that can also be paired) are: Gender shares in the lists of candidates; Double/triple gender preference; Alternate list. Their effectiveness may vary a lot, because they need to be well designed and implemented to achieve good results. Also, effectiveness is conditioned by general electoral rules and by local cultural determinants.

Although a statistical recognition of gender shares among candidates and elected representatives is possible for all institutions, the impact evaluation is limited to the case of municipalities. In the other cases, the lack of a credible counterfactual forces to limit to statistical analysis of observed change. On the other hand, in the depicted situation, the voting regulation for the administrative elections is a perfect context where to evaluate the effectiveness of gender rebalancing mechanisms. The paper will also discuss the “dynamic equality index”, able to better assess the impact of measures, also considering a great heterogeneity in starting conditions.

The evaluation is based on RDD approach around the threshold present in the law (5.000 inhabitants). The dimension of the window around the discontinuity is established through different techniques. The paper includes also falsification tests on covariates. In a more advanced version of this paper, spatial dimensions of the impact will be assessed as-well.

The preliminary analysis shows very robust results: the impact is significant and positive for all the adopted approaches, even though the size of the impact varies.

# Occupational safety and health. Understanding the impact of incentives to firms

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S43-S2 Counterfactual methods for regional policy evaluation, August 26, 2021, 4:15 PM - 5:45 PM

The EU-OSHA (2013) underlines that OSH interventions are not evaluated by means of rigorous evidence-based research. Moreover the greatest majority of interventions concerns regulations. In this panorama, the Italian case is particularly interesting. In 2008, a system of economic incentives has been introduced. This represents a revolution, because it leverages corporate social responsibility towards workers. Since 2010, Inail has financed OSH projects, which go under the name of "ISI calls", for about 2 billion euros. Despite this represents a big budget and a quite long pilot experimentation, at the political level the balance is still leaning in favour of sticks rather than of carrots. Scientific evidence on the impact of incentives for investments on the reduction of accidents and diseases could help to solve this political dilemma. We overview the main theoretical and methodological aspects in counterfactual evaluation of OSH policies. Then we will present some empirical spatial analysis trying to find proxies of the attitudes of firms towards safety in different regions. The variables that explain the risk of occupational incidents are size and sector. If these variables were able to explain the whole variability of risk, it would be possible to estimate rather precisely the expected value of the incident frequency in a territory, by using the composition of its economic system following these variables. On the other hand a difference between the expected and the observed frequency index, which we could label "territorial bias", would give a measure of unobservable determinants connected to the characteristics of the territory. We rely on very detailed data on occupational safety to estimate the territorial bias. Then we will do a preliminary impact assessment of ISI incentives on occupational safety. The ISI calls are appropriate for counterfactual impact evaluation, since they are based on the click-day, which configures as a natural experiment, with a control group identified among the participants that were not selected by the click. Nevertheless the evaluation design of this policy is not exempt of difficulties, including identification of proper outcomes, identification of the causal relation, the problem of self-candidacy into the experiment and external validity. We will limit our analysis to a subset of actions in which the identification of the outcome and of the causal relation between the incentive and the outcome is clear. As for the problem of external validity, a fundamental contribution could come from the analysis of the territorial bias.

# Resilience Paths toward post Covid challenges. Mobility for small historic centres between citizens' rights, sustainable tourism and ecological transition

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S54-S2 Historical Centers and Inner Areas: resilient scenarios in the post (post) Covid era, August 27, 2021,  
12:00 PM - 1:30 PM

The processes of metropolization of European territories foster phenomena of spatial polarization that determine a growing state of economic and social fragility of the "inner peripheries" connected to the abandonment of the built and infrastructural heritage.

In this context, between 2018 and 2020, the group of Italian and Spanish academics (Sapienza Università di Roma, Università Roma Tre, Università Tor Vergata, UCLM, Università Politecnica de CatalunyaUPC) has developed the research entitled Resilience Paths. Reuse and relaunch of minor railways for the regeneration of fragile territories. Experiences in Italy and Spain.

The research project focuses on an interdisciplinary approach to territorial resilience adopting an integrated vision between infrastructure, mobility and territory.

The research activity has been developed through three phases:

1. A phase of contextualization of the dynamics in the Italian "Aree interne" and in the "España Vacía", within the European debate on the "Inner peripheries", paying attention to the relationships between depopulation, economic decline, social marginalization, environmental fragility, infrastructure divestment, taking into account the potential of the interventions on railway lines as resilience paths for the small historic centres in fragile territories;
2. A phase of analysis of the policies implemented at European and national level and the ongoing practices of intervention on minor railways in Italy and Spain, paying attention to three types of intervention: the relaunch and strengthening of the ordinary service, the reactivation of lines for the implementation of tourist railways, the reuse of lines as greenways.
3. A phase of definition of methodological and operational references for dismissed lines aimed at a resilient territorial regeneration combining sustainable development goals and the enhancement of cultural heritage and values, focusing on some strategic axis and features: along the coast, between inner areas and the coast, and in inner areas. The research also pays attention to the opportunity of integrating the funding sources of the various sectors, stakeholders and institutional levels involved.

In the actual situation of the pandemic, the accessibility of the historic minor centres and the inner areas represents an arising topic in relation to settlement density and social distancing measures, a topic that can count of new funding sources, such as the recovery fund.

In this framework, the paper is aimed at the presentation of the research path and at the development of new lines of research in relation to the post covid criticalities and opportunities related to accessibility of small historic centres in Italy and Spain.

# The response of Smart Cities to Covid-19: The case of Matosinhos (Portugal)

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G06-O5 Adaptive and Resilient Cities and Regions, August 25, 2021, 12:00 PM - 1:30 PM

The SARS-cov-2 pandemic challenged the territorial, social, economic and cultural systems of cities, revealing their vulnerabilities to disasters. Thus, the need to research and point out planning measures that strengthen urban resilience and capacity to cope with climate and/or biological disasters has become urgent. Faced with this global pandemic emergency, governments and leaders are increasingly seeking to develop effective strategies and tools to reduce and mitigate its impacts on society. Thus it becomes increasingly necessary to address these challenges and create solutions that are forward-looking, integrated, inclusive, risk-aware and place-based.

This paper seeks to address these vulnerabilities, the factors that led to their occurrence, the effects they are having on the population and the urban fabric, and then propose urban policies and instruments to overcome these vulnerabilities.

This paper presents the case study of the city of Matosinhos (Portugal), which is developing urban resilience-based measures that empower individuals, communities, institutions, businesses and systems to survive, adapt and grow. Thus it is shown how proximity vs. distance policies and different patterns of adaptability are being implemented, based on collaborative ecosystems that facilitate innovation, and that are able to generate the commitment of citizens, businesses, research and educational institutions, and policy makers.

This case study allows broadening the reflection on how smart and sustainable cities are able to promote urban development, through information capture and management, ensuring the balance between digital transformation and citizens' quality of life, and strengthening their resilience against critical vulnerabilities.

# Firms and local communities – is there any relation between corporate social responsibility (CSR) and competitiveness of companies?

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S26 Territories and their communities, August 25, 2021, 2:30 PM - 4:00 PM

'see extended abstract'

The activity of firms related to supporting communities called corporate social responsibility (CSR). The general concept is, that CSR is a voluntary activity, but nowadays the idea that CSR is not only non-profit one, is spreading. There are activities which are real non-profit, but more and more firms admit that they expect „something” in return from the actors they support or from the activities itself. From this point of view an important question arises: does CSR activity influence the corporate competitiveness? The goal of the presentation is to show what kind of motivations could stay behind the CSR activities, which can be the driving factors and which are relates to the competitiveness? It may also be an important question whether the increase in competitiveness can be a result of CSR activities or CSR itself can be a competitiveness factor? The presentation also tries to give information about how the COVID-19 changed these approaches in the past one year. The presentation is based on theoretical approach and tries to map the motivation factors of CSR.

The presentation demonstrates guidance for also practitioners and researchers and it also adds to the literature some possible good examples about determining the motivation factors behind CSR and to find connection between CSR and competitiveness. It is possible to believe that learning the factors can result more conscious firms which can contribute to a more sustainable and developed future by their CSR activities.

# Large firms in small regions: How local agency deals with the good, the bad and the ugly

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<sup>1</sup>Lund University, , Sweden, <sup>2</sup>Tampere University, , Finland

S38-S2 Regional Growth Against All Odds, August 26, 2021, 4:15 PM - 5:45 PM

Outside diversified large urban areas, development paths are often dependent on one or several large firms. Large firms can contribute good things to regional economies as anchor firm or by upgrading a local supplier base, but over-embeddedness may lead to (bad) lock-in. Moreover, the firm-place relationship is dynamic: When a large firm restructures and/or leaves, the regional impact of this 'ugly' period cannot be predicted from structural preconditions alone. Local actors' agency matters. Using original material (177 interviews) from 10 comparative case studies in Finland, Norway and Sweden, we identify forms of agency in managing firm-place relationships.

# Patient Choice and Hospital Quality: Is there a Neighbourhood Effect?

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S32 Regional Disparities in Social Infrastructure, August 25, 2021, 4:15 PM - 5:45 PM

We investigate the free patient choice of healthcare providers based on quality indicators (in-hospital mortality and 30-day readmission) derived from past global and local events in the Italian context. The former is the overall mortality or readmission rate experienced by all observed patients, while the latter is the same failure rate experienced only by patients from the same municipality. The potential influence of local quality information on patient choice represents the neighbourhood effect that has often been neglected in the literature. Exploiting a dataset of all Southern Italian patients over 65 who underwent hip replacement surgery from 2012 to 2015, we build our analysis on a patient-level additively separable utility function to obtain the random utility choice model. We explore the influence of lagged quality indicators, all observed hospital characteristics and travel time on individual choice while controlling for hospital patient volume, case-mix, and other fixed effects. We also divide the population into non-rural and rural residents, given the disparate constraints. Our results suggest that there are significant neighbourhood effects in the choice of hospitals, while the local quality indicator has a strong influence on the choice of hospital among rural residents, especially for female and those below 80 years old. Patients in non-rural areas, however, tend to choose hospitals with better global qualities. Moreover, patient tastes vary substantially over hospital quality and travel time. Overall, our analysis revealed that although patients value objective quality indicators when choosing their preferred hospitals, those from smaller municipalities are more sensitive to quality information derived from one's vicinity.



# EU Cohesion Policy and local electoral outcomes: Evidence from Italy

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S43-S1 Counterfactual methods for regional policy evaluation, August 26, 2021, 2:30 PM - 4:00 PM

A new strand of political economy literature has adopted a territorial perspective to explain the rise of Euroscepticism and populism, suggesting that policies enhancing development and reducing economic insecurity could reduce anti-system voting (Dijkstra et al 2020). By fostering job creation, economic growth, sustainable development, and enhancing citizens' quality of life, the EU Cohesion Policy is expected to play a major role in this sense. The aim of this work is to contribute to the growing literature studying the impact of European Cohesion Policy on citizens' voting behaviour. Recent studies, applying counterfactual methods, have shown that EU funds have mitigated the political support for Eurosceptic parties at national elections (Borin et al 2020; Rodriguez-Pose and Dijkstra 2021; Crescenzi et al, 2020; Albanese et al 2019; Bachtrogler and Oberhofer, 2018).

However, due to the territorial nature of Cohesion Policy, the highest visibility of EU development projects is at the local level. Therefore, EU regional interventions may have political/electoral consequences not just nationally, but also locally, i.e. at municipal elections. The goal of this work is to verify whether the capacity of municipal governments to attract EU funds and to implement European projects enhances the probability of incumbent parties and politicians to be confirmed in power. To this aim, we rely on the Italian municipalities as a testing ground. Besides, to the best of our knowledge, no evidence exists on the impact of EU Cohesion Policy on citizens' voting behaviour at the local electoral level.

The empirical analysis is built on two main sources of data. The first one is the Opencoessione database, providing information on EU Cohesion Policy in Italy. It contains very detailed georeferenced data at the project level of all EU projects implemented between 2007 and 2020 and their thematic objectives. The second source is the Historical Archive of Elections (Archivio Storico delle Elezioni), from the Italian Ministry of Interior, which makes available a database containing the results of all electoral competitions, both at the local and at the regional/national level.

In conclusion, the contribution of our paper is twofold. First, considering the territorial nature of Cohesion Policy, it adds a local level analysis on EU funds and citizens' voting behaviour. Second, it also provides new evidence of incumbent re-election probability given the municipal Governments' ability to attract EU funds.

see extended abstract

# External connectivity, regional productivity, and exogenous shocks: lessons from the Italian experience

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S09-S4 Relaunch of Productivity for Regional Growth and Cohesion: Productivity, competitiveness and resilience, August 26, 2021, 4:15 PM - 5:45 PM

Over the last decades, trade, investment and production have become increasingly organised around networks led by Multinational enterprises (MNEs) that develop throughout the world. These networks, which usually overcome geographical and industry boundaries, channel information, technology, and knowledge from one place to another making territories more connected than they were in the past. Production networks have been widely explored under different contexts and disciplines. Despite that, we still know very little about their relationship with economic growth and development trajectories, especially at sub-national level. In particular, it is not yet clear how global production networks react to economic downturns, like the Great Recession of 2007-2008 or the more recent COVID-19 pandemic, and, more importantly, what are the channels through which global networks affect the performance of regions hosting networked firms and whether the transmission of potential benefits is amplified or hampered by exogenous shocks.

In order to answer to the above-mentioned research questions, we consider Italian NUTS-3 regions as unit of analysis. We first provide evidence of the main characteristics – in terms of intensity, sectoral composition, and geographical dispersion – of the production networks they belong to. We measure networks both before and after the Great Recession to highlight potential changes driven by the shock. We then explore empirically whether the new arrangements have been prone to sustaining the capacity of Italian regions to recover after the crisis. In so doing we provide evidence of the channels through which external networks generate their effects on regions hosting networked firms, as well as under which circumstances regions can enjoy such potential benefits.

This paper wants to offer a detailed analysis on the one hand on the impact exerted by the Great Recession on external connectivity of Italian regions and on the other hand on the potential effects that global connectivity may have on regional productivity and economic performance with the aim of clarifying under which circumstances external networks produce the most favourable – or unfavourable – conditions for local territories to growth and thrive. We believe this issue is not only relevant from the scholarly standpoint, but also timely for policymaking in consideration of the recent surge of anti-globalization discourses in many countries.

# Themes of the resilience literature in economics - Topic modeling approach

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G13-O3 Methods in Regional Science or Urban Analysis, August 25, 2021, 4:15 PM - 5:45 PM

Shocks from different origins and in different scales cause turbulence to the economy. For example, financial crisis in 2008 and Covid-19 pandemic in 2020 have had significant impact on economy. The ability to adapt to shocks is typically explained with the concept of resilience, which refers to the ability of the system to withstand shocks and to 'bounce back', recover from an unexpected shock.

Increasing interest towards the concept of resilience has led to more diverse discussion around the subject in e.g. psychology, ecology and in economic literature. The aim of our study is to reveal the main themes in the resilience literature of economics. To define the themes of the literature we use topic modeling which is a modern unsupervised machine learning research method suitable for extensive textual research data.

Our research data consist abstracts of resilience literature research papers which are written in English between years 1958 and 2020 that belong to subject area Economics, Econometrics and Finance in All Science Journal Classification (ASJC) in Scopus database. Our data consists total of 2469 abstracts with document level metadata including number of citations and year of publication.

We identify 17 different topics in the economics resilience literature. Topics spread widely across different sub-areas of economics and deal with diverse themes like adapting to climate change, marine resources, entrepreneurship, networks, and regional economics. In addition, our research suggests that the literature can be divided into topics that deal with incremental changes that occur over a long time period, and topics that deal with unexpected transient and sudden changes. We also find that well-known research papers have mixture of topics that is atypical in our research data. Among the topics, we observe influences from definitions of ecological, engineering and psychological resilience.

# Forecasting the Spread of the COVID-19 Epidemic in Lombardy with Dynamic Model Averaging Methods

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S04-S4 Geography of COVID-19 outbreak and policy answers in regions and cities, August 25, 2021, 10:15 AM  
- 11:45 AM

Forecasting with accuracy the evolution of COVID-19 daily incidence curves is one of the most important exercises in the field of epidemic and regional modeling. We examine the forecastability of daily COVID-19 cases in the Italian region of Lombardy using Dynamic Model Averaging and Dynamic Model Selection methods. To investigate the predictive accuracy of this approach, we compute forecast performance metrics of sequential out-of-sample real-time forecasts in a back-testing exercise ranging from March 1 to December 10 of 2020. We find that (i) Dynamic Model Averaging leads to a consistent and substantial predictive improvements over most of alternative epidemiological models and machine learning approaches when producing short-run forecasts. Using estimated posterior inclusion probabilities we also provide evidence on which set of predictors are relevant for forecasting in each period. Our findings also suggest that (ii) future incidences can be forecasted by using information on the epidemic dynamics of neighboring regions, human mobility patterns, pollution and climate.

# A prospective assessment of the environmental and economic consequences of climate-induced changes in wildfire regimes in Southern France

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G07-O2 Global Warming, Health and Environmental Issues, August 24, 2021, 4:15 PM - 5:45 PM

Wildfires are a global phenomenon expected to increasingly threaten environmental and socio-economic assets in multiple regions under the influence of climate change. The forestry sector is in the frontline, and wildfires have the potential to adversely affect forest-related economic activity, forest habitats, resources and services, as well as the sector's potential to mitigate climate change through carbon storage. In this article, we perform a prospective analysis of the environmental and economic consequences for the forest sector of climate-induced changes in wildfire regimes, with a strong focus on regional consequences and uncertainties in outcomes.

To do so, we use a probabilistic model of wildfire activity and a bio-economic model of the forest sector, both spatialized at an 8-km scale. In order to take into account local determinants while retaining some genericity, we focus on the regional scale and take Southern France as our study case. We perform simulations under various levels of radiative forcing with several climate models, and we carry out multiple stochastic replications of each scenario to assess how several sources of uncertainty affect model projections.

Results show an increase in burned areas by up to 55% by the end of the century compared to a constant climate case, with particularly strong increases around the Mediterranean and in the Aquitaine region. Trends in burned areas show a high level of spatial clustering, as well as high inter-annual fluctuations. Increased wildfire activity induces mortality in trees and a reduction of available forest resources by 5-10%. This carbon is for a large part released into the atmosphere, dampening climate mitigation in the forest sector. Impacts on the forest-based economy are more moderate, with e.g. reductions in timber harvests by 2%. Results also show differential impacts across southern regions, and a disruption of trade patterns with Northern France.

While, owing to the chaotic nature of weather dynamics, inter-annual fluctuations dominate uncertainty in wildfire activity, their influence on forest sector dynamics is strongly dampened after a few years, hinting at the relative resilience of the forest-based bio-economy. On the other hand, the relative contribution of climate scenario and climate model uncertainty surges over time, highlighting the necessity to consider a wide range of climate outlooks when making long-term assessments.

Our study underlines the necessity to take into account uncertainty when performing long-term assessments with quantitative prospective models, while highlighting the risks of non-permanence for forest carbon stocks posed by wildfires.

# How many businesses are facing a succession? A multilevel approach on estimating business successions on a regional level

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G36 Business and entrepreneurship, August 26, 2021, 4:15 PM - 5:45 PM

Demographic ageing has an impact also on firm dynamics. Understanding the entrepreneurial structure of a region is of utmost importance in order to design efficient support programmes for business succession. A great deal of data on enterprises is available from business registers. However, it is mostly unknown how many businesses are about to be handed over and may thus need support measures.

This paper describes a multilevel approach to estimate the number of forthcoming business successions. Starting from the population of South-Tyrolean enterprises, we first define which businesses are suitable to be handed over by considering a set of variables such as legal form and ownership. Secondly, we consider several age thresholds in order to identify elderly-led enterprises. In fact, the decision of an entrepreneur to retire from business can be made at different ages, depending on several factors. By conducting this analysis, we also provide new information on the entrepreneurial structure in South Tyrol. We then suggest 62 years as age threshold for an entrepreneur to start preparing the succession. Basing on this, we provide estimates of the share of elderly-led enterprises by industry and firm size. Excluding agricultural firms and businesses without employees, we estimate that about 1.900 enterprises in South Tyrol may face a succession in the coming years. Although every business succession is a unique process, policy-makers should adopt measures to address the most common difficulties and support firms, avoiding the loss of jobs due to business cessations.

# Dashing the 'Bottom Line': Economic complexity and existential reckoning in U.S. local and regional food systems in response to Covid-19

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S49-S3 The impact of COVID-19 on alternative and local food systems (ALFS) and the potential for sustainability transition – case studies and theoretical considerations, August 27, 2021, 2:30 PM - 4:00 PM

This paper presents a snapshot of the “historical present” of U.S. local and regional food systems (LRFS) during the COVID-19 pandemic. In May of 2020, the U.S. Department of Agriculture (USDA) Agriculture Marketing Service brought together researchers and policy makers to conduct a 1-year national "rapid response" research and outreach initiative to assess the impact of the COVID-19 pandemic on diverse subsectors of the U.S. local and regional food system (LRFS). From June-August 2020, our multi-university led research team conducted 19 focus groups with over 120 representatives from 17 sectors spanning the nation. These included stakeholders from diverse market channels (e.g. farmers markets, CSA, restaurants, grocery, and institutions), to niche products and specialty crops (e.g. non-commodity grains, meat, and seafood) to representative organizations (e.g. state agencies, BIPOC organizations and tribal nations). While the project's initial charge was to identify market-based (financial) impacts and adaptations, participants shared disruptions, innovations, adaptations, and projections for the future in their fields, which transcended any single dimension of analysis. From these listening sessions, and subsequent monthly meetings with sector leaders for an entire year, we captured real-time reactions from diverse stakeholders grappling with the simultaneous crises of 1) pandemic market disruptions to the local food sector, 2) broader economic instability caused by the pandemic, 3) political and social unrest, and 4) reckoning with racial (in)equity and (in)justice throughout American society. Our research suggests that the field of food systems inhabit a moment of 'collective reckoning' about the essential nature of LRFS; an unresolved question born out of a combination of phenomenological rupture (Bell 2004), and impasse (Berlant 2011). As the country and world moves from pandemic recovery and adaptation to longer-term evolution, we conclude with a discussion of possible complex futures for identify and practice within local and regional food systems in the U.S. and abroad.

# Analysis of the labour effects of COVID19 on tourism firms: situation in the province of Caceres (Spain) during the lockdown

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S31-S1 Tourism in the post-COVID Era. Methods, Impacts, and Future Scenarios, August 25, 2021, 4:15 PM - 5:45 PM

The health crisis caused by Covid-19 has had a significant impact on the world economy, particularly on the tourism sector. The restrictive measures imposed to prevent the spread of the pandemic have significantly affected the sector, with a consequent impact on the level of employment. The aim of this paper is to find out what impact the containment measures imposed by the Spanish government have had on one of the provinces in this territory, the case of Cáceres. For this purpose, an analysis of variance is carried out to compare the effect caused on different typologies among a total of 707 tourism firms. The results allow us to identify that TLFA have been the resource most used by Cáceres companies to alleviate the effects of Covid, while highlighting significant differences in the impact caused on different types of companies.



# Mapping and Analysing Spatial Disparities in COVID-19 Spread in the Netherlands

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S04-S2 Geography of COVID-19 outbreak and policy answers in regions and cities, August 24, 2021, 2:30 PM - 4:00 PM

## Mapping and analysing regional disparities in COVID-19 infections in the Netherlands

COVID-19 has been researched profoundly in nearly every academic field, yet the understanding of the geography of COVID-19 remains limited. While factors related to COVID-19 mortality have been identified, the drivers behind COVID-19 infections on a regional level are mostly unknown. Moreover, the studies that tried to identify such drivers appear to report conflicting findings. In order to fill this research gap, this study aimed to identify factors associated with COVID-19 incidence in Dutch municipalities between 01-09-2020 and 01-03-2021. Exploratory mapping using Geographical Information Systems (GIS) and various multiple linear regression analyses on the COVID-19 incidence in three different periods (September/October, November/December & January/February) were conducted. In these models, the COVID-19 infections were tested against various dependent variables, categorised into four groups: demographic variables, socio-economic variables, geographical variables and mobility related variables. Additionally, mapping of mobility trends in the Netherlands using GIS provided insights into the potential routes of COVID-19. Preliminary analysis results revealed several factors that can help explain COVID-19 infections on the municipal level. Additionally, large variations over time have been detected, signifying the need for caution in the reporting of factors related to regional COVID-19 infections.

# Schooling Provision and Residential Choices: Evidence from Italy

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S11-S2 Challenges and Opportunities of Rural Regions, August 25, 2021, 10:15 AM - 11:45 AM

The availability of local public goods can influence residential choices. Schools are especially relevant in this respect, since households with children have a daily need for school services. Hence, rationalisation policies aiming to increase efficiency by cutting on undersized nodes of the school network can induce population decline. This paper investigates the demographic impact of primary school closures by focusing on the Italian context, exploiting a 2008 education reform that produced a significant contraction of the school network. We assess whether school closures have an effect on citizens' residential choices, on top and beyond preexisting negative population trends which motivate school closures. We address the fundamental empirical challenge of services-population endogeneity through three complementary strategies, either based on outcome histories (lagged dependent variable model and matching) or on the institutional rules governing school sizing (kink RDD). Our findings suggest that municipalities affected by school closures experience significant population decline. The effect persists for few years after the closure, it is driven by municipalities far away from central urban areas, and it harms especially low-income residents. This evidence suggests that schooling rationalisation policies, by inducing depopulation of peripheral areas, can increase regional and social disparities.

# Tourism in Common: participatory urban tourism management

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S19-S1 Commons as enablers of territorial transition- evidences, assessment and theoretical perspectives,  
August 25, 2021, 12:00 PM - 1:30 PM

The rapid development of urban tourism contributed to the emergence of social and political conflicts in cities, as it has been widely observed and documented. Considering different interests in local communities regarding the utilization and appropriation of benefits related to common resources and their integration into the production and consumption of tourism products and services, participatory processes of tourism planning and management are internationally recommended.

However, both the implementation and the theoretical tools for the analysis of such participatory mechanisms of governance are scarce. In this context, the creation of the Tourism Council of Barcelona (a participatory advisory body comprising a large and diverse set of representatives of different interests in the community) constitutes an opportunity to address this question in a city with a strong and problematic process of tourism development observed in the last decades.

This exploratory work is based on grounded theory and supported by in-depth interviews in order to analyze the dynamics of such a participatory process for tourism policy-making. The concept of Common Pool Resources supports the characterization of the problems raised in the city, while the panarchy metaphor is used to describe the different layers of political action that can be observed. Finally, the policy cycles approach supports the systematization of information related to the dynamics of the Council for a grounded theory approach.

The results show that a high representativeness of the different interests involved is achieved, also suggesting that all the stakeholders gain a higher perception of the diversity of points of view, while the City Council can take better informed decisions. However, common policies to address the most crucial problems are not reached. The creation of working groups for specific actions reinforces the collaboration and trust between stakeholders, which may lead to other positive impacts in the future.

# Leverage, banking competition and SMEs financial stability. Evidence from the Italian provinces

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G21 Regional Finance, Fiscal Issues, Investment or Capital Markets, August 25, 2021, 4:15 PM - 5:45 PM

This work provides empirical evidence on the role that local banking competition might play in the relationship between the indebtedness of small and medium-sized firms (SMEs) and their financial distress. More in detail, this paper investigates the relationship between leverage and Italian SMEs' financial stability, appraising whether and to what extent this link is influenced by the degree of competition that characterises the local credit market in which firms operate.

We use a large panel of Italian small and medium-sized manufacturing firms observed across 2003-2012, retrieved from the database Orbis held by Bureau van Dijk that provides balance-sheet data. The indicator of financial health employed is the Z-score, commonly adopted as a measure of the distance from insolvency. To account for the level of firms debt, we consider the leverage ratio (LEV). As measures of local banking competition (LBC), we employ non-structural indicators: the H-statistic, proposed by Panzar and Rosse (1987), and the Boone indicator (2008). Furthermore, to capture the conditional effect of firms' indebtedness on the firm's financial stability as local banking competition changes, we include an interaction term between the firms' leverage ratio and each banking competition measure. On a methodological ground, we adopt a Pooled OLS, Random and Fixed effect estimators to take into account the panel structure of the data. Besides, we run a Mixed Model to control for the hierarchal organisation of the data.

The main results, robust to different econometric methodologies, indicate that the leverage always negatively and significantly affects firms' financial health, confirming the theoretical prediction on this relationship. What is more, we find that the negative impact of leverage intensifies at increasing levels of competition. According to this evidence, the drawbacks seem prevailing on the benefits potentially associated with competitive banking markets, strengthening the negative effect of higher indebted levels on firms' financial stability. Indeed, increasing banking competition may reduce the incentive to invest in monitoring and screening activities because of free-riding problems and curtail the propensity to establish relationship lending as firms may easily switch bank. These factors could lead banks to ration risky firms, deteriorating, in turn, their financial health.

# An empirical study on older adults' subjective well-being in the pandemic era: the case of Milan

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S15 Policies and Services for Healthy and Active Ageing: Challenges and Perspectives for the Post COVID-19 Aging Society, August 24, 2021, 4:15 PM - 5:45 PM

see extended abstract

# New processes of anthropisation and marginality. Which challenges for the territorial planning at the time of the pandemic?

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S60-S1 ORMA - Opportunities and Risks of new Modalities of Anthropization between sustainability, innovation and fragility, August 27, 2021, 10:15 AM - 11:45 AM

The paper analyses the planning challenges of new anthropisation processes occurring at the margins of the metropolitan areas. In Italy, the pandemic has led to a significant return of interest in inner areas as life and work contexts. This changed perception could lead to both a substantial discontinuity towards economically, environmentally and socially sustainable development models; and innovative spatial planning tools tailored to the concept of the bioregion and the scale of the large area. In the current situation of territorial fragmentation and sectoral compartmentalisation, the paper suggests planners need to adopt a genuinely bottom-up approach based on the awareness of places, cultures and contextual knowledge, local planning, self-government, and collective re-appropriation of heritage. We need the core and the periphery to come to a practical synthesis and a real connection, favouring citizens' well-being, equitable development, enhanced heritage, innovation and the experimentation of virtuous models of governance.

In the analysis of the identity and negotiation processes of marginal territories and their repercussions on territorialisation strategies and planning, the paper assumes the case study of the municipality of Pomaretto (Unione Montana Valli Chisone and Germanasca, CM of Turin). The main research questions are:

1. How does the shock caused by Covid-19 change the conceptualisation of the socio-economic marginality of internal and marginal areas?
2. How does the new "post-marginal" development model relate to the urban, industrial and capitalist model, still dominant today, even in non-metropolitan areas?
3. Which negotiation and relational processes and enhancement of the local environmental heritage can favour a new centrality of the margin, which interacts synergistically with the neighbouring centres and territories? What role can spatial planning play?

From a methodological point of view, the article develops both quantitative (with specific attention to the BES indicators and their return through statistical analysis and social network analysis techniques) and qualitative surveys, such as interviews on the themes of the perception of heritage and the territorial project, the solidarity of the networks and the new forms of local democracy.

# Urban sharing mobility services, which factors matter? A stated preference analysis

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G17-O2 Transport and Accessibility, August 26, 2021, 12:00 PM - 1:30 PM

Urban pollution awareness is becoming a widespread topic and urban transport mobility is the major culprit. In the last years, local policymakers have promoted several actions to handle the negative externalities generated by transport including sharing mobility services. In order to promote these mobility services, we analyze the most important factors that influence the user's choice. Specifically, we focus on two services i) bike-sharing, diffused in several cities, and ii) scooter-sharing, widely and recently introduced in many urban contexts. We use a stated preference approach to study mobility preferences by collecting information on individual mobility patterns considering the Italian cities in 2021. We consider two different analysis. First, we compare two different bike-sharing services provided by different operators. Second, we analyze the preference between bike and scooter in sharing. We developed twelve hypothetical scenarios for each analysis to explore how mobility decision would change when changing the characteristics of the supply operator. The main factors considered in the analysis are the free-floating over the station-based, unlocking and using fares, battery life, the service area's extension, aesthetic preference. Our results reveal the most important factors considered by final users and which service is most preferred between bikes and scooters in sharing. The results and policy implications could be useful for local regulators and sharing scheme operators to correctly develop urban sustainable mobility policies.

# The geography of skill demand

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G18-O3 Regional and Urban Labour Markets and Entrepreneurship, August 26, 2021, 4:15 PM - 5:45 PM

Matching demand and supply is crucial for regional labour markets. Since technological progress is rapidly shifting labour demand, it is essential to identify and understand changes in job requirements and skills. While there is a considerable amount of data on the schooling, knowledge and capabilities of the current workforce, the information about requirements of employers is less extensive. Moreover, the match between demand and supply is not only needed at the right time but also in the right place. This article studies the geography of occupational and skill demand. We use a database consisting of virtually all online job postings for the Netherlands for the period 2016-2020. First, we investigate the spatial distribution of demand for specific occupations and skills. Secondly, we aim to reveal regional patterns in changes in labour demand and link these to regional characteristics.



# Spatial heterogeneity in the Spanish labour market after the great recession

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G18-O3 Regional and Urban Labour Markets and Entrepreneurship, August 26, 2021, 4:15 PM - 5:45 PM

The Spanish labour market is characterised by strong and persistent spatial differences in unemployment rates. These differences could have been affected by the internal wage devaluation policy adopted during the Great Recession and the 2010 and 2012 reforms promoting greater wage flexibility. In this paper we apply a geographic and time weighted regression to estimate a dynamic spatial panel wage curve using microdata from the Continuous Sample of Working Lives for 2002-2018. Our results show spatial heterogeneities in the time varying relationship between wages and unemployment that must be considered to assess regional resilience capacity for future crises.

# Analysis of the economic and social factors that influence the development of bullfighting events in Spain

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G15 Cultural Heritage and Regional Development, August 25, 2021, 2:30 PM - 4:00 PM

Bullfighting is a controversial activity that takes place in a number of countries around the world. In several countries its popularity is increasing (it is booming in South Asia, according to Chio, 2018), while in others it struggles to survive or is in danger of disappearing (see the bans in Catalonia and Ecuador). As a cultural event, bullfighting has a significant economic impact that involves from the primary sector, to which bulls, cattle ranches and work in the countryside belong, to the tertiary sector through the activities of entrepreneurs, bullfighters, plaza staff, and others.

By means of statistical and econometric techniques, this work studies the social and economic factors behind the fall of bullfighting events in Spain, which has been very pronounced since the Great Recession.

We use individual information and use regional and local indicators in a multilevel model to inspect the effect a list of interest variables, including demographic, economic and social aspects. The results are related topics behind cultural economics, territorial resilience and the cultural change towards animals. We link the obtained results with aggregate data on attendance to cultural events, in a panel data model estimated at the provincial level in Spain, considering spatial econometric techniques.

# A Topology of Inclusion: European Regions and the Digital Divide

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S36-S2 Digital Inclusion and Cultures of Discrimination across Regions, August 26, 2021, 2:30 PM - 4:00 PM

Emergence from the Covid-19 pandemic will be a world ever more reliant on connectivity, remote working and engagement with innovative technologies. However, there exist stark regional contrasts in the readiness for this transition that may threaten to widen inequality and leave many left behind in the new economy. In this paper we make use of the Eurostat data on digital accessibility and regional characteristics to construct a topological data analysis of the pre-pandemic state of readiness. When visualized and understood in a multi-characteristic space the picture presents an even more concerning hue. As a second stage we then take the information revealed and seek to model readiness for the digital age using the economic variables. Here again we evidence a strong dependence on the interaction of data; concerns coming in a distinct part of the space. Given the necessarily limited number of NUTS2 regions for analysis our approach offers a novel and timely look that traditional statistics may not provide. Our conclusions may then drive remedial policy before inequalities become too engrained.

# Blockchain-Based Settlement Procedures Design in China Futures Market

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S36-S1 Digital Inclusion and Cultures of Discrimination across Regions, August 26, 2021, 12:00 PM - 1:30 PM

**Abstract:** With the development of internet technology, the securities trading service model has undergone tremendous changes in the past decade. Blockchain technology has become popular in both practical and academic research as its decentralization; it offers a newly significant form of storing distributed shared data as well as one digital recording infrastructure. In this paper, we aim at the blockchain-based settlement procedures design by using smart contracts in the Chinese futures markets. We focus on two research questions demonstrated as follows: How to improve efficiency in the settlement in the settlement procedures by designing a blockchain-based transaction platform with smart contract? How to issue tokens based on rewards or penalties in game theory to better function settlement in this system? By using the game theory and the Wutong Chain, we will test whether the blockchain technology has a significant influence on improving the efficiency of trading between sellers and buyers in the Shanghai Futures Exchange (SHFE).

# Existing and potential consistencies between the European Union Strategy for the Adriatic and Ionian Region and Smart Specialisation Strategies

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S46 Smart specialisation strategy and macro-regional strategies, August 26, 2021, 4:15 PM - 5:45 PM

The main aim of this paper is to provide a first assessment of the potential synergies and actual integration between the EU macro-regional strategies and the Smart Specialisation Strategy (S3).

In the 2014-2020 programming period the European Cohesion Policy focused on innovation-driven socio-economic development of territories, through innovative multi-level and multi-stakeholder governance, namely the Smart Specialisation Strategy (S3), aimed at identifying R&D&I investment priorities that complement the resources and production capacity of a territory to build comparative advantages and sustainable growth paths in the medium and long term.

The European Union Strategy for the Adriatic and Ionian Region (EUSAIR) was launched in 2014. Together with the are Macro-regional strategies, emerged during the last decades, it pioneered a unique kind of cooperation in addressing common challenges relating to Member States and third countries located in a same geographical area to strengthening cooperation and contributing to achieve economic, social and territorial cohesion.

In the post-covid-19 crisis and the challenges brought about by the digital and green revolution, it would be important to capitalise on the synergies between the two main pillars of the EU regional development strategy. Exploiting the potential synergies between these two strategies may foster inter-regional cooperation while contributing to sustainable regional growth and economic and social cohesion.

This research analyses the governance, the potential interactions and overlapping of sectoral priorities and the instruments available to take advantage of potential synergies between the two strategies.

This paper will therefore review the past achievement as well as the challenges and opportunities that are arising in the new programming period (2021-2027)

# Spatial Markov chains. Case study of the distribution of tourist housing in Madrid after Covid-19.

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S41-S2 Opportunities, risks and challenges of the digital transformation in tourism Sustainability, Sharing hospitality and CoVid-19, August 26, 2021, 4:15 PM - 5:45 PM

Sustained growth of tourism in Spain, holiday rental platforms were emerged under the protection of this positive development of the sector and as a new business niche. The collaborative consumption and the platform economy that were linked to urban tourism had played an important role in the reorganization of daily economic and social life in tourist cities.

In this context, Airbnb has been one of the most studied examples of holiday rental platforms. However, in the wake of the global pandemic of Covid-19, the World Tourism Organization has estimated that tourism activity has fallen by more than 20% in the year 2020, with direct consequences for the entire tourism service chain, including the rental platforms.

Before the Covid-19, Madrid was the second city in Spain with the largest number of Airbnb tourist accommodation, whose main effects were reflected in a decrease in the stock of housing available in some neighborhoods of the city, as well as the increase in the price of housing and rent. However, with the decrease in visitor arrivals and a drop in tourist rental flats during the first quarter of 2020, Airbnb's niche market in the Spanish capital would be expected to reconfigure.

In order to determine whether there were changes in the distribution and reconfiguration of the housing stock used for Airbnb, the proportion of full housing stock of this platform for the period 2015-2021 was used for the 128 neighborhoods of the city and followed the methodology of Spatial Markov Chains described in Vallone and Chasco (2020). This consists of 6 steps; the first is based on the representation of the distribution of the housing supply Airbnb through density functions for each of the years of the period and the spatial exploratory analysis. In the second and third steps, the supply growth process is modeled through a first-order stationary Markov chain where spatial and global autocorrelation effects on transition probabilities are evaluated. The fourth, fifth, and sixth steps perform an in-depth analysis to detect the existence and interaction of spatial regimes in the direction of movements and classification in the distribution mobility of Airbnb's supply.

The results suggest that after the COVID-19 the distribution of the tourist flats of Airbnb changes in its location in the city of Madrid that could be influenced by the reconfiguration of the tourist housing sector.

# Tourism Pressure and Housing Stability in European cities: A BSEM Estimation

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S41-S2 Opportunities, risks and challenges of the digital transformation in tourism Sustainability, Sharing hospitality and CoVid-19, August 26, 2021, 4:15 PM - 5:45 PM

Regional economics has variously engaged with estimations of the long-term influence of tourism on regional wealth. Yet, the analysis of its distributive effects, hinting at tourism as a driver of social inequalities, has largely favored the use of qualitative and case-study research, thus neglecting a cross-national perspective. In this paper, we tackle a key redistributive dimension of tourism impacts. A path analysis model is proposed to estimate the impact of the visitor economy on residential instability, via increasing rents and real estate prices. The model uses a combination of data sourced by Eurostat data and a geo-located dataset of Airbnb listings. Results emphasize the controversial influence of tourism on urban communities, indicating how the increase in the number of visitors may benefit in term of the mean income and relief the pressure of housing costs, while at the same time engendering side effects of economic polarization and residential displacement. The model's output also establishes a clear difference between homeowners and tenants to that respect: the former can use the opportunities of rent extraction in the platform economy, to withstand the economic pressure of tourism, while the latter are more exposed to the risk of having to leave their homes.

# Venice as a short-term city. Between global trends and local lock-ins

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S25 Searching for tourism resilience in the post-pandemic world, August 25, 2021, 10:15 AM - 11:45 AM

This paper examines the ongoing transition of Venice towards a short-term city, posited as an urban form which accommodates the dwelling practices of temporary populations as tourists, at the expenses of a stable resident population. This shift is approached through the conceptual framework of resilience, which is also explored in its political and discursive dimensions. At the base of the emergence of a short-term city, we analyse the redistributive impacts of short-term rentals mediated by digital platforms and their influence on the housing market, but also the related entrenchments of a local policy agenda supporting the resilience of the industry itself above that of the city as a living organism.

After illustrating the development of the hospitality sector in the city fabric over the last four decades and presenting the historical challenges that Venice has been facing in regard to its capacity to retain a stable population, we seek to unravel the debate on 'the future of Venice', which confronts local and global agents defending a 'conservationist' approach for Venice as an ineluctably tourist city, with social actors who claim for the defence of residence – and therefore for a ban on STR – as a necessary condition for a socially resilient alternative.



# Research and innovation smart specialisation strategies: complementarities and synergies within and across EU macro-regions

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S46 Smart specialisation strategy and macro-regional strategies, August 26, 2021, 4:15 PM - 5:45 PM

Macro-regional strategies provide opportunities for cross-country and cross-sector growth, from education to health and social innovation. Its value added is being the cross-sectoral approach and the transnational dimension.

The aim at the core of all four strategies is to enhance complementarities and synergies among regions in the macro-region, with a bottom-up regional policy design across the many countries involved (European Commission 2017a). Being implemented in the 2013-2017 programming period, MRSs will provide opportunities for the next programming period to enhance complementarities and synergies across regions allowing them to cope with the endogenous shock of the COVID-19 pandemic that has produced devastating impact on society and economy all over the world.

How can we identify potential synergies and complementarities that macro-regions can leverage on to cope on the challenges of the pandemic? To answer these questions, we suggest endowing policy-makers with a comparative tool about priorities of regions' RIS3 (to outline the development path that regions intend to follow) complemented by a categorization of socio-economic conditions at regional level (to describe the structural features as they emerge from Eurostat data of NUTS2 level regions). Taken together, these analytical contributions, developed in two companion papers by Pavone et al. (2020) and Pagliacci et al. (2019), help to address the multidimensional perspective on similarity across regions. Identifying what these similarities are is essential in a comparative analysis that aims to measure and monitor the impact of integrated investments on the development of the territory across sectors within and across macro-regions. The paper presents the tool created for online browsing (using Tableau Public) with respect to regions' RIS3 strategic priorities and socio-economic data. Main results combine regions' RIS3 priorities and socio-economic characteristics of regions, focusing on each macro-region and outlining cross macro-region profiles. Policy implications of the methodology proposed in the paper conclude the paper

# Measuring Economic Integration in Developing Countries: The Case of Central America

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G30-O4 Innovation and Regional Development, August 27, 2021, 10:15 AM - 11:45 AM

- See extended abstract -

This article successfully applies the methodology proposed by Matteo Mazziotta and Adriano Pareto (2017) for the construction of a non-compensatory composite index that measures the magnitude of economic integration in Central America. Said methodology, combined with an appropriate conceptualization of the phenomenon to be measured, resulted in an indicator called IIC - AMPI. Using this indicator, a review of the recent evolution of the Central American Economic Integration (CAEI) was carried out. The IIC-AMPI is presented as an unprecedented proposal for the CAEI, offering a rigorous methodological approach, while providing a robust conceptual framework. The findings suggest that the IIC-AMPI is an adequate indicator to measure the progress of integration in the economic sphere, since the result is an indicator sensitive to changes in direction and magnitude of the variables that compose it, and, in addition, it is resistant to the presence of outliers, which are common in Central America due to the deep asymmetries between its countries. This article concludes that the current pace and pattern of integration are clearly defined by the countries that participate in the so-called Deep Integration Process initiative, since the regional average score for the period 2015 - 2017 follows the same behavior as that of Guatemala and Honduras. Of the sample of countries, Nicaragua is the country that in the study period presents the most constant progress in terms of integration, while Panama, for a series of historical reasons, is the country that is further behind in the process. The regional average score reflects an evident improvement of the phenomenon, mainly explained by the strong "push" that the CAEI received with the launch of the Deep Integration Process between Guatemala and Honduras. The evidence supports the idea that the Customs Union is the future of integration in Central America, and supports the notion that the structure proposed for the IIC-AMPI manages to collect and make visible the dynamic of economic integration in Central America.

# The resilience of tourism services: culture, territories and re-organization of production processes

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S05-S1 Sustainable Regional Tourism Strategies in Pandemic Contexts, August 24, 2021, 12:00 PM - 1:30 PM

Tourism services, being tightly linked to the physical presence of tourists in the places and territories of destination, suffered dramatic losses in activity and turnover after the outbreak of the pandemic, and therefore now need to be redesigned from a perspective that can accommodate the changes underway. An issue of relevance is the creation of partnerships with other social and territorial actors, such as the social economy, the key actors of the digital revolution, the public sector and, more generally, all the stakeholders able to contribute to a sustainable territorial approach.

Based on these premises, the research proposes an interpretation of tourism using the lens of resilience, thus focusing on the development of local and territorial networks, but also on a differentiation of services that may prelude to the achievement of an integrated perspective and cross-fertilisation with other sectors of economic activity, such as welfare policies.

While a focus on people's basic needs is becoming a key point in the process of agenda setting, the unexploited economic potential of tourism can be used for social purposes by building strong links with local administrations and non-profit associations. Positioning tourism services among the activities contributing to the resilience of places and people can also lead to a green conversion and new business opportunities through an improved access to the resources of the Next Generation EU plan.

This strategy may also offer new opportunities for personal and professional growth to young people living in the inner areas, especially from the perspective of gender equality, in order to contrast the current depopulation processes by means of creating new jobs locally or by leveraging the new possibilities offered by smart working.

# On Space Research and Regional Development: a focus on the Covid Crisis

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G30-R Innovation and Regional Development, August 25, 2021, 12:00 PM - 1:30 PM

While opening up unprecedented opportunities for development and economic growth, the space economy and space-borne Earth Observations (EO) also pose additional societal challenges of redistributive and environmental nature. In particular, the acceleration of globalization trends triggered by the Covid-19 Crisis may herald a radical transition towards a new international economic order underpinned by changing geopolitical equilibria. In the meantime, the transition phase may be characterized by rising inequalities and epistemic injustices that may increase disproportionately the number of the poor and of those kept behind. Based on these premises, this study illustrates, within the general framework of the regional sciences, the state-of-art of the space economy and, within it, of space-borne Earth Observations (EO). Notwithstanding the relative stability of its structure, the space economy is rapidly evolving due to several innovation streams, and now seems to be on the verge of a new cycle of its development characterized by the increasing use of remote sensing output (signals, data) in the design and implementation of scientific approaches to societal challenges.

Despite the unprecedented opportunities of innovation and development opened up by the space economy and the EO, it is worth noting that many regions cannot follow spatial innovation patterns, and that, in turn, may exacerbate inequalities both between and within regions. On the other hand, the greater availability of low-cost resources in marginal areas may foster a process of decentralization of productive activities to regional peripheries, rather than to other regions, due to a mix of social proximity and low transport costs. Based on the considerations, the research highlights that a heterogeneous set of policy measures is needed to address the disruptive effects of the Covid-19 pandemic and to enable and support sustainable development in social and territorial localities. Furthermore, a “sextuple helix model” emerges, which innovates previous quadruple and quintuple helixes by adding, besides environmental, also redistributive concerns and a specific focus on eradicating epistemic injustices.

# The role of tourism in the Spanish railway network: is sustainability a real flagship?

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S53-S2 Sustainability in the tourism sector through the consumption of energy and water, maintenance of cultural and environmental heritage, and corporate social responsibility, August 27, 2021, 12:00 PM - 1:30 PM

The rise of new sustainable tourism trends, the result of citizen demand, added to the European ecological transition project -the Green Deal-, may lead to a transformation of the tourism model. In this context, the railway is emerging as a robust candidate in terms of sustainability since its emissions are significantly lower than those of other means of transport. Thus, this work analyses the situation of the railway in Spain, its relationship with other means of transportation such as the aeroplane, in the volume of passengers and its possibilities as part of the framework of the tourist industry. Thus, a descriptive and association analysis of the variables involved is carried out. Therefore, this study shows how the railway is a sustainable alternative that responds to the new needs of tourists. Likewise, two actions are proposed to enhance the positive impact of this subsector. On the one hand, an extension of the concept of generalized cost applied to the ticket fare visibly and understandably for consumers, and, on the other hand, by promoting the so-called "Greenways" - abandoned railway sections converted into hiking routes - in rural areas. However, as a result of the recent liberalization of the passenger rail transport market in Spain, this situation could change in the upcoming years.

## Cazalla de la sierra: a tourist vocation in times of COVID-19

Prof. María Inmaculada Crespo-Morán<sup>2</sup>, **Prof. Francisco Sánchez-cubo**<sup>1</sup>, Prof. Dr. María del Pópulo Pablo-Romero Gil-Delgado<sup>2</sup>, **Prof. Dr. Javier Sánchez-Rivas García**<sup>2</sup>

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S53-S1 Sustainability in the tourism sector through the consumption of energy and water, maintenance of cultural and environmental heritage, and corporate social responsibility, August 27, 2021, 10:15 AM - 11:45

AM

Tourism has become one of the main economic activities in Spain. However, in recent years, different types of tourism have been developed, motivated by the depletion of the sun-and-beach model. Inland tourism or rural tourism based on available environmental and cultural resources constitutes an alternative that is gaining more and more market share within the national scene. That is causing greater interest in Academia to generate scientific research around this topic. The region of "Sierra Norte de Sevilla", specifically the municipality of Cazalla de la Sierra, seems to be a territory especially demanded and naturally endowed for the development of this type of tourism. Given the extraordinary circumstances caused by the COVID-19 pandemic, this piece of work aims to demonstrate the tourist vocation of "Cazalla de la Sierra". To achieve it, a large amount of primary data was gathered by the authors. Thus, a tourist diagnosis of the destination is performed to identify the reasons why "Cazalla de la Sierra", despite the collapse of the tourism sector in 2020, has established itself as a destination in which all occupation records have been surpassed. Additionally, a literature review of the concept of tourist vocation is carried out.

# Attracting knowledge workers to big cities: exploring lights and shadows in Madrid

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G12-O6 Regional Competitiveness, Innovation and Productivity, August 26, 2021, 4:15 PM - 5:45 PM

Many cities are striving to attract and retain knowledge workers, who have been linked to the upgrading of the local economy, cultural life and institutional frameworks. Accordingly, many cities try to improve the attractiveness of urban environments as places of residence and work. In this regard, it can be hypothesized that such strategies may have also a negative impact, for example in terms of housing prices or gentrification processes, among others. Based on the administrative records of workers affiliated to the Social Security in the city of Madrid (2016), our research seeks to study the association of the observed residential location patterns with certain neighbourhood characteristics. Secondly, we have explored the spatial association of these residential locations of knowledge workers with the evolution of housing prizes in Madrid neighbourhoods, compared with other factors like the growing supply of Airbnb properties, which have also been identified as an stressing factor in the housing market in this city.

# The severity model in European tourism demand on Andalusia through hotel accommodations in 2019.

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S53-S1 Sustainability in the tourism sector through the consumption of energy and water, maintenance of cultural and environmental heritage, and corporate social responsibility, August 27, 2021, 10:15 AM - 11:45 AM

Gravity models are models of an econometric approach inspired by Newton's law of universal gravitation. In the field of economics, these models were initially used by Reilly (1931) to analyze the factors that attract retail to larger cities. Later, in the 60s of the twentieth century, these models were extended to the context of international trade (Tinbergen 1962; Pöyhönen, 1963). In this area, gravity models indicate that trade flows between countries directly depend on their "sizes" and vice versa of the distance between them.

Recently, these models have begun to be used for the analysis of the flow of tourists between countries, understanding on the one hand that their value is related to the importance of the wealth of the countries and the distance between them, and on the other, that the demand for tourists has a direct impact on the economy and wealth of the countries. These works include, for example, those of Khadaroo and Seetanah (2008) Fourie and Santana-Gallego (2011).

These studies can model the tourist flow in a double direction (exchange of tourists between two countries), or, in a single direction, when considering a country or region as an attractive focus. In the latter case, the demand for tourists is modeled towards an area from other surrounding countries or further away.

Based on these previous studies, and under the single direction approach, this work aims to model the demand for tourism generated in Andalusia (region of southern Spain) from European countries. For this, a gravity model is used in which the flow of European tourists who stayed in hotel establishments in Andalusia in 2017 is analyzed.

Focusing the study in Andalusia is of special interest for two fundamental reasons. On the one hand, Andalusia is the Spanish region that attracted the greatest number of total tourists in 2016, with Spain being one of the main tourism recipients in the world. In this way, its results can serve to better understand the international movement of tourists in the world, at least in Europe. On the other hand, the weight of the tourism sector on its economic activity is of special relevance for the region, so its analysis can result in the development of economic policies relevant to its economy. On the other hand, it establishes as a focus of study tourist arrivals from Europe is also of special interest for two reasons.



# The relationship between electricity consumption and the use of physical capital in tourism

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S53-S2 Sustainability in the tourism sector through the consumption of energy and water, maintenance of cultural and environmental heritage, and corporate social responsibility, August 27, 2021, 12:00 PM - 1:30 PM

Tourism is an expanding strategic activity of the world economy. It currently represents 10.4% of the world's GDP and generates more than 300 million jobs, according to the latest World Travel & Tourism Council's report (WTTC, 2019). However, the positive effect on economic activity is accompanied by a negative effect on the environment. The latest estimates carried out in Lenzen et al (2018) show that in 2013 tourism was directly or indirectly responsible for 8% of global CO2 emissions; which is related to the intensive use of the polluting energy sector.

To date, there are growing studies that show the positive causal relationship between tourism and energy consumption, whether of fuels or electricity. Also, the relevance of the capital use in the energy consumption growth in the sector, has been recently highlighted.

In this study, the effect of the use of different types of capital on the consumption of electricity in the hospitality sector in Spain is analyzed. For this, panel data techniques are used referring to the 50 Spanish provinces in the period 2001-2016. The data show the different effect that the different types of capital have on the consumption of electricity in the sector.

# Determining factors of the Swedish car fleet – a spatial econometric analysis

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G17-O3 Transport and Accessibility, August 26, 2021, 2:30 PM - 4:00 PM

Access to a car is a significant transport resource, enabling individuals to travel more easily. Vehicle ownership varies across Sweden, both as regards number of vehicles per household and the types of vehicles owned, at the municipal and county levels. Trends in car use and ownership are of great significance for reaching transport policy objectives.

The objective of this study was to find the determinants of car ownership and to discuss whether previous observations apply also on a more disaggregated level. In the analysis, we have studied factors influencing car ownership, but also various forms of car ownership, such as company cars and private leasing, with consideration taken to spatial autocorrelation.

Previous research indicates a correlation between household car ownership and access to public transport. Furthermore, a positive correlation has been established between income and demand for transport. Demand for transport takes different forms among the various income groups. Low-income groups increase their use of public transport when their income increases. On the contrary, the probability of purchasing a car increases in higher income groups, which tends to lead to decreased demand for public transportation. In addition, socio-economic factors, such as education, employment, type of housing, and family size, have previously been established as important determinants both of car ownership and for the number of trips made.

In most cases our hypotheses were confirmed. The largest deviation from the predicted results concerns public transport availability, defined as the number of departures per local area during a given week. The expectation was that a higher level of public transport availability would lead to a lower level of car ownership. Public transportation availability was only weakly significant in some of the models, and, in those cases, it showed a positive correlation. Thus, the number of cars owned is also high in areas with a high level of public transport availability. This unexpected result led us to control for spatial heterogeneity, which returned a negative and only weakly significant parameter value for the public transport availability in major cities. No statistical correlation was found for public transport availability in other municipalities.

Public transport availability, as defined in this study, therefore cannot be said to affect car ownership. Instead, there are a number of socio-economic and geographical factors of greater importance. In the regression analysis we also find evidence that other factors determine ownership of private car, company cars and private leasing.

# The Effect of Conditional Cash Transfer Policies on Regional Crime Levels: Evidence from a Synthetic Controls Framework (note: Paper eligible for Epainos Award)

Mr Felipe Santos-Marquez<sup>1</sup>

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S43-S1 Counterfactual methods for regional policy evaluation, August 26, 2021, 2:30 PM - 4:00 PM

In this paper, 109 socio-economic variables and their spatial lags are tested as determinants of homicide levels across Colombian municipalities. Using Bayesian Model Averaging methods, a subset of 15 variables are found to be the robust determinants. This set of variables is compared with the previous literature on crime in Colombia and the region. Reinforcing previous findings, inequality, institutions, education and initial crime levels are reported as the most relevant determinants of homicide rates. Moreover, drug trafficking and production, and the intensity of armed conflict are found to be robust determinants of crime.

In the academic literature, there is not a broad agreement on the relationship between violent crime and the expansion of conditional cash transfer programs. This study sheds some light onto the impact that the largest of this type of programs has on homicide rates in Colombian municipalities. The causality link is exposed using synthetic control methods. This study is focalised in one of the most violent regions in the country, the Pacific region. The results suggest that when accounting for variance instability, the homicide rates in treated regions are lower than their synthetic control counterparts. Also, placebo studies are performed to evaluate the significance of the results. On average, the effects of the conditional cash transfer program on homicide rates are reported to be significant at a 5% level.

# Vulnerability of Tuberculosis Patients Needing Treatment during the

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S58 RSPP Special Session on "Breaking the Vicious Cycle of Vulnerable Regions", August 26, 2021, 2:30 PM - 4:00 PM

Tuberculosis as a multifaceted medical problem and had been one of the greatest obstacles of public health management in the world and especially in developing countries like India, where wide economic and social disparities, occupational disequilibriums and earning debacles lead directly to malnutrition and people succumb to communicable diseases in high numbers and consistencies. Though the fight against Tuberculosis is generally initiated from birth through free BCG vaccination, it is indeed not fully under the ambit of the Compulsory Universal Vaccination system in India. Hence, the pre-ponderance of adult and pre-adult Tuberculosis infections have persisted in spite of the regular vaccination protocol incorporated in the policy. This paper presents analysis of a detailed survey of the predicaments of fighting the Tuberculosis menace in a scenario of high magnitude of treatment lapses that have taken place during the pandemic and successive lockdowns. The burden of work of the health professionals and technicians in this morbid situation was hitherto unknown in the preceding century. The rage of Covid has engulfed the facilities and resources – both medical and para-medical human resources dedicated for the treatment of other seriously communicable and critical diseases. The pandemic situation has taken many lives in the health sector itself and entire teams of health workers continue to take the burden of work for Covid patients and have been unable to cope with management of other diseases. This has taken an unprecedented toll on the treatment and consequent trauma and morbidity of the Tuberculosis patients, among many other diseases. Accompanied by their unprecedented loss of occupation and food availability decline, even basic nutrition requirements and healthcare facilities have been discontinued amongst the poor. The discontinuity of treatment, complete suspension of awareness programs and decline in the supply of regular medicines have created a crisis for Tuberculosis patients. In a word, this envisages the breakdown of the health policy of the state and lead to a consequent and vicious enhancement of vulnerability of the affected community. An attempt is made to raise the concerns with a detailed investigation into the scenario of the public health and professional void and it's consequent concurrent effect on the Tuberculosis menace. With our preoccupation with the imminent wave of Covid pandemic, the crisis created by the rising tide of Tuberculosis has gone to the background. It has been found that the taboos and predicaments of the multi-drug-resistant strains and implications of HIV infused complications in the matter are becoming key areas of concern.

Keywords: public health crisis, tuberculosis menace, medical void, treatment discontinuity

# Switch or Stay? Push-Pull Motivators for Switching from Yearly Transit Ticket to Mobility-as-a-Service (MAAS)

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G17-O2 Transport and Accessibility, August 26, 2021, 12:00 PM - 1:30 PM

Mobility-as-a-Service (MaaS) as key towards promoting sustainable travel depends on collaboration with public transport. This study focuses on the willingness of transit users to switch from their transit card to a MaaS subscription. The behavioral motivation model combines the bundle switching behavior model with normative, gain and hedonic goal framing. A stated-preference experiment elicited the choice between a yearly transit card with unlimited travel and two MaaS options on the basis of package price, transit trips, e-car and e-bike price and benefits in the form of free e-bike and e-car minutes. A hybrid discrete choice model was estimated on a sample of 5,664 choices from 1,416 transit users in Innsbruck, Austria with the aid of the city and regional transit operators. The latent variables are service-based push-pull factors, switching costs, and individual environmental attitudes, time saving skills and taste for innovation. Socio-economic and trip characteristics served as control variables. The results show that the choice between transit and MaaS is non-trivial: i) the product attributes motivating switching to MaaS are free transit rides, e-car minutes and e-bike minutes, ii) a greater price difference between transit and MaaS motivates staying with the current transit card, iii) the latent factors motivating staying with the current transit card are transit service satisfaction, switching effort, and environmental attitudes iv) the latent factors motivating switching to MaaS are its perceived advantages, under-utilization of the current transit card, and taste for innovation.

# How much has COVID-19 promoted remote work in Tokyo? An examination by applying an activity simulator

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G13-O2 Methods in Regional Science or Urban Analysis, August 25, 2021, 2:30 PM - 4:00 PM

This study examines how much the declaration of state of emergency of COVID-19 promoted remote working in Tokyo. The Japanese government encouraged people to work at home to reduce human contacting through commuting and working at office in April 2020.

The basic concept of the approach is to assimilate activity simulator, based on the pre-pandemic survey, which divide Tokyo 23 wards into 115 zones, with the big data of population. We adopted PCATS (Prism Constraint Activity and Travel Simulator), an activity model that takes into account the prism constraint and fixed activities.

Before people started remote working, they had different locations between home and office and commuted from home zone to office zone. These activities are reproduced by the simulator. On the other hand, the big data provides the real-time population in each 115 zones estimated via mobile phone operation. Therefore, the estimated population of big data in each zone reflects activities in the pandemic. We assumed that the difference between the pre-pandemic estimated population and on-pandemic population of big data are the result of shift from working at office to working at home, remote working. To estimate the percentage of people who chose remote working and staying home in the morning, we conducted resampling algorithm by regarding the difference of population between the activity simulator and big data as the likelihood of remote work . We repeated the same procedure to the afternoon time and the evening.

The study provided a similar remote work population distribution with big data in all zones of Tokyo. The estimated remote work penetration rate was 26.1% in April. This number is consistent with the government survey in April.

This model has three advantages. First, we can easily see the changes in the remote work penetration rate in different time periods. For example, the rate was 14% in October 2020, much lower than in April, suggesting that people started returning to office. Second, the model also presents the geographical distribution of remote working in Tokyo: the estimated remote working rate was higher in the office center around the Tokyo Station than those around other office centers. Third, we can estimate the time and space distribution of commute congestion if we apply the assignment algorithm to the OD distribution of commuting under the declaration of the state of emergency.

# The role of regional FDI promotion in handling the consequences of the COVID-crisis – The case of Tatabánya

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S33-S1 Geoeconomic challenges: the role of FDI revisited in the Central and Eastern European regions,  
August 26, 2021, 12:00 PM - 1:30 PM

The role of FDI and foreign-owned companies can play an important role in helping the recovery from the economic problems and disruptions caused by the COVID pandemic (OECD, 2020). FDI promotion policies and agencies operating at various levels in the economies may play an important role in attracting FDI projects. According to Crescenzi et al. (2019) while there are national IPAs in the majority of the countries, FDI promotion is increasingly done by sub-national IPAs. As they put it: “investment promotion is a multi-layered architecture that involves both national and sub-national organisations” (p. 4). They also show that as opposed to national level IPAs, sub-national IPAs impact is positive on the inflow of FDI. In the paper we show that in Hungary, FDI policy has been centralised to a great extent (as showed in international comparison by OECD 2018 as well) and now local agencies and players of FDI attraction (industrial parks, local government) have a very limited manoeuvring room. Based on the analysis of one of the most successful in FDI attraction countryside towns in Hungary, Tatabánya, we show, that while centralised FDI attraction can be successful in attracting large FDI projects, it (1) does not pay attention to the negative (environmental and societal) impacts of these projects on the locations; (2) does not pay attention to small-to-mediums-sized FDI projects suiting much better the factor endowment and other characteristics of the location; (3) does not take into account the potential synergies and links between projects already operational in the given location. Overall, we found that while centralised FDI promotion systems may be successful in attracting large projects, they cannot pay attention to local specificities and thus these large projects have little chance to be substantially embedded in the location’s economy. On the other hand, local players in FDI promotion can find and select those (even smaller-sized) FDI projects, which correspond much better to the specificities of the given location and have much higher potential to be embedded in the local economy.

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# Jungle Mahal of West Bengal, India: Enigma of Entitlement and Empowerment in the Context of Geographical Vulnerability

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S58 RSPP Special Session on "Breaking the Vicious Cycle of Vulnerable Regions", August 26, 2021, 2:30 PM - 4:00 PM

Jungle Mahal is a region that has its distinct historical reference under the British Rule in India, to loosely comprising a geographical entity located at the eastern margin of the Chotonagpur Plateau; its contemporary identity is more of a geopolitical one, which began with the unrests associated with movements of some ultra-Left outfits, in the beginning of the present century. In spite of the absence of any specific administrative boundary, a lot of media attention at both provincial and national levels marked Jungle Mahal's regional acceptance, the nomenclature of which was increasingly referred with regard to various forms of organizations, news and literature. Five districts, namely Purulia, Bankura, Jhargram and Paschim Medinipur, and some parts of their adjoining districts of the State of West Bengal, India with an area of more or less 20 000 km<sup>2</sup> and population of 13 million is now officially designated as Paschimanchal (Western Region) by the provincial government. In general, a higher proportion of the people belonging to the marginal categories by caste and impoverishment are concentrated in this sub-region, compared to many other regions of India.

Economically the region is not much productive due to various geological, soil and climatic factors. Since long, the tribal people, the original inhabitants of the region, used to find much of their livelihood supports from the forests, from where the name Jungle Mahal is derived. However, over time in-migration of non-tribal people took place leading to increase of population, clearing of forests for settlements, agriculture and other infrastructure, and subsequently the tribes and other old settlers became marginalised in their own homelands. Even after the independence of the country not much appreciable development work took place in the region, and therefore gradually, with rise in political consciousness, people of the region started supporting issues of geopolitical identity for self-rule. The elected governments, however, initiated a "carrot and stick" policy to diffuse the crises. But, the feeling of deprivation is often expressed in the way of demand for separate statehood (administrative province) for the region, whether justified or not, that invites speculative debates and discussions among the various stakeholders. This paper attempts to take a call on stakeholders' views of the causes and consequences of "self-rule" and the validity of the debates around it.

Keywords: Deprivation, geopolitical identity, self-rule, stakeholder perceptions



# The value of culture for regional development: A case study for the region of South Tyrol, Italy

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G32-O2 Tourism and Culture, August 27, 2021, 2:30 PM - 4:00 PM

The cultural and creative industries including sectors such as the music industry, design, radio and TV, architecture, as well as books and publishing, are among those sectors that are particularly affected by the current Covid crisis and its associated measures such as entry bans and travel and assembly restrictions. During the past year, numerous providers of cultural goods and services are confronted with considerable losses in turnover and consequently liquidity problems. Overall, the cultural and creative industries - measured in terms of employment, turnover and gross value added - play an essential role for a country's and region's economy. For a culturally diverse region like South Tyrol in Italy, an economic analysis of the cultural and creative industries and their sub-sectors is of particular importance, especially at the time of the current Covid crisis.

Against this background, this study examines both the statistical data of the cultural and creative industries in South Tyrol and the direct and indirect effects of the cultural expenditures of the local public administrations. In a first step, the study analyzes the most important structural data (number of companies and employees, the total turnover or the gross value added) of the cultural and creative industries of South Tyrol and of its sub-sectors such as the music industry, the book market or the art market. Subsequently, the indirect and induced economic effects of the cultural expenditures of the province are examined. For this purpose, an input-output analysis is carried out. This shows the multiplier effect that the cultural expenditures of the local public administrations can trigger in the various economic sectors and thus also illustrates the interconnections that these cultural expenditures have with other economically relevant activities.

# Who Benefits From Offshoring? Regional Differences in Productivity from Internationalization in Firms.

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S47-S3 Foreign Direct Investments, trade and local development: drivers and impacts, August 27, 2021, 12:00 PM - 1:30 PM

An often posed question concerns drivers of regional development associated with knowledge, creativity or more general agglomeration economics. While these aspects may interact with the internationalization activities of firms, as argued in the literature, we ask the question if firms offshoring and backshoring activities are of particular benefit to development in urban areas or outside urban areas in terms of creating jobs and increasing productivity. Our analysis is based on survey data among Danish firms spanning a 10 years periods between 2006 and 2016, where firms were repeatedly asked about their international offshoring and backshoring activities. This data is combined with register data on employees and with regional data on types of regions in which firms are located in. Based on this type of information and controlling for sectoral differences our results point to important regional differences in firm internationalization being drivers of regional development. Both offshoring and backshoring increase wage growth in firms outside major urban areas in Denmark, while these activities have no or in some instances negative effects on wage growth in and around urban centers. We interpret these differences in terms of stronger dependencies on international supply chains and work sharing outside urban centers to ensure firm competitiveness.

# An entrepreneurial ecosystem in the informal economy - The case of Champeta music

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G24-O2 Creative Industries and Regional Development, August 27, 2021, 2:30 PM - 4:00 PM

The informal economy is one of the most important alternatives for employment and survival, particularly in developing countries. As such, this phenomenon has increasingly been subject of academic research (Harris, 2014). Often characterized by a lack of structure and complexity (Hart, 2006) and associated with unproductivity (e.g. Benjamin & Ahmadou, 2012) and lacking agglomeration economies (e.g. Amin, 1994), poverty and inequality (e.g. Harris & Todaro, 1970), public policy targeted a reduction of its size. However, not only have these intents miserably failed. Today, the informal economy is ever growing (e.g. Elgin et al., 2013), which calls for more analysis (Welter, Smallbone, & Pobol, 2015). For example, we need to better understand how entrepreneurship rises, grows and expands in order to better tailor public policies for regional economic development (e.g. Bruton, Ireland, & Ketchen Jr., 2012).

We rely on the rise of champeta music in the Colombian Caribbean Coast as a singular case study. Champeta is a rhythm of Afro-descendant origin, which used to be popular mainly among low-income populations. Historically, the city of Cartagena has been the main market as well as the production center of this popular rhythm since the 1980s (e.g. Cunin, 2006; Müller, 2018). We rely on this case study to analyze how the socio-cultural context shaped through the history of the city and the region has led to the emergence of an Entrepreneurial Ecosystem (EE) operating in the informal economy. More specifically, we evaluate how the social legitimacy of entrepreneurship (Etzioni, 1987) accompanied with the social legitimacy to operate outside the legal boundaries shaped the emergence of this EE.

# Urban agriculture for resilient urban food systems? Findings on the challenges and opportunities of UA during the COVID-19 pandemic.

**Dr. Victoria Schoen**<sup>1</sup>, Dr Silvio Caputo<sup>1</sup>, Mr Chris Blythe<sup>2</sup>, Dr Kathrin Specht<sup>3</sup>, Dr Runrid Fox-Kämper<sup>3</sup>, Dr Nevin Cohen<sup>4</sup>, Dr Agnès Lelièvre<sup>5</sup>, Dr Lidia Poniży<sup>6</sup>, Ms Konstancja Fedeńczak<sup>6</sup>

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S20-S1 Urban Agriculture and Urban Resources – New approaches for resilient and sustainable urban food systems, August 25, 2021, 12:00 PM - 1:30 PM

In cities throughout the world, low-income people have subsisted in part by growing their own food. Urban agriculture has also been promoted as a solution to food insecurity resulting from political, economic, and environmental crises: wartime food shortages; disinvestment and property abandonment; earthquakes and floods; climate-change induced weather events; and the economic dislocation following the Great Recession of 2007/ 2008. Whatever the crisis, urban agriculture has adapted to the challenge, providing food and social benefits that contribute to the city's recovery.

This paper examines the effects on, and responses by, urban farms and gardens to Covid-19 in the summer of 2019 when the pandemic was a relatively new phenomenon. It builds on an international research project (FEW-meter), Sustainable Urbanization Global Initiative (SUGI), a Joint Program Initiative of JPI-Urban Europe and the Belmont Forum initiative, that aims to develop a methodology to measure material and social benefits of urban agriculture in five countries (France, Germany, Poland, UK and USA), from a Food-Energy-Water Nexus perspective.

Survey results address five key areas: garden accessibility and service provision during the pandemic; adjustments to operational arrangements; effects on production; support for urban farms and gardens through the pandemic; and thoughts about the future, for the recovery and beyond. Results are presented for community gardens and for allotment gardens from the perspective of the garden manager and the plot holders in the project countries.

The paper shows that the pandemic has brought multiple challenges to gardens including the loss of ability to provide support services, loss of income, and reduction in output of fresh produce as a result of reduced labour supply. But Covid-19 has also opened up opportunities in terms of new markets to sell locally, more time available to gardeners to work in their allotments and increased community cohesion where neighbouring gardeners have looked out for one another.

By illustrating the range of challenges faced by the pandemic, and strategies to address challenges used by different farms and gardens, the paper illustrates how gardens in this pandemic have adapted to become more resilient and suggests lessons for municipal food planning relevant to future crises.

IN ADDITION, SEE EXTENDED ABSTRACT

# Economic Drives of the COVID-19 Pandemic in Germany

Prof. Dr. Alina Schoenberg<sup>1</sup>, Prof. Dr Florian Bartholomae<sup>2</sup>

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G29-O3 Regional and Urban Policy and Governance, August 27, 2021, 12:00 PM - 1:30 PM

The COVID pandemic has hit countries and regions around the world very unexpectedly since the end of 2019. However, the spread within countries has been affected at a different pace and extent. This raises the question which region specific socio-economic factors have been enabling the spread of the disease. Having a comprehensive knowledge of these factors contributes to improving effectiveness of control and prevention measures and allows for customized policy interventions.

In this paper, we deal with spatiotemporal patterns of infections across 294 German counties and 107 urban municipalities. By employing spatial autocorrelation methods we identify infection clusters by considering monthly public case data over the span of one year (March 2020 to March 2021). The results show that while there have been infection clusters in Germany, lockdown policies lead to timely dissolution. However, the federal system that implies different policies across Germany has led to different spread patterns and clusters over time on alternating locations. Furthermore, we estimate the effects that factors such as economic diversity and centrality, manufacturing and tourism activities as well as demographic indicators have had on the number of cases. In order to control for political differences across regions, upcoming state elections as well as ideological differences at the state government level have been considered. The results show that while due to an early and country-wide consistent ban on tourism activities, the impact of the tourism sector on the spread of the Coronavirus has been rather small, border regions have been affected harder. Furthermore, regions lead by conservative state governments appear to have been impacted more by the pandemic.

# The dimension concept of urban resilience – a unifying approach to make cities more resilient in times of uncertainty

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G06-O3 Adaptive and Resilient Cities and Regions, August 24, 2021, 4:15 PM - 5:45 PM

Cities are complex systems developing under manifold circumstances. The framing conditions can be long-term threats (e. g. climate change, demographic change) or acute shocks (e. g. corona pandemic), which pose often ambivalent and uncertain challenges towards the functioning of a city. At the same time, urban systems can be characterized by complexity, multi-scalarity and their interconnectedness, which often leads to unintended or unpredicted reactions. In order to assure efficient public services and long-term sustainable development, planning stakeholders have to find solutions to actively adapt and transform the urban systems to cope with these challenges. In literature and politics there is a huge call to make cities more resilient, yet the intensely discussed resilience-concept lacks a broad application in local planning practice.

The resilience-concept has developed in several disciplines without starting from a common definition. This has led to divergent understandings of resilience in the different disciplines. Although there seems to be some kind of mutual understanding of resilience being characterized by, at least, the aspects of robustness and adaptivity, there is still no overarching definition of the term. This lack of a precise definition might be positive for an open multidisciplinary discussion of resilience as a bridging concept, but it is apparently an obstacle to the application in planning practice. What is the difference between resilience, vulnerability and sustainability? Are these contrasting or complementary concepts? How can resilience be measured? These are the questions that have to be answered in order to operationalize resilience for practice and relate concrete measures to the theoretical understanding of the concept.

The dimension-concept of urban resilience, which will be presented, brings together different understandings of urban resilience from various disciplines, while connecting these understandings with each other. This is done by a three-dimension-approach which addresses various types of urban systems on different scales: the physical urban systems, the institutional systems and the social systems. Acknowledging the interconnectedness between these dimensions of a city, the concept concludes that urban resilience can only be achieved, if specific resilience approaches are implemented on all of these dimensions. Thus, the dimension-concept of urban resilience preserves the bridging-character of the resilience-concept while, nonetheless, enabling an operationalization for different types of urban systems on each dimension. Therefore, strategic objectives for the implementation are attributed to each dimension. An example for the practical application of the concept to measure the resilience of different urban structure types will be shown.

# Closing the nutrient cycle – SUSKULT as an innovative and sustainable food-production system combining urban agriculture with sewage treatment

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S20-S2 Urban Agriculture and Urban Resources – New approaches for resilient and sustainable urban food systems, August 25, 2021, 2:30 PM - 4:00 PM

The research project SUSKULT (Development of a sustainable cultivation system for food in resilient metropolitan regions) aims for the sustainable cultivation of food in metropolitan regions. To achieve this objective, an innovative approach to recycle urban resources is developed. Sewerage contains various nutrients like nitrogen, phosphor or potassium. These are usually ingredients of fertilizers used in the agricultural production of crop plants. By tying an agricultural production system to an innovative sewage plant, which is able to recycle the nutrients, the nutrient cycle can be closed within urban areas close to the producers and consumers of urban resources.

The SUSKULT approach focusses on the nutrients which are contained in the sewerage. They are recycled by using innovative membrane filter technology to separate them from harmful substances. The gained nutrients are concentrated in a nutrient dilution which is used in a hydroponic agricultural system adjacent to the sewage plant. As this agricultural system is optimized for urban agriculture, the plants grow under controlled environmental parameters (temperature, light) to gain high output in vertical farming. Therefore, this approach can be realized on scarce land in urban areas and contributes to the reduction of transport routes in regional food marketing.

In the presentation, the SUSKULT-approach is described and possible pathways to integrate the new food production-system in different urban contexts are shown. This is done by analysing scenarios for the implementation of the system on five exemplary sewage plants in the Ruhr Area representing different challenges concerning the urban context, actor networks and technical conditions. Each scenario is written as a backcasting-scenario reconstructing the pathway from the successful integration of the SUSKULT-approach in 2050 back to the status quo of the according sewage plants. Possible challenges during the transformation process are discussed and measures to handle these challenges are derived. The methodology of creating the scenarios in a multidisciplinary stakeholder-group is described and reflected.

# A new delineation of labour market regions for Germany

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G18-O3 Regional and Urban Labour Markets and Entrepreneurship, August 26, 2021, 4:15 PM - 5:45 PM

We present a new delineation of labour market regions in Germany, which revises and renews our previous delineation by using current commuting data based on associations of local authorities. By applying new techniques to identify clusters of commuting flows and combining the best results into a robust delineation we are able to propose a new delineation that might be useful for both science and politics.

To find a new delineation of labour market regions, we compare the results from three different methods with respect to their quality and the number of labour market regions generated.

- First, as in our former delineation, we combine the graph theory with the threshold method.
- Second, we use the "Travel-To-Work-Areas method" recommended as a comparable statistical classification for all EU Member States.
- Third, we apply network analysis as a suitable method to analyse connections of flow data and to identify groups in networks.

Out of 620 delineations tested, we identify five results from these three methods that best balance high quality and a high number of regions. The number of labour market regions varies between 24 large-scale and 188 small-scale units. Laying the five selected delineations on top of each other results in 282 segments as a common intersection, which can be classified as follows:

- 24 "Core segments" are always assigned to the largest associations of local authorities in the segment.
- 190 "Part segments" are either independent or belong to exactly one Core region.
- 68 "Overlap segments" belong to different Core regions in the various delineations and are difficult to assign.

All segments with less than 20.000 employees and all "Overlap segments" are assigned to "Core segments" or remaining "Part segments" based on maximum commuter flows. The result is a differentiated delineation of 144 small-scale local labour markets which aggregate to 24 labour market regions. Compared with other established German delineations and our former delineation with 50 labour market regions, the new delineation has a high quality and fewer commuter flows between labour market regions.



# Premature exit from the EU Convergence objective: evidence on the eligibility criteria shortcomings

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G01-O5 Regional and Urban Development, August 25, 2021, 12:00 PM - 1:30 PM

See extended abstract

# Does the allocation of Structural Funds to different sectors generate heterogeneous economic growth rates? New evidence from spatial panel models

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G01-O5 Regional and Urban Development, August 25, 2021, 12:00 PM - 1:30 PM

This paper studies the impact of Structural and Cohesion Funds depending on the sectors to which the financial support is allocated. The objective is to identify whether the stimulation of different sectors generates heterogeneous economic growth rates, in order to support policy makers in identifying the most promising sectors for an appropriate distribution of the European budget. Through the application of spatial panel models over the period 2007-2016 we find that investments in energy and transportation systems, human capital, IT Infrastructures and research and development allow to achieve higher GDP per capita growth. Furthermore, regions receiving more diversified transfers across sectors experience stronger economic development. On the other hand, negative impacts are associated with transfers devoted to the environment and tourism sectors. Finally, we identify that Structural and Cohesion Funds generate significant spillovers across regions characterized by both physical and technological proximity.

# Full information maximum likelihood estimation of quantitative spatial economics models

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S08-S2 Spatial CGE, Input-Output, land use and transport modeling, August 24, 2021, 2:30 PM - 4:00 PM

This study proposes a novel method to estimate the parameters in quantitative spatial economics models with full information maximum likelihood. The method can be applied to models with a one-to-one mapping from the observed data on the endogenous variables to the exogenous structural residuals. Under the assumption that the structural residuals follow a probability distribution, the log-likelihood function can be constructed. The method can be applied to both cross-sectional data and panel data. In many cases, the method would restrict the estimated parameters to the domain in which the equilibrium is stable. This study confirms the validity of the proposed method by applying it to two kinds of data: experimental data generated from a model with known parameters; and observed data from Japan during 1975-2015.

# Counterfactual evaluation of Artificial Intelligence solutions for industry: which way forward?

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S43-S4 Counterfactual methods for regional policy evaluation, August 27, 2021, 12:00 PM - 1:30 PM

This paper offers some preliminary methodological and technical reflections concerning counterfactual impact evaluation of programs funding Artificial Intelligence research applications to industrial contexts. The starting point is a huge project funded by an Italian Foundation, which is particularly concerned in accounting the impact of its funding activity on population. The CH4I Circular Health for Industry project aims at developing AI methodologies and infrastructures (machine learning, process mining, predictive process monitoring, blockchain, IoT, etc.) to improve processes in health and food industries based on a circular health approach. In particular, CH4I aims at improving on the one side the use of resources and the quality of healthcare services in hospitals, on the other side the quality and safety of food, animal welfare and productivity in agrifood industries.

Apart from research institutions, the project involves a number of operative partners and various case studies, whose specific impact on the final (direct and indirect) beneficiaries should be evaluated. Starting from a description of each case study, the paper investigates the methodological and technical challenges of a rigorous counterfactual evaluation of its impact on society.

# Reconfiguring Rural Lifeworlds. The Pandemic as a Driver of Rural Revitalization and New Urban-Rural Linkages

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G04-O3 Urban-Rural Relationships, August 24, 2021, 4:15 PM - 5:45 PM

The discourse on rural areas has long been characterized by two extremes: Debates on rural exodus, demographic change and the loss of infrastructure on the one hand were contrasted with a romanticized view and an idealization of the rural as an idyll of slow village life on the other hand (Murdoch et al. 2003). In parallel, we observe that rural areas attract more and more interest, either because they are seen as new spaces of opportunity or because rising rents and property prices in big cities turn the attention to less expensive places. In the wake of the pandemic, the media discourse on the rediscovery of rural areas as vanishing points has clearly gained momentum. With the lockdown, beginning in March 2020, newspapers around the world printed headlines such as “Thousands of Parisians fled the city Monday” (Frankfurter Rundschau, March 18, 2020) or “Escape to the country: how Covid is driving an exodus from Britain’s cities” (The Guardian, Sep. 26, 2020). It seems as if the pandemic would materialize the discourse into everyday life. In Germany, especially in the Berlin-Brandenburg area, we observe an increased interest in relocating from Berlin to rural Brandenburg. These new rural residents no longer prioritize suburban areas, but villages and small towns in the rural periphery. They regard the countryside as their new center of life, which distinguishes them from second home owners.

The rediscovery of the countryside as a place to live and work is encountering a profound change in rural lifeworlds that is characterized by a detraditionalization, and the rise of new urban-rural linkages. Against this background, the question arises as to where rural lifeworlds are developing today. Are we witnessing a diversification of rural lifeworlds with adaptations in the sense of an established-outsider-figuration or the emergence of new forms in which experiences and ideas of the traditional rural life and urban expectations of the good life in the countryside are mixed? In our presentation these questions will be raised and the concept of a “reconfiguration of rural lifeworlds” will be put up for discussion. Based on a media analysis of German and international press articles, the paper empirically relies on first qualitative studies among rural returnees and people who moved from the city to the countryside. They have secured livelihoods in rural Brandenburg by founding social enterprises or by developing collective living and working projects based on remote working possibilities.

# The World's Rust Belts

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G18-O3 Regional and Urban Labour Markets and Entrepreneurship, August 26, 2021, 4:15 PM - 5:45 PM

We document what happens at local level after the aggregate decline of manufacturing in six major Western countries (France, Germany, Italy, Japan, U.K., U.S.) since the 1970s using a newly-assembled dataset.

Our units of analysis are local labor markets (LLMs), territorial groupings of municipalities characterized by a significant share of population living and working in the same area.

We document a significant heterogeneity in employment growth across LLMs in the decades following the start of manufacturing decline, even within the group of manufacturing capitals which were more strongly affected by the country-level trend.

Next, we investigate the relationship between human capital (proxied by the share of the workforce with a university degree) and performance. Using data on driving distance to the nearest historical university to construct an instrument, we document a positive association between human capital at the start of manufacturing decline and employment growth in the following decades.

Specifically, estimates suggest that a 1 percentage point increase in the share of local workers with a college in the year of the country manufacturing peak is associated with a decadal increase in overall employment by 1.2 percentage points in the years after the manufacturing peak. This effect corresponds to a 16% increase. The increase is driven by knowledge intensive services.

# To raise or to erase the borders: An empirical investigation of the link between regional interconnectedness and resilience.

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S14 Regional Resilience in Low-density Territories: overcoming the effects of COVID-19 pandemic, August 24, 2021, 4:15 PM - 5:45 PM

In this paper, we investigate the relevance of regional interconnectedness to regional resilience. In order to capture regional interconnectedness, we identify several factors, namely proximity to an urban agglomeration center, market access, labor movements (migration), and goods movements (regional trade). We quantify the impact of these factors on regional resilience in the context of the great recession of 2008 for a sample of NUTS2 European regions. We use feasible generalized least squares estimator to deal with the cross-sectional dependence in our data. Furthermore, we adopt a new measure of regional resilience that is conceptually different from traditional measures. Our findings suggest the more the region interconnects, the higher the resilience it exhibits in response to recessionary shocks. More specifically, a higher regional interconnectedness in terms of a shorter distance to urban agglomeration centers, better market access, and a higher share of immigrants is associated with better regional resilience. The results from the analysis of regional trade data show that only extra European trade is positively associated with regional resilience.

# From intra-region to inter-region: A new method to operationalize resilience

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S52-S3 Building territorial and community resilience through disaster risk reduction in marginal areas of rural Europe, August 27, 2021, 12:00 PM - 1:30 PM

Resilience is proven to be relevant for regional development due to the far-reaching implications of crises. Heretofore, scholars have done intensive work on the conceptual clarity and the determinants of regional resilience, whereas less attention has been paid to the operationalization of this concept. When measuring regional resilience, the conventional practice is to compare pre- and post-shock performances of the target region. We argue that such an approach could be misleading when the shock moves the economic system far away from its previous development path. In this paper, we rethink the way regional resilience is measured. Our method to operationalize resilience is conceptually different from previous work in that we use an interregional rather than an intra-regional perspective. Instead of comparing the region's present to its past, we focus on the post-shock period and compare the target region's performance to the average performance of a group of comparable regions (peers). We expect such an approach to provide deeper insights into the ability of territory to withstand and recover after a sudden economic shock. We rely on cluster analysis to identify groups of homogeneous regions. The reliability of the proposed method is tested using a sample of European regions in the context of the great recession of 2008/09. The main finding of the empirical exercise is that resilience outcomes are considerably affected by the empirical method used.



# Identifying challenges and opportunities in innovation and business development for the blue economy: a case study for rural Ireland.

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YSS1-G05 Mountain, Rural and Marginal Issues, August 26, 2021, 10:15 AM - 11:45 AM

When developing innovation strategies and knowledge networks various factors need to be considered in planning for sustainable economic growth. The potential for these initiatives in terms of economic growth and development in regions is well recognised. However, there has been limited attention paid to the specific factors that need to be considered when implementing these strategies in peripheral rural regions. These factors range from skills development and human capital to the level of infrastructure in place within the region, such as broadband networks, transport, and housing. The main objective of this paper is to understand the challenges and opportunities associated with the implementation of innovation and business development strategies in peripheral rural areas. The study focuses on a case study for Páirc na Mara, a state-of-the-art marine innovation centre to be developed in the West of Ireland. Using the qualitative Delphi methodology, a group of experts from academia, industry, government, and the local community, analysed 14 different proposed statements regarding the potential challenges associated with the planned development to succeed. The panel also provided information of the weight and importance of each of the statements considered in relation to the factors required for the success of the proposed innovation centre in the West of Ireland. From these results it became apparent that Government Policies, Irelands Integrated Marine Policy, and the location of the development were the main issues of concern for the participants.

# Assessment of Tourism Economic Damages and Recovery after the Kumamoto-Oita Earthquake

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G32-O2 Tourism and Culture, August 27, 2021, 2:30 PM - 4:00 PM

The Kumamoto-Oita earthquake in April 2016 had a major impact not only on the Kyushu region but on the Japanese economy. It was called “the extensive, multiple earthquakes that happened simultaneously.” The stock damage amount was estimated to be about 1.8 to 3.8 trillion yen in Kumamoto Prefecture, about 0.5 to 0.8 trillion yen in Oita Prefecture, and a total of about 2.4 to 2.6 trillion yen in total. GDP flow losses were estimated to be 81 to 113 billion yen in Kumamoto prefecture, 10 to 14 billion yen in Oita prefecture, and 90 to 127 billion yen in total (Cabinet Office, Government of Japan 2016). In addition to the damage of the earthquake, the production of other regions had been impacted due to restriction of supply caused by the disruption of the supply chain, etc., mainly in regards to transportation machinery.

The Kumamoto-Oita earthquake had a great impact on the tourism industry and related industries in Kumamoto and Oita prefectures. Natural disasters not only have a direct impact on local tourism demand, but also cause indirect economic damage to large areas through backward linkages. In this study, we first estimate the inter-regional input-output (IRIO) table for 18 regions in Kumamoto and Oita prefectures and develop the inter-regional input-output model in the disaster region. Secondly, we estimate the tourism economic damage caused by the Kumamoto-Oita earthquake and its spatial economic effect using the inter-regional input-output model. From the annual number of Japanese and foreign visitors before and after the Kumamoto-Oita earthquake, we estimate fluctuations in tourism demand in each region, and evaluate the induced products and employments. The indirect spatial spillover effects of tourism damage and the recovery are also shown. The result of this study contributes disaster resilience plans in Kumamoto and Oita prefectures.

# Vulnerability in dense urban areas in terms of the link's passable probability and node's reachable probability under earthquake damage

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G06-R Adaptive and Resilient Cities and Regions, August 24, 2021, 4:15 PM - 5:45 PM

After World War II, Neyagawa City in Osaka Prefecture developed rapidly as a bedroom community for Osaka. Its population boom led to the formation of dense urban areas, which are extremely dangerous during earthquakes. Building collapse during an earthquake could leave many dense urban areas inaccessible by emergency vehicles. In the worst-case scenario, people may not reach evacuation shelters and become isolated.

This study proposes the link's passable possibility and node's reachable possibility to evaluate vulnerability in dense urban areas when an earthquake has occurred by considering the devastation rate and location of wooden houses. To calculate these indicators, we need to search for all routes between the departure and arrival nodes. The route from the departure node to the arrival node is limited to 40 patterns, which these entry roads have the highest probability of occurrence in the road network. Secondly, we define and formulate the roads' vehicle traffic passable probability  $PL(L)$  on link  $L$ .  $PL(L)$  is defined to determine by the probability of collapse of a wooden building ( $\alpha$ ), the width of the road ( $W$ ), the number of buildings on one side of the road ( $N$ ), and the locations of wooden and non-wooden buildings. The vulnerability assessment can visualize the impact of mitigation measures such as the railroad crossing removal project in dense urban areas (Kori area, Neyagawa City, Osaka). The maximum rate of increase was 98.2% in terms of the node's reachable possibility, while the maximum rate of decrease was 73.6% in terms of the expected value of time. Using these and additional indexes, we can quantitatively evaluate the impact of utility pole removal and land readjustment projects. In the future, we plan to propose a measure to prioritize mitigation projects from the viewpoints of disaster emergency, recovery plan, and disaster prevention plan.

# The gender aspect of the interregional mobility of Russian researchers: already accomplished relocations and willingness to move in the future

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S10-S2 Determinants and Effects of Regional Differences in Gender Equality, August 25, 2021, 10:15 AM - 11:45 AM

Mobility is an integral feature of highly qualified specialists' career path. Besides the international mobility of highly qualified specialists, their movements within the country are also important: one of the key goals for Russian scientific policy is to support the interregional mobility of scientists, since the development of certain regions depends directly on the concentration of highly qualified specialists. When creating appropriate policy measures, it is important to consider the gender aspect in order to understand which patterns and directions of mobility are equally common among men and women, and where gender differences are noticeable, what special causes and barriers exist for the woman and if special measures must be taken to promote gender equality. The focus of the study is the interregional mobility of Russian researchers: both already accomplished and planned. The empirical base of the study is the data obtained in 2016-2019 through a sampled survey of highly qualified R&D personnel in Russia using a multistage stratified sample, which guarantees the representativeness of the population. In Russia, the share of scientists who have the experience of interregional mobility during their research careers is comparable for men and women, as well as their willingness to move in the future. However, in practice, interregional mobility of men and women follows different patterns: women are more likely to move once in the early stages of their careers, and the professional life that involves active movement between regions remains common mostly among men. It is promising to analyze what factors affect and explain the current state, and whether women in Russian R&D sphere lose from their less mobile career.

# Teenagers' views on quality of life in two villages in province of Groningen -The Netherlands

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G03-04 Demographic Change, Population, Migration and Mobility Behaviour, August 25, 2021, 10:15 AM - 11:45 AM

Groningen has beautiful landscapes, a rich diversity in green and blue areas and lovely villages. However, some recent changes such as demographic changes (e.g. outmigration of youngsters for different reasons) may become threats to the quality of life in these areas. Quality of public spaces, their accessibility, safety, and the presence or absence of different facilities have a great impact on the perception of people concerning the quality of life in their village. Teenagers represent a population group that is much neglected in tackling the consequences of population decline. Their perceptions, which are different from those of adults, are usually not incorporated into policy measures to improve the quality of life.

The aim of this paper is to present a qualitative approach to capture teenagers' perceptions of their living environments in rural areas. It gives a detailed insight into why certain perceptions occur and what the associated physical and social qualities are, using a framework based on the GO! Method. The approach considers teenagers as active participants and combines quantitative (Maptionnaire) and qualitative (focus groups) methods. Thirty-eight teenagers aged 11–16 from two villages participated in identifying the best public spaces in the villages, as well as those places/cycling pathways that need to be improved and the facilities that are absent. Almost all participants enjoy the peacefulness, greeneries and the fact that they know a lot of people in their village. However, lack of traffic safety for cyclists along some cycling paths, lack of personal safety in some green areas, limited jobs for teenagers in the villages, absence of high school or limited academic track options, absence of certain sport facilities / organised activities for teenagers, lack of clothing shops for teenagers and places for gathering with friends were mentioned as areas of improvement for their villages. The results show both similarity and heterogeneity in perception (e.g. based on gender and age group) and the emergence of paying more attention to teenagers' activities in rural areas. Findings from this study provide baseline results for facilitating informed decision making concerning the creation of more attractive rural environments for teenagers, young adults and subsequently for families with young children.

# Scaling Up Niche Circular Food Solutions: Factors for successful scale up in Toronto, Canada

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S03-S1 Circular economy: challenges for regions and cities, August 24, 2021, 12:00 PM - 1:30 PM

This research seeks to find success factors for niche circular food innovations to scale up. We first position circular economy in a food systems context. Using Toronto, Canada as a case study, we analyse eleven niche circular food solutions to find success and barrier factors they face in scaling up to become mainstream. Data was collected via questionnaires and interviews, resulting in five categories of factors that either help or hinder niche circular food innovations. A statistical correlation analysis is performed. The most successful businesses were those that operated in more than one stage of the food chain, had at least 2-3 years to stabilize their performance, and had financial investors. Government involvement supported innovations through small grants, but many did not seek government support in order to protect their environmental priorities. Government and industry partners have a larger role to play in supporting circular innovations. We also found Covid-19 as a disruptive situation that led to more opportunities for niche food innovations.

# Green Oases for inclusive and quality public spaces

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S60-S3 ORMA - Opportunities and Risks of new Modalities of Anthropization between sustainability, innovation and fragility, August 27, 2021, 2:30 PM - 4:00 PM

Climate change and health emergencies require integrated responses to mitigate the effects of the phenomena on urban realities and citizens and increase their resilience. "The Right to the City" (New Urban Agenda, 2016) and the fight against climate change (Paris Agreement COP 21, 2015) now seem to have marked the way.

In line with the principles enshrined in the international summits, the paper illustrates an innovative experimental approach aimed at integrating urban quality, micro-climatic comfort, saving and enhancing the water resource and the reintroduction of nature in the city. The experimentation focuses on the regeneration of public space and at the scale of neighbourhoods in the dimension of "everyday" living. As enshrined in the New Urban Agenda of 2016, public space plays a central role in helping to increase sustainability, social integration and develop conviviality in urban contexts.

Today, in regenerating the city and designing in the direction of an ecological transition, it is necessary to assume an integrated methodology. The Nature-Based Solutions, are able to act simultaneously on microclimatic mitigation and risk reduction, bringing to the existing city urban quality, comfort and liveability. The purpose is precisely to meet the needs related to the welfare of the citizen through the integrated analysis of different disciplines relating to: urban microclimate, the role of rainwater, the presence of plants and green spaces, land consumption and drainage systems.

Starting from the study of the methodology developed by the REBUS project (2016), the experimentation illustrated proposes an integrated approach to the regeneration of neighbourhoods in the city of Rome by prospecting "neighbourhood green networks" punctuated by interventions of different sizes, Green Oases, applying the principles of urban acupuncture. Oases are designed as enjoyable, natural and inclusive places. Green becomes the protagonist of our cities, which has a minimal impact on the environment and allows the creation of "corners of breath" in the city. In the realization of the Oasis the attention is given to the balance between environment and human being, making the city sustainable and human scale.

# Reconstructing Clusters: Augmenting regional clusters with intellectual property and labor force skill specializations

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G12-O4 Regional Competitiveness, Innovation and Productivity, August 26, 2021, 12:00 PM - 1:30 PM

Patent counts and patenting rates are the go-to measures for regional innovation, productivity and competitiveness. For this reason, more attention needs to be focused on to the types of technology developed in a region and the technology embedded in the products and services in which a region specializes.

Knowledge spillovers are an accepted driving force for agglomeration economies but too little attention has focused on the types, or categories, of that knowledge. Just as there are regional concentrations of industries and occupations, there are relative regional concentrations of knowledge and intellectual property that are expressed in the technology categories of patents. We estimate regional technology concentration as a complement to industry structure and assess the degree to which technology classes are associated with industry concentration/specialization across 2640 U.S. counties that have a track record of patenting between over time.

Regional concentrations of occupations are also an accepted dimension of agglomeration economies.

Occupations, however, consist of a set of skills put into practice to create products and services.

Occupations may co-locate, reinforcing the forces that make industry clusters more productive and competitive, but relatively little is known about how occupations, and the skills that inhabit occupations, are interdependent. We embed skill interdependence – a latent relationship – into the identification and definition of clusters.

This research addresses the deficient in the conceptualization and measurement of clusters. By examining and appropriating measures for the latent inter-relationships and dependencies associated with occupational skill sets, in addition to the discovery of regional technology concentrations, we make the operationalization of clusters more complete.

see extended abstract



# Community's Biographies and Maps. The proposal of a working method for a risk-proof planning

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S52-S4 Building territorial and community resilience through disaster risk reduction in marginal areas of rural Europe, August 27, 2021, 2:30 PM - 4:00 PM

The paper proposal is a co-design method involving no-experts in marginal areas at risk. The approach assumes the potentiality of local identities and memories, based on a collection of 'community biographies' (Lindblom & Cohen, 1979) and 'community maps' (Clifford & King, 1996) aimed to improve the 'test-design approach' (Scholl, 2017). The outcome of the approach is a set of 'planning recommendations' helpful to orient the planning programmes and policies according to a DRR perspective.

The paper shows the trAILS research outputs, focusing on the working method to involve local communities living in marginal areas and to launch regeneration projects of vast abandoned industrial areas at hydrogeological risk. Areas characterised by a high level of natural capital that is a strategic feature for increasing the life quality and economic conditions of marginal areas. It happens if the communities, to which natural areas are close, recognise the natural capital role within spatial planning processes (Pierantoni & Sargolini, 2020). By defining 'community biographies' and elaborating 'community maps', the research developed a co-design approach to increase awareness of existing disaster risks and improve the regeneration responses of fragile spaces such as dismissed industrial areas at risk.

The paper comprises four parts. The first part frames the issues of hydro-geological and morphological fragility, risk governance and the participation of communities in its reduction, in the Italian context and in the main reference literature.

The second part presents the case studies of trAILS research (one Italian and one French) where the working method was elaborated and tested. The goal is to frame the type of territorial fragility that characterises these contexts concerning the natural and social capitals present.

The third part shows the activities carried out with the research and in particular, the approach and working method to involve the local population and defining the guidelines for the regeneration of marginal areas at-risk. In particular, the second part highlights the key elements used to build 'community biographies' and 'community maps'. The aim is to explain the operations and tools used, and highlight their replicability in other realities to increase community resilience.

The fourth part presents the expected results of applying the methodology in other marginal areas. The goal is to highlight how local community engagement increases territorial and community resilience by setting up Living-Labs (LLs). The LLs are open laboratories orienting spatial planning towards sustainable development (planning by scenarios) and reducing fragility.

# The glowing coals of the stake: Can the 'witch craze' help explain the regional differences in gender outcomes?

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S10-S2 Determinants and Effects of Regional Differences in Gender Equality, August 25, 2021, 10:15 AM - 11:45 AM

This paper investigates the relationship between the spread of witch-hunts in Europe in the early-modern period and the contemporary gender outcomes in European regions. Based on the available data on witch trials that we merge with contemporary regional data on gender-specific socio-demographic outcomes, we reveal significant relationships between the witch-hunts and the contemporary level of gender outcomes in the NUTS3 European regions. Regions that witnessed the witch craze in the past tend to be significantly different from regions without such an experience regarding the sex ratio and a number of fertility indicators. Moreover, we show that the characteristics of the witch-hunts, for instance, in terms of their intensity and severity, but also their duration and timing, play a role in explaining the regional variation in gender outcomes. In addition, the gender bias in the persecutions for witchcraft toward the male or the female sex seems to be differently related to the regional gender outcomes nowadays. These relationships are robust to the inclusion of other regional characteristics that may impact gender outcomes. We argue that these observations may provide indications of a long-term persistence at the regional level of social norms related to gender roles in a society.

# The Role of Natural Disasters in Gender Disparities in Regional Labor Markets

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S10-S1 Determinants and Effects of Regional Differences in Gender Equality, August 24, 2021, 4:15 PM - 5:45 PM

This paper investigates the role of natural disasters in regional gender disparities in the labor markets for the case of Italy. The empirical analysis is based on the detailed data on earthquakes in Italy provided by the National Institute of Geophysics and Volcanology (INGV), which cover the time period from 1005 until 2015 and contains information about the location and intensity of each earthquake that happened during this period of time. This data is merged with the most recent Census data from the year 2011, which provides official statistics about the main socio-demographic and economic characteristics of the population in Italian provinces. The results suggest that natural disasters have pronounced significant effects on gender disparities in regional labor markets in Italy. In particular, regions that experienced more intensive earthquakes in the past tend to have more pronounced gender gaps in labor force participation rates and self-employment rates. This is consistent with the recent literature that emphasizes that female population is more vulnerable to natural disasters. Moreover, additional results suggest that these gender disparities seem to persist over longer periods of time, but they tend to decrease in the absence of repeating natural disasters. The results suggest that natural disasters represent an important driver of gender gaps in labor market outcomes that has largely been ignored in the previous literature. This has important implications for policy makers aiming at promoting gender equality, especially, in regions that tend to have a high risk of natural disasters.

## Teleworkability and the COVID-19 crisis: a new digital divide?

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S16 Places left behind or places of opportunities?, August 24, 2021, 4:15 PM - 5:45 PM

The paper develops a conceptual analysis to identify the jobs that can be done from home and those that cannot, and on this basis quantifies the fraction of employees that are in teleworkable occupations across EU countries, occupations and socio-economic profiles. The main argument of our approach is that physical tasks are the real bottleneck of the teleworkability of occupations. However, we acknowledge that many social tasks can also be provided remotely, but often with a loss of quality in the service. Using the occupational task descriptions provided in the Italian Indagine Campionaria delle Professioni, with additional indicators from the European Working Conditions survey, we construct two teleworkability indicators of physical tasks and social interactions. We estimate that 36% of dependent employment in the EU is technically teleworkable – a share very close to the estimates of teleworking indicated in real-time surveys during the COVID-19 crisis. However, only one third of employment is in teleworkable occupations that also require limited social interactions. Looking forward, it is for these occupations that teleworking should remain more widespread, even post-outbreak. Because of differences in the employment structure, the fraction of teleworkable employment ranges between 33-44% in all but five EU member states. We also show stark differences in teleworkability exists between white- and blue-collar occupations. To the extent that telework becomes more prevalent, this telework divide could have important distributional consequences.

# Drivers of productivity growth in Greece: patterns of regional and sectoral adjustments in the period of crisis

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G12-O6 Regional Competitiveness, Innovation and Productivity, August 26, 2021, 4:15 PM - 5:45 PM

Title: Drivers of productivity growth in Greece: patterns of regional and sectoral adjustments in the period of crisis

George Petrakos and Alexandra Sotiriou

Abstract – ERSA Bolzano 2021

Although the decade-long financial crisis in Greece has ended with austerity measures, institutional reforms and the refinancing of the Greek debt, the causes of the crisis are still present making the negative footprint of the pandemic crisis harsher. They are related to the productive system in Greece, that is dominated by inward looking small enterprises that cannot easily benefit from scale effects and therefore have limited competitiveness. They are also related to the limited presence of manufacturing, which produces mainly consumer, labor intensive and resource intensive products serving mainly the domestic market, while the tertiary sector is dominated by the public sector. Defensive adjustments lead non-tradable sectors to dominate in areas that cannot absorb competitive pressures, while forwards and backwards linkages between critical sectors, such as tourism and food or agricultural sectors are limited.

The study period of our analysis covering the pre and post crisis effects, aims to provide empirical evidence regarding the interdependence between regions and the national economy and detect the spatial footprint of the extent to which trade integration and the crisis drive and affect regional resilience and industrial performance.

The goal of the paper is to explore the impact of the different types of trade integration on regional productivity growth, the geography of trade and the nature of trade exposure as well as regional policies at the NUTS 2 level from 2000-2020 employing data at the sector-region level and sectoral trade flows at the NUTS 2 level, provided by the national statistical office. The empirical analysis will control for a wide range of socio-economic, demographic, regional innovation indices, smart specialisation policies and spatial aspects such as agglomeration, market size, external economies of scale, human capital endowments and the institutional environment that drive the effects of exogenous shocks (EU integration, crisis) on regional growth trajectories and detect convergence or divergence trends from the national and EU averages.

If challenges are addressed at the right time well-informed regional development strategies can increase resilience in times of financial and pandemic crisis and reap the benefits from the deepening and widening of EU integration.

Key words - TRADE INTEGRATION, REGIONAL RESILIENCE, REGIONAL DEVELOPMENT, ECONOMIC CRISIS, GREECE

JEL Classification - R11, R12, C21, C23, O21

# Looking for a star: evaluating the effect of Cohesion Policy on Regional Well-being

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G29-O2 Regional and Urban Policy and Governance, August 27, 2021, 10:15 AM - 11:45 AM

This paper presents new evidence on the recently concluded wave (2007-2013) of EU Cohesion Policy. We depart from the broadly used GDP-growth approach and evaluate the impact of EU structural funds (SFs) on a battery of region's well-being indicators including economic, educational, health and demographic outcomes. We exploit the institutional framework of SF\$ assignments to construct a fuzzy Regression-Discontinuity-Design. Our results reveal an overall null effect of the funds on regional well-being. These findings are robust to several specifications. We further study the heterogeneous impact of SFs and identify regional characteristics affecting the capacity of EU Cohesion policy to influence economic outcomes.

# Threats and Challenges of island carrying capacity today: where we are heading?

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S42-S1 Sustainable development of the Islands between tradition and innovation, August 24, 2021, 2:30 PM - 4:00 PM

Despite a substantial number of studies dedicated to the broadest sense of the carrying capacity concept, and a plethora of underlying theories and evaluation methods that have been reported over the past decades, one can argue that island carrying capacity as a tool for achieving effective sustainable development, is under-researched. Indeed, island carrying capacity, i.e., study at the island setting, is a largely different research theme due to the varied meanings, principles, emphasis, and implications and islandness. Against this background, this research is aimed at summarizing critical reviewing related studies on carrying capacity. Through an extensive literature review, this paper integrates the existing concepts of carrying capacity and sustainable development, reviews current research status, compares the pros and cons of related research methods, summarize knowledge gaps, and makes suggestions for planners and managers to ameliorate carrying capacity framework for achieving island sustainable development. It contributes to a better understanding of the link between carrying capacity and sustainable development. The discussion will inspire researchers to advance from the current status, and also provide clues to place managers and planners for developing appropriate strategies and actions to improve island planning and management.

# Use of topology and satellite images to border the urban areas

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S01 Night Light and Satellite Image Indicators of Regional Economic Activity, August 24, 2021, 12:00 PM -  
1:30 PM

In literature about the definition of metropolitan areas, the methodological approaches are divided between formalists (aggregation by density thresholds) and functionalists (aggregation by commuting quotas). The paper proposes a mixed type of methodology for identifying urban areas (the core of a metropolitan areas). The aggregation threshold of the Local administrative units around a pivot city consists of two factors; the average brightness, derived from satellite images and a threshold density as a function of the regional average density. The identified urban area is treated as a connected domain in a topological sense.



# Ecological footprint models for railway stations and possible mitigation / compensation measures: the case of Roma Tiburtina

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S60-S2 ORMA - Opportunities and Risks of new Modalities of Anthropization between sustainability, innovation and fragility, August 27, 2021, 12:00 PM - 1:30 PM

In the contemporary society, mobility is becoming more and more the main productive process. This means that land sustainability must necessarily be the sustainability of mobility. The increase in trips (of people and freight), the mileage, the economic convenience and, last but not least, a greater environmental awareness are leading to an increasing prominence of the railway use. In this context, the stations are complex objects that require significant flows of energy and materials. The paper illustrates the research path to investigate and measure the ecological footprint of a paradigmatic case study, the Tiburtina station in Rome. The aim is to provide an active support in the design of ad hoc measures to mitigate/compensate the impact of the daily operation and maintenance of railway stations, towards the "Net Zero" target.

# Large-scale analysis of university patenting in the innovation activities of regions

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G30-O3 Innovation and Regional Development, August 26, 2021, 4:15 PM - 5:45 PM

Compared to firms, universities are relatively new in the patenting arena. Using the dataset of OECD (REGPAT & CITATIONS) that consists of patents submitted to European Patent Office, their applicants (3.784.463 rows), inventors (9.182.319 rows), and citations (13.222.454 rows), in a first place and through the keyword searches we identify patents owned by European universities. Secondly, and to identify patents not owned by universities but invented by their employees, we develop a matching algorithm that pairs patents with scientific publications (downloaded from SCOPUS). Thus, we identify two groups of university patents, whereas the second group is invented or co-invented by university employees, but in the ownership of individual researchers or non-university affiliations such as firms. The overall structure of academic patenting suggests that universities in Europe own only half of the patented inventions that they contributed to develop. Furthermore, we depict the evolution of the patenting activity of European universities, and through the patent citations we map the codified knowledge flows in between the universities and the other actors of regional innovation systems. We offer evidence that patenting activity of European universities has been increasing substantially since 1990s, a decade before policies adjusting their rights to do so started to emerge. The increasing importance of university research in the regional innovation systems is also being reflected in increasing shares of university patents on total regional patent production, and in increasing shares of patent citations citing university patents in regions. On average, in 1980s only 2% of patents in region were attributed to universities, whereas today it is 7.5%. Similarly, the average share of patent citations citing universities in region increased from one to three percent. Forty years ago, and in more than half of the European regions we couldn't find single patent affiliated to university. Today, and in at least half of the regions, 6% of all patents are university affiliated. In regions that produce huge portions of patents, the share of university patents is lower than it is in regions less active in patenting such as those in eastern Europe, but also southern-European regions located in Greece, Italy, Spain and Portugal.

# An innovative bottom-up approach to encounter human-wolf conflicts and to present future perspectives for mountain summer grazing

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G35 Rural and farming areas issues, August 26, 2021, 12:00 PM - 1:30 PM

The return of wolves to their former habitats on the alpine arc has provoked conflicts with human activities, especially livestock farming on summer pastures. Mountain pastures are examples of semi-natural habitats of high biodiversity created through an interaction between environmental factors as climate and topography, and human activities. To preserve this traditional land use, states promote and finance livestock protection measures as fences, shepherds and guardian dogs. Nevertheless, especially in mountain regions, these measures are often still rejected, due to the fear they may not work properly and could change the attractiveness of the landscape.

The European LIFEstockProtect project uses an innovative peer to peer approach to encounter this human-wildlife conflict as farmers' associations coordinate the activities in cooperation with the environmental, research and tourism sectors. Capacity building training from farmers for farmers about livestock protection measures will be conducted in the next five years in the German speaking area of the Alps, namely Bavaria, Austria and Alto Adige/Südtirol (IT). Collaboration with and learning from farmers is key, also regarding the testing of fence materials, the establishment of volunteer networks and ambassador activities. In this context, the project will not limit its focus solely on livestock protection but wants to create awareness for the importance of mountain livestock farming for the landscape, recreation and local tradition. Based on that, it will elaborate potential benefits for the local community in regard to animal welfare, valorisation of local products and touristic opportunities. The necessary changes due to wolves' return will be addressed in a transparent way and it is a crucial objective of the project to increase the resilience of summer pasture farming and open new perspectives.

# Smart policies for rural areas

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S06-S1 Smart specialization for peripheral areas? From failure to solutions, August 25, 2021, 10:15 AM - 11:45 AM

To be smart in terms of policies has specific challenges for rural areas. The usual “smart” approach – which is based primarily on the exploitation of technological innovation – must be modified to take account into the specificities of these types of areas. Five key factors will be proposed in the paper for an efficient smart development strategy.

- . Support variety and diversity. Rural areas are nowadays quite diverse and heterogenous. Yet it is not diversity per se that creates growth, but diversity in related business sectors with a common knowledge base.
  - . Borrow size in terms of knowledge creation – the need for extra-regional knowledge and expertise and the need to cooperate with external R&D centers becomes a deciding factor.
  - . Implement education measures. This comprises enforced action between local firms and schools, internal courses within firms and platforms of cooperation between these firms.
  - . Making use of amenities. These can range from natural to built amenities as well as social and cultural amenities.
  - . Improve the multidimensionality of infrastructure. This goes beyond better transport facilities and improved ICT infrastructures which reduce the importance of distance and the lower density of rural areas. It also includes the support of technological and digital competences as well as reinforcing their cores and small cities through social activities and cultural services.
- A new place-based approach to smart rural development consists of producing strategies for better coordinating the different public mechanisms already in place in order to promote job creation, provide basic services, strengthen connectivity and intelligent transport solutions, but also to create the conditions for an environment conducive to entrepreneurship.

# Industries, Occupations, and Entrepreneurship in Rural Regions

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S09-S3 Relaunch of productivity for regional growth and cohesion: Industrial structure, transitions and productivity, August 26, 2021, 12:00 PM - 1:30 PM

Economic development strategies aimed at fostering regional growth through entrepreneurship are increasingly important in lagging regions. While previous research suggests that having more entrepreneurs or self-employed can lead to higher levels of economic growth in rural and distressed regions, not all entrepreneurs are created equally. Some people may become self-employed due to a lack of other opportunities, while others may be more innovative, exploiting new opportunities and contributing to growth. Additionally, entrepreneurship in certain industries may be more beneficial to growth than in other industries. At the same time, another strain of research has linked industrial and occupational diversity to entrepreneurship and regional growth, especially in urban areas, due to the cross-fertilization of ideas. However, rural regions may lack agglomeration economies and other factors conducive to growth that make the relationship between industrial and occupational diversity and entrepreneurship in rural areas less clear. Therefore, a clear understanding of the linkages between industries, occupations, and entrepreneurship in rural regions is needed. Using detailed industry-level self-employment data, we examine whether entrepreneurs from certain industries or occupations may contribute more to regional growth. We also analyze the impact of industrial and occupational diversity on entrepreneurs in rural areas, in order to understand why some regions have more self-employment than others. Additionally, we determine which industries are contributing to growth, including those that may be most affected by the COVID-19 crisis, which will provide some insights into how these conditions might change in the future, how COVID-19 has impacted local economies, and what the path back might be for these communities. We estimate models for the entire United States, for rural and urban areas separately, and for the Appalachian Regional Commission (ARC) Region, a predominately rural and historically distressed region. The results suggest that self-employment in some industries does matter more for growth. We also find some evidence that more economic diversity leads to higher levels of growth. However, economic diversity has a different impact on self-employment. In the ARC region, lower economic diversity plays a key role in entrepreneurship. Our results also indicate that self-employment in “affected” industries had been contributing to growth, suggesting that the region may be in trouble if these businesses fail.

# Breaking away from the set path; how change agency created new paths in a locked-in region

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S38-S1 Regional Growth Against All Odds, August 26, 2021, 2:30 PM - 4:00 PM

Who, how and when can initiate industry diversification in regions dependent on extractive industries? This paper contributes to the understanding of the role and limitations of local agency through an in-depth case study of a small resource dependent region in the Swedish northern periphery. Since the mine opened 120 years ago, Kiruna's development path has been heavily dependent on the mining industry and a single state-owned firm. When forced to restructure after the steel crisis in the 1970's, it became apparent to many local actors that diversification of the economy was needed to make the region more resilient against future external shocks. However, the mining company has remained a key player in the region also after the crisis, and is among the state's most profitable firms. As a stable local employer, the mining industry in Kiruna is important for the local labour market, as well as for national finances and Europe's steel industry. This leaves local actors dependent on the industry, on decisions taken outside the region, and with little room for agency.

Nevertheless, in this very structurally constrained region, new paths have emerged over the last 30 years, despite the continued dominance of the mining industry. Two paths have developed towards tourism and space, both unrelated to mining but dependent on local natural resources, land and the scarce labour pool. Although strategy documents and formal decisions show the municipality's intention of supporting diversification processes, the mine continuously needs local support. Today, ground deformations due to mining activity forces the entire city centre and 6000 inhabitants to move. Once again, the focus of local policy makers is directed towards the mine. Using material from 21 interviews as well as supporting documents, this paper takes a long-term perspective and sets out to answer questions of why and how these two new paths have been developed, their relations to other local paths, and what the role of agency is in this process. Seeing that agency can be distributed, it takes a multi-scalar and multi-actor approach to analyse the role (and limitations) of agency on a local level. The case of Kiruna hereby enhances our understanding of the scope of local agency in a place heavily constrained by an extractive industry, and contributes to the scientific debate (Frangenheim et al., 2020; Grillitsch & Sotarauta, 2020; MacKinnon et al., 2019) concerning the role of agency in path development.

# Just Transition in Bulgaria's Coal Mining Regions - Resilience Scenarios

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G22-O3 Energy and Ecological Transition, August 27, 2021, 2:30 PM - 4:00 PM

The transition to a low-carbon economy in Europe is no longer just an option. It is happening in practice and the processes of transformation in the energy sector have been going on for more than a decade. Society can choose whether to remain passive and resist transition, or be proactive and conduct policies to change the direction of economic development in the country. Workers in the energy and coal industry and their trade unions face a serious challenge. On the one hand, they will have to take up much of the burden of the transition to a sustainable economy. A significant number of jobs will be transformed – a process that is already running due to the modernization and upgrading of current industrial technologies. On the other hand, trade unions as the driving force of social change have the best understanding of the potential and benefits of collective action.

If they do not use their influence in the high carbon sectors to speed up and support the processes of modernization and upgrading during the transition to a low carbon economy, there is a risk many jobs to be closed in the short term. Now we are facing this problem in Southwest Bulgaria and Southeast Bulgaria where is located the largest coal energy complex.

The concept of “just transition” enables the transition to a low-carbon economy in a responsible and accountable manner by caring for people who lose their income, especially workers in the energy and coal industry. The burden of the transition should be distributed between and within the affected countries and the guiding principles should be the responsibility and opportunities. Only in this way can be achieved a transition to a sustainable economy that is just for both people and the environment.

The analysis presents solutions to the problems related to the transition from the coal industry to a sustainable economy in Southwest Bulgaria. It is an attempt to plan the future of coal regions in Bulgaria and can serve as a tool for policy planning and long-term strategic decision making in this region. The geographical scope of the study covers the NUTS II Southwest Region - the districts of Pernik, Kyustendil, Blagoevgrad and Sofia-district (without Sofia city) and Southeast NUTS II Region - Stara Zagora district.

# Connectivity a key factor for territorial competitiveness. The case of the Bajío Region, Mexico

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G12-O7 Regional Competitiveness, Innovation and Productivity, August 27, 2021, 10:15 AM - 11:45 AM

The process of globalization has generated a number of significant and very dynamic transformations in the economies of countries and their regions, the upward opening and expansion of markets, the redistribution of labour and the location of capital in territories with greater capacity to attract or generate business initiatives. This location of capital in the places that offer the best conditions has led to competition between the territories for attracting capital to become very intense.

Undoubtedly, the fact that the territories have great connectivity, that is, with a network of corridors that serve to mobilize goods, services, people and information between different points of the territory and between different places, constitutes a key factor to achieve their integration to this network, because this means that companies can count on optimal mobility of production factors, place their products in different markets and thus obtain higher profits

In fact, connectivity can be considered an absolute competitive advantage of the territories, agreeing with what Roberto Camagni establishes, that all factors or assets external to the companies with which the territories have, but which benefit them, allowing them to obtain a high productivity, constitutes an absolute competitive advantage.

On the other hand, there is a need to study the role that connectivity plays or may come to play within the framework of a new model of territorial development, which envisages territorial competitiveness, such as one in which not only is the ability to face market competition, but also to ensure at the same time "... environmental, economic, social and cultural sustainability through network integration and territorial articulation practices." (European Observatory, 1999)

One of the regions of Mexico, which has deployed great connectivity, and has therefore become an attractive territory for transnational capital, is the Bajío Region, which has had accelerated growth in foreign investment and an increase in the export economy, which is largely explained by its road and transport infrastructure, which make it possible to maximize economic activity.

Hence our interest in studying the role that connectivity plays in the Bajío Region in achieving competitiveness not only economic, but territorial. Some questions that guide our work are: To what extent does the region have connectivity? Is connectivity really a factor that gives the region an absolute competitive advantage? Answering these questions is the purpose of this work.



# Entrepreneurial Public Policy: The Case of Portugal and Its Regions

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S30-S1 Linking entrepreneurship and regional policy, August 25, 2021, 4:15 PM - 5:45 PM

There are several studies showing the positive impact of entrepreneurship on economic and regional growth (Dejardin & Fritsch, 2011; OECD, 2017). The entrepreneurship is even more important in economic crises like the last one in Portugal, where the unemployment rate had a significant increase (rate of 16.2% in 2013 - INE, 2020 ). The current pandemic crisis caused by COVID-19 also revealed the importance of entrepreneurship as a way of responding to new needs and ways of working (Maritz et al, 2020; Kuckertz et al, 2020; Ratten, 2020). As such, it's crucial to analyze which policies can encourage this phenomenon. The following policies have been implemented around the world (Bjørnskov & Foss, 2010; Román, Congregado & Millán, 2013): new business entry and/or growth regulation (reduction of the administrative burden); less protective social security policies in case of unemployment; promotion of innovation (R&D investment, partnerships with universities, production and commercialization of inventions and new products / services); financing options (e.g. business angels and venture capital firms); fiscal policy (associated with the creation of new companies); courses to develop entrepreneurial skills or to promote entrepreneurship as a "career option" (Palma, 2018; Palma, Lopes & Alves, 2018). In general, Kreft and Sobel (2005) argue that lower taxes, reduced regulations and guarantees regarding private property rights are responsible for fostering business activity.

At the regional level, local authorities have a significant role in encouraging the development of new businesses (Silva & Teixeira, 2012; Stam, 2015). As such, public policies are implemented using a decentralized logic and affirmation of autonomy, according to a territorial-based approach (i.e., place-based) (Dias & Seixas, 2020; OCDE, 2019). However, it does not always appear to be clear which policies should be implemented to effectively contribute to the development of the regions.

As such, this paper aims to analyze the policies that promote entrepreneurship in Portuguese regions, comparing them with the development of new businesses. With these objectives in mind, after analyzing the policies that foster the entrepreneurship in other countries and regions, this paper advances with the study of the existing entrepreneurial policies in the 25 Portuguese Municipalities. This paper closes by discussing the impact that these regional policies have on the development of new businesses in such regions. Major contributions relating entrepreneurship to regional policy will thus be debated.

# Digital connectivity and opportunities: exploring the spatial access to high-speed broadband across Europe

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S16 Places left behind or places of opportunities?, August 24, 2021, 4:15 PM - 5:45 PM

Unveiling spatial patterns of access to the broadband infrastructure is essential, as it can inform territorial policies with quantitative geographical evidence. Access to the broadband network represents a relevant feature for any strategy or policy aiming at the reduction of territorial disparities and the development of innovation and well-being also in rural and remote areas. The lack of or the poor access to high-speed broadband contributes to the marginalisation of some areas; it also represents an alternative way to access essential services (i.e., education and health) in disconnected areas, often characterised by poor physical access to such services. Broadband access also represents an opportunity for retaining inhabitants in depopulating places, making it possible to perform remote work without commuting or moving to more densely populated areas.

This work focuses on exploring the spatial patterns of broadband access and connection speed across the Member States in the EU. It employs an extensive data set containing spatial information about the presence of broadband network and the quality of the connection, including average download speed, average latency, and the number of unique devices per spatial unit, for both the fixed and the mobile networks. The spatial analysis is performed at the municipal (LAU) level, considering the classification of degree of urbanisation: the objective is to unveil significant differences, especially between urban and rural areas about the access to the network and the quality of the broadband connection.

Results show that urban areas present the highest speed in broadband connection, revealing how areas already highly connected to physical networks are also the most connected from the digital perspective. Overall, a significant difference is observed between the average speed in cities and the other urbanisation categories, with rural areas showing the lowest speed connection in most of the countries. In rural areas, most of the municipalities are characterised by a low and very low-speed broadband connection, with some north European areas showing noticeable differences from this general trend. Furthermore, some inner places in Spain, France and Italy show a lack of available data, possibly related to the absence of broadband infrastructure. Comparing the pervasiveness of fixed and mobile networks, preliminary results show that mobile broadband connection appears to be more equally distributed, with speed differences between rural areas and the whole country more relevant for the fixed broadband than for the mobile one.

# Authenticity for the development of the Experience Economy – Introduction of the Local Flavours INTERREG Project

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G32-O2 Tourism and Culture, August 27, 2021, 2:30 PM - 4:00 PM

The INTERREG Europe project's ("Authentic tourism based on local cultural flavours" - LF project) objective is to improve policies which support places unable to fully exploit their cultural legacies due to less-advantaged locations. The project has eight partners equally distributed from Western- and Eastern-Europe: Institute of Advanced Studies (HU) – Lead Partner, Harghita County Council (RO), Municipality of 's-Hertogenbosch (NL), Waterford City and County Council (IE), Savolinna Development Services Ltd. (FI), Municipality of Vittorio Veneto (IT), Riga Planning Region (LV) and Institute for Tourism (HR). The Advisor Partner is the Department of Cultural Heritage, University of Bologna. The background of the project is that despite cultural tourism gains increasing importance in the economy of the European Union (recent estimates show that cultural tourism accounts for 40% of European tourism) major tourism attractions that have emerged as internationally acclaimed hubs of visits and services led to the obscurity of other cultural sites. Nevertheless, in parallel tourists/ visitors are upgrading with authentic cultural heritage, offering specific experience rooted in local history and the preserved cultural legacy of communities, adding unique flavours and excitement to their adventure (the role of Experience Economy). As Pine and Gilmore (1998) point it out, the Experience Economy, where competition formerly based on producing goods or services has been replaced by competition to produce experiences is getting more and more important. However, if experiences could be easily copied it reduces the profitability of these investments. Challenging that, the LF project helps partners to create and implement methods to explore, classify and evaluate the local portfolio and exploitation potential of cultural heritage, including tangible and intangible assets, facilities, authentic traditions and lifestyles as well as sharing Good Practices among them which could enhance the various authenticity-based developments. The objective of this current research is to highlight those Good Practices which represents the valorisation of authentic cultural values thus have the potential for contributing to the Experience Economy. A branch of Good Practices – selected from the 30 GPs selected by partners – will be analysed applying principles of authenticity by Brass & McMahon-Beattie (2007): ethical, natural, honest, simple, beautiful, rooted and human.

# Towards renewal remote and rural regions through creative tourism

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S55-S1 Exogenous development in rural and remote regions, August 27, 2021, 12:00 PM - 1:30 PM

The goal of the paper is to fill the gap in the rural territorial development issue introducing the creative tourism as a possible “tool” to create more added value in rural territories for tourist and for the territory as well, through inhabitants. Creative tourism practice can assure a good destination management for the territory and may increase the well-being of locals through local economic development. Creative tourism satisfies tourists’ needs who wish to co-create with locals. The author’s aim is to show through two Central European case studies (Czech and Hungarian) how two rural areas were able to strengthen their territory using creative tourism as a tool. Using qualitative research method in rural territory, we can see the obstacles and facilities of a special participative tourism planning step by step.

The creative tourism is a new approach in the tourism field, exists for ten-fifteen years, developed by Creativity tourism network leading by highly engaged professionals from Barcelona. This type of tourism is based on learning skills of the local community led by a strong local personality who is familiar with the creative tourism approach and intend to be a “soul” of the community. Creative tourism empowers the population “left behind” in remote and mountain regions. Thinking differently on rural remote territories and on its population can give the possibility to strengthen their economical weight through their creativity and through new form of tourism.

# Social innovation potential in the Northern Hungarian region

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G34 Old and new forms of territorial innovations, August 25, 2021, 4:15 PM - 5:45 PM

In the last two decades, a new direction has appeared in the study of innovation processes in the literature. Researchers are paying more and more attention to social innovation besides the classical Schumpeterian one. Social innovation in general is new solutions (product, technology, organizational solution) that are able to meet social needs more effectively than existing solutions (or which cannot be met on a market basis), and new or more advanced skills/relationships can be created and realized as a result of innovation. However, there is still no uniformly accepted definition of the concept among researchers. Some of the concepts are more theoretical and some are mainly practical, and there are also geographical differences in the definitions. The issue of social innovation is important in the case of the Northern Hungary region, as it can bring a breaking point in some peripheral areas and a novel approach to solve problems. The research aims at analysing the social innovation potential of the Northern Hungarian region, which has several districts with multiply disadvantaged situation, where there is a low technological innovation absorption capacity. The research gives a comparison of the region's settlements to the country average, a regional comparison in Hungary and among the Visegrad countries. The analysis reflects the peripheral situation also by the indicators of social innovation both in the national and international basis, but besides that there are signs of hope for catch up.

# Agglomeration effects and economic sectors in the Dutch-German border region Limburg - Lower Rhine

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G01-O4 Regional and Urban Development, August 25, 2021, 10:15 AM - 11:45 AM

In recent decades, the level of scale in urban regions has become increasingly important for economic development. The characteristics of the specific economy in an area must be identified first in order to develop policy for regional economic growth. All kinds of measuring instruments have been developed to measure the strength of a region in practice. To date, these instruments have hardly ever been applied in relation to cross-border regions. Despite the fact that cross-border economic interdependence is still very limited in most regions, a good cross-border analysis can reveal new perspectives. This study is a cluster analysis of the Dutch-German Rhine-Meuse-North Euroregion and, as such, is part of the 'intergovernmental field lab' project. It presents a cross-border view of the regional economy, which leads to new insights and opportunities. The study highlights the extremely varied composition of the economy in this cross-border region. There is no clearly defined profile. In addition, the analysis shows that there are untapped economic opportunities for cross-border cooperation in some economic segments. Consequently, the study forms the basis for further policy development in this cross-border region.

# Determinants of innovative start-up formation: the role of Regional Innovation Systems

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G33-O1 Innovation and Entrepreneurship, August 27, 2021, 12:00 PM - 1:30 PM

The aim of this research study is to examine how different features of RIS translate into new market entries of start-ups. In particular, the research is designed to explain the role of public and private investment in innovation, the profile of educational organizations in the regions and their industry linkages.

Stimulating entrepreneurship is considered one of the key roles of regional innovation systems. Start-ups are an embodiment of radical innovation and as such, they have particular needs, compared to ordinary businesses. They are known to be flourishing on the ground of liberal market economies, which incentivize the commercialization of new ideas through new firm formation. Nevertheless, the institutional landscape of the EU is conducive for incremental rather than radical innovation. Therefore, it is interesting to observe how institutional features of regions translate into innovative start-up formation, and how certain elements of RIS support formation of start-ups in the European context. Also, while there is a lot of studies that analyse the role of regional factors for growth and development of innovative firms, the issue of innovative firm formation in the context of RIS has not been sufficiently investigated.

The study is based on data from Italy. The specific cultural and institutional traits of Italian regions, manifesting in significant differences in economic and social development, as well as strong industrial networks, make Italy particularly interesting ground for such research.

The analysis is conducted on the NUTS-2 level. The study shows results of regression analysis, conducted on the basis of the database on innovative start-ups provided by the Italian Chamber of Commerce. The database contains information on selected, innovation-oriented companies. Other, regional data is obtained from Eurostat and ISTAT.

The study is a result of a research project no. 2019/35/N/HS4/00754, funded by the National Science Centre in Poland.

# The role of Regional Innovation Systems for ideation and resource organization in the start-up formation process

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G33-O2 Innovation and Entrepreneurship, August 27, 2021, 2:30 PM - 4:00 PM

The aim of the study is to assess what role the different elements of RIS play in the emergence of innovative start-ups. According to entrepreneurship literature, start-up incorporation is preceded by a preparatory process that involves the ideation stage and resource organization stage. In this research study, the interactions between start-ups and RIS organizations are assessed, with consideration of the different role of RIS subsystems at those subsequent stages.

Start-ups are an embodiment of radical innovation. Due to their role in knowledge commercialisation, are crucial for the economic revival of European regions and for European competitiveness. However, determinants of their formation on the European ground are not yet fully understood, and policies aimed at supporting start-up entrepreneurship are only moderately successful. Understanding how start-ups interact with regional organizations and how the start-up formation process is affected by institutional conditions could translate into better, more differentiated entrepreneurship policies, adapted to regional conditions. The study is based on in-depth interviews with founders of seven innovative start-ups. Interviews revolved around the two stages of startup formation that precede incorporation - ideation and resource organization, and the role of Regional Innovation System at these two stages. The data obtained through the interviews was analyzed in a systematic manner, with the use of NVivo 1.4 software. The procedure involved summarizing and categorization of information through coding, and finally, structuring the information in order to present it in an organized, accessible manner. Categorization was based on the predefined themes as well as the theoretical concept of RIS. On the basis of the resulting information, a conceptual model of the relations between RIS and start-ups formation was formed. In the sample selection procedure, a non-probability sampling approach has been adopted. Efforts to access start-up founders from a variety of regions and industries were made, in order to avoid bias and provide a reliable picture of the diversity of experiences of those founders.

This study is a result of a research project no. 2019/35/N/HS4/00754, funded by the National Science Centre in Poland.



# Exploring regional agglomeration dynamics in face of climate-driven hazards: insights from an agent-based computational economic model

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G01-O5 Regional and Urban Development, August 25, 2021, 12:00 PM - 1:30 PM

Rapid urbanization and climate change exacerbate natural hazard risks worldwide. By 2050 about 80% of the world's population is expected to live in cities which for historic reasons cluster along coasts and rivers. Our goal is to explore how the complex tradeoffs between agglomeration economies and the changing face of hazards affect the economic performance of regions shaped by heterogeneous adaptive firms and households. To this end we introduce an agent-based computational economics model (ABM) to study regional agglomeration dynamics in face of the costliest climate-driven hazard: flooding. Our ABM is well grounded in ABM economic theory and simulates evolutionary dynamics in two regions: Coastal and Inland. In contrast to the safe Inland region, the Coastal one has a competitive advantage in trade with the rest of the world, yet it also experiences flood hazards. The regions are populated by heterogeneous households and firms belonging to capital-good and consumption-good sectors. In addition, households and firms are mobile and they can migrate across the two regions. The model features two regional decentralized labor markets and a global goods market.

The ABM simulates the ongoing agglomeration process in both regions. Initial clustering of economic activities triggers the endogenous technological change that boosts regional productivity. The regional knowledge spillovers and economies of scale further attract other businesses and households, therefore the process exhibits self-reinforcing and path-dependency properties. Namely, when firms start to migrate following new market opportunities, they affect regional aggregate employment and wage levels. Such changes might make a region more attractive for workers, fostering households' migration. Households' migration decreases local demand, making the environment less favorable for the firms selling locally. Moreover, the model is able to account for climate shocks of different magnitude, underlining possible tipping points that might undermine regional development and resilience. We model climate damages at the microeconomic level, hitting workers' labor productivity, capital stock and inventories of firms. Simulation results show that the economy possesses two statistical equilibria: a complete agglomeration of economic activities either in the Coastal or in the Inland region. The likelihood and speed of such agglomeration strongly depend on the transport cost and magnitude of climate shocks. We find that our ABM is able to account for a wide ensemble of micro- and macro-empirical regularities concerning both economic and disaster resilience dynamics. In particular, different shocks of different magnitude have heterogeneous impact on output growth, unemployment rate, and agglomeration process.

# Ecological restoration as a territorial resource: assessing the territorial impacts of energy and ecological transitions.

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G22-O3 Energy and Ecological Transition, August 27, 2021, 2:30 PM - 4:00 PM

Over the last years, energy and ecological issues have been increasingly linked in transitions processes. This combination influences, both positively and negatively, territories and their stakeholders. However, measuring those effects remains an arduous task despite a growing interest from companies, local authorities and other stakeholders.

Indeed, academic methodology does not directly focus on such an analysis. Sustainable transition studies have emerged as a prominent framework analysis in the last fifteen years. However, its limited spatial insights (Hansen and Coenen 2015, Murphy 2015, Binz et al. 2020) have led to calls for a geography of transitions and to include insights from economical geography (Bridge and Gailing 2020). There were also efforts to assess the social impact of local grassroot energy projects (Yalçın-Riollet, Garabuau-Moussaoui, and Szuba 2014, Bauwens, Gotchev, and Holstenkamp 2016, Soeiro and Ferreira Dias 2020), but largely focused on the local scale and/or bottom-up processes.

Thus, this communication wants to examine how combining the burgeoning geography of transitions framework with regional sciences, and in particular the territorial economy as defined by Colletis-Wahl et al. (2008), could provide valuable insights on how transitions processes affect territories, resources, relations between stakeholders, etc.

To that effect, the communication will present the case study of an ecological restoration adjacent to an existing hydropower plant in the East of France. We were able to assess economic and social effects showing that the operator of the plant could play the role of a “territorial operator” (Durand and Landel 2015). The study helped to develop the notion of “territorial value chain”. Though “value chain” is not a new term and conveys different meanings (e.g. logistics, business, etc.), our goal is, firstly, to show it can also be used to analyze how ecological renaturation projects affect territories and generate new territorial resources and, secondly, to provide a tool that stakeholders without a (social science) academic background can easily grasp and re-use. The “territorial value chain” identifies the nodes of transition processes (i.e. stakeholders, resources, infrastructures) and the processes between those nodes. Thus, it provides an extensive overview of the impacts of transitions, including quantitative elements. It uses concepts from the sustainable transition studies, notably by giving an exhaustive and precise vision on the “interplay” between stakeholders and institutions (Chlebna and Mattes 2020), as well as the territorial economy framework with the notion of proximity –spatial and organizational – (Rallet and Torre 2017, Magsi and Torre 2014).

# An operationalization of complex shrinkage: Patterns of economic change and population decline in EU rural areas

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G03-O4 Demographic Change, Population, Migration and Mobility Behaviour, August 25, 2021, 10:15 AM - 11:45 AM

The policy literature tends to assume that population decline is associated with the worsening of socio-economic conditions. This multi-faceted phenomenon has been defined 'complex shrinking' in the ESPON ESCAPE project, which focused on depopulating rural regions in Europe. By applying a hierarchical cluster algorithm to a dataset of demographic, economic, and geographical (accessibility) variables at NUTS3 level, we define an operational typology of 'complex shrinking' for these regions. The analysis shows that the relationship between demographic and economic decline is not linear, and highlights persisting cleavages between Eastern and Western Europe, and between the centre and the periphery of the continent, mostly due to the legacy of post-socialist transition, and worsened by rural outmigration. The cleavage between Central Europe and the southern and northern periphery has been widening more recently but is less pronounced. A focus on dynamics of personal income and population change at municipal (LAU) level in three countries from different EU macro-areas (Finland, Italy and Hungary) confirms the relevance of intra-regional diversity, the non-linearity of the relationship between economic and demographic change, and the absence of a clear causality. These findings call the EU Cohesion Policy to focus on increasing disparities within countries, while accounting for the macro-scale dynamics underlying rural shrinking, especially in monocentric post-socialist countries. This would improve the targeting of EU-level measures aimed at mitigating or adapting to shrinking.

# Spaces and inequalities of European research collaborations

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G12-O7 Regional Competitiveness, Innovation and Productivity, August 27, 2021, 10:15 AM - 11:45 AM

Regional differences within Europe do not exclusively imply inequalities considering demographic characteristics, social challenges or economic positions. European knowledge production also wears the marks of severe division. Forms of academic and technology knowledge production (such as publishing practices or research collaborations) produced a 'Western' hegemony in which besides agents from a certain number of core countries, other participants from the semi-periphery (e.g. from Central and Eastern European countries) only have minor role in shaping frames of these processes, and more often they just follow the rules of play.

The European Union has launched research and innovation programmes for decades. Its most current framework programme, Horizon 2020 has the main goal of supporting competitiveness aims of the EU, however it also has an emphasis on tackling societal challenges and scientific knowledge production. Although these research and innovation collaborations create indeed fruitful co-operations between different partners across Europe, they also contribute to the reproduction of European inequalities in the field of knowledge.

The current paper to be presented aims to visualize and analyse spatial patterns of inequalities considering knowledge production by using GIS techniques in the exploration of a sample set of H2020 project and organisation data from CORDIS database. Differences regarding project participation, coordination role and share of financial interest are analysed. Furthermore, inequalities affecting research collaboration networks are also interpreted in the paper.

# A Conceptual Blockchain-Based Welfare Distribution Model for Digital Inclusivity

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S36-S2 Digital Inclusion and Cultures of Discrimination across Regions, August 26, 2021, 2:30 PM - 4:00 PM

An unprecedented rate of technological advancement, compounded by the COVID-19 pandemic, has expedited our transition to a fully digitised society. Traditionally, digital inclusion focuses on an individual's ability to connect to and access information from the internet. The adoption of novel technologies such as artificial intelligence and blockchain is little distinguished in the literature from internet accessibility. While these digital solutions present novel opportunities, they may also perpetuate or exacerbate the existing hurdles faced by digitally excluded localities. However, these novel opportunities could also be used to tackle the digital divide. Inspired by the design of Bitcoin, the current study offers a conceptual blockchain-based welfare model that adopts a two-pronged approach to enable the fair distribution of capital and resource allocation across the UK regions. The model offers transparency over institutional processes and improves their trustworthiness while preserving privacy. At the community level, the model describes the application of economic incentives to promote digital inclusivity by stimulating cooperation and competition within local cultures. By mobilising both public institutions and communities, the holistic model assists the flow of information between the supply and demand side of the regional economy. This approach may not only dissolve the welfare losses arising from the digital divide, but also improve social wellbeing in all regions.

# Low emission zones and traffic congestion:evidence from Madrid Central (note: Paper eligible for Epainos Award)

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YSS2-G07 Global Warming, Health and Environmental Issues, August 26, 2021, 10:15 AM - 11:45 AM

The aim of this paper is to shed light on the effect of Low Emission Zones (LEZs) on traffic. LEZs are areas in which access is restricted for the most polluting vehicles. They have been found to be effective in reducing pollution, while the expected effect on traffic is not clear. Benefiting from high-frequency granular data on traffic for the city of Madrid, I check whether LEZ schemes are effective in reducing traffic within the area of implementation and if they generate a displacement effect. I deal with the endogeneity of traffic by combining two different empirical strategies. First, I benefit from the exogeneity of the implementation timing to develop a city-wide analysis which can be thought of as regression discontinuity in time (RDiT). Second, I exploit the causal impact analysis and aggregate the results with a meta regression framework. Results suggest a reduction in traffic inside the restricted area and a displacement to all the other areas of the city, especially to its outskirts. I further develop a welfare analysis in terms of traffic exposure to identify winners and losers of the policy.

# House price effects of protected areas

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G26 Human - Environmental Interactions, August 27, 2021, 2:30 PM - 4:00 PM

This study explores the house price effect of protected areas. Hereby, the focus will be on the designation effect of large-scale areas as the effect the status of a designated protected area has on house prices compared to similar natural areas without protection status. The desirability of environmental amenities, such as urban green spaces in residential areas, has been studied extensively. To the author's best knowledge, for protected areas no similar work has been published.

The designation of protected areas is a key instrument to preserve environmental heritage. The total area under protection has increased dynamically in recent years, both on the German and on the European level. Households living close to a protected area can enjoy nature and benefit from the protection status, because it generates certainty about the future of the area, as protected areas rarely lose their status. However, these areas are also subject to restrictions on their usage and therefore on the benefits that people can obtain from them, i.e. which activities people can undertake within the protected area.

This study employs a hedonic model within a difference-in-differences framework to estimate the effect of protected areas on house prices. For this, an extensive dataset with more than one million observations is used which is provided by the real estate selling and renting platform Immobilienscout24. It contains geo-referenced housing advertisements with detailed information on individual housing characteristics. This is complemented by geospatial datasets on protected areas obtained from the European Environment Agency and the German Federal Agency for Nature Conservation.

With our research, we want to contribute to a better understanding of the designation process of protected areas, which is likely to be influenced by local residents' interests. These insights can improve the analysis and design of future land-use and nature conservation policies.

# The spatial determinants of new cooperative firm formation in Italy: a spatial panel data analysis of NUTS-3 regions.

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G18-O2 Regional and Urban Labour Markets and Entrepreneurship, August 26, 2021, 2:30 PM - 4:00 PM

In the economic literature, there is a broad consensus on the assumption that entrepreneurial initiatives constitute essential economic growth catalysts (e.g. Acs et al. 2008, 2012; Bosma et al. 2018; Fritsch 2013; Urbano & Aparicio 2016; Willis et al. 2020). They, indeed, contribute significantly to creating new jobs, new employment opportunities, the emergence of innovations, and the stimulation of competition and competitiveness (Stoica et al. 2020). For this motivation, promoting entrepreneurial spirit is an established priority for the current country and regional development strategies. Hence, knowing those factors affecting firm creation is strategical for efficiently targeting public policy in this area (Diaz-Foncea and Marcuello 2015).

Our paper concentrates on a specific organisational model: the cooperative firm. Cooperatives, representing collective organisations that aim to solve the economic and social problems generated by capitalism (Monzón 2003), is acquiring growing importance within contemporary economic systems (Sabatini et al. 2014). Indeed, they are considered strategic actors in fostering sustainable paths of economic development and greater social cohesion in the context of neoliberal globalisation (Bretos & Marcuello 2017). Given their socially-oriented nature (Birchall 2010; Stiglitz 2009), the cooperative firms can generate employment in disadvantaged contexts, intercept citizens' social needs, and favour social capital accumulation (Castilla-Polo & Sánchez-Hernández 2020). Regarding this final aspect, we have to point out that trust and reciprocity are characteristic elements of a typical cooperative organisation (Majee & Hoyt 2010, 2011; Valentinov 2004); its democratic and plural structure can, indeed, be a stimulus for the development of trusting relationships both within and outside the organisation (Bauer et al. 2012; Borzaga & Sforzi 2014). For this motivation, the rise of this organisational model has become essential for local development strategies, taking into account its ability to generate economic value and even social, political, and cultural ones.

This study aims to investigate local determinants that influence the rise of cooperative firms in Italy. Following the literature on cooperative firm creation (e.g. Arando et al. 2009; Diaz-Foncea & Marcuello 2015; Russell and Hanneman 1992; Staber 1993; Perotin 2006), we focus on supply, demand, and institutional factors. To do so, we use panel data on the entry of cooperative firms in the NUTS-3 regions for the period 2012-2018, adopting both linear and spatial regression methodologies. These last can help us explore spatial spillovers' role in determining the previously mentioned factors impact on the firm creation processes.



# Innovative-skills relatedness on innovation to unequal regions of developing country

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S06-S2 Smart specialization for peripheral areas? From failure to solutions, August 25, 2021, 12:00 PM - 1:30 PM

Due to marked differences between countries and regions, studies conducted so far provide insufficient insights into innovative activities in peripheral or lagged regions. Additionally, even within these countries, microregions' innovative performance differs according to their technological capacity, mainly in a country with an incipient or immature national innovation system. An aggregated analysis, in many cases, also makes it impossible to identify the intraregional disparities and bottlenecks.

The question that guides this work is: what influences innovation in the regions, given the less developing country's innovative characteristics? To answer it, first, we propose to replace indicator to capture innovative activity. We create an innovation index for each occupation based on the skills of workers related to the innovative activity in a comprehensive manner (including new products or processes, not necessarily patented), following Acemoglu; Restrepo (2018), Bacolod; Blum; Strange (2009) and Frey; Osborne (2013) to select the skills. Second, we seek to highlight that even within a country, we can find different innovative performances, especially in a heterogeneous developing country in sectoral and spatial terms, like Brazil. Brazilian labour force database covers about 50 million workers, 263 skills types linked to occupations, 561 industries and 137 Brazilian mesoregions, from 2003 to 2018. We seek to assess whether the increase of innovative activities is influenced by the similarity between innovative skill requirements and the stock of innovative skills existing in a region. The higher the degree of innovative-skill relatedness in a region, the higher the region's probability increases innovative activities. We follow Hidalgo et al. (2007) to build innovative-skill relatedness.

Preliminary results show that innovative activities are influenced by the similarity between the innovative-skill requirements and the innovative-skills stock existing in a region. The innovative-skill relatedness density has a positive effect on the innovative activity of a region. However, it varies depending on regional heterogeneities. We noticed marked disparities when dividing the country into four groups according to the innovative capacity. Even though it is positive, the coefficient of innovative-skill relatedness is almost halved in less innovative regions. It indicates that lagged regions using only the existing base will have difficulties improving innovative performance.

Based on our results, from an unequal country regionally, we believe that public policies for innovation need regional focus, considering the local stock of innovative skills and industries' technological level.

\*\*Please, see the extended abstract.

# The Image of a Map - The level of detail and its influence on population data prediction

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S01 Night Light and Satellite Image Indicators of Regional Economic Activity, August 24, 2021, 12:00 PM - 1:30 PM

We investigate five different mapping types and their key features that are represented (e.g. building footprints, streets, points of interest, land use, etc.) on the influence in predicting an economic population variable in small scale 250m x 250m grid cells of a metropolitan. The target variable is the "graduates density", which is derived from statistical population data. The prediction of the variable is made by a convolutional neural network on a test set of 334 grid cells of the 3,314 populated grid cells. The highest prediction accuracies for five graduate classes (20-percentile of the 3,314 ground truth grid cells) are achieved by a building footprint map (36.0%), satellite images (35.2%) and Open Street Maps (34.4%). We compared accuracies for the different mapping types as well as individual predictions for the cells to conclude on the key mapping features for the predictions. The examination concludes that the shape of buildings together with the distance between buildings serve as key influential patterns for the economic population variable. Furthermore, we find that the inclusion of street names negatively influences prediction accuracy due to the added (artificial) noise and therefore flawed images in the ground truth.

# Acknowledging the multidimensionality of cultural and creative based tourism activities in impact assessment processes

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G32-O2 Tourism and Culture, August 27, 2021, 2:30 PM - 4:00 PM

The growing competitiveness and diversity of tourism products and destinations due to the globalisation dynamics and new forms of production and consumption led to the exploitation of more and more initiatives that seek to take advantage of culture and creativity based experiences of tourism to offer visitors unique and authentic opportunities to immerse themselves in cultural dynamics and places that foster co-creation and learning with the host community members. These experiences had benefitted, particularly from the growth of the cultural and creative sector and synergies with tourism, contributing to new products, experiences and markets.

In search of evidence to decision-making processes and hence to improve the accountability, innovation and learning of a particular project, program or policy (Gertler et al. 2016), there was an increasing demand for new assessment methods that can provide insights about the value and impact of cultural and creative activities in sustainable tourism practices. But despite the growing enthusiasm for the potential of these activities, there are not many studies that attempt to measure their multiple impacts, and even less include several dimensions of sustainability in their analysis (e.g. Korez-Vide 2013; Wisansing & Vongvisitsin 2019). To contribute to a better understanding of the creative processes and cultural dynamics, taking into account local communities and each territory's specificities, our team develop a comprehensive and operational assessment framework to evaluate the impacts in the multi-dimensions of the development of sustainable tourism initiatives. In this sense, tourism driven by sustainable development goals is related with the promotion of the wellbeing of the communities, which implies not only the improvement of social, economic and environmental conditions, but also the vitality and quality of life of those communities and places, both through the cultural involvement of its members and the conservation and preservation of various tangible and intangible forms of culture. This framework has led to the construction of a self-assessment tool (already tested in our research projects) for the continuous monitoring of these activities by its promoters that aims to inform and guide actions, policies and relations with local stakeholders.

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# Spaces of innovation and entrepreneurship in Lisbon in pandemic times

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S27-S1 New working spaces, resilience, and peripheral areas during the Covid-19 pandemic, August 25, 2021,  
2:30 PM - 4:00 PM

In the last ten years, Lisbon has seen an explosion of incubation and acceleration spaces for companies and start-ups, coworkings and fablabs and other similar spaces that make up the Lisbon's ecosystem of entrepreneurship and innovation.

The global COVID-19 pandemic affect significantly our lives, forms of work and mobility and also has suspended much of the local entrepreneurship and innovation ecosystem. During the lockdowns, several incubators, accelerators and coworking spaces were forced to close or to reduce their activities. Many of them quickly moved their services to online to continue to support the community. Following the government guidelines to mitigate the effects of COVID-19, they implemented restrictions on the use of space and sanitary measures such as rigorous disinfection and physical distancing. In addition to revenue losses, there are more difficulties in network development, access to capital and re-establishing supply chains and in links to local businesses affected by the crisis. But the crisis has also created opportunities for those who have developed innovative solutions to new circumstances. The pandemic accelerated the use and diffusion of digital tools, and consequently, remote working practices, remote learning and the development of e-services. Many of these spaces can be used by a growing workforce and companies that will continue to work remotely.

This research presented here is based on the collection and analysis of data available in articles, policy documents and reports, as well as semi-structured interviews with key informants. It aims to observe and analyse, from an interdisciplinary point of view, the short-term effects of the COVID-19 pandemic, responses and measures related to the NWS, as well as perceptions about the future of these spaces and new forms of work.

# Forecasting Regional Output using a Spatial Dynamic Panel Approach

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G14-O1 Spatial Econometrics, August 25, 2021, 2:30 PM - 4:00 PM

The monitoring of the regional (provincial) economic situation takes on particular importance due to the high level of heterogeneity and interdependences among different territories. Although econometric models allow for spatial and serial correlation of various kinds, the limited availability of territorial data restricts the set of relevant predictors at a more disaggregated level. Combining data from different sources at NUTS-3 level, this paper evaluates the predictive performance of a spatial dynamic panel data model with individual fixed effects and some relevant exogenous regressors, by using data on total GVA for 103 Italian provinces over the period 2000-2016. A comparison with nested panel sub-specifications as well as pure temporal autoregressive specifications has also been included. The main finding is that the spatial dynamic specification increases forecast accuracy more than its competitors throughout the out-of-sample, recognizing an important role played by both space and time.

# Communities and Testing for Covid-19

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S04-S4 Geography of COVID-19 outbreak and policy answers in regions and cities, August 25, 2021, 10:15 AM  
- 11:45 AM

The response to the Covid-19 epidemic requires people to undertake actions like mask-wearing or vaccination that also confer benefits to the whole community and, therefore, are akin to public good contributions. This is the case also for participation to the mass testing that took place between November 18th and 25th, 2020 in the South Tyrol region of Italy, where 361,781 out of 500,607 (72.3 percent) eligible residents volunteered to take a Covid-19 rapid antigen test. We examine the community characteristics that are associated with higher testing rates. Our findings point to a number of key community determinants of people's willingness to volunteer. Convenience and social capital were important factors. Beyond that, socioeconomic status and religiosity were also both positively related to greater testing, while childhood vaccinations refusal rates show a negative relationship.

# Quantifying subnational economic complexity. An evidence from Romania

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G12-O6 Regional Competitiveness, Innovation and Productivity, August 26, 2021, 4:15 PM - 5:45 PM

In the last two decades Romania has undergone an unexpected economic growth, catching up to advanced economies and producing one of the best economic performances in the world. All these positive changes along with the increased diversification of industrial products have led to the expansion of foreign economic relations and an increasing complexity of economic activities. Even though there is a global ranking of countries according to the complexity of their economies, there is no information about the regional level and the geographic areas which contribute to the overall score of Romania. The paper fills this gap by measuring the economic complexity of Romania's counties during the last ten years. For the calculation of the Economic Complexity Index (ECI) at subnational level, 384 different industries defined according to the Statistical Classification of Economic Activities in the European Community (NACE rev. 2) have been grouped into 46 cluster categories. The results show that the overall evolution has been relatively stable in the top and bottom positions, the most significant changes being observed in the catching up areas. Furthermore, we have examined the effects of economic complexity on growth and convergence, finding that the ECI index is a good predictor for future economic growth.

# Smart rural development, a way to question knowledge about development processes?

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S06-S1 Smart specialization for peripheral areas? From failure to solutions, August 25, 2021, 10:15 AM - 11:45 AM

Today, the question of rural-urban peripheries and their place in development processes is being raised all over the world. Once overlooked as areas of secondary significance and places that don't matter (Dijkstra et al., 2018; Essletzbichler et al., 2018; Rodriguez-Pose, 2018) in comparison with cities - with their smart development peripheral areas and regions are now emerging and are having their revenge by causing a series of unexpected electoral victories, such as that of Donald Trump in the United States, of Brexit in the UK or of populists in Italy, by counteracting votes from big cities (Goodwin and Heath, 2016; Inglehart and Norris, 2016; Hobolt, 2016). The revolt of the so-called Yellow vests in France can in part be explained by the isolation of peripheries, which are faced with difficulties related to rising fuel prices and the demise of public services.

The issue arising everywhere is that of the gap in development, which never seems to be truly eliminated, between on the one hand, the most urbanized areas and countries producers of wealth and knowledge – and, on the other hand, the more peripheral areas and countries, which always more or less lag behind and are mostly considered as being at the receiving end, rather than producers of, wealth or innovation, and the beneficiaries of aid or catch-up policies. The problem has now taken the form of demonstrations by inhabitants of these regions, many of whom express their despair or opposition to state policies, without, however, any real alternative development solutions being proposed to address this major issue (Capello and Perucca, 2019).

This has obviously become a pressing issue in developed countries, and particularly in Europe, even though rural and peripheral areas in this continent have long been targeted by policies aimed at promoting the convergence of growth and achieving a level of development comparable to that of the most urbanized areas. Despite the efforts made, we now see that these different policies have their limitations and that the problem of developmental inequalities remains unresolved (Gagliardi and Percoco, 2016; Crescenzi and Giua, 2016). And there is an urgent necessity to solve it to prevent the emergence of a two-tier society in which the social-spatial divide would become the root of very serious unrest and in so doing would threaten the unity of the Continent.

It is within this framework that the EU's new growth strategy for 2020, whose ambition is to make the EU a "smart, sustainable and inclusive economy", has been developed. It represents the core priority of the European policy and has 5 main objectives: employment, innovation, education, social inclusion and climate/energy. Moreover, 4 growth policy targets are identified, relating to smart, sustainable and inclusive growth, as well as economic governance. This objective requires the identification, in a context of global competition, of a region's comparative advantages and that they be taken into account in the context of global value chains and innovation processes, but also in priority sectors. Smart development strategies are based on the exploitation of related variety in European areas and regions and on their ability to initiate new activities and/or technological fields.

However, it is questionable whether these extremely ambitious and well-funded smart specialization and smart development policies do correspond to the specific needs of the different European regions and in particular, of rural and peripheral areas, and whether they offer real hope for these territories, as well as a solution to the growing territorial divide. In other words, to what extent are those policies applicable to all types of areas, and in particular to the least industrialized, those that are the most remote from urban centers and are often described as the least developed or dynamic in the European Union?



The purpose of this communication is to provide clear answers to two major questions:

a) Is there a possible smart development policy for European rural areas?

b) Which type of smart development solution (agriculture, business/industry, peri-urbanization, tourism/leisure ...) should be selected in view of regional specificities?

It also aims to provide recommendations regarding new policies and stakeholder-relevant knowledge on conditions for and factors behind rural development, which can be useful for improving rural and peri-urban development policy at local/regional, national and European levels, be it as part of smart development and smart specialization policies or not.

# Measuring territorial capital: empirical evidence from the EU regions in the 2010s

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G01-O6 Regional and Urban Development, August 25, 2021, 2:30 PM - 4:00 PM

The primary aim of the paper is to show empirical evidence from the EU-28 regions (NUTS 2) in the 2010s through measuring territorial capital, by identifying of the key factors of territorial capital and by classifying regions based on the factors. The primary research was conducted by dimension reduction (principal component analysis as extraction method) and classification of cases (twostep cluster analysis and hierarchical cluster analysis). Based on Roberto Camagni's theoretical taxonomy of territorial capital, and through the involvement of 24 country- and 16 regional-level indicators from Eurostat and Eurofund databases that merged into seven factors, a 39-cluster solution was produced. The results of the paper underline that the theoretical taxonomy of territorial capital and multivariate statistical methods serve as a good basis for empirical investigations. Besides, the principal component analysis resulted in the following factors: quality of life & competitive economy relation; smart people (society) & modes of expression relation; material wealth & qualified labour force relation; service sector employment growth; relational private & public services; personal basic needs determinants; representation and participation. The results of the classification of the EU-28 NUTS 2 regions highlight the similarities and differences based on these factors, as well as show the decades-long (traditional) and some of the new socio-economic and spatial differences across Europe.

# Climate Change Awareness and Climate-Friendly Activities - Identifying Resident Typologies in Košice, Slovakia

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YSS3-G07 Global Warming, Health and Environmental Issues, August 26, 2021, 10:15 AM - 11:45 AM

The research focuses on studying climate change awareness and climate-friendly activities among different socioeconomic groups in the city of Košice, Slovakia. Public awareness is a key element when tackling complex issues demanding wide-ranging compliance across sectors and individuals. In order to assess the perceptions and activities related to the climate change, we analyze the data stemming from survey conducted during the last quarter of 2019. Applying latent class cluster analysis to the sample of 368 observations, we were able to identify four types of respondents. These groups differ in the degree of vulnerability to adverse conditions due to climate change and their propensity to act upon their perceptions of threats. This study sheds light on how different groups of citizens perceive the potential climate change impacts in their everyday lives and how they act in order to adapt.

The paper identifies four different groups of residents based on their perceptions of climate change and their activities to adapt. Each group needs to be considered separately when designing adaptation strategy in order not to exacerbate existing socioeconomic inequalities. The findings also point to the need to strengthen municipality's activities in the area of climate change education. Such findings can be applied by policymakers at both national and local level when designing and communicating socially just measures reflecting the needs of all major types of citizens.

# Economic Efficiency of Remote Working in Public Institutions

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G20-O2 Cities, Regions and Digital Transformations, August 26, 2021, 2:30 PM - 4:00 PM

The opportunities provided by information technologies in the information society have increased flexibility in business life, so the working environment has become portable from traditional offices to homes. Remote working has been a working method that has been determined especially in the light of technological developments. Originally remote working is the way of working outside the enterprise because the employee is working outside the institution but in contact with the institution.

Remote working has rapidly increased its popularity with the COVID-19 outbreak, and many organizations have had to quickly transition to the remote work system. It is observed that there are public institutions (universities, municipalities) among the institutions that provide a transition to remote working. With the widespread use of remote working, it is seen that there is a need for research on how this working system will have an impact on employees, how remote working affects employee work-life balance, and how remote working affects the organizational structures of public institutions.

The main aim of the study is to investigate the economic efficiency of public institutions working remotely. The research results will be presented concerning two types of public services (non-market services): educational in the high school level and administrative services. We distinguished 3 perspectives for research on the effectiveness of remote working in public institutions: Technological, Allocation, and Management.

# Is decentralisation an effective policy instrument for poverty and social exclusion reduction in Europe?

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G29-O3 Regional and Urban Policy and Governance, August 27, 2021, 12:00 PM - 1:30 PM

Poverty reduction and the tackling of social exclusion are overarching goals of development and welfare policies. This paper examines whether variations in levels of decentralisation across Europe — the transfer of authority and resources to subnational tiers of government— represents a useful tool in the fight against poverty and social exclusion, especially after controlling for some regional, national, and international characteristics that may play a role on poverty reduction. We argue that this may be the case, but that the link between decentralisation and poverty may be affected by the degree of urbanisation of the country, as the incidence of poverty and social exclusion varies considerably between cities and suburbs, on the one hand, and towns and rural areas, on the other. We also posit that the decentralisation/poverty relationship will be affected by variations in government quality. How well local institutions function and how efficient a government is will determine the success of poverty reduction and social inclusion policies. This is a timely topic, as, despite a lengthy trend of transferring powers to address poverty-related issues to lower tiers of government across Europe, so far research has mostly neglected to study whether this trend affects poverty reduction and the prevalence of social exclusion from a comparative perspective. This is all the more surprising in view of the importance of its socioeconomic policy implications.

# Culture, Variety and Innovation: A CBD Approach to Cultural Entropy

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G12-O7 Regional Competitiveness, Innovation and Productivity, August 27, 2021, 10:15 AM - 11:45 AM

The Theil Entropy Index can be thought of as a measure for the balance in the variety within an entity. While the literature distinguishes between related and unrelated variety of industries, the variety in the cultural endowment of a region has not been studied through this index, although it is well known that of course the cultural milieu is intrinsically related to Jacobean innovation and is a complex entity. According to the Culture-Based Development (CBD) paradigm, culture is an entity that is composed of two types of sub-components – living culture (LC) and cultural heritage (CH), each evoking a very different set of attitudes and cultural milieu. The current paper defines as cultural entropy the Theil Entropy Index that measures the balance between the LC and CH in a locality. The aim of the paper is to establish whether localities with more even balance between the two components of culture are more successful in innovation than localities where only one of the components prevails. Using data for EU regions on NUTS2 level between 2008 and 2017, the paper measures the cultural entropy employing the percentages of the functioning business entities classified as culture-oriented (LC) and percentage of cultural heritage (CH) entities in the region. The paper can distinguish between economic innovation (approximated by patents) and social innovation (approximated by community designs). The findings suggest that places where CH dominates the cultural milieu are less innovative economically and places with predominant LC are more innovative in the same realm. This effect is driven by the relationship between the milieu and its impact on the locally concentrated creative human capital. Namely, CH is associated with the creation of social closure, while LC is associated with a tolerant open milieu that facilitates the percolation of new ideas. The most economically innovative regions are the ones where the cultural entropy is the highest, i.e. the CH and LC are most balanced. Reversely, the social innovation is higher in places where the cultural entropy is lower, indifferent whether the LC or CH component prevails in the region. Potentially, this is due to the institutionalization power associated with social closure, which supports image and branding in design. In short, higher cultural entropy seems to regulate the innovation potential of the regional economy.

# UK Witches: Subversive Narratives and Geographies of Deprivation

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S35 Subversive Narratives and Polarization across Space, August 25, 2021, 12:00 PM - 1:30 PM

Religion can be thought of as a culturally accepted mode for social signalling, related to the economic disparities across space. This paper focuses on the subversive religious self-identification as a witch and its meaning as a signal for individual and local inequality that predicts protest voting. Using a sample of the UK Census 2011 (n= 5 million), I identify higher relative deprivation among self-identified witches, and spatial clustering thereof that predicts the 2016 Brexit vote. Propensity score matching and zero-inflated model on an individual level, along with spatial error and lag models on a regional level support our hypotheses.

# Transformation towards Resilient Sustainable Baltic Sea Region by Smart Specialisation Strategies

Prof. Taina Tukiainen Taina Tukiainen

S46 Smart specialisation strategy and macro-regional strategies, August 26, 2021, 4:15 PM - 5:45 PM

We examine Smart Specialisation strategy creation and implementation in the Baltic Sea Region. Through the Baltic Sea Region example the study advances the understanding of Smart Specialisation strategy, also known through the acronyms S3 and RIS3 transforming and how it transforms towards sustainability S4, as a place-based and evidence-driven innovation policy that aims at regional economic transformation. The study examines how the Smart Specialisation strategy development was conducted across the Baltic Sea regions and cities representing each Baltic Sea Region country and promoting economic development and innovation through Smart Specialisation principles.

This overview of Smart Specialisation in the Baltic Sea Region has been crafted by engaging partners of the Smart-Up BSR project in reflecting on how the strategy creation and revision work in their region prepares the path towards economic transformation. This complies with the goal of involving a large number of regional stakeholders in the Smart Specialisation strategy process and the efforts to improve Smart Specialisation implementation in the Baltic Sea Region. The advantage of the Smart Specialisation strategy lies in orchestrating innovation hubs around chosen themes with regional and cross-regional significance. This study presents what priorities and regional strategic actions can be observed and how these can be turned into cross-regional opportunities.

The study builds upon ten cases in nine countries of the Baltic Sea region. The focus of the Smart-Up BSR project has been on supporting regional development and innovations, including encouraging the Sustainable Development Goals Agenda 2030 into the development initiatives of regions. While the report focuses on the role of Smart Specialisation strategies in the Baltic Sea Region, the work of the participating partners has also included the promotion of instruments as a way to endorse and put into action the strategy content and chosen spearheads through innovation camps and pilots. The study pays careful attention to the recent revision of Smart Specialisation strategy in each region with the purpose of examining how Smart Specialisation strategies refocus and align local/national visions, and whether they generate incentives for inter-regional opportunities.

In short, the aim of this study is to outline the processes of Smart Specialisation strategy creation and how the prioritisation of regional spearheads was achieved in the Baltic Sea Region examples. The report investigates how the Baltic Sea regions have conducted multi-stakeholder work and decision making with regard to Smart Specialisation strategy and how they have shaped and re-shaped regional objectives and priorities. Guiding questions have been:

1. How have Smart Specialisation strategies been created and implemented in the Baltic Sea Region?
2. What are the themes and content of Smart Specialisation strategies in the represented Baltic Sea Regions?
3. How can we position the Baltic Sea Region's innovation performance by Smart Specialisation strategy and implementation?
4. How do the regions include inter-regional engagement in their strategic objectives?
5. How do Smart Specialisation strategies and processes drive sustainable and cross-regional economic transformation?

The analysis is conducted from four perspectives and analysis by regional Innovation Scoreboard indicators, Smart Specialisation strategy stories, Smart Specialisation strategy responsibility and Regional Strategy Diamond balance.



The cross-case analysis presents findings to shed light on how the Smart Specialisation Strategies have been created, revised and implemented in the Baltic Sea Region. The findings of the first cross-case analysis focus on the regional scoreboard innovation indicators. This study offers the deeper understanding of importance of learning, learning regions, innovation funding and entrepreneurial spirit. Based on this analysis of Regional Innovation Scoreboard indicators, Helsinki-Uusimaa, Stockholm, Berlin-Brandenburg, Central Denmark seems to perform best. In the second analysis the strategy stories showcase how regions and countries in the Baltic Sea Region advance towards Smart Specialisation strategy creation and implementation. In many cases the territories or regions are driven by a major city or port, who bridge the territories together via digital, logistics or harbour management solutions. Regions driving forces may be either 1) Innovation, science and technology or 2) logistics and local industry based. Some regions rely on industry collaboration and clusters/ecosystems. Some of the regions prioritize and focus, some of them diversify. The third perspective examines the responsibility for strategy creation and the implementation in the region or national level. In each of these cases the processes, roles and ambitions reveal to be different even though the purpose is to drive economic development. In general, the responsibility resides in national level in Baltics like in Estonia, Lithuania and Latvia. In other Baltic Sea countries, like in the Finnish, Swedish, Polish and German regions the responsibility is regional. Lithuania represents a hybrid model through a governmental agency. As a conclusion, the Smart Specialisation strategy creation, revision, and implementation with a multi-stakeholder collaboration nurtures dynamic regional actions and success in driving the economic transformation, when the responsibility is regional. One positive example to mention is that several Finnish regions have organised themselves and created self-orchestrated collaboration that binds regions together in Smart Specialisation strategy work and implementation even without national impulse.

The fourth analysis is based on the balance of the five angles of the Regional Strategy Diamond: strategy, actions, competitiveness, competence and culture & leadership. This is an active continuous tool for regions to secure positive results from the implementation of the Smart Specialisation strategy and avoid imbalances. Regions may well have formulated strategies but may be missing the competencies to put them into action or vice versa. Regions cannot be successful without competitive and competent strategies and actions. All the Baltic Sea regions are analysed in the study to help the regions to find out their bottlenecks and achieve the balance between Regional Strategy Diamond angles.

Smart Specialisation work has shown that innovation and development policies in the Baltic Sea Region have led to high performance and brought prosperity on varying grounds, either through science, knowledge and economy, or digitalisation, logistics and harbour developments. Smart Specialisation has contributed in a positive way to the focus and prioritisation of sustainable innovation strategies and policies and impacted to the innovation performance of the regions. However, the study concludes that neither inter-regional collaboration, Sustainable Development Goal implementation, nor economic transformation - are yet a norm in the Baltic Sea Region.

# The Patterns of Scientific Collaborations among Turkish Regions

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G30-O5 Innovation and Regional Development, August 27, 2021, 12:00 PM - 1:30 PM

The place or placelessness of scientific collaborations has been under close scrutiny in parallel to the advanced coverage and variety of ICT. Flows of knowledge among cities on the international and supranational scale have gained pace especially in the last decade. On the other hand, national subsystems within these international flows is studied in few scientifically leading instances or on a highly disaggregated level of a single or few sub-field(s). In this context, this study aims to focus on a growing national subsystem as well as its integration to the international scientific collaboration networks with the example of Turkey. Towards the goal, collaborations are measured by coauthorships and citations at the NUTS 3 level regions with the data obtained from Scopus database and classified according to OECD's FORD classification of six fields of research. As the integration, representation and growth of the case within the international digital records is more recent compared to its western (and Japanese) counterparts, observation into the case highlight a previously unexplored geography and pattern of scientific collaborations as well as the network properties formed out of them. The findings from these spatial and aspatial properties highlight different groups of performers, elite structures (old/established and emergents), gatekeepers for the globally produced knowledge, disseminators of the global knowledge. In addition, the effects of the regional development and higher education perspective of the country in the previous decades is also discussed to explain the resulting geography.

# The food supply chain in Tuscany and the contribution of the short food supply chain. An input-output approach.

Dr. Sara Turchetti<sup>1</sup>

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S49-S2 The impact of COVID-19 on alternative and local food systems (ALFS) and the potential for sustainability transition – case studies and theoretical considerations, August 27, 2021, 12:00 PM - 1:30 PM

This study concerns the organization of food supply chain in Tuscany, with a special focus on the contribution of short food supply chain to achieve some relevant goals, like food security and zero or positive impact of food production on the environment. We use an input-output (IO) approach in order to explore to what extent the final consumption of Tuscany households depends on imports and purchases from other Italian regions and, conversely, the contribution given by the so-called short food supply chain. Typically, farmers produce intermediate goods which are not directed to final consumption but demanded as raw materials by other firms, which then trade the end products everywhere in the world. However, some farmers sell their agricultural production directly on the market, so as using the IRPET interregional IO table (hence IRIO 2016), we are able to measure both the share of agricultural production directly activated by the regional demand and the share of production activated directly or indirectly by some other economic sectors. Beyond the standard positive effects of increasing the margins of farmers and the positive externalities of decreasing emissions due to transportations (Thomé et al., 2021), the SARS-COV-2 pandemics proved that the short-food supply chain can be a resource to overcome logistic bottlenecks and raises the overall resilience of the whole food system.

Using the IRIO 2016, so far we have carried out an analysis of the direct linkages between agriculture and the food industry and beverage and the rest of the economy. Some primary results show that, as expected, the position of agriculture within the supply chain is central, so as most of the farms supplied other firms with raw materials. However, the so-called short supply chain (from Tuscany farms to fork) satisfies about 15% of the final demand, while industrial food coming from other Italian regions is consumed by more than half of the final clients. Finally, 17% of the final demand is satisfied by imports.

Next, it is our intention to find out the destination of the agricultural goods sold abroad as raw materials and then re-imported in Tuscany and purchased by final consumers.

# The General and the Task-Specific Human Capital of Migrants: Host Country Perspective

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S62-S1 TRSA Special Session: The Economic Geography of Cross-Border Migration, August 26, 2021, 2:30 PM - 4:00 PM

Human capital is one of the factors, which determine the effects of immigration on the host country economy and society. This study distinguishes between the general human capital, measured by the inner literacy and numeracy ability, and the specific human capital, which refers to the task-specific abilities accumulated and develop through performing certain job tasks. Relying on the PIAAC data for fifteen European countries, we empirically investigate on exploring the immigrant-native human capital gap and factors behind it applying the novel measure of the task-specific human capital, as a combination of the self-reported frequencies of literacy, numeracy and ICT skills use at work.

The results of the study bring us to the conclusion that immigrants' general human capital is substantially different from the natives in most analysed countries. However, different composition and quality of the general human capital of immigrants is not yet a reason to limit an accumulation and development of their task-specific human capital, by utilizing the inner abilities at the workplace. Furthermore, an accumulation of the task-specific human capital leads to an improvement of the inner abilities, eventually reducing the immigrant-native skill disparity. The study documents the variation in the inner ability gaps across analysed countries, with the most homogeneous immigrant-native human capital in Greece and Ireland, while the most heterogeneous in Denmark, Finland, Netherlands, Norway and Sweden. The finding also yields that immigrants are not sufficiently well assimilated in the European labour markets. Development of educational programs, personalization of the training and focusing on filling up the gaps in cognitive skills should be coupled with the policy actions fostering further improvement of the task-specific human capital.

# The consumers behavior and retail market in Polish urban centres in post-pandemic world

Prof. Małgorzata Twardzik<sup>1</sup>, Prof. Krystian Heffner<sup>1</sup>

<sup>1</sup>*University of Economics in Katowice, Warszawa, Poland*

S12 The consumers behavior and retail market in polish cities in post-pandemic world, August 24, 2021, 2:30 PM - 4:00 PM

Over the decade 2010-2020, there have been far-reaching changes in the functioning and distribution of retail chains in Europe, but also in individual EU countries, including Poland. The changes affect both structures associated with large urban centres and their agglomerations as well as smaller centres, often serving mainly the surrounding rural areas. On the one hand, consumer behaviour is changing rapidly and radically, while on the other, retail structures are undergoing profound changes - both in terms of volume as well as spatially. The article draws attention to the rapid evolution of consumer behaviour and the corresponding change in the location structures of retail chain facilities both in urban and rural areas. According to nationwide market and consumption surveys, the average Polish consumer in the time before the pandemic showed a high level of optimism and rated likewise his/her financial capacity highly. When shopping, he/she was mainly guided by the prices of individual products and also reacted to promotions. Polish consumers visited shops and supermarkets and large shopping centres more often than other Europeans. This type of behaviour has also resulted in changes to the spatial structure of retail - smaller outlets, often located in small urban centres or rural centres, as well as in peripheral systems of larger cities (e.g. low intensity residential areas) are gradually being eliminated by chain discount stores and small shopping centres.

After the introduction of the epidemic emergency (1st half of 2020), consumers shopped en masse - stocking up on groceries and household chemicals and cleaning products, usually at the nearest chains outlets (belonging to larger but also smaller retail networks). In the next phase of the crisis, they shop much less frequently and tend to go to medium-sized and smaller stores located mainly near their places of residence. The main factor in choosing a facility (shopping location) was then the availability of goods and their price. According to the report, Poles will be even more price-sensitive in the future, which means a preference for outlets competing mainly on price and promotional schemes, which in turn points to the further expansion of small chain stores in areas so far deprived of them (e.g. Dino retail chain in medium-sized and smaller towns in Central and Eastern Poland). This trend may be the reason for changes in the communication and marketing strategies of retail networks increasing the pressure on the presentation of advantageous price purchases.

# Technical innovations in retail trade and their impact on changes in consumer behaviour

Prof. Małgorzata Twardzik<sup>1</sup>, Prof. Barbara Kucharska<sup>1</sup>

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S12 The consumers behavior and retail market in polish cities in post-pandemic world, August 24, 2021, 2:30 PM - 4:00 PM

Retail today is an exciting hotbed of innovation with emerging technologies like contactless payments, mobile commerce and the Internet of Things promising to transform the way we do business. In many ways it's one of the most vibrant sectors to work in right now, however this focus on innovation isn't a new development. Innovation and retail have always gone hand in hand.

There are few innovations that have revolutionized the retail experience over the past 40 years ...

**Online Marketplaces:** Consumers have shopped at markets for millennia. This year, more than \$1.5 trillion will be spent online by shoppers worldwide, and that figure is still rising. The huge adoption of the web for shopping has been helped in part by the development of online marketplaces that enable retailers to sell internationally, market to new audiences, and compete with established players in the market. These online marketplaces are helping to level the playing field for smaller traders online, offering access to a much larger customer base and the infrastructure needed to sell online.

**Social Media:** One of the more recent developments to change the world of retail is social media. Over the past decade, sites like Facebook and Twitter have transformed how consumers communicate with retail businesses and research what to buy. Aside from influencing consumer buying habits decisions, social media offers retailers the ability to crowd source opinions on new products. **Mobile Commerce:** A mobile phone was first used to make a purchase in 1997. Now, mobile is becoming an increasingly important channel for retailers to interact with, support, and sell to shoppers both in-store and online through mobile apps and websites.

**Big Data:** The retailers worldwide are now able to acquire and analyze more data than ever before, and insights garnered for this data are influencing all aspects of retail business from stocking decisions through to marketing promotions and store layouts.

**The Internet of Things:** Aside from helping retailers to target shoppers with incredibly relevant offers and promotions, based on a shopper's location within a store, Beacons offer traders a wealth of data and new insights into shopper behavior that could make for smarter stocking decisions and store layouts.

**Self-Service Checkout:** Invented to reduce checkout waiting times, the first self-service checkouts were introduced at store in 1992.

Technological advances and changes in consumer behavior empowered by new devices and media are continuing to transform the face of retail today.

# Common Trends and Regional Economic Fluctuations: A Spatial Econometric Approach

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G06-O5 Adaptive and Resilient Cities and Regions, August 25, 2021, 12:00 PM - 1:30 PM

This paper proposes a novel approach to study regional economic fluctuations and how they are influenced by common trends using spatial econometrics. It employs a dynamic spatial Durbin model with common factors, which builds on the neoclassical growth framework and can be shown to capture well dynamic patterns of regional growth in per capita GDP. We estimate the model based on data from 266 EU NUTS-2 regions for the period 2000-2018. The common factor corresponds to cross-sectional averages of the dependent variable, which approximate the EU-wide growth rates. We first document that growth rates of GDP per capita exhibit weak convergence and in some cases a pattern of spatial co-integration. We then examine why regions differ in their co-movement with the EU business cycle by estimating interaction effects between the common factors and various structural socio-economic characteristics of each region. These characteristics include several indicators of industrial structure, education levels, innovativeness, public investment, population density, and trade. Our analysis also examines which structural characteristics explain differences in co-movement between and within countries. Overall, the outcomes show that the differences in co-movement are related to trade and the sectoral structure. However, we find that no structural characteristic stands out in its ability to explain co-movement within countries. This study also relates to ongoing debates about what makes regional economies resilient to external shocks and how their degree of resilience relates to structural economic characteristics.

# What Matters for the Economic Synchronization of the Baltic States

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<sup>1</sup>Vilnius University, Vilnius, Lithuania, <sup>2</sup>This research has received funding under the project „Reassessment of the Optimum Currency Area in the persistently heterogeneous European Union“ (Euro4Europe, No 09.3.3-LMT-K-712-01-123) from the European Social Fund under a grant agreement with the Research Council of Lithuania (LMT.LT), , Lithuania

G02-O2 Macroeconomic, Transregional, Regional and Urban Policy and Governance, August 25, 2021, 2:30 PM  
- 4:00 PM

It was argued that members of the monetary union should exhibit similar business cycles the monetary policy “one size fits all” to be successful. Can optimum currency area criteria be met ex-post in case the trade is the main channel for business cycle synchronization is explored in this paper. The relationships and direction of the impact between trade intensity and business cycle synchronization between the Baltic States and their main trading partners before and after joining the EU are explored as an example of the ex-post case. The data of 18 countries which are the main trading partners of the Baltic States during the period of 1995-2019 was exploited to explore the phenomena. Our estimation strategy controlled for possible factors which could have an impact on trade intensity and business cycle synchronization. We found that bilateral trade and business cycle synchronization between the Baltic States and most of trading partners from EU has increased. However, the direction of impact of trade intensity and business cycle synchronization between the Baltic States and main trading partners is not unambiguous.



# Impact of geographical distance on acquiring know-how through scientific collaboration

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G31-O1 Location of Economic Activity, August 27, 2021, 12:00 PM - 1:30 PM

Geographical distance may appear to matter less thanks to technological advances, yet we find this not to be the case in academic scholarship. We analyze 17.6 million publications authored by 1.68 million scholars to examine how proximity between collaborators impacts their future knowledge portfolios. Our results show that in 1975, local collaboration was associated with a learning premium of about 40%. Despite advances in communication and transportation technologies, in 2015, the learning premium increased up to 85%. We identify four factors driving this phenomenon. Individuals deriving the greatest learning premiums from local collaboration tend to be (1) in earlier stages of their career; (2) associated with lower-ranked institutions; (3) working with fewer collaborators; and (4) in STEM fields. Learning rates drop logarithmically with distance and correspond to the number of institutional boundaries crossed during collaboration. We conclude that even in the 21st century, geographical distance still negatively impacts learning through collaboration.

# Large cities: cradle of sustainable energy invention but not of fast market introduction?

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G12-O7 Regional Competitiveness, Innovation and Productivity, August 27, 2021, 10:15 AM - 11:45 AM

Large cities: cradle of sustainable energy invention, but not of fast market introduction?

Marina van Geenhuizen, Razieh Nejabat, Pieter Stek

Many empirical studies have confirmed that invention in large cities benefit from agglomeration advantages, like knowledge spill-overs, non-traded local inputs and local skilled labour pool. Since the early 2000s, however, an extended concept of proximity has emerged, namely, relational proximity, with emphasis on actual demand for (new) knowledge and presence of common sets of values (beliefs) facilitating knowledge spill-overs over larger distances. Accordingly, knowledge networks and flow can be seen as important conditions for invention and market introduction, and this also moves attention to multinational corporations (MNCs) and young entrepreneurial firms active in market introduction. Against this theoretical background, and using the evolutionary lens of path dependency, we address the question as to what extent invention and innovation in sustainable energy are concentrated in large cities (clusters) and how their performance is connected to agglomeration factors and network factors, and concomitant entrepreneurial advantages. These questions are addressed in a scientometric part (patents), including a descriptive analysis of location of clusters of inventive activity and an exploration of determining factors of clusters' invention activity. Secondly, in a micro-level entrepreneurship study (university spin-off firms) the focus is on location patterns of market introduction and long/short time to market, and on exploration of the role of large cities among a set of firm level entrepreneurial strategies and resources. Both parts make use of multivariate analysis.

Our results suggest somewhat weak importance of large cities for sustainable energy invention, namely concentration in an increasing number of smaller large cities. With regard to market introduction, we also observe weak importance of large cities. Regarding time to market (young firms), we find a trend of more often fast market introduction in small cities. This may be connected to typical locations of some sustainable energy sources, namely, as fixed natural assets in sparsely populated areas, like windy seashore and hills, strong coastal water currents, extended woodland, etc. Such circumstances favour the location of practical research and testing in nearby small university towns. This result points to historical roots, but of a different kind compared to agglomeration. At the same time, the abundant knowledge (diversity) in large cities may enhance radical inventions with larger risk-taking in specialisation and access to global markets, and concomitantly, longer time to market.

# Putting the Circular Economy to Work: Measuring Gross Employment Effects in the Netherlands, 1996-2015

Prof. Frank van Oort<sup>1</sup>

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S03-S1 Circular economy: challenges for regions and cities, August 24, 2021, 12:00 PM - 1:30 PM

A circular economy (CE) is generally regarded as a transition-facilitating economic system that has ecological and sustainable benefits due to lower resource dependence. However, the exact magnitude and importance of circular economies in terms of employment is debated in a growing empirical literature. It is suggested that typically between 0.5% and 5% of national employment is for the purposes of circular activities in the economy. Likewise, it remains unclear whether and how the circular component of the economy has grown in recent decades. In this study, we argue that current estimates of CE employment are overly focused on the core 'green' portion of a CE and overlook (1) non-'green' direct circular jobs that enable a CE's development and (2) enabling and supporting circular jobs that support core circular jobs. Using value-chain analysis, detailed micro-data on establishment-level activity, and input-output data, we measure the number of core, enabling and supporting CE-related jobs in the Netherlands for the 1996-2015 period. We find that our estimates of CE employment (3,6-5,5% of total employment) are at the upper boundary of what previous studies have suggested (0.4%-5.8%). We do align with studies using a similar methodology, indicating that other studies might have underestimated gross CE employment by focusing predominantly on strictly defined 'green' jobs. Within the Dutch economy, the number of enabling and supporting jobs for the CE is growing much more quickly than are core 'green' jobs. Our findings have implications for economic, spatial and social policy discussions regarding CE development.

# The wickedness of Covid19 policies: The importance of a regional approach

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S04-S2 Geography of COVID-19 outbreak and policy answers in regions and cities, August 24, 2021, 2:30 PM - 4:00 PM

In this paper we show the economic importance of a regional differentiated approach to Covid19 related rulings (on safety, distancing, working from home, and changes in attitudes). The benefits of a regional approach without coordination is substantial (up to several percentages of GDP) while a coordinated approach may increase these benefits even further. Regional economic impacts due to these rulings affect production possibilities and supply differently over the regions, while the regionally differentiated impacts to demand lead to regional ripple effects via multiregional value chains that spread the effects over space. Although little information is available in the degree that firms may adjust to region specific bottlenecks in demand and supply, we analyze the degree that firms and consumers in different regions are exposed to them.

Analyzing the importance of a regionally differentiated approach is complicated by the partly wickedness of the problem where rational choice assumptions embedded in comprehensive planning approaches to societal problems are difficult to find (Head & Alford, 2015). This is caused by the coordination dilemma confronting multi-level governance where policies of one jurisdiction have spillovers (i.e., negative or positive externalities) for other jurisdictions, so coordination with exponentially increasing second-order coordination costs (Scharpf's (1997) law) is necessary to avoid socially perverse outcomes.

We use mixed techniques based on multi-regional input-output modelling in combination with mixed integer optimization problems to illustrate the benefits for the Dutch economy when pandemic related rulings will be regionally and sectorally differentiated.

# Distance costs and university choice: What is the impact of a student aid reform?

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<sup>1</sup>*Maastricht University, Maastricht, Netherlands*

S22-S2 Drivers and impacts of migration: new insights and (in) pandemic crisis, August 25, 2021, 4:15 PM - 5:45 PM

University students generally study close to home, indicating they take into account that studying at a distance from the parental home comes at a cost. Some students are willing and financially able to carry the costs of studying at a distance, while others are limited to the fields of study and universities located nearby. As such, distance costs create a dilemma and a disadvantaged position for students growing up relatively far away from universities, especially those with little financial assistance from their parents. Several European governmental student aid programmes offer an additional student grant to those studying away from the parental home to partly compensate students for their higher financial costs (for instance in housing). Yet, it is unclear whether such a financially oriented policy actually reduces spatial barriers in university choice and how it compares to a similar policy offering additional student loans. This paper addresses this question by looking at a large reform in the Dutch governmental student aid programme after which new cohorts of students who moved away from the parental home no longer received an (additional) student grant but instead qualified for a student loan. Drawing on rich administrative data, we compare full cohorts of students that graduated secondary school before and after the reform in their choices on (non-)enrolment in higher education, field of study, and specific university attended. Using discrete choice models and (conditional) multinomial logistic regression, our results are in line with previous research that shows that distance plays a minor role in the decision whether to enrol in higher education. However, the decisions on field of study and the specific university to attend are somewhat and strongly influenced by distance. The deterrent impact of distance does not differ between cohorts before and after the reform for any of our outcomes. As expected, students from low-income households experience a stronger distance effect than those from richer family backgrounds, but this gap did not increase after the reform. The move from student grants towards student loans in the Dutch 2015 reform fits in a larger pattern of decreasing public investments in higher education and higher private contributions of students. Our research suggest that such a switch does not deteriorate the existing spatial barriers in students' decision-making on higher education.

# How do policy instruments shape intentions to become solo or employer entrepreneur?

Prof. Dieter Boegenhold<sup>2</sup>, Dr. Martha O'Hagan-Luff<sup>1</sup>, Dr. Zulaicha Parastuty<sup>2</sup>, Dr. André Van Stel<sup>1</sup>

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S30-S2 Linking entrepreneurship and regional policy, Room 7, August 26, 2021, 4:15 PM - 5:45 PM

We investigate entrepreneurial intentions of non-self-employed individuals using a large-scale survey among the adult population. We make three contributions to extant literature. First, rather than using a binary measure, we create a four-point scale varying from no intentions to weak, moderate and strong entrepreneurial intentions. Second, we distinguish between entrepreneurial intentions to become a solo entrepreneur or an employer entrepreneur. Third, we focus specifically on policy-related determinants of entrepreneurial intentions, while distinguishing between institutional conditions and direct support variables. Our empirical analysis reveals that respondents who indicate that the receipt of (different types of) policy support would help them start a business, are significantly more likely to have (strong) intentions to become a solo entrepreneur (i.e. without employees), whereas such policy support is unrelated to intentions to become an employer entrepreneur (i.e. with employees). This suggests that policy support programs to start businesses may indeed lead to more entrepreneurs but not to more employer entrepreneurs creating additional wage jobs.

# Dwindling at the Dutch fringes: Unpacking spatial injustices in regional development

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S11-S2 Challenges and Opportunities of Rural Regions, August 25, 2021, 10:15 AM - 11:45 AM

In the last decades a new geography of uneven development and discontent emerged. With the rise of populism, new regional divides in territorial inequality are signaled as prominent sources of discontent in rural and old-industrial communities. This study considers long-term regional development from a perspective of spatial justice, specifically distributive injustice, in relation to regional discontent. A spatial reinterpretation of social justice theory provides two key concepts that enable us to measure regional development: economic marginalisation and civic deprivation. The former consists of economic indicators such as productivity, income, wealth, and jobs. The latter revolves around shrinkage issues such as depopulation, accessibility of public services, and digital connectivity of areas. Based on quantitative analyses of longitudinal data on NUTS-3 level regions in the Netherlands, this study first reports a classification of regional development: very low, low, medium-high, very high developed. Second, we examine to what extent long-term economic marginalisation and civic deprivation provoke regional discontent. Findings show that relatively less developed regions in the Netherlands are mostly rural areas, and that their inhabitants show higher levels of perceived insufficiency in redistributive support and are less likely to trust government institutions. Yet less developed regions are more likely to appreciate their living environment than more developed regions. The findings of this study contribute to the fields of economic geography and rural sociology, by providing new insights in the injustices coming from long-term uneven development in the Netherlands.

## Bridging land value capture with land rent thoughts

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G16-O3 Real Estate and Housing Markets Issues, August 26, 2021, 12:00 PM - 1:30 PM

Scholars directing their research on high land values and their utilisation for public purposes have historically divided into two communities. The community referring to land value capture is built mainly by urban planners and lawyers, the community discussing land rent mainly by economists. The interrelations between these communities are rare. This contribution characterises the narratives of both research communities, strengthens interconnections and synthesises their views.

The results are informed by the systematic literature review and NVIVO content analysis of value capture research agenda and on a directed literature review of publications of the most respected and influential authors dealing with land rent, land and property taxation and housing prices within mainstream economic arena combined with the content analysis of their view.

A more complex view on the utilisation of land value for public purposes is established when explicitly bridging these narratives, as they are complementary to each other. Whereas the land rent community discusses continuous blanket taxation of land rent and the utilisation of tax revenues for general purposes, land value capture scholars focus on the one-time increase of land values thanks to new development and on remedying the lack of public finances for development needs. The value capture community might benefit from the complex insights of causes of land value rise and the wider understanding of the rationale for the utilisation of land value for public purposes provided by land rent scholars. It may be supportive to the land rent community with its instruments proposed for capturing one-time land value increases. Building bridges between these two scholar communities enables them to come across each other's work and insights more often, and contribute to the best approaches of land value capture in theory and practice for enhancing efficiency and equity of taxation and financial resilience of cities.



# Issues of labor market integration of the VET system, especially for lagging social groups in peripheral areas in Hungary

Dr. Gábor Dániel Velkey<sup>1</sup>

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G23-O2 Segregation, Social and Spatial Inequalities, August 27, 2021, 10:15 AM - 11:45 AM

The radical reforms of the vocational training system of the last ten years in Hungary are the so-called by strengthening the dual training model, it placed the greatest emphasis on facilitating the direct integration of training into the labor market. Our analysis, based on the empirical research results of the research project NKFI-6-K-125110 (Regional and sectoral features of the labor market integration of vocational training, with special regard to peripheries and early school leaving, 2017-2021), examines that ...

- (1) How does the prominence of short-term economic interests affect the development of learners' cognitive skills that are critical to their long-term success in the labor market?
- (2) To what extent does the involvement of economic actors in practical training help students to find a job quickly after graduation, and to what extent does the organization of dual training provide a direct path between vocational training and employment?
- (3) What spatial inequalities in the economy result in territorial differences in the organization of practical training and the territorial system of available school services?
- (4) How have the training, employment, and mobility (social and territorial) opportunities of students belonging to the lagging social groups of peripheral, backward regions developed as a result of the reforms?

# Oltrepò BioDiverso: the Rural Network to support local rural economies

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G30-O3 Innovation and Regional Development, August 26, 2021, 4:15 PM - 5:45 PM

For many years, the European Union has been activating a policy of interventions in rural territorial development with the aim of identifying new paradigms to bring out new and heterogeneous ways of farming and interacting with local natural resources and people working in that field.

In Northern Italy, a unique experience has been the project “Oltrepò BioDiverso. La natura che accoglie” under the “Attivaree” programme, funded by the Cariplo Foundation, through which the “Fondazione Sviluppo dell'Oltrepò Pavese” works together with 19 partners in giving value to the hilly and mountainous area (province of Pavia) of the 17 municipalities involved in the single segment of the Lombardy Apennines. The aim is to put emphasis on environmental biodiversity, using the transfer and diffusion of the knowledge and support for the development of innovative agriculture – activities for production and research – thus combatting depopulation, isolation and production and social stagnation, interacting with urban contexts of the flat valley areas.

One of the targeted actions has been the formation of an Open Innovation Center that has carried out activities to test cultivation innovations in high-hill and mountain areas.

In particular, experimental fields of *Chenopodium quinoa* (Titicaca, Regalona, Vikinga cv) have been planted thus collecting data on the agronomic yields and insect pests; seed mixtures of meadow-pasture fields and flower strips have been tested, the latter for ecotourism purpose, putting 3 mixtures in comparison in 3 localities at different altitudes and then collecting data on the pollinators; collection vineyards of local varieties, with greater or lesser diffusion, have been made in 3 sites at different altitudes, to test their adaptation even at higher altitudes considering global warming.

In addition, studies have been carried out on the effects of different soil management on slope stability and soil biodiversity.

The school and library system, the museum network, the Bank of the Earth and technical assistance to local business are an integral part of this project, increasing knowledge and strengthening relationships between the Oltrepò and the urban territories.

The communities have experimented new services of assistance to the enterprises and to the individual and the families, an alternative form of education (Montessori method), various pathways of multilevel tourism and territorial valorization.

The type of intervention is based on the idea that access to local natural resources, the basis for a form of endogenous rural development, is the starting point of a reactivation process of the Oltrepò area.

# Between resistance and humanitarianism in local context: Attitudes towards Asylum seekers in medium-small size Greek cities

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S22-S1 Drivers and impacts of migration: new insights and (in) pandemic crisis, August 25, 2021, 2:30 PM - 4:00 PM

Greece recently received a substantial influx of refugees and asylum seekers having as ultimate destinations the countries of Northern and Western Europe. However, tight border controls and other acts taken by EU (EU-Turkey agreement in 2016) have substantially reduced refugee mobilities within the EU, leaving thousands of refugees and asylum seekers “trapped” in Greece for an indefinite period. Refugees are often placed in smaller municipalities and in rural areas with fewer job opportunities. Opposition actions by local residents and local state representatives against the settlement of refugees in accommodation centres (camps) or in apartments in cities, has created the perception of a strong resistance in public spaces. Refugees are perceived through the lenses of national security and met with suspicion. In contrast, other cities seem to be more inclusive, while humanitarian practices and social initiatives of local state and civic society seem to give more opportunities and make proper integration possible.

This article, assesses how local communities respond to the presence of refugees in different housing settings-accommodation centers or apartments- and seek to understand the sources of these attitudes through locally conducted surveys, in three medium and small size cities (Trikala, Larisa and Volos). Each case study represents different examples of geographical location (a port city and two in mainland), governance arrangements in refugees’ accommodation (camp and apartments) and local socio-spatial disparities. The article uses a representative sample of 1.200 residents, whereas relevant information was collected through interviews with refugees and key local policy actors (municipality’s representatives, agencies, NGOs).

(see extended abstract)

# Toward differentiation of regional institutional frameworks for structural change in the sustainability transition

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G25-O3 Institutions, Political and Decisional Processes, August 27, 2021, 12:00 PM - 1:30 PM

In the sustainability transition, governmental policy, technological change, and consumers' behavior drive a shift in demand for products and thereby structural change in the employment between sectors: from 'phase-out', fossil fuel-based sectors (e.g., oil refinery, mining equipment, combustion engine production) to 'phase-in' and 'new', renewable-related (e.g., battery storage, load-shifting home appliances, electric car engine production, waste recycling), with unclear or limited effects for 'substitution' sectors (e.g., automotive, transport, and many sectors in which 'green', recyclables, and durable goods/ inputs replace the 'gray' and disposables), and temporary peak demand for 'cross-phase' sectors (e.g., installers, retraining, consulting). Given the prior uneven distribution of these sectors over regions, the sustainability transition affects also employment unevenly and may exacerbate inequality, drive further urbanization. Fossil fuel-intensive or extraction regions (e.g., the oil-region Stavanger, the heavy industry and coal Ruhr region) with limited diversity may struggle to retain employment. Urban regions with technology development and production capabilities (e.g., the Baden-Württemberg area) may actually gain. To sustain or even boost employment in regions hosting mostly 'phase-out' sectors, transformative governance is to (re)form institutions to drive emergence of alternative sectors as growth engines (either a new specialization or further diversification). Moreover, centralized governance is to stimulate institutional relegation of complementary or even primary research & development activities (e.g., co-development of 'green' technologies) from 'phase-in' regions to 'phase-out' regions. To this end, the paper proposes a Framework of Institutions for Transition (FIT). This is composed of four interlocking institutions: (i) innovation & entrepreneurialism for creation and exploitation of green technology and thereby jobs, (ii) labor market flexibility and social security for occupational mobility from 'phase-out' to 'phase-in' sectors, (iii) education, training, and consulting for (re)skilling the labor force and capability building in 'cross-phase', 'phase-in', and 'substitution' sectors, (iv) transition governance to mobilize and empower stakeholders, delegate & escalate activities, acquire and coordinate of funding, etc. Given the substantial differences between regions, the paper provides a differentiated perspective on the institutional framework for regional structural change in the sustainability transition. Several cases are described in detail, notably the cessation of oil extraction in Stavanger, the discontinuation of gas for household heating in The Netherlands and coal mining in the Ruhr area, the emergence of wind-power in Wales, and switch from combustion to electrical engines in the automotive industry in Baden-Württemberg.

# Balanced policy approach to regional growth

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S09-S4 Relaunch of Productivity for Regional Growth and Cohesion: Productivity, competitiveness and resilience, August 26, 2021, 4:15 PM - 5:45 PM

This paper reviews how place-based productivity policies affect regional economic resilience and how local policies for resilience against economic and non-economic shocks affect long-term regional productivity. Policies for resilience and productivity may face a trade-off or work in synergy. Policies that strengthen robustness and resourcefulness of places, firms and people will enhance both productivity and resilience. Policies focused on increasing redundancy increase resilience but may affect productivity in the short-run. Due to this trade-off a balanced approach to regional growth is required.

The framework is demonstrated through a review of empirical evidence and case studies from OECD member states through three types of shocks: economic cycles, natural disasters, megatrends, and finally applied to the Covid-19 pandemic.

# The COLIVING project – supporting mountain local communities through a generative welfare approach

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G05-O4 Mountain, Rural and Marginal Issues, August 25, 2021, 10:15 AM - 11:45 AM

As happens in other marginal areas, also the mountain territories of Trentino are experiencing a situation of depopulation and a significant increase in the average age of their inhabitants, with a consequent impoverishment of the welfare services active in the territory and a loosening of the social community fabric. Moreover, in some specific mountain areas, the younger generations are faced with widespread difficulties in finding affordable housing, as well as problems in accessing credit in the face of the availability of vacant and unused public housing units, which are therefore subject to rapid deterioration and degradation. These conditions raise a social and economic challenge for local policy makers and local communities that is to develop a replicable public policy model able to give local answers to a widespread urgency.

The Coliving project, promoted and funded by the Agency for the family of the Autonomous Province of Trento, provides free housing units owned by Trentino public housing (ITEA S.p.A.) to four families in the municipality of Luserna, for a period of four years. The specific goal of the project is to use the form of shared and collaborative housing as a strategic tool (i) to increase the territorial social capital and the well-being of the local community, made up of about 260 inhabitants, (ii) to give life to new social networks supporting a generative welfare by putting at the centre hybrid youth-housing policies and to (iii) enhance the public housing heritage.

In this project two communities are involved in a two-way relationship: the inhabitants of Luserna and the residential community of the colivers; the first one welcomes whereas the latter reciprocate with their commitment to the local community, providing time and specific skills to support a generative territorial welfare also according to the needs of the host community.

Our paper intends to present the preliminary phase of the project, the architecture of the monitoring and impact evaluation design as well as insights about the perceptions and behaviours of both colivers and local communities. Related data are collected by means of mixed-methods, using a structured questionnaire, focus groups and in-depth interviews.

# Equal opportunity in education for OECD countries: a multilevel approach

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YSS4-G02 Macroregional, Transregional, Regional and Urban Policy and Governance, August 26, 2021, 10:15 AM - 11:45 AM

See extended abstract

Differences in equality of opportunity in education have rarely been studied, even less so in developed countries such as OECD nations. This paper examines the surprising heterogeneity of equality in OECD countries in terms of educational achievement and its determinants using the concept of resilience. This concept refers to students with relatively negative socio-economic background but that have been able to beat the odds. Microdata from the PISA waves from 2003 to 2018 and multilevel techniques were used. The results suggest that gender and nationality barriers still exist, and that public expenditure is important, but not essential, in all cases for equality of opportunity in education and with that, for social mobility. Given the differences in education and development in the OECD, we found that the relatively poorer countries should indeed have a strong expenditure policy since the effect in this group of countries is statically positive and significant, but not linear. This contrasts with the wealthiest nations, which seem to have hit an expenditure ceiling where the countries with more expenditure on education do not seem better in terms of educational resilience. In these countries, efficiency emerged as the main determinant of improvement, where salaries of teachers should play an important role.

# Immigrant entrepreneurship in rural mountain areas: the case of Aosta Valley, in Italy

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S55-S1 Exogenous development in rural and remote regions, August 27, 2021, 12:00 PM - 1:30 PM

This paper focuses on immigrant entrepreneurship in rural mountain areas; in particular, on the case of Aosta Valley, an Alpine region in northern Italy.

Its aim is to investigate and analyse whether immigrant entrepreneurs can establish themselves and successfully develop their own business in a remote mountain region of the Italian Alps; whether they can integrate in the local community, and therefore whether they can contribute to the socio-economic development of such a marginal region. Moreover, its objective is to analyse which (location) factors can attract immigrant entrepreneurs in these regions.

It follows a mixed approach, quantitative and qualitative. The key characteristics of immigrant entrepreneurship in Aosta valley are analysed using the main statistics at the local level. However, the most original and relevant part comes from the qualitative investigations, based on a set of case-studies of immigrant entrepreneurs from different countries, and working in different sectors (retail trade, agri-food, tourism, construction, etc.).

Findings shows that these businesses have developed successfully, and they integrated in the local community, in social and cultural terms (they feel rooted in Aosta valley). Although peripheral location maybe a disadvantage for their business (low accessibility), Aosta valley offer several advantages, starting from the warmth and the welcoming of the local community (differently from urban / metro areas), and the quality of living (environmental assets).



# Creative Industries and shrinking cities: the Italian case

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G24-O2 Creative Industries and Regional Development, August 27, 2021, 2:30 PM - 4:00 PM

The "shrinking city" is a multidimensional phenomenon regarding an urban area undergoing a strong economic, social and demographic decline (Bontje, 2005; Burkholder, 2012; Pallagst et. Al., 2014). The causes of the decline are complex, but they can essentially be traced back to globalization, deindustrialisation, and the emerging of new production models. Cultural and Creative Industries (CCI), as well as tourism (Della Lucia and Trunfio, 2018) have been recognized important levers to counteract the ongoing decline of shrinking cities and foster new development models .

The research question we will try to answer concerns the relationship existing between the industrial and demographic decline of the city and the presence (with growth / decline) of CCIs and tourism, and whether there is a complementarity or substitution process between them. If CCIs play an anti-cyclical role in the cities that are experiencing decreasing phases of development, specific policies could be implemented to contain the negative effects of the decline by focusing on CCIs and tourism.

Our research starts from the results of the Italian post-industrial economy of culture and tourism (Della Lucia and Segre 2017), based on the widest currently accepted and country specific definition of CCI (Santagata, 2006, 2009 e 2012), which identifies the main urban areas experiencing a culture-base development in Italy.). In the period 2009-2019, descriptive statistics or econometrics, are applied to socio-economic and demographic variables to examine the negative effects of the 2008 financial crisis on the economy of large urban contexts.

Expected results include a map of CCIs and tourism in declining cities, in terms of numbers of firms, employment and turnover. Case studies will be carried out on the exemplary cities in literature (Turin, for example).

# Smart local governance. Examples from the Central Europe.

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S26 Territories and their communities, August 25, 2021, 2:30 PM - 4:00 PM

In democratic countries, the role of local municipality is changing during past decades. The reforms of public administration lead to decentralization of power and redistribution of responsibilities to the lowest possible level of government. In other words, it is closest to the citizens and other actors in the territory that are influenced by its decisions. There appears the growing need to build partnerships by local municipality, support stakeholders' participation and move from local government to local governance. The new trends show that also local governance is strongly influenced by progress in ITCs, what is embodied in attribute – smart. Smart governance with utilization of ICT improves decision-making process by better cooperation of different stakeholders and higher rate of their participation at solving public issues and the Covid-19 pandemic has accelerated its implementation. It forms the public value through leadership, civic participation, partnership, accountability, responsiveness, transparency, collaboration, data sharing and its mutual linking.

The aim of the paper is to identify and analyze the good practice examples of smart local governance in the Central Europe. Referring to the theory review on local governance, smart city and governance we identify the specific features of smart local governance in Central Europe. The paper presents the selected research findings among the academia and practice experts on the current state of art of smart governance and subsequently identifies and analyses the examples of actions in cities where the implementation of smart governance tools is successfully developed and belongs to pioneers (e. g. Banská Bystrica, Brno).

To the main sources of data belong the strategic documents of the selected cities, their documents in area of informatization and smart development, as well as the methodology guidelines of smart development for local municipalities. The primary data are collected by structural interviews with the representatives of the selected cities. The final part of the paper presents the recommendations how to develop systematically smart governance in cities.

# Alternative food provisioning during covid19 in Norway

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S49-S2 The impact of COVID-19 on alternative and local food systems (ALFS) and the potential for sustainability transition – case studies and theoretical considerations, August 27, 2021, 12:00 PM - 1:30 PM

See extended abstract.

# Assessing skill implications of smart specialisation

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S06-S2 Smart specialization for peripheral areas? From failure to solutions, August 25, 2021, 12:00 PM - 1:30 PM

Education, training and labour-market systems are increasingly challenged by developments such as globalisation, new and rapidly advancing technologies, demographic changes and environmental degradation. The COVID-19 pandemic has brought on great challenges, but also new opportunities for changes and improvements, for innovations and creative solutions. Place-based development policies, such as the Smart Specialisation approach, can play a central role in sustainable post-pandemic recuperation by helping to discover and launch new and innovative activities that can provide high-quality growth opportunities while simultaneously tackling social and environmental challenges. A necessary condition for this is that right skills are available at the right time to support economic recovery at the local, regional and national levels.

This article argues for the need to integrate vocational education and skills analysis within the smart specialisation approach. As higher skills are linked to greater productivity and an enhanced potential for innovation, smart specialisation strategies are likely to be accompanied by a demand for both advanced and medium-level technical skills. This points to an important role for both vocational and higher education and training, as human capital is a key component of innovation ecosystems (on a par with science, research and technology).

To strengthen the skills dimension within smart specialisation, the ETF has developed and tested a methodology for analysing the skills implications of economic prioritisation. This paper outlines some aspects of the methodology and some findings of this work, which began in 2019. The ETF methodological approach seeks to connect VET to the broader drive for innovation, growth and competitiveness. This approach is carried out through assessing skills needs for the smart specialisation priorities, at both high and medium levels, as well as the capacities of existing education and training provision to respond to them. The preliminary results of testing this approach in Montenegro, Moldova and Ukraine highlight its limitations in terms of the quality and quantity of the existing evidence for assessing skills needs as well as a huge potential in partnership-based identification of skills implications and policy planning in response to smart specialisation priorities.

# Barn or building lot? A cross-case comparison viewing the role of agricultural interests in Austria's local spatial planning processes

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YSS1-G05 Mountain, Rural and Marginal Issues, August 26, 2021, 10:15 AM - 11:45 AM

see extended abstract

Global crises increase the importance of resilient food systems. At the same time, urbanisation trends lead to a displacement of agricultural structures as the basis for food production. Since land use policies seem to play a significant role in shaping farming conditions, many studies already dealt with the protection of agricultural land within land use planning. However, a purely land-based view seems too narrow in this respect, which is why this study aims for a more holistic view of the relationship between agriculture and spatial planning through exploring the integration of agricultural interests in spatial planning. Austria served as the investigation area as its food supply system already experiences a weakening of its resilience: In Austria, an above-average amount of agricultural land, compared to the rest of the EU, is converted for non-agricultural purposes. On the other hand, Austria already uses considerably more arable land for feeding its population than is available within the country. The following question is going to be answered: How are agricultural interests considered within Austria's local spatial planning processes?

Through a weighted linear combination (WLC), two contrasting case studies were selected, both of them municipalities at the Viennese city border. While the first case study, Aderklaa, had maintained rural over the past decades, the second case study, Leopoldsdorf, experienced an urbanisation of its village structure. The data collection was carried out via 23 problem-centred, guideline-based interviews with 27 local spatial planning stakeholders, supplemented by planning documents. The interview guideline and the subsequent qualitative data analysis were based on the Institutional Analysis and Development (IAD) framework. A cross-case comparison revealed considerable differences regarding the integration of agricultural interests in the case studies local spatial planning approaches: While Aderklaa orients its local spatial planning policy to a large extent to the needs of agriculture, agricultural interests are not considered within Leopoldsdorf's local spatial planning processes. The results indicate that local farmers' political commitment seems to be decisive for the integration of agricultural interests in local spatial planning and confirm the impact of local spatial planning decisions on local agriculture.

# Understanding city network multiplexity: a lexicon-based toponym co-occurrence method - (note: Paper eligible for Epainos Award)

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YSS7-G08 Cooperation and Local / Regional Development, August 26, 2021, 10:15 AM - 11:45 AM

City networks are multiplex phenomena. One type of relational data can hardly give a comprehensive profile of our complex urban system relationships. A proper characterization of the multiplexity of city networks can provide us a more deep understanding of the complexity of our urban domain, however, the availability of city relational data often limits such studies. This paper developed a lexicon-based toponym co-occurrence method that can overcome this limitation. The normal toponym co-occurrence method is to count the total number of pages where two city names jointly appear, and this frequency serves as the weight of the relationship between two cities. But this does not tell much about the type of relationship between those cities. This paper provides an easy-to-follow method that can classify and substantiate intercity co-occurrence relationships as found on web pages. The underlying assumption of this method is based on the collocation analysis—the words that co-occur with the mentioning of a pair of city names may represent what that relationship between those cities is about. In this paper, we studied 91 million web pages and classified the co-occurrence of 293 Chinese cities' relationships into six categories. We found that each type of relationship usually shows a higher correlation with two or three other types and a lower correlation with the others. By calculating the network density, we also found that the research relationships have the highest density with the lowest number of cities included, but the government relationships are exactly the opposite. Furthermore, after applying the gravity modeling, we found that the financial and cultural relationships are much less explainable by the population and distance than the others. Zooming in on individual factors, the coefficient of distance shows that the government relationships between cities decay much faster with distance than the other types of relationships, whereas the population factors are less important for finance relationships than they are for other relationships.

# Regional Innovation Strategy for Smart Specialization: Growth dependency and regional similarities

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S46 Smart specialisation strategy and macro-regional strategies, August 26, 2021, 4:15 PM - 5:45 PM

This paper analyses the concept of regional benchmarking in the EU-27. We present a model that studies the relation and the impact of different factors on economic growth in NUTS2 regions. In particular, the paper considers the correlation between technological activities, innovation and the degree of specialization within a region. For this purpose, the authors developed a model for comparing the different growth developments of the regions on NUTS2 level. Within the regression, macro-regional areas in respect of the strategies will be considered. The research paper is dedicated to enriching the discussion about the Smart specialisation and in particular the Regional benchmarking.

The European Commission shows great efforts to support regions in their (social, economic and institutional) growth due to innovation. For this purpose, it supports regions on NUTS2 level to cooperate with each other in order to exchange innovation strategies. The key idea is to identify regions with similar strategical focusses like on agriculture or industry, so NUTS2 regions are able to transfer practices from similar regions.

The paper will examine how the NUTS2 regions have developed in a period between 2008 and 2018 and, ideally, which regional innovation strategies they have pursued. The model supplement data concerning the regional economic accounts, regional structural business statistics and regional science and technology statistics. By identifying similar structured regions in the past, we are able to compare the regional strategies and the economic trends of the regions. This will allow us to draw conclusions on the success of the innovation strategy. In addition, we will examine the different macro regions that had similar preconditions for economic development due to history, geographical proximity, and path dependency.

# An Aggregate Approach to Estimating Quality of Life in Micropolitan Areas

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G01-O4 Regional and Urban Development, August 25, 2021, 10:15 AM - 11:45 AM

Because of their reliance on large samples of micro-level housing and wage data, quality of life studies using Rosen-Roback models have focused almost exclusively on metropolitan areas, largely ignoring non-metropolitan areas. Although understandable given data constraints, this dominant focus on metropolitans has limited the data-driven approaches available to policymakers concerned with community and economic development in small cities, or micropolitan areas. To address this gap, we develop an aggregate approach to estimate both quality of life and quality of the business environment in micropolitan areas utilizing county-level housing and wage data that can be used when large samples of micro-level data are unavailable. Specifically, we use the county residuals from wage and housing regressions to replace the fixed effects typically estimated from the micro-level estimations in quality of life studies. We find compelling evidence that higher quality of life is not only associated with higher employment and population growth and lower poverty rates, but that it is more important than quality of the business environment in determining the success of micropolitan areas.



# Agri-urban development as a spatial vision for growing city regions

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G04-O3 Urban-Rural Relationships, August 24, 2021, 4:15 PM - 5:45 PM

In addition to traditional formal planning instruments, informal formats, visions and scenarios are becoming increasingly important in the context of regional development.

We present an agri-urban vision for the “Stadt-Umland-Netzwerk” (S.U.N.) a regional city network in the thriving metropolitan region of Cologne. The inter-municipal initiative seeks solutions to the conflicts arising from dynamic urban growth in an area with the highest soil fertility in Europe.

Agri-urban development is a strategic city-regional design approach that identifies the requirements, services and potential of agriculture and settlement and develops synergistic concepts with added value for all stakeholders and partners.

The regionally oriented spatial vision forms the basis for innovative settlement models, which show new types and forms for sustainable neighborhoods, integrating the requirements of agriculture as well as nature and landscape. The spatial vision is based on indicator-based analyses for the region and was elaborated in an inter-municipal und transdisciplinary process with a playful participation method.

Spatial images express ideas and proposals for social modernization processes that lead to extensive transformations of the landscape but also of the built environment. The scientific discourse on understanding the content and form of visions and spatial images is ongoing. Therefore, the spatial vision of the S.U.N. region serves as an example to illustrate concrete contents, methods and planning processes of this new type of planning instrument.

# How to improve mental health among elderly persons by facilitating appropriate mobility services

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S15 Policies and Services for Healthy and Active Ageing: Challenges and Perspectives for the Post COVID-19  
Aging Society, August 24, 2021, 4:15 PM - 5:45 PM

See extended abstract

# Optimization of Prehospital Care in Northern Sweden

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G17-O2 Transport and Accessibility, August 26, 2021, 12:00 PM - 1:30 PM

The system for prehospital care in Sweden comprises about 660 ambulances, costs more than 4 billion SEK per year and responds to about 1.2 million emergency calls per year. In the northern part of the country, sparsely populated areas with long distances create major challenges for maintaining good prehospital care with low response times in both central and peripheral areas. With urbanisation, an aging population and medical progress, the demand on a flexible system for prehospital care also increases. The trend has been reinforced by the ongoing pandemic.

The purpose of the project is to develop a tool for simulating ambulance care in northern Sweden. With the model, health care planners will be able to simulate and test consequences of decisions before they are made.

The simulation model is built to answer questions like:

- How should ambulances be stationed to optimally reach the citizens in different regions?
- How will the alarm volume be affected by decisions within the specialist care?
- How should the prehospital care be planned in order to meet the future needs?
- How are different regions affected by the localisation and scheduling of ambulance care?

Through modelling and large-scale simulations, the project aims to support the development of a more efficient and equitable system for prehospital ambulance care. The simulation model is composed of three parts. The first part simulates new alarms based on a statistical estimation of the spatio-temporal distribution of historic alarms, conditional on several demographical factors. The second part uses Monte-Carlo simulation to simulate ambulance routing and response times in a scenario with simulated alarms and a schedule for the geographical location of the available resources.

In the third part of the model, results from several simulated scenarios are compiled into performance indicators for response times and preparedness levels in different parts of the region. At the end of the project, the tool will be used to illuminate a real problem in prehospital care.

# Introducing electric aviation in the Nordic market. Assessment of competitiveness and regional impacts.

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G17-O3 Transport and Accessibility, August 26, 2021, 2:30 PM - 4:00 PM

The industry of aviation faces major challenges, both in short and long term. This applies to the short-term but extensive impact of the pandemic. But even before the pandemic, the climate impact of aviation and competition from investments in railways had affected patterns of travel. Therefore, measures to reduce the climate impact are absolutely crucial for the entire aviation industry. In the paper results from an analysis of the market conditions for commercial electric aviation in the Nordic area and a description of possible regional effects are presented. Electric aircraft not only involve a change of fuel, but also offer new technical, design and economic conditions for aviation. Obviously, the core question is how much those new conditions in practice will differ from current fossil aircraft? Are differences so great that the interfaces for competition with alternative means of transport are drastically affected? It will depend on what fares, travel times, service and distances airlines based on electric aircrafts can offer. Moreover, during the uncertain period of substitution from a fossil based to a more sustainable aviation, distortions in accessibility can be expected to affect relative growth of regions and countries. A successful development of a small-scale electric aircraft would also create new regional and international patterns of accessibility.

# Urban and rural innovation systems: Theory and empirics

**Prof. Hans Westlund**<sup>1</sup>, Dr. Sofia Wixe<sup>2</sup>, Professor Lucia Naldi<sup>2</sup>, Associate professor Pia Nilsson<sup>3</sup>

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S06-S1 Smart specialization for peripheral areas? From failure to solutions, August 25, 2021, 10:15 AM - 11:45 AM

The ability of firms and regions to renew themselves is becoming increasingly important from the perspective of survival and competitiveness. Renewal, technological change, or innovation is also commonly perceived as the main driver of economic growth, which implies that innovation is important from both a micro- and a macro perspective. Following Schumpeter (1934), innovation should be regarded as a broad concept that incorporates not only new products, but also e.g. new production processes and new ways of doing business. Based on empirical experiences in pre-war Germany and Japan the theory of innovation systems prescribed a collaboration between enterprises, government and research institutions as the key to innovation and growth. This system perspective has become the paradigm for innovation policies across the world. However, the innovation system model builds on the implicit assumption that all the three units of the system are present. In most urban areas, this is not a problem, but in rural areas, this often means that the potential innovation system lacks one of the units: the research institution. Still, innovation takes place also in rural areas. Based on empirical examples from the TASTE project, this paper discusses the “rural innovation systems” and what can be learned from their practice.

# Towards Shared Prosperity in Post-Pandemic Europe: Unlocking the Productive, Inclusive and Affordable Urban and Regional Socio-Economy

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G01-O6 Regional and Urban Development, August 25, 2021, 2:30 PM - 4:00 PM

Contribution to:

S09. Relaunch of Productivity for Regional Growth and Cohesion (...discussed with Dr. Alexandra Tsvetkova / OECD-SPL)

Post-Pandemic Europe will face multiple challenges, but the quest for shared prosperity may arguably top the list. In anticipation of decreasing living standards for many Europeans and a further rise of regional inequalities as a result of the pandemic (Oliveira Martins, SPL Roundtable, 2020), there is an urgent need to fundamentally rethink national and sub-national institutional and governance structures, systems and financial positions (McCann, SPL Presentation, 2020). In alignment with the ERSA 2021 theme of proposing territorially grounded visions for a re-bouncing Europe, this ambitious paper seeks to respond to this fundamental strategic problem by taking the continent's urban and regional socio-economies as conceptual starting point to explore a possible pathway towards shared prosperity and viable socio-environmental outcomes. Drawing on both orthodox and heterodox literatures from spatial economics, innovation studies, economic geography, urban/regional and housing studies as well as critical political economy, it proposes a comprehensive modernising spatial development framework that confronts Europe's complex and vexed structural dilemmas by acknowledging the multiple interdependencies, serious contradictions and multifaceted policy complementarities at work. The framework envisages transformations across the three interrelated areas of a) reconfigured economic activity (Focus: Mixed/foundational local economies, flagship green competitive industries, SME-based neo-artisan and neo-industrial revival), b) reformed systemic intermediary institutions (Focus: 'productive economy'-enabling finance/taxation; re-balancing of urban housing systems; wholesale 'up-skilling' in education and labour systems, 'fit-for-purpose' state-regulatory governance, base social contract) and c) redesigned territorial development (Networks of Regional Production and Innovations Systems; Urban Productive Regeneration; Co-Learning Urban Regions). The framework hinges on re-oriented sub-national, national and supranational political leadership and governance towards common good, mixed economies and 'fit-for-purpose' institutional innovation; a precondition for re-directing funds from speculative, asset-inflating accumulation circuits towards productive, foundational and innovative activities with potentially high socio-environmental multiplier effects. The hope is that this paper will trigger much required pan-institutional discussions beyond individual disciplines and across multiple constituencies in order to unlock conditions and commitments for - once again - productive, inclusive and affordable futures for all Europeans.

# Towards cohesion at the interface between the European Union states? Cross-border asymmetry and convergence

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G01-R Regional and Urban Development, August 24, 2021, 12:00 PM - 1:30 PM

The objective of the article is to investigate cross-border real economic convergence, defined as the process of reducing the asymmetry of the economic development of cross-border areas in the conditions of European integration. The analysis applies the relative asymmetry index which compares the level of regional GDP per capita (PPS) of neighbouring border areas. Its results confirm the occurrence of  $\sigma$ -convergence (in the years 1980-1985, 1986-1994, and 2004-2015) and absolute cross-border  $\beta$ -convergence (in different subperiods in the years 1980-2015). The obtained results also suggest that cross-border convergence generally progresses slower than convergence at the international level.

# Political alignment and public R&D funding

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G34 Old and new forms of territorial innovations, August 25, 2021, 4:15 PM - 5:45 PM

We analyze the relationship between the party affiliation of politicians at different levels of government and the spatial distribution of public R&D funding.

In particular, we investigate whether more federal grants are granted in Germany for R&D projects in federal states whose government is led by the same political party as the giving unit. Our dataset provides detailed information on publicly funded R&D-projects in Germany over the period 2010-2019. Using a fixed effects estimation approach, we find a link between grant allocation and party affiliation of funding for R&D-projects, in particular smaller ones. For these projects, political alignment is associated with an average increase in public funding by almost 10,000 euro. Our results suggest that public funds could be used much more efficiently for R&D projects.



# Selling Salvation, Selling Success: Neoliberalism and the US Prosperity Gospel

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S35 Subversive Narratives and Polarization across Space, August 25, 2021, 12:00 PM - 1:30 PM

Neoliberalism relies on optimism. Without faith in meritocracy – unwavering belief that rewards will eventually and justly come to those who work hard enough – support for the capitalist system and belief in neoliberalism would unravel. How that optimism is perpetuated in the face of persistent income inequality and exploitation within the workplace requires an examination of those cultural institutions which reinforce and reproduce optimism over practical experience. This research focuses on one particular religious institution of the US – the Prosperity Gospel.

The Prosperity Gospel is a modern, neoliberal variation of Pentecostalism that is premised on the belief that a Biblical covenant between the individual believer and God guarantees that believer blessings of health and wealth, provided she demonstrates adequate faith. Accordingly, for those who are less adept at navigating the business world, financial success is still available for those believers who can dedicate themselves with the same frenzied ambition to the spiritual world. The Prosperity Gospel thus supports and sustains neoliberalism; the Prosperity Gospel is an institution which provides refuge to individuals from the exigencies of the market as well as a social practice which reinforces individual responsibility and fault. The Prosperity Gospel is the spiritual articulation of neoliberalism as well as a reinforcing institution.

# All we need is clubs, or not? Social capital and entrepreneurial income among local and non-local founders

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S13-S2 Historical Roots of Regional Entrepreneurship and Innovation, August 25, 2021, 10:15 AM - 11:45 AM

Entrepreneurs tend to start-up their ventures in the places where they grew up (Dahl and Sorenson 2012). This pattern is a key driver for persistence of entrepreneurship over time representing a historically-grown root of local entrepreneurship. Building on local ties with family and friends, capital providers, and institutions, founders benefit from an easier access to resources than foreigners (i.e., non-local entrepreneurs) or at least they access them at a discount. Indeed, social capital plays an important role for entrepreneurial success (e.g., Baron & Markman, 2003; Fischer & Pollock, 2004; Maurer & Ebers, 2006; Packalen, 2007; Yiu & Lau, 2008). This raises the question how foreigners can compensate for this lack of place-based social networks. We argue that foreigners select into social clubs to build social capital in the region to overcome this lack. Based on a unique dataset, we can trace the pre-start-up mobility of almost 1,000 entrepreneurs in Germany since their childhood. Hence, we can distinguish between entrepreneurs that start in their home region or “abroad.” Furthermore, we have information on diverse club membership of these entrepreneurs. We find that entrepreneurs originating from the region where they start-up are more successful when they were not in clubs, while foreigners are more successful when they are involved in clubs. This suggests two selection mechanisms. In the first case, Family/friend network sufficient to generate income. There is no need to select in clubs. Rather club selection may indicate less focus on venture development. However, foreigners need to compensate for lack of networks and select into clubs. If they do so, they fare better than foreigner not selecting in clubs. Our evidence is informative about how entrepreneurs form social capital at the local level. We also show how regional history is moderating the link between social capital formation and entrepreneurial success.

# Factors affecting covid-19 infection and deaths in the million plus cities of India

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S04-S1 Geography of COVID-19 outbreak and policy answers in regions and cities, August 24, 2021, 12:00 PM  
- 1:30 PM

WHO (2020) says, "Preparedness in cities and other urban settlements is critical for effective national, regional and global responses to COVID-19. These settings face unique dynamics that affect preparedness- they serve as travel hubs, have a higher risk of disease spread due to high population densities, and many have extensive public transport networks." Big cities are highly complex spatial units and have diverse subpopulations and neighborhoods with different sociocultural needs and vulnerable groups concerning public health emergencies, such as COVID-19. When these cities face an epidemic that spreads rapidly within the urban community, then human density and the urban setting have proven to be a tremendous liability and a matter of concern. Hence it is in this context, the present study is an exploratory attempt to understand COVID-19 pandemic in the Indian context. Our paper presents a city level study of 46 million-plus cities in India to identify major determining factors (demographic, economic, environmental, infrastructural, and institutional interventions) of the COVID-19 infection and related deaths in different phases of the lockdown.

# Estimation of Freight Travel Time Savings through an Applied General Equilibrium Model

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S08-S2 Spatial CGE, Input-Output, land use and transport modeling, August 24, 2021, 2:30 PM - 4:00 PM

Time savings are critical indices used to assess the provision of public capital, such as road infrastructure. In the appraisal of Japan's public works projects, technical guidelines for cost-benefit analysis prescribe how these monetized time values are assigned to humans, transport vehicles, and freight. The economic value of freight time savings, that is, value of freight travel time savings (VFTTS), has been investigated in numerous previous studies. De Jong (2007) classified time savings via estimation models using the factor-cost method and the revealed preference/stated preference method. In the first method, VFTTS is equal to the sum of input costs saved by road infrastructure. In the latter method, willingness to pay regarding time savings is estimated. However, both methods achieved only a partial quantification of the phenomena accompanying time savings. As time savings can be expected to set off a ripple effect throughout the economy, this effect should be factored into the estimation. Further, as the effect may vary depending on the state of the economy, time savings should be deemed dependent on economic conditions. In light of the above, this study proposes a new equation for estimating VFTTS. Changes in economic welfare and the regional flow of goods are incorporated into this equation. This study is distinctively characterized by using a Spatial Computable General Equilibrium (SCGE) model to calculate VFTTS. However, as with other models, the computable general equilibrium model's structure and parameter values are marked by uncertainty. Although this model's ability to calculate VFTTS under various economic conditions is a significant advantage over previous methodologies, a proper assessment of the uncertainty characterizing the resultant VFTTS remains an issue for further investigation.

# Experiential tourism as sustainable regional development strategy after Covid-19 crisis: a stakeholder survey in the Greek Black Sea Basin regions

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S05-S1 Sustainable Regional Tourism Strategies in Pandemic Contexts, August 24, 2021, 12:00 PM - 1:30 PM

The tourism industry has been one of the most affected industries by the COVID-19 pandemic, which, in turn, has dramatically affected the national and regional economies that are heavily dependent upon tourism, such as Greece and many of its regions. The COVID-19 crisis has also brought into the forefront the issue of seeking more sustainable, regional and local tourism strategies as well as of the sustainability of destinations. Tourist demand had been undergoing a significant transformation before the pandemic, one strand of which was the growing importance of the experiential product whereby urban and regional spaces were promoted as spaces that offer multi-dimensional leisure experiences. This paper presents the results of a qualitative research on the specifics of the experiential tourist products and the tourism enterprises, with emphasis on culture and heritage-based tourism, in the Greek Regions of Central Macedonia, and Eastern Macedonia and Thrace both belonging to the Black Sea basin and discusses the main problems and needs raised. This research is part of the EU (Black Sea Cross-Border Cooperation) Project PRO EXTOUTR: Promoting Heritage- and Culture-based Experiential Tourism in the Black Sea Basin. The research utilizes in-depth interviews with the use of an interview guide that allowed to collect rich inputs on the topic from all the categories of stakeholders.

# Moran's I test and spatial autocorrelation in explanatory variables

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G14-O1 Spatial Econometrics, August 25, 2021, 2:30 PM - 4:00 PM

This study discusses the small sample bias of the Moran's I test for spatial autocorrelation and how to resolve the problem. First, the small sample bias when the explanatory variables themselves have spatial autocorrelation is shown by simulation. In the case of positive spatial autocorrelation, spurious spatial autocorrelation is often detected. In the case of negative spatial autocorrelation, on the contrary, the probability of Type I error becomes too low. Next, we propose a modification of Moran's I test by taking into account that the residuals are random variables.

# The influence of the COVID-19 pandemic on the relationship between activities performed in the physical and digital spheres

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G20-O2 Cities, Regions and Digital Transformations, August 26, 2021, 2:30 PM - 4:00 PM

The rapid development of ICT leads to a constant movement of activities from the physical space to the digital world, relaxing space-time limitations, re-arranging human activity and as a result affecting activity spaces. Various private and public services, such as retail, food, and finance, are offered online. Home is becoming a place that is not only for living but also for working and shopping. This trend accelerates due to the COVID-19 pandemic and calls for rethinking the structure of cities and transportation systems. However, most previous research does not examine the cumulative shifts in activity spaces due to digital activities, as usually, one activity is examined (e.g., teleworking, teleshopping, telebanking). As a result, in the digital era individuals' behavior is examined only from a physical perspective, creating a bias when planning urban and transportation solutions for activity access challenges.

In this research we examine which physical activities have a higher possibility to be substituted by a digital activity in a post-COVID-19 era. We relate to a generational point of view due to digital behavior variation among various generation cohorts. Data collected by a survey conducted among 721 residents in the four central cities in Israel is used to examine individuals' behavior in both the physical and digital spheres in two main periods: Before the outbreak of the COVID-19 pandemic and during the pandemic crisis. A multinomial logistic regression model is applied to analyze the influence of individuals' behavior prior to the pandemic on their activity patterns during the pandemic and to predict activity patterns in a post-COVID-19 era. Results enhance our understanding of the relationship between physical and digital activities resulting from the COVID-19 pandemic, identifying which activities have a higher probability to transform fully or partially into the digital world and which activities will continue to be conducted frequently in the physical sphere. Results will contribute to the planning of future cities in the digital age with an emphasis on breaking residential neighborhoods paradigm.

# How do you attract FDI? Firm and local determinants for the Italian case

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S47-S1 Foreign Direct Investments, trade and local development: drivers and impacts, August 26, 2021, 4:15 PM - 5:45 PM

This study examines the factors that affect inward FDI (Foreign Direct Investments) using Italian data. Italy is an interesting case, since while it is a top player in the export markets its performances in terms of FDI are considered (at least partially) a disappointment. We thus study how and to what extent firm-level and local characteristics impact on the inward FDI, over the period 2005-2018, employing FDI data at the firm level. Using alternative definitions of foreign firms, we qualify firms receiving FDI in each year as those firms that become foreign in year  $t$  (and was national in year  $t-1$ ). We compare firms receiving FDI with national firms in each relevant year (2005-2018) in terms of their performance, using a non-parametric analysis, and we estimate the probability that a firm receives FDI by applying Probit models.

Looking at the firm characteristics that affect inward FDI, our evidence seems to suggest that foreign investors in Italy mainly pursue "lemon-picking" strategies by investing in more productive, even if less profitable, firms. The evidence on the role of the local factors (at NUTS2 and NUTS3 level) seem to suggest that the aim of the foreign investors is to penetrate the Italian local market mostly through market-seeking FDI, rather than export-oriented FDI. Moreover, by distinguishing between firms receiving FDI from "financial" and "non-financial" firms, according to the type of their global ultimate owners, we show how factors affecting inward FDI vary according to the type of investment.

This is a revised version of a previous paper based on data covering the period 2005-2014. Given the promising results obtained earlier, we extend the analysis to include more recent data, i.e., the most recent FDI events for which data is available. Moreover, we further develop the econometric analysis by exploiting the panel nature of the data and using dynamic Probit models.



# Deeds or words? The local influence of anti-immigrant parties on foreigners' flows in Italy

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G25-O3 Institutions, Political and Decisional Processes, August 27, 2021, 12:00 PM - 1:30 PM

This study investigates the influence of anti-immigrant (henceforth, AI) parties on foreigners' location choices in Italy. Considering Italian municipal elections from 2000 to 2018, we create a database that includes a scientific-based classification on the anti-/pro-immigration axis of the major Italian political parties based on specialists' opinions. Via the adoption of a regression discontinuity design, we find that the election of a mayor supported by an AI coalition does not significantly affect immigrants' location choices. However, when considering only the most recent years, we find a statistically significant reduction in immigrant inflows due to the election of an AI mayor. We then shed light on what drives such findings: they do not appear to be driven by specific policy choices but by an 'inhospitality effect', which got stronger over time due to exacerbation of political propaganda at the national and local level.

# Diversity of Russian Arctic cities in the context of resilience potential: a multi-component approach

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S37 Resilient Arctic: regions, cities, and people, August 26, 2021, 12:00 PM - 1:30 PM

Resilience as an ability of urban systems to overcome natural or man-made crises is seen as a concept that is mutually complementary to the concept of sustainable development. The application of the concept of resilience is particularly relevant in the Arctic, which is characterized by increased vulnerability of both natural and economic systems. Overcoming the crises in the development of the city requires the simultaneous fulfillment of the conditions of resilience in different subsystems of urban development: economic specialization, life support and communal services, socio-cultural, natural-ecological, administrative and managerial. The weakness of any of these subsystems can lead to the collapse of the entire system as a whole. Therefore, the assessment of resilience is unattainable without a comprehensive approach. The assessments of the resilience potential of Russian Arctic cities based on a multicomponent set of variables carried out by different methods of mathematical and statistical analysis gave a paradoxical result: the cities of the Russian Arctic are extremely diverse in terms of the set of resilience potential parameters: the best in terms of the parameters of the management or life support subsystem have a vulnerable single-industry economy or more complex natural and environmental conditions that make it difficult to overcome crises-and vice versa, etc. The findings confirm the idea of Arctic cities as a unique phenomenon that requires a special approach. At the same time, such diversity makes it difficult to use universal, standard (economical) solutions to increase the resilience potential of Arctic cities, forcing them to develop unique solutions for a significant part of them.

# New approach for aggregated labor productivity comparisons: accounting for structural differences. The Russian regions case

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G12-O5 Regional Competitiveness, Innovation and Productivity, August 26, 2021, 2:30 PM - 4:00 PM

In this paper, we propose a new approach for assessing aggregate labor productivity (ALP), which makes it possible to eliminate the significant effect of differences in the structures of economies on the final ranking in interregional comparisons. The application of this approach allows us to obtain a new picture of comparisons for the ALP, more accurately reflecting the real level of efficiency of regional economies. To test the approach, calculations are carried out at the level of Russian regions.

This paper argues that the use of a standard approach to assessing ALP ((Timmer, Inklaar, O'Mahony, & Ark, 2010), (Zaitsev, 2013), (Mikheeva, 2015), Penn World Tables and Conference Board Total Economy databases) at the county and regional levels lead to a distorted final ranking in terms of economic efficiency. To solve this problem, it is proposed to apply similar ideas that is used in the index theory and the international comparisons program (World Bank, 2014) in calculating purchasing power parities. The ALP can be presented as the sum of sectoral labor productivity weighted by sectoral shares in total employment. Accordingly, the level of ALP depends not only on the sectoral LP levels but also on the economy's employment structure. To eliminate bias from structural differences in assessing the ALP we use similar ("benchmark") for all region's employment structures. As a benchmark, we use Russian average employment structure.

Application of the new approach to Russian regional data gives the following results. It turns out that real LP differences are much smaller: max/min ratio decreased from 20 to 8 times. The strongest decrease in LP occurred in the oil and gas producing regions (e. g. -76% in Yamal region). This led to the convergence of LP of oil-producing regions and other regions with high LP. The maximum increase in LP was +15%.

In the new LP ranking, 80 out of 85 regions have changed their positions (from -21 to +16 steps in all rankings). The group of leaders, however, has not significantly changed. 8 out of 10 regions that originally led the ranking, entered the new Top-10, despite huge decrease in LP in half of them (from -76% to -40%). The relationship between changes in LP and the level of sectoral diversification of the region's economy is revealed. Low diversified regions, primarily the resource regions, have, on average, reduced labor productivity much more than regions with a diversified sectoral structure.

# Exploring the Innovation Ecosystem Literature between platform and territory approaches

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G30-O5 Innovation and Regional Development, August 27, 2021, 12:00 PM - 1:30 PM

This paper aims to map and analyze the conceptual development of innovation ecosystems literature. To do so, we surveyed 367 publications from 2006 to 2020, considering only articles published in journals and indexed in the Web of Science and Scopus databases. We conducted a bibliometric analysis using the RStudio software and the bibliometrix and biblioshiny packages. The results indicate an increase in publications as of 2016, a concentration of approximately 30% of publications in only six journals. We identified four clusters in co-citation analysis: Case Studies; Business and Innovation Ecosystems (platform approach); Open Innovation and; National and Regional Innovation Systems (territorial approach). We propose a theoretical framework based on the two main approaches in the innovation ecosystem literature: the platform and the territory. Several empirical studies consider the territory a central element of innovation ecosystems (SCARINGELLA; RADZIWON, 2018); however, we observed a misunderstanding of perspectives. This paper contributes to clarifying these different conceptual trajectories of innovation ecosystem research.

In summary, the two perspectives (platform and territory) reveal a theoretical body on innovation ecosystems that is still being consolidated. On the one hand, ecosystems as a platform are characterized by the interrelation between the actors, connected by a hub firm, actors who use artifices to communicate, interact and/or organize and generate value, without a geographic boundary. On the other hand, we can also consider an ecosystem with a defined territory dependent on the trajectory and geographical externalities. Feldman et al. (2019) question how far (and in what way) spatial factors limit the boundaries and composition of an innovative and entrepreneurial ecosystem. We point that the comparison between developed and emerging ecosystems can be a fertile ground to explore this relationship since emerging countries may be more concerned with regional economic development.

# Orchestration of innovation ecosystem at the city level and the impact of COVID-19 crisis: The Case of Porto Alegre, Brazil

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S07-S2 Pandemic and territorial government, August 24, 2021, 4:15 PM - 5:45 PM

The discovery of the coronavirus (SARS-CoV-2) and the spread of COVID-19 have led many governments to take drastic measures. The lockdown of large parts of society and economic life has come as an exogenous shock to many economic actors. SARS-CoV-2 triggered a twofold crisis in health systems worldwide, and the infection control measures have caused an economic crisis by bringing a vast amount of economic activity to an abrupt halt. This paper analyzes the orchestration strategies of innovation ecosystems at the city level and the impact of COVID-19 in the orchestration of actors and innovative activities. We conducted exploratory and descriptive research with a single case study in-depth. We chose the case of Porto Alegre, Brazil. The case selection criterion was the history of social engagement and innovation movements at the city level since the 1990s. The city hosted the World Social Forum and Participatory Budgeting (Orçamento Participativo), allowing thousands of ordinary citizens to participate in local governance, making binding decisions on urban policy daily (Baiocchi, 2005).

Since the 1990s, Porto Alegre has been experiencing four important project cycles with high society's engagement to transform the city into a world-class innovation ecosystem (Pacto Alegre, 2019). In 2018 the three most prominent universities, UFRGS, PUCRS, and Unisinos, the first one public and the other two private, receiving the Porto Alegre City Hall support, created the Alliance for Innovation. In November 2018, the Alliance for Innovation, together with the Porto Alegre City Hall and entities representing the capital, held a formal signing ceremony for the Pact for Innovation, called Pacto Alegre (Pacto Alegre, 2019). The purpose of creating the Pacto Alegre refers to the enhancement of high-impact actions aimed at the development of the city. At the end of the first year, Pacto Alegre presented the partial results of 24 projects of six challenges. The COVID pandemic showed a rupture in the development of this Program. We identified two different moments of the impact of the city's COVID crisis. In the first year, we observed a strong engagement of actors in the projects related to POAxCOVID challenge, based on the collaboration among key actors and an innovation community's existence. Meantime, in the second year, this movement has been loosened strength. In March 2021, Porto Alegre faced the worst moment in the COVID crisis. The critical issues are the lack of coordination and a collective strategy to fight against the pandemic of COVID.

# Green Behavioral Spillovers: The Roles of Peers and Local Environment (note: Paper eligible for Epainos Award)

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S29-S1 Territorial dimensions of green and digital transitions, August 24, 2021, 12:00 PM - 1:30 PM

University of Groningen, the Netherlands

The interventions of public policymakers in consumers' energy consumption behaviors are increasingly crucial for the transformation of a low- or zero-carbon society. While standard neoclassical economists focus on market-based instruments, there is a growing literature in behavioral and spatial sciences focusing on non-pricing strategies. From the perspective of behavioral spillovers, this paper discusses the non-pricing causal pathways that drive agents to consciously or unconsciously adjust their green behaviors: local peers due to social norms, local built and social environment due to observational learning, and relationally-proximity peers due to intercity knowledge spillovers. To capture these variables, our analysis relies on multi-level datasets: individual-level energy and water consumption of 53,284 Dutch residents, city-level electric vehicle charging station density and cycling density of 355 Dutch municipalities, as well as 34,843 intercity trips within the Netherlands in 2015.

Empirically, by investigating the heterogeneity of energy and water consumptions of these 53,284 Dutch residents, the analysis of variance (ANOVA) shows that agents of geographical proximity tend to exhibit similar levels of green behaviors. We further run an ordinary least square (OLS), in which the individual consumption a dependent variable, and the average consumption of geographically-proximity peers, local green environment density, the average consumption of peers from relationally-proximity cities as the main independent variables. We find evidence of the roles of local peers, built and social environment as well as neighboring peers in affecting individual green behaviors, which we attribute to social norms, observational learnings, and intercity knowledge spillovers respectively.

Our paper makes contributions to the literature that studies determinants of the decision to adopt green behaviors, such as local and remote peers, and local built environment from the perspectives of both behavioral and spatial spillover effects. We also bridge literature on the urban networks, a more description-oriented branch, with the explanatory-oriented literature on spillover effects by analyzing knowledge spillovers from an interregional perspective. Methodologically, we provide a straightforward approach for the estimation of peer behaviors using both geographical-proximity and relational-proximity senses. Practically, our analysis also provides policymakers with non-pricing insights for designing and implementing effective green public policies through individual behavioral interventions.

## A bigger bang for your buck: Sources of income and happiness

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S50-S2 The geographical dimension of social and income inequality, August 27, 2021, 10:15 AM - 11:45 AM

There have been many studies to date examining the relationship between happiness and income. The literature has provided a wealth of robust evidence that the relationship is not only positive but it runs from income to happiness. The latter is usually measured using subjective measures of well-being (happiness data). A natural question that arises is whether we should treat income as one entity or whether we can break it down to its components. Such components are of course the income earned from employment but also are the social transfers and benefits as well as any other source of income other than from work. In this paper we examine what we can learn from the various components of the total income with respect to happiness. A distinction is being made on the one hand between “temporal” and “permanent” benefits and on the other hand, between the employment statuses of individuals in terms of the frequency that they switch jobs. Employing suitable descriptive statistics and a regression analysis framework while using data for the United Kingdom, where the individuals are nested at the Local Authority Districts (LADs) level, we address our research questions at the smallest area level possible, given the current data availability. Research questions to be addressed in the current paper are related to “What types of transfers are associated with higher levels of happiness” and “Can regional and societal characteristics at the LADs level help us explain the mechanisms behind the differences in experiencing social benefits?”. The paper also considers relevant social policy implications, such as for example, basic income policies. Household income that is not earned from work can help us understand the effects of a hypothetical Basic Income (BI) scheme on people’s well-being. In this paper, we aim to inform governments and policy makers regarding the psychological benefits that might be present from adopting a BI scheme where the latter is proxied by the various sources of income.

# Changing landscapes: the role of art in the reterritorialization process. The case of Tempesta Vaia in Fiemme Valley (note: Paper eligible for Epainos Award)

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S52-S4 Building territorial and community resilience through disaster risk reduction in marginal areas of rural Europe, August 27, 2021, 2:30 PM - 4:00 PM

In the current historical context, strongly marked by a double crisis – of representation and environmental – it becomes necessary to reflect on geographical tools, which are able to give back to the population the needed sensitivity to contribute to govern their territory in a sustainable way. In this sense, the meetings between geography and art testify the possibility of reflecting on new participatory approaches.

The territory of Fiemme Valley, in Trentino, in October 2018, has been hit by an environmental catastrophe, Tempesta Vaia, that has destroyed much of the forest heritage, of great economic, landscape and cultural value. Anyway, fact has also been an opportunity: the Magnifica Comunità di Fiemme, an ancient democratic system of management of the collective heritage and in particular the woodland, which was suffering an increasing loss of socio-political value due to the increasingly common implementation of policies of national and supranational scale, found thanks to the tragic event, space of action and of dialogue with the population

After the tragic event, two communities of the valley, the villages of Ziano and Predazzo, mobilised to respond to the need to dialogue with tourists and narrate a different landscape, which was not only “destroyed”, but which also expressed the community’s commitment to the process of reterritorialisation. The municipal administrations therefore became holders of this common interest and a participatory project was launched, also involving a group of local artists. The work done enabled and helped the processing of trauma, the empowerment of the inhabitants and the dialogue with the tourists also raising their awareness. And even more the artworks and the maps produced have proved to be a potential tool for a participatory management of the territory, which facilitates interaction between actors and stimulates mutual aid. Means of understanding and analysis, which at the same time play an active role: they make re-emerging that feeling of territorial affection that allows a certain population to increase awareness of the close bond that it builds with the places it inhabits, and to evoke and claim the right to keep alive this relationship, which for them is important, not only for the future, but also at the present time.



# Productivity and FDI in a decade-long growth cycle – Central and Eastern European experiences

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S33-S2 Geoeconomic challenges: the role of FDI revisited in the Central and Eastern European regions,  
August 26, 2021, 2:30 PM - 4:00 PM

During the economic transition, the essential source of technological renewal was the FDI in the Central and Eastern European countries. These impacts manifested in the spectacular increase of labour productivity until the global financial and economic crisis. The main advantages of the strong FDI penetration are expected from their spillover effects on the local economies through knowledge, skills and technology diffusion, which take place predominantly in a vertical nature, i.e., through backward linkages, among the local suppliers of multinationals, as well as in the upstream sectors. However, the emerging structures are not spatially blind, they depend on localised productive legacies, networks and production factors, therefore, their distribution is uneven in space.

During the decade of the 2010s most Central and Eastern European countries converged to the EU average in terms of per capita GDP which was mostly fuelled by the increase of employment. At the same time, labour productivity increased at a significantly slower pace, or it even decreased in some years or countries. The most successful regions were those that relied heavily on FDI inflow, which were not definitely the capital regions.

The aim of our present research is to study the regional dynamics of labour productivity over the previous decades with a primary focus on the period after the global financial and economic crisis; and to assess the importance of FDI in the Visegrad countries in determining these productivity trends. We use public databases issued by national statistical offices and use statistical methods to analyse the tendencies over the previous decade.