



ERSA 2022 - Abstract Book

Printing update: 30 August 2022

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

Making of “Modern Mysore”: Reputation as a form of historical social capital that drives regional entrepreneurship

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Online-S20 Historical Roots of Regional Entrepreneurship and Innovation, August 23, 2022, 2:00 PM - 3:40 PM

See Extended Abstract Also.

The interest of this paper is to highlight the role of reputation in nurturing the historical roots of regional entrepreneurship. While scholars of regional entrepreneurship have traditionally focused on economic capital, institutional environment, and supportive infrastructure, social capital in terms of regional knowledge, creativity, social networks and culture have been gaining attention in the recent years. We contribute to this literature by highlighting how historical narratives and imaginations of a region are employed to build its reputation as a hotbed of entrepreneurial activity. To this end, we build on Burt's idea of reputation as arising not from what we do but from what people talk about what we do. We use the historical case of the region of Mysore in colonial India which came to be called 'Industrial Mysore' and whose legacy is still quoted as a precursor of the current entrepreneurial ecosystem of Bangalore in India. This case illustrates how narratives and imaginations were creatively employed in building the reputation of the Mysore region as entrepreneurial and how that reputation led to the emergence of entrepreneurial activity in the region. We argue that 'reputational entrepreneurship' is an essential element in understanding regional entrepreneurship. While there is a large literature on organizational reputation and emerging literature on new venture reputation, we urge scholars in regional entrepreneurship to explore the dialectic between reputation of regions and entrepreneurship in those regions. Such an understanding can help system level actors like policy makers, regional leaders, trade associations etc to focus on building reputation as a social capital that can complement economic capital.

Educational influence area of the Roman municipality in the post-communist era

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Online-G03-O3 Demographic Change, Population, Migration and Mobility Behaviour, August 22, 2022, 9:15 AM - 10:55 AM

The revolution of 1989 meant not only a change of political regime, but also a change in the demographic behaviour of the Romanian people. This change was also evident in the fluctuation of the school population. The direct consequence was a contraction of the school network visible in the reduction of the number of students and school units. The Roman municipality and the area around it have undergone profound transformations, the secondary school units entering into a direct competition for attracting as many students as possible, in the conditions in which the administrative units release lower and lower flows to the polarizing centre, which this city represents.

Roman municipality is a city of rank II in the urban hierarchy of the North-East development region of Romania, being the second largest city in Neamț County, with a resident population of 68,653 inhabitants in 2020. From the point of view of educational services, the polarizing power of the municipality over the surrounding areas is obvious, given the diversity of educational offer and the historical trend of orienting the population towards educational, medical or administrative-financial services offered by this urban centre. The area of influence of the Roman municipality considered for the present scientific approach was delimited starting from the computerized distribution of the students in the ninth grade, which provides clear information on the place of origin of the students. The main hypothesis from which this approach starts is that the current school network predisposes to the appearance of obvious territorial disparities between rural and urban, disparities reflected in the size of the school unit, in the level of schooling offered within each administrative unit and in the direction and size of migratory flows between two types of environments. The purpose of this article is to determine the area of educational influence of the Roman municipality and to verify if this area overlap over the territorial limits of Neamț County.

Are urban spillovers the solution to “left behind places”?

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Pecs-S26 The Spatial Reorganization of Working and Living: New Opportunities for Peripheral Regions?, B020,
August 25, 2022, 4:00 PM - 5:30 PM

In this paper it is studied to what extent linkages among rural, intermediate and urban areas could contribute to stimulate the development of those areas affected by depopulation. To do this we develop a spatial econometric model, based on simultaneous system techniques where both population and employment are endogenous variables. We apply the model to 278 continental municipalities in Portugal during the period 2010-2018, to detect how the spread or backwash effects among urban, intermediate and rural regions could enhance the local development of Portuguese municipalities. The results obtained suggest policies aimed to promote urban-rural diffusion in order to revert a severe problem which affects specific European regions: depopulation.

The role of available surface connections on the supply of low-cost carriers in secondary European tourist airports

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Online-G17-O2 Transport and Accessibility, August 23, 2022, 2:00 PM - 3:40 PM

Secondary airports have played a key role in the development of both low-cost carriers and the tourism industry in recent decades. Although they are usually further from tourists' main destination/origin, low-cost carriers take advantage of lower fares to exploit tourists' lower time valuation. Nonetheless, efficient surface commuting is a key attribute of airport accessibility and a source of relative attractiveness in multi-airport systems. Low-cost airlines have recently changed their strategic behavior by opting to spread their presence at primary airports, which represents a challenge for secondary airports that have both declining traffic and high dependency on low-cost carriers. In this paper we evaluate the role of private and public transportation commuting time efficiency in the quarterly market share of secondary airports for a sample of European multi-airport systems between 2018 and 2020. Our results show that relative commuting efficiency— whether public or private —is a determinant of traffic distribution in multi-airport systems. This suggests that traffic 'leakage' towards major airports may be more severe in secondary airports with relatively inefficient commuting options. Further, we do not find any generalized impact of Covid-19 on the distribution of traffic among multi-airport systems.

New trends in tourism: Digital transformation and sustainability

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Online-S03 Opportunities, risks and challenges of the digital transformation in tourism. Sustainability, Sharing hospitality and CoVid-19, August 22, 2022, 11:15 AM - 12:55 PM

See extended abstract

Do institutional quality and european funds affect the traditional drivers of economic development in European regions?

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Online-S13 Governance challenges in the periphery of European Union, August 22, 2022, 9:15 AM - 10:55 AM

See extended abstract

Green foreign direct investments: do they boost clean energy innovation in multinationals' subsidiaries?

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Online-S52-S1 Foreign Direct Investments, trade and local development: drivers and impacts, August 23, 2022, 9:15 AM - 10:55 AM

Technologies to mitigate climate change may diffuse from green lead markets to the rest of the world through a number of market mechanisms, thereby contributing importantly to the global green transformation. An established body of literature has shown that multinational enterprises transfer technology globally through investment-centered value chains, as firms seek to exploit knowledge in foreign subsidiaries. The Global Value Chain literature proposes that lead firms tend to keep strategic innovation activities in headquarters located in lead-markets and only distribute the non-strategic innovation activities. In other words, cutting-edge innovation capability tends to remain in home countries, whereas only incremental innovation occurs in host country subsidiaries.

This is the proposition we explore in the present paper. We posit that the distribution of green innovation capability depends on industry-level specificity and 'governance' of investment-centered value chains as well as host country characteristics and investment modes. Moreover, we explore whether the distribution of innovation in such chains changes over time, motivated by the idea that subsidiary innovation initiatives may influence the direction of global knowledge flows over time. The econometric methodological approach combines lead firm-investment data with patent analysis.

Sustainability disclosure in the European Agri-Food sector, a comparison of Spain, Italy and the Netherlands

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Online-G07 Global Warming, Health and Environmental Issues, August 22, 2022, 11:15 AM - 12:55 PM

Concern for the environment has increased, which has generated an active demand from society on the actions of companies to control climate change and reduce impacts in the environment. In order to document and disclose these impacts, sustainability reporting (SR) is a useful tool since it facilitates the task of monitoring and evaluation of company actions. Over time, the disclosure of this sustainability information (non-financial information) has increased. However, there is still much to learn about SR, being the agri-food sector an environmentally-sensitive sector which presents an important gap in the literature.

The aim of this study is to measure the level of disclosure of sustainability information by companies in the Spanish, Italian and Dutch agri-food sector. For this purpose, a content analysis of SR of agri-food sector companies is performed, considering those companies that made their sustainability reports in some of the years 2018, 2019 and 2020 following the standards of the Global Reporting Initiative (GRI) guidelines according to the requirements from the Spanish (Law 11/2018), Italian (Legislative Decree 254/2016) and Dutch (Decision of 14 March 2017) transpositions of the Directive 2014/95/EU. Therefore, the sample comprised 30 Spanish, 20 Italian and 20 Dutch companies, analysing 5 blocks of information (Environment, Social Local Communities, Employees, Human Rights, and Anticorruption and Bribery) where each indicator was assigned a value of 1 if it was found in the SR (0 otherwise), and then added and normalized to 100%. The results show a low level of disclosure in all the countries; however, while Spain and Italy present a similar level and not very far from the middle point (42,1% and 38,8%, respectively), the Netherlands only reaches 14,9%. Consequently, none of the blocks makes a level over 50% of disclosure, except for the Social Local Communities and Employees blocks in Spain. This leads to a key issue about the level of sustainability information dissemination in the Spanish, Italian and Dutch agri-food companies since, although the number of SR has increased, not the quantity of information they give. This fact increases the danger of the so called "greenwashing" despite pressure from society. Therefore, companies should start to take care not only to disclose, as required by the Directive, but also to ensure that the information disclosed is complete and of high quality. To this end, developing a reference dissemination guide from public institutions could further improve the quantity and quality of information disseminated.

Technology upgrading, Complexity, and Entrepreneurial Ecosystem- Hungarian industries and peers from V4.

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Pecs-S46 Long-term Development Perspectives, Barriers, and Challenges in Central and Eastern European Regions: A Survey of the Next Decades, B312, August 26, 2022, 11:15 AM - 12:45 PM

Starting from 2014, the economic development of European regions is shaped by the Smart Specialisation innovation policy. Despite advancements in methods for identifying new paths for economic development, these paths frequently lack a long-term perspective. Diversification of economic activities is widely regarded as the driving force behind prosperous industries, but the occurring processes frequently overlook the significance of contextual factors. I examine the relationship between the contextual factors that influence the emergence of a new industry, several industry groupings, and the complexity of related industries, as complexity in similar industries would indicate the existence of similar production capabilities. However, the aforementioned metrics apply primarily to incumbent industries and capabilities. In order to understand possible future economic advancement, I look at the technology upgrading and manufacturing capabilities of countries, but also prioritization of industries that are similar to peer groups industries that serve as models for diversification. I measure the entrepreneurial environment by applying the penalty for bottleneck Entrepreneurial Ecosystem measurement method. Economic complexity is calculated using the product space approach. Patent data is used for technology upgrading measurement. To make policy recommendations for path undertaking, I employ frontier analysis and New Structural Economics recommendations. Combining these dimensions provides a more complete picture of the structure and drivers of economic growth. Certain types of industries benefit from contextual factors, however peer comparisons have a greater impact on growth paths than best practices do.

Ecological transition and planning strategies

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Pecs-S45 Ecological Transition: Planning Strategy for Scenarios and Emblematic Cases, B323/2, August 24, 2022, 2:00 PM - 3:30 PM

We destroy the beauty of the landscape because the splendors of nature, freely available, they have no economic value.

We would be able to put out the sun and the stars because they don't pay a dividend

J.M. Keynes

Starting from environmental and social unsustainability, the paper proposes the rethinking of territorialization or reterritorialization paths. Highlight some key elements to build the ecological transition. Knowing that implementing the ecological approach takes time, remembering that the industrial city has taken over 350 years to establish itself. It highlights that planning and urban planning are increasingly land and city management and that the object of interest is the existing one, its maintenance or transformation having the common good as its guiding star.

Assessing the Impacts of Knowledge-Intensive-Business-Services (KIBS) Productivity on the Competitiveness of Mexican Exports: A Spatial General Equilibrium Approach

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Pecs-S52-S1 Foreign Direct Investments, trade and local development: drivers and impacts, B323/2, August 25, 2022, 2:00 PM - 3:30 PM

There is substantial value-added of services incorporated in goods exports, from intermediate services and from services bundled with goods. In the quest for increasing and sustaining its competitiveness in Global Value Chains (GVC), Mexico still requires policies, capabilities, and infrastructure to promote intermediate services. On one hand, the continuing development and upgrade of its connectivity infrastructure, to enhance the productivity of distribution, transportation, and communication services, will help to promote linking tasks within and across countries. Locational aspects of these groups of sectors, especially transportation services, are associated with relatively less concentrated spatial patterns, as production and consumption are more strongly locationally interdependent. On the other hand, KIBS tends to be highly concentrated at a country level. However, this does not exclude some movements towards dispersion observed in some business services, as long as working skills limitations are surpassed, which may give room for coordinated regional and trade policies to enhance participation in value addition in Local Value Chains (LVC) of peripheral, natural resource-rich, exporting regions. To explore the effects of such policies, we use an interregional computable general equilibrium (ICGE) model for Mexico. We simulate the impacts of TFP-enhancing shocks faced by Mexican KIBS sectors. The ICGE model recognizes the economies of the 32 Mexican States and 37 sectors. The initial results point to different effects on the two major export value chains in the country, namely the maquiladoras in the USA-Mexico border, and the oil value chain mainly associated with the States in the Gulf.

Territory and abandonment: The impact of neighborhoods on system responsiveness beliefs

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Online-G25 Institutions, Political and Decisional Processes, August 22, 2022, 4:00 PM - 6:00 PM

The study of political disaffection has become particularly relevant in recent years with the emergence of populist narratives and the polarization experienced by different consolidated and emerging democracies. In this context, the link between territory and the decline of citizen attitudes has not been sufficiently studied. Using data from the Chilean region of Valparaíso, we analyze the territories play on the development of external political efficacy, i.e., system responsiveness beliefs. Our results suggest that citizens who live in neighborhoods with a high concentration of low-educated individuals tend to feel that the political system is not responsive to them. Interestingly, the education at the individual level and the concentration of poverty is not significant. This leads us to support the notion of "places that don't matter," where feelings of abandonment and political inefficacy are generated.

Do population density, socio-economic ranking and Gini Index of cities influence infection rates from coronavirus? Israel as a case study

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Online-G39-O2 Regional Consequences of the COVID-19 Pandemic, August 23, 2022, 9:15 AM - 10:55 AM

A prominent characteristic of the COVID-19 pandemic is the marked geographic variation in COVID-19 prevalence. The objective of the current study is to assess the influence of population density and socio-economic measures (socio-economic ranking and the Gini Index) across cities on coronavirus infection rates. Israel provides an interesting case study based on the highly non-uniform distribution of urban populations, the existence of one of the most densely populated cities in the world and diversified populations. Moreover, COVID19 challenges the consensus regarding compact planning design. Consequently, it is important to analyze the relationship between COVID19 spread and population density. The outcomes of our study show that ceteris paribus projected probabilities to be infected from coronavirus rise with population density from 1.6 to 2.72% up to a maximum of 5.17–5.238% for a population density of 20,282–20,542 persons per square kilometer (sq. km.). Above this benchmark, the anticipated infection rate drops up to 4.06–4.50%. Projected infection rates of 4.06–4.50% are equal in cities, towns and regional councils (Local Authorities) with the maximal population density of 26,510 and 11,979–13,343 persons per sq. km. A possible interpretation is that while denser cities facilitate human interactions, they also enable and promote improved health infrastructure. This, in turn, contributes to medical literacy, namely, elevated awareness to the benefits associated with compliance with hygienic practices (washing hands), social distancing rules and wearing masks. Findings may support compact planning design principles, namely, development of dense, mixed use, walkable and transit accessible community design in compact and polycentric regions. Indeed, city planners should weigh the costs and benefits of many risk factors, including the COVID19 pandemic.

Is there an endogeneity problem between health and apartment value? Gender differences and the impact of obesity on property self-evaluation

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Online-G16 Real Estate and Housing Markets Issues, August 22, 2022, 2:00 PM - 3:35 PM

Background: Numerous studies have compared self evaluation and market values of apartments by employing hedonic regressions. Most of these studies demonstrated that self evaluation of apartments are typically overly optimistic. Yet, none of these studies explored the relationship between self-evaluation of apartments and obesity as a proxy for self esteem, particularly among women. Previous empirical evidence suggests weight discrimination against women in employment and income, education and romantic relationships. Following the influence of western values and norms regarding a slim body image of women and the implications of these social obesity penalties, one would anticipate a lower self evaluation of apartment value among obese women. Another strand of the literature shows that compared to men, women are more conservative financial investors. **Objectives:** To explore gender differences in self-evaluation of apartments with respect to BMI ($= \text{WEIGHT}:\text{HEIGHT}^2 = \text{kg}:\text{meter}^2$, where $\text{BMI} \geq 30$ is defined as obese person) as a proxy for self esteem. In an economic rational domain, housing price evaluations are not expected to be influenced by personal characteristics (such as gender, wealth, employment marital and immigration status, number of children) and psychological features of the evaluator. Consequently, the current study is closely related to the literature that deals with real estate and behavioral finance and economics. **Methods** We analyze a representative sample of the Israeli population, obtained from the 2015–2016 longitudinal survey carried out by the Israeli Central Bureau of Statistics (ICBS), where the responses of each individual were recorded twice (during 2015 and 2016). The survey includes information on weight and height of each family member, from which the BMI measure is calculated ($\text{weight} \div \text{height}^2$), as-well-as apartment value, gender and a long list of economics and socio-demographic control variables, and apartment characteristics. To investigate this research question, we use a 2SLS methodology, and run the empirical model separately based on ethnic origin and gender. **Results:** Findings suggest that for both genders, BMI is negatively correlated with self-evaluation of apartments. Yet, compared to men, female self-evaluation of housing prices are more conservative and less influenced by BMI changes. This outcome is obtained despite the fact that as part of the modern western societies, Jewish Israeli women are more susceptible to weight gain. Research findings thus support the conclusion that the evaluation of women are more conservative and risk averse. Moreover, with respect to obesity, compared to males, the cognitive error in price evaluation is smaller among females.

Valuing the Economic Cost of Remoteness: A Case Study for Morocco

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Pecs-G17-O4 Transport and Accessibility, B018, August 26, 2022, 9:15 AM - 10:45 AM

There is a long tradition in transportation planning research in quantifying remoteness in the context of accessibility indicators. By considering the network structure of an existing system and the performance of its components, it is possible to assess the socio-economic impacts of changes in the physical characteristics of specific links that affect critical locations. Nonetheless, the link between changes in accessibility and their socio-economic consequences frequently relies on using parameters estimated econometrically under partial equilibrium frameworks. More recently, modeling integration based on links between transportation networks and computable general equilibrium (CGE) models has been gaining attention from the research community. In this paper, we add to this research trend by examining the case of remote regions in Morocco. The physical transportation network in the country is particularly interesting for understanding the economic costs of isolation. We calibrate a spatial CGE for Morocco and integrate existing interregional trade flows to the transportation infrastructure to simulate the potential higher-order economic impacts of a road project improving the access of regions in the Southern part of the country.

Soil ecosystem services approach to support new paths of urbanization

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Online-S45 Ecological Transition: Planning Strategy for Scenarios and Emblematic Cases, August 23, 2022,
4:00 PM - 5:45 PM

see extended abstract

Which are the most important SDGs in COVID-19 times according to university students? A case study from Greece.

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Online-S58 University impacts on the local and regional economy, August 23, 2022, 4:00 PM - 5:45 PM

Many Universities are implementing Sustainable Development Plans in line with the 17 Sustainable Development Goals (SDGs) of the UN's Agenda 2030. It is argued that the preparation of a successful Sustainable Development Plan should involve as much as possible the University students. The students' perspective is important, not only because they are the largest group in the university, but also because they are the citizens of the future.

This paper presents the findings of a recent research regarding the students' perspective on the SDGs. In particular, the authors have prepared a questionnaire in order to collect important information regarding the students' knowledge on sustainable development and their attitude and behavior towards the 17 SDGs. After the initial testing and validation, the questionnaire was disseminated to university students and post graduate students in Greece. Among other questions, the students were asked which of the 17 SDGs are the most important for them. The answers were collected online.

Quantitative analysis provides interesting results regarding the most important SDGs for the students, in relation to the field of their studies, sex, age, among other variables. The findings of this research are discussed in comparison to other similar research.

Hydrogen innovation in Latin American countries: a social network analysis

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Online-G22 Energy and Ecological Transition, August 23, 2022, 4:00 PM - 5:45 PM

see extended abstract

Meal delivery and the restaurant industry in Brazilian cities

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Pecs-G20-R1 Cities, Regions and Digital Transformations, B314, August 24, 2022, 11:15 AM - 12:45 PM

We examine the effects of the largest meal delivery service on restaurant activity in Brazil from 2014 through 2021. We examine the evolution of employment in the restaurant sector across 790 areas within 12 Brazilian cities, corresponding to 21% of all restaurants in the country. With a rich set of establishment-level data, we compare the job evolution from the moment the restaurant starts delivering meals with the same restaurant before and with restaurants that never delivered meals. Since the delivery adoption is not random, we first use a Probit model to estimate the probability of a restaurant using meal delivery. We then regress the estimated probability as an instrument, together with other exogenous variables. Finally, we use the predicted probability calculated in the second step to estimate equations relating restaurant employment evolution with meal delivery. The estimated net effect is the creation (or preservation) of 1.7 jobs per establishment over the period, resulting from the combination of additional 2.3 jobs for restaurants that delivered meals, with a loss of 0.7 jobs for the comparison group. In aggregate terms, the net effect is the creation (or preservation) of 4,796 jobs in the country as a whole, representing 0.45% of the labor force of the restaurant business in the country.

Measuring spatial effects based on a knowledge production function

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Online-G30-O1 Innovation and Regional Development, August 23, 2022, 11:15 AM - 1:15 PM

In the fourth industrial revolution, human capital, as a stock of produced knowledge, is becoming a key factor in sustainable economic growth, human-centered technologies are a major direction in leading management practices, and the digital divide is becoming a new factor of economic and social inequality. An important consequence of the relationship between the diffusion of technology as a product of knowledge and sustainable growth is the convergence of its rates. Endogenous growth theory and empirical evidence recognize that space is critical to knowledge diffusion and innovation. Research questions are of interest: Is there a long-term convergence of knowledge production in the regions? What is the impact of human capital and digitalization on knowledge production, taking into account their interregional interaction? Research hypothesis: the impact of human capital and digitalization on knowledge production is not the same, both directly (within regions) and indirectly (in neighboring regions). The production function of knowledge has been modified with temporal and spatial lags. The Moran and Geary indices were estimated and models of conditional β -convergence were built on panel data by the SAR, SDM, SEM types. It has been found that strong Russian regions contribute to the growth of human capital and the production of knowledge from their neighbors. Spatial interactions were found between the number of R&D personnel and internal R&D costs with the dependent variable. No significant direct and indirect effects of digitalization have been identified. The discovered β -convergence of the average growth rates of knowledge production and their spatial dependence under conditions when many regions have little human capital and patenting, can confirm the diffusion of technologies through their copying from the leading regions, which is cheaper than the invention of new ones. Regions that are technology followers attract external investment, gradually catch up with technology leaders and promote the convergence of knowledge production growth. However, the assumption about the significant impact of digitalization on the production of knowledge in the regions was not confirmed. The novelty of the study lies in measuring the convergence of the average growth rates of knowledge production in the Russian regions, taking into account spatial interactions. The results can be used by authorities and other institutions in managing the transformation of economic and social sectors through the introduction of digital technologies and platform solutions, in providing training in accordance with the goals of the National Project "Digital Economy".

What influences the framework conditions of participation in urban planning? Revisiting Maier's hypothesis through the case of Hungary.

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Pecs-S13 Governance challenges in the periphery of European Union, B312, August 24, 2022, 4:00 PM - 5:30 PM

According to Maier's (2001) hypothesis, the democratization process in the post-socialist countries would lead to the increased importance of stakeholder and citizen participation in urban planning. Increasing circles of stakeholders would be able to join, and become empowered. The objective of the present paper is to revisit Maier's hypothesis in the Hungarian context. While having knowledge on how participation in urban planning looks like in various post-socialist countries, we mostly lack analyses on why participation occurs in certain ways (alongside certain process designs) and to what extent is it a post-socialist legacy? In the present paper, we attempt to shed light on the main factors that shape the framework conditions of participation in urban planning; we ask whether the three decades of transition can be described as an approximation to the Western standards in urban planning, as Maier suggested.

The results are based on the qualitative content analysis (through inductive coding approach) of 49 semi-structured interviews. We conducted the interviews during 2015 and 2016 in three Hungarian middle-sized cities with various stakeholders of urban planning. We identified six underlying factors, which shape the framework conditions of participation. These are factors that have mostly accumulated since the fall of the socialist era, the post-socialist legacy may only have indirect effects on them. These six factors add up to a halt in the democratization of planning and the serious limits to consensus building. We argue that these two processes diverted Hungary from the path Maier envisioned, and make the Hungarian context for participation and participatory techniques fundamentally different from the Western-European contexts. The results are confined to a single country and are based on data collected approximately five years ago. Nevertheless, the analysed mechanisms seem to be still in work or have even intensified. Besides, the results also have clear implications for other (both post-socialist and Western-European) countries.

Local products in hospitality under investigation – Examination of Hungarian slow food restaurants and producers in the light of short supply chains

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Online-S08 Regional Disparities in the post-COVID Tourism Industry of East-Central Europe, August 23, 2022,
11:15 AM - 1:15 PM

Recent pandemic has shaken consumer's confidence in multinational value chains, which may further increase the interest in local products in the short to medium term. As Covid-19 has led consumers to buy local ingredients, the supply of local food to restaurants has also become an important factor in sustainability practices. Due to the crisis, restaurants have had to face several challenges, operational flexibility of the establishments has become an essential aspect – one of the most important means of the sector's survival. The period of post-crisis recovery often results in opening of new directions in management practices, including hospitality management, too. Observing previous patterns, we can say that such a new direction could be the promotion of sustainable operating models and, as part of the slow philosophy, the spread of local products in gastronomy. Green practices and sustainable food (including food from local sources) are essential elements for consumers, according to the literature, and providing green cuisine to health-conscious people boosts restaurants' sustainable image. Local products can operate as an attraction in the context of tourism, and their impact can be interpreted both directly and indirectly, on the one hand bolstering the local economy and, on the other hand, motivating local tourism service providers to innovate. Hence, with the practical and theoretical aim, several interviews with Hungarian restaurant managers, producers and representatives of professional bodies have been carried out in terms of local, seasonal and sustainable ingredients' criteria. In the course of our present research, we are about to explore the greatest opportunities and challenges of short supply chains and green restaurant concepts. Our aim is to detect problems, thus helping hospitality professionals and producers in order to reach a more sustainable hospitality ecosystem while adapting the slow philosophy.

Keywords: short supply chains, local products, small producers, sustainable restaurants, sustainability, slow philosophy

What makes a #refugeeswelcome region?

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Pecs-S49-S1 Drivers and impacts of migration: new insights on the role of local labour markets, human capital, personality and (family) networks, B323/1, August 26, 2022, 9:15 AM - 10:45 AM

This paper focuses on the impacts of forced migration and in particular the ongoing refugee crisis in Europe and beyond. In particular, the paper considers forced migration from the perspective of the destination region, with a particular focus on European regions and in particular on the social attitudes of the local population towards migrants, making use of suitable secondary data. The paper considers and discusses key individual socio-economic as well as spatial contextual factors that affect the responses or what may be likely responses of populations at regional level to the refugee crisis (including considerations of the impacts of the forced migration flows over the past 10 years but also the more recent developments and refugee crisis resulting from the Russian invasion of and attack on Ukraine) and their ability to welcome and integrate refugees in the short and long run, including social and demographic characteristics, local governance structure, social capital, local labour market conditions, local, national and international media discourses, social attitudes, social norms and values, historical background and collective memories. The paper presents statistical analysis of suitable social attitude survey microdata available for European countries and regions (such as the European Social Survey and the European Values Survey) in Europe, taking into account possible contextual impacts and interactions between variables at individual, regional and national level.

Geopolitical imaginaries in the Hungarian-Ukrainian borderland

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Pecs-S27-S2 Borders and Borderlands – Integration and Cohesion in (Central) Europe, B312, August 25, 2022,
4:00 PM - 5:30 PM

This contribution is based on fieldwork on both sides of the boundary between Ukraine and Hungary in November 2021. In total 22 deep interviews were conducted with local and regional elites, focusing on the effects of the border and bilateral relations on group dynamics in the area and beyond. While not always explicitly evoked by the interviewers, the answers of respondents often contained references to various geopolitical imaginaries – i.e. spatial concepts. Hungary and the Carpathian Basin were important reference points to Hungarians on both sides. Particularly interesting was how Europe was linked with different associations: whereas Ukrainian respondents assessed it in highly positive terms, the majority of Hungarian respondents now look at it with disappointment. However, it is not the Europeanness of Hungarians that was being questioned, but rather some policies of the European Union. The recently deteriorating relations between Ukrainians and Hungarians tended to be blamed by the former on Russia, which was less clear to the latter. When it comes to the border itself, Hungarian respondents in particular expressed frustration regarding its level of permeability. While the mere presence or location of the boundary was not questioned by any respondents, it is clear that for some of them the Carpathians still constitutes a phantom border.

Regional tourism disparities in Greece

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Pecs-G19 Tourism and Overtourism Issues, B323/1, August 25, 2022, 2:00 PM - 3:30 PM

Regional tourism disparities in Greece

Tourism is an economic and social activity that plays a significant role in boosting the economy and can be used to achieve desired regional outcomes. Tourism sector has been remarkably resilient in recent years, even during the financial crisis, and is therefore used by tourism policy makers to reduce regional disparities. In Greece in particular, its significant role is revealed by its contribution to the economy, where, in 2019 the Total Contribution to GDP was 20.8% and the Total Contribution to Employment was 21,7%.

The aim of this paper is to investigate the tourist inequalities in the 13 administrative regions of Greece through various techniques and indicators of regional science (e.g. Diaspora and Concentration Measures, Gini Factor, Hotel Density Index, Defert Index, Location Quotient, Specialization Coefficient, Tourist Density, Tourist Occupancy, Tourist Intensity Ratio, Tourist Penetration Index, Average Annual Employment in Tourism) and the identification of factors influencing the regional tourism development model, in order to assess the situation before and after the financial crisis so as to formulate a strategic and policy framework for achieving balanced tourism development.

The resulting conclusions from the investigation of this issue can lead to the establishment of a framework for regional tourism policy, which is expected to contribute to the qualitative formation, enrichment and diversification of the Greek tourist product in order to overcome the structural problems that fuel the tourist inequalities.

Keywords: Tourism development, regional inequalities, financial crisis, Greece

Assessment of spatial displacement of power via electric vehicles

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Pecs-S14 Electrification of transport in cities and regions: deepening spatial disparities or an opportunity for economic growth?, B310, August 25, 2022, 2:00 PM - 3:30 PM

Electrification of transport sector is essential for UK's meeting Climate Change Act goals and reducing its emissions to net-zero. The Committee on Climate Change, the government's independent advisory body on climate change, expects electric vehicles (EVs) to account for 97% of car sales (equalling to 43% of car fleet) in 2030 so that UK is on track towards this target. A number of policy measures include the government banning the sale of new petrol and diesel cars in 2030 and some hybrid models in 2035 and the introduction of grants towards charging infrastructure. These subsidies, coupled with increasing environmental awareness resulted in new battery electric vehicle registrations (51,000) surpass diesel cars for the first time in Great Britain during the third quarter of 2021. Yet, the impact of EVs on UK power demands is going to be quite significant. The Committee on Climate Change expects UK's power demand to double or even triple by 2050. For the management of power networks, it matters where these vehicles are charged. As EVs are stationary for around 95% of their service life, they can provide power back to the grid via vehicle-to-grid applications when they are not on the move. By aligning charging and discharging decisions in tandem with the availability of renewable resources, EVs, in principle, can contribute to smart operation of power networks. This becomes particularly more important for densely populated urban areas where opportunities to utilise renewable resources may be quite limited. A key factor that will determine the amount of 'flexible' power from EVs is individuals' transport choices and their commuting patterns. While the impacts of Covid-19 pandemic on commuting patterns is highly uncertain, EVs, may increase or decrease demands for power in urban areas. This paper for the first time brings spatially explicit commuting patterns and EV registration datasets together to develop a socio-economically tuned approach to analyse the impacts of EVs on urban demands for energy. Utilising data-driven approaches, the results present the scale of power displaced across geographically connected areas and how EVs may support the cost-effective operation of networks in congested areas.

Assessing the influence of COVID-19 in shaping new resilience and sustainability patterns of major cities

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Pecs-S59-S8 Spatial Coronometrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 26, 2022, 11:15 AM - 12:45 PM

The COVID-19 pandemic was a tremendous challenge for the world and cities were at the frontline of tackling the emerging crisis. This impacted the “magnetism” of global cities and modified them both structurally and functionally inducing new developments and approaches of various social, economic and environmental issues. The present paper tries to test whether the pandemic had a major influence in making major cities of the world more resilient and sustainable. Using Global Power City Index (GPCI) data in relation to other sustainable development and urban resilience indicators from different sources, the current assessment aims to create a complex statistical model that covers the main patterns of urban transformation during COVID-19. Using difference-in-difference models, but also spatial data envelopment analysis, we focus on comparing recent dynamics of 40 major cities in a benchmark study that traces the best performing and adaptable cities during pandemic (regarding major domains such as Economy, Research and Development, Cultural Interaction, Livability, Environment). The link between the actual performance and the planning background was tested by looking at major policy decisions and new regulations that emerged during the crisis as a reaction to this unprecedented global hazard. The spatial difference was also taken into account by testing how accessibility influenced and was influenced by resilience and sustainability policies in the case of selected cities. The results show different contrasting reactions and behaviors of cities in different parts of the world, but also convergent initiatives that can be explained by the functioning of global networks of cities that are interacting hubs of resilience and development. The conclusions converge towards the general agreement that the COVID-19 crisis negatively affected, on the short run, most of the cities (especially livability of cities decreased), but it also drive innovation i.e. digitalization and green vectors of development as tools for more sustainable and resilient cities. There are new opportunities that emerged for the major cities to capitalize on their privileged position and transition towards smarter, greener and more livable places, but also to develop a resilient and antifragile perspective that would be necessary when talking about future unpredictable threats.

The Concept of Graduate Employability - A Dynamic Approach

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Pecs-S02 Building Resilient Public Sectors, B310, August 25, 2022, 4:00 PM - 5:30 PM

The Covid-19 pandemic and the policies implemented to control it, functioned as a disruptor to the world economy, displayed in both macroeconomic settings – such as (local) labor markets, and microeconomies like universities. This comes at a time when the concept of Graduate Employability is gaining relevance. Yorke (2004) coined Graduate Employability as “a set of achievements – skills, understandings and personal attributes – that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits [...] the economy.” Prior to the pandemic universities were already engaged with the interplay of provided education and labor market participation, however, this does not mean that graduate’s skillsets are a complete and sustained match to labor market demands. In fact, those reported lacking are generally skills that go beyond core competencies of specific degrees, such as interpersonal skills and teamwork capabilities. Implemented policy measures are mainly designed to amplify Graduate Employability from within the body of education, however, this decision is based on the assumption that higher education is indeed capable of enhancing Graduate Employability through targeted academic training.

The body of literature on Graduate Employability is rich with varying theories on the apportionment rate of the stakeholders; elucidating the role and characteristics of the individual, the role of educational institutions, labor market behavior and the impact of economic developments on the matter. These papers often lack vision with regard to the dynamics of Employability, and so hinder the formation of a cohesive perspective for effective policy recommendations.

In this paper we present a dynamic framework of graduate employability based on leading and adjacent theories, in order to elucidate the set of actors, their dynamics, and the consequential power of individual actors - or lack thereof - to effectively influence Graduate Employability. The validity of the framework is underscored by a systematic literature review, examining the degree to which Interventions in higher education display positive influences on graduate employability. The research papers analyzed are based on empirical research measuring localized changes for academic graduates who underwent a targeted educational reform to enhance employability. The framework serves as a basis for determining efficacious *modi operandi* and policies in the future, and to further elaborate on the role of higher education institutions with regard to Graduate Employability.

Ethnoregional communities and their political representation in Central and Eastern Europe

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Online-S29-S1 National Regions in regional development – National, ethnic, cultural, religious, and linguistic renaissance of European regions and identities, August 23, 2022, 2:00 PM - 3:40 PM

In the 20th century, as a consequence of the disintegration of large empires and peace treaties, several ethnic groups became minorities in the territories of the newly established small states. After the forty-year period of state socialism, by the last years of the era there were significant political and social movements that started a new epoch of self-organisation in the Central and Eastern European region. There were political movements based on national identity endeavouring to become independent and to redraw the borders within the region, and some of them were successful in creating new nation states (bringing more and more communities into minority status), while others attempted to achieve personal and /or territorial autonomy within the given country.

Some of the minority groups lives territorially concentrated in a specific region or along the border.

Although these so-called ethnoregional communities may differ significantly based on their population and regional proportions, they form a specific group of ethnic minorities. Organizations representing these communities are ethnoregional parties working “(...) for the reorganization of the power structure of the national political system, for a certain degree of self-government for the region” (De Winter 2001:4).

Ethnoregional parties can be classified in several ways (eg. ideology, electoral success, level of operation), classification based on definitive features, namely the concept on the way and method to reorganise the national state, is one of the possible solutions. Bugajski developed a typology (Bugajski 1993) valid for the Central and Eastern European ethnic politics (cultural revivalism, political autonomism, territorial self-determinism, separatism and irredentism), however, due to the long time that has elapsed since then, it needs to be reviewed. After the transition several organisation disappeared (in rare cases due to achieving objectives) or replaced by another parties, new identities awakened or entered another phase of ethnic politics. This presentation summarizes the results of a research, which had the aim to create a new typology of ethnoregional parties in Central and Eastern Europe.

Can periphery survive the high-tech led growth? Insights from the Israeli experience

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Pecs-G30 Innovation and Regional Development, B019, August 26, 2022, 9:15 AM - 10:45 AM

Most theoretical and empirical research has identified a tendency of regional divergence of innovation and high-tech economic activities. Still, some recent research contends for the existence of advantages of peripheral regions and for the potential benefits of their integration in the innovation growth process. This article examines this controversy from the perspective of labor supply and demand, at various quality levels. We adapt the approach of knowledge-based business activity and test the compliance of labor supply with labor demand at different knowledge levels, at the periphery and in the core region. We use the case of Israel comparing the southern peripheral region with the central metropolitan region. We use time series for the last two decades, with empirical data on supply and demand of different types of occupations. Preliminary findings led to a few tentative conclusions. One is that local labor force responds positively to national innovation trends by improving its professional level and supplying higher professional levels. A second is that labor demand responds positively with the improvement of business economic structures in the periphery. A third is that the response of labor demand is less flexible than that of labor supply, leading to increased commuting of higher level labor force out of the peripheral region. In a way this can be expressed as a weaker adaptation of the local economic structure than the adaptation of the local labor force (as a similar to a weaker GDP growth than that of GNP growth).

We conclude that regional divergence forces induced by innovation processes may be constrained, but there is still a need for the intervention of public policy for the support of ecosystem factors, facilitating the attraction of appropriated economic activities to the periphery and/or improving transportation facilities.

In search of the mechanism of strategic coupling of the digital entrepreneurs and manufacturing companies. Mid-term findings in Polish regions.

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Pecs-G20-O2 Cities, Regions and Digital Transformations, B314, August 24, 2022, 4:00 PM - 5:30 PM

The proposed paper refers to the digitalisation of industry (Industry 4.0). It is seen as a phenomenon that will substantially transform the global economic landscape (Kagermann et al. 2013, Schwab 2016, Isaksen et al 2020). This profound transition in the manufacturing industry, which affects the work environment and the number of workplaces (Bailey & de Propris, 2019), may imply profound changes in the development of industrial regions, both in developed countries and in the 'emerging economies' positioned as a semi-periphery in the international division of work. Strong transformative power is attributed especially to the so-called 'digital entrepreneurs', i.e. the providers of digital solutions for manufacturing sectors. Aiming at answering the contextual question of whether the digital entrepreneurs constitute a viable mechanism for the new path creation for industrial regions in the integrated semi-peripheries, we scrutinise the mechanism of strategic coupling of the digital entrepreneurs and manufacturing companies in different regional contexts. The paper presents the mid-term findings, mainly related to understanding the co-location of automotive companies and IT (Industry 4.0) companies, compared to other industrial specialisations. The empirical part refers to Poland (Polish regions and provinces). We expect to raise discussion on the specifics of the regional industry's absorption capacity for the Industry 4.0 solutions, as well as the factors and mechanisms behind them.

Methodological framework to evaluate the impact of organizational resilience on service quality in the public sector

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Online-S02 Building Resilient Public Sectors, August 22, 2022, 4:00 PM - 6:00 PM

The aim of this study. Public sector organizations faced a major challenge in securing public services during the Covid-19 pandemic. Most public sector organizations were not prepared to function properly in a pandemic environment. That was mainly caused by the lack of resilience, which, to our belief, is not only the ability to return to a normal routine aftershock but also to use the gained experience for an organizational bounce forward and successfully adapt to a “new normal”. This view supports the idea that threats should be treated as an opportunity for organizations to gain the ability to learn continuously and use the lessons learned during crises for self-strengthening and growth.

By supporting this conceptual framework, we hypothesize that more resilient public organizations have the capacity to provide a service of a higher quality.

Methodology/methods. Systematic literature review (SLR), PSALSAR method, descriptive statistics.

Results. SLR allowed us to define the concept of the resilience of the public organizations, where resilience is considered to be more than just an ability to withstand difficult situations and return to pre-crisis levels, but also the ability to use the experience of crises as a driving force to become more competitive and stronger during shocks, as they gain unique experiences that strengthen their operational capabilities. After assessing a variety of methodologies for evaluating organizational resilience, we conclude that resilience of the public sector can be treated as a three-dimensional framework, i.e. (a) preparation, (b) adaptation, (c) enhanced learning capacity. We argue that indicated dimensions have a positive impact on the quality of service. The limitation of this study is related to the conceptual nature of our result, yet soon, we will focus on the empirical implementation of the suggested framework. In addition, we will introduce the results of the organizational resilience in the public sector based expert study. The data will be collected from April till May 2022.

Originality. The research has an ambitious goal that has so far been little researched. Firstly, we propose an original conceptual construct of the resilience phenomena in the public sector. Secondly, we suggest a methodology to assess the impact of the resilience of the public sector on the quality of the services they provide with the ultimate goal to apply the proposed methodology on empirical data.

This research project received funding from European Social Fund No 13.1.1-LMT-K-718-05-0032 under grant agreement with the Research Council of Lithuania (LMTLT)

The Bounce-Forward organizational resilience assessment model

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Pecs-S02 Building Resilient Public Sectors, B310, August 25, 2022, 4:00 PM - 5:30 PM

The aim of this study. Previous analysis of scientific research has shown that the concept of resilience is transforming into a structural concept, based on the underlying idea that a resilient organization (OR) can not only withstand complex situations and return to its pre-crisis position, but can also use the experience of shocks as a driving force to bounce forward. This study distinguishes the bounce-back stage, oriented towards organizations' adaptive capacity, and the bounce-forward stage, which aims to enhance learning capacity.

Methodology/methods. Literature review, CFA, SEM.

Results. This study aimed to explore dimensions of OR, i.e. learning and culture (LC), networks (N), and change-readiness (learning) (CRL), in organizations of various sizes and in various industries. The structure of this scale followed the framework of the Resilience Benchmark Tool (RBT-53) and its shorter version, the Resilience Benchmark Tool (RBT-13), validated for Lithuanian organizations. The sample consisted of 434 organizations. The structure of a randomly selected sample consisted of: 65% privately held limited liability companies; 15.9% individual proprietorships; and 5.3% public institutions. The results of CFA confirmed the three-factor structure of OR. To investigate different aspects of associations between the factors, SEM analysis was conducted. Best model fit was evaluated based on the following indicators: CMIN = 2.562; CFI = 0.934; TLI = 0.919; NFI = 0.995; and RMSEA = 0.060. This partially confirmed the hypothesis that bounce-back dimensions, i.e. LC and N, are directly linked to the CRL dimension. These results show that the N dimension is linked to LC dimension, and that the LC dimension alone is linked to the CRL dimension. No supportive evidence was found to suggest that the N dimension is linked directly to the CRL dimension, which is treated as a component of the ability to bounce-forward.

The originality and the value of this study are in its attempts to provide empirical evidence that identifies the links between the bounce-back and bounce-forward stages of OR. These results contribute to the development of OR theory, confirming the conceptual statements that resilience is the ability to return to the routine and to adapt to the changed environment by overcoming dynamic events, stressing the idea of the importance of enhanced learning capacity, which allows for growth by constantly learning from oneself by gaining unique experiences.

This research project received funding from European Social Fund No 09.3.3-LMT-K-712-19-0218 under grant agreement with the Research Council of Lithuania (LMTLT)

Uberization of the labor market in Brazilian States

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Online-G18-O1 Regional and Urban Labour Markets and Entrepreneurship, August 22, 2022, 4:00 PM - 6:00 PM

The uberization of the labor market is associated with a new labor dynamic, being made possible by the advancement and popularization of remote technologies. The so-called "gig economy" is marked by a flexible labor market, without barriers to entry or exit of workers, with a large amount of people on hand, also called crowd work. In some cases, the service provision depends on a work on demand relationship, in which the service is provided only when it is requested through the platform, and may incur in an extended workday, since there is no remuneration for idle time while waiting for new calls.

In Brazil the market for app drivers has been growing in recent years. Part of this increase may have originated with the economic slowdown that began at the end of 2014. In addition, in 2017, law 13.467/17 came into effect, referring to the labor reform that instituted intermittent work and exclusive autonomous work, which allowed greater flexibility of labor contracts, as well as weakened the ability of workers to negotiate given the dispersion of union influence.

Aiming to broaden the discussion about the market of app drivers and uberized jobs, this paper proposes to evaluate factors related to: i) worker characteristics - non-white race and male population; ii) worker's activity sector - transportation and food; and iii) legal - labor reform; that determine the uberization of the labor market in Brazilian states. For this purpose, a panel data model is used. The period of analysis is the years 2012 to 2018.

With regard to the results, we highlight: i) non-white people are those who most resort to self-employment. This is due to the fact that the sectors where unemployment is increasing the most are sectors with the worst salaries and are mostly employers of black people; ii) the positive sign of the labor reform dummy suggests that law 13.467/17 moves towards the dismantling of labor rights, historically conquered; iii) a positive relationship between the number of informal workers and the labor market in the transport and food sectors. One of the characteristics of the uberization of work in Brazil is that faced with the loss of formal jobs, the population has been turning to informal activities that are related to the transport and food sectors, for example, motorcycle taxi drivers, food delivery drivers, snack vendors, app drivers, among others.

Tax Policy and Interregional Competition for Mobile Venture Capital by the Creative Class

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Online-G12-R Regional Competitiveness, Innovation and Productivity, August 23, 2022, 11:15 AM - 1:15 PM

We study how tax policy affects the competition for venture capital by the creative class in two regions A and B. The creative class in each region produces a final good with venture capital and creative capital. Venture capital moves freely between the two regions and the representative creative class member in each region has access to an initial amount of venture capital. Each region taxes venture capital at a particular rate and the tax revenue is paid out as a transfer to the representative creative class member. In this setting, we perform five tasks. We begin by determining the first-best tax rates in the two regions. Second, we solve for the net price of venture capital and then express the objective function that is to be maximized in each region as a function of this price. Third, we compute the first-order necessary conditions that describe the optimal tax rates in the two regions and show that the sign of the tax rate depends on the net exporting position of the region. Fourth, for specific parameter values, we calculate the two tax response functions and discuss their properties. Finally, we compute the two equilibrium taxes as a function of the model's key parameters and show that these taxes must be of opposite signs.

Tanneries in Kanpur and Pollution in the Ganges: A Theoretical Analysis

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Online-G26-R Human - Environmental Interactions, August 22, 2022, 4:00 PM - 6:00 PM

We study pollution in the Ganges river caused by tanneries in the city of Kanpur in India. Two tanneries, A and B, are located on the same bank of the Ganges in Kanpur. Both produce leather and the production of leather requires the use of chemicals that are toxic to humans. Tannery A is located upstream from tannery B. Tannery A's leather production depends directly only on labor use but tannery B's leather production depends on labor use, the chemical waste generated by tannery A, and the natural pollution absorbing capacity of the Ganges. In this setting, we accomplish three tasks. First, we determine the equilibrium production of leather by both tanneries in the benchmark case in which there is no pollution. Second, we ascertain how the benchmark equilibrium is altered when tannery B accounts for the negative externality imposed on it by tannery A. Finally, we analyze what happens to leather production and to labor use when the two tanneries merge and then we discuss some policy implications emanating from our research.

The role of job match quality in explaining job satisfaction disparities between self-employed and wage-employed workers

Ms Franziska Bay¹, Dr Sierdjan Koster¹

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Online-G33-O1 Innovation and Entrepreneurship, August 23, 2022, 11:15 AM - 1:15 PM

Now more than ever - with the drastic change in working conditions during the pandemic – the importance of an individual's job satisfaction for their subjective well-being should not be disregarded. After all, inequalities in job satisfaction could be an indication for inequalities in subjective wellbeing. On average, in many studies, self-employed individuals are found to 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 entrepreneurs 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, they might offer a possible alternative explanation to why the self-employed experience higher job satisfaction than the wage-employed.

This is investigated using the Dutch dataset of the OECD's Survey of Adult Skills, an international panel study that assesses job-related competencies. A subsample of 3,200 participants, which contains individuals between the ages of 15 and 65 who have been employed or self-employed in 2011 and 2012, is used to compare the job match quality and reported job satisfaction of self-employed vs wage-employed. Structural equation modeling is used to analyze group mean differences. The expected finding is that individuals who transition into self-employment are able to achieve a better-quality job match and this reach higher levels of job satisfaction. Control variables are observed numeracy, literacy and problem-solving skills, the individual's residential location, gender and level of education.

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 while making use of actual skill measurements collected via the OECD survey.

Data skills and data maturity of SMEs and how to increase them – A North Sea Region case study

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Online-G20-O3 Cities, Regions and Digital Transformations, August 23, 2022, 9:15 AM - 10:55 AM

Digitization is a process that many SMEs still have to go through in order to stay competitive within their industries. Especially over the past two years, companies have experienced the urgency of digital transformation of business and sales processes. The uptake and implementation of digital tools and processes varies per region, industry and company as many factors come into play during development and innovation processes of an organization. This study investigates the influence factors of data maturity of SMEs and how it can be increased via a structured intervention.

As part of the INTERREG project Futures by Design, measurements on digital skills and data maturity have been collected from SMEs in 6 European regions and are analyzed to understand how data skills and data maturity differ between regions, industries and types of firms and how they can be increased.

More specifically, the data is analyzed in terms of regional differences in the SMEs' data skills and maturity, choice of projects for intervention and reported obstacles as well as outcomes, such as increased innovation, derived from their participation in the project. Factors that are controlled for include the size of the firm, the industry they operate in, the age of the owner and the location of the firm (either in terms of urbanity or distance from next city or university). This data is collected via surveys and agreements made between the SME and project partner working with them. The improvements are measured based on a pre- and post-intervention survey setup. All practical lessons learned by SMEs as well as project facilitators are used as supplementary qualitative data that informs recommendations on future projects that aim to increase digitization of companies. The diverse range of regional samples make this paper an interesting contribution to the field of digital innovation.

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

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Online-S03 Opportunities, risks and challenges of the digital transformation in tourism. Sustainability, Sharing hospitality and CoVid-19, August 22, 2022, 11:15 AM - 12:55 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 an Italian tourism destination. The second goal is to evaluate the relationship between the tourist sharing economy (or sharing hospitality) and the hospitality managed professionally in terms of direct / indirect competition. Furthermore, the analysis of the turnover associated with different types of accommodations that can be booked on portals will lead to the evaluation of the percentage of "core sharing" in the business of the portals and to an esteem of new tourist flows generated by these tools. The updating of these issues was framed in the situation experienced by the tourism sector following the outbreak of the CoVid-19 and the second year of pandemic. The work therefore also questions the - contrasting - effects of the CoVid-19 on sharing hospitality. An in-depth analysis was carried out on Airbnb which, although not the only active portal in the area analyzed, is generally considered to be the one capable of developing the greatest traffic for the tourist facilities present therein. The analysis shows that, typically, only 20% of the turnover recorded by Airbnb in the metropolitan area of Bologna can be associated with the "pure" sharing economy, while the remaining 80% has different degrees of professional management which, in many cases, undermine the peer-to-peer relationship of the transaction established between the parties involved. Of this 80% of turnover, while 44% is associated with facilities that can be considered in direct competition with hotels, 36% is made up of tourist accommodations which, to varying degrees, play an indirect competition with hotels, thus activating new tourist flows to the destination's area. While this abstract is being presented, the analysis is being updated and expanded using the most recent data. The work also investigates the various consequences of the spread of tourist sharing in urban and extra-urban areas, highlighting the risk of displacement of habitual inhabitants from the most touristic parts of the cities and the permanent destination of the latter at the service of mass tourism, resulting in adverse social reactions.

Economic impact of structural public policies for social inclusion in Spain

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Online-G23-O2 Segregation, Social and Spatial Inequalities, August 23, 2022, 2:00 PM - 3:40 PM

In Spain, poverty and social exclusion is an atypical phenomenon in a country with a high level of income, reflecting the inability to generate better conditions and forcing us to think about the need to restructure current public policies. Therefore, migrating towards a social transformation would lead to achieving a real change with equity and economic development, but for this is necessary to implement structural measures that articulate the economic policy decisions taken at different levels.

The current indicators of poverty risk, inequality, low participation of wages in added value, and the gender wage gap reflect the great challenges in terms of social inclusion that must be faced as a result of a series of structural problems, labor market deficiencies, insufficient tax collection, and redistributive capacity, which are expected to have been accentuated after the pandemic.

Spain's economic and social recovery is conditioned to the resolution of these problems, highlighting the need to strengthen fiscal measures aimed at reinforcing growth capacity, fundamentally through the implementation of reforms in the benefits system and in the tax system that guarantee social inclusion. Therefore, these structural adjustment measures could help to recover macroeconomic stability, improve income distribution and implement better development strategies.

The above motivates this research, which aims to evaluate counterfactual public policies to achieve an inclusive society that strengthens social transformation by addressing the structural problems of the Spanish economy. The objective will be achieved by means of a dynamic applied general equilibrium model to identify fiscal policies with redistributive capacity and that lead to effective action in terms of indicators of social inclusion and economic growth. This will be calibrated on the basis of a social accounting matrix constructed for Spain with households disaggregated by income, gender, skill, and age groups, which will make it possible to detail the effects of the proposed measures on Spanish households.

Evaluation of decision-making process: case study in education at the local level in Slovakia

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Pecs-G25 Institutions, Political and Decisional Processes, B017, August 26, 2022, 11:15 AM - 12:45 PM

As literature suggests the decision-making process about public affairs should consider certain key aspects. Policies generally consist of programs and projects designed to bring about the change needed to address the issues and problems identified. Case study presents detail knowledge on a selected decision-making process of a specific self-government in Slovakia. The selected public area is education, specifically the construction of primary schools due to insufficient capacity of existing premises. The aim of this case study is to analyse in depth the whole process of solving the problem of insufficient capacities in education that is to re-evaluate the primary school construction project, to describe how the process itself takes place and compare the reality in Slovakia with the ideal process presented in the evaluation manual. To achieve the goal, a qualitative research method in the form of semi-structured interviews with representatives of the selected local government was used. The information obtained was used to describe and analyse the implementation of the process and then compared with the recommended situation. The general conclusion of the analysis of individual steps in the decision-making process could be the need to assign competencies. Those steps in which municipality does not have sufficient knowledge of the specific task could be improved. The presented recommendations aim to help local governments and other political representatives to improve the quality of decision-making processes and thus indirectly increase the efficiency of the use of public resources and increase the efficiency of implemented measures in public administration. Redistributed competencies, expertise and available information - all these components are key to the ideal implementation of steps in the decision-making processes of public administration in the 21st century.

Do Digital Technologies Reinforce Structural Change, agglomeration, and Inequality in Agriculture?

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Pecs-G31-O2 Location of Economic Activity, B020, August 26, 2022, 11:15 AM - 12:45 PM

Agriculture, and specifically animal sector, is shifting toward larger farms and regional agglomerations in many countries. In France, the consequence of this development is that manure nutrients have started accumulating in those territories, leading to massive problems from nutrient loading (Ben Arfa et al. 2015). Regulations, such as the EU Water Framework Directive which is the strongest regulation, are not limiting enough to counteract this trend (Chatellier et al 2013). Interestingly, larger unit size and regional agglomeration provide economic returns to scale that may enable larger investments and technological innovation adoption that open opportunity in manure management and treatment (Gaigné and Ben Arfa 2011, Belinskij et al 2019).

Digital technologies are nowadays seen to be “the solution” to gain productivity and also to achieve the goal of reducing environmental problems.

Therefore, in order to fully understand the potential advantages for farmers and society from using digital technologies, we examine the question of whether or not digital technologies improve farm production and environmental performance by a better management of manure (manure production, storage and spreading) and whether or not this improvement benefits larger farms more than smaller ones? We also ask if digital technologies boost the agglomeration spillover by disseminating additional spatial knowledge spillover among farmers. To do this, we chose the dairy sector, which the sector the most concerned by those structural, spatial and technological changes in France, as an empirical application, and we used several estimations (Two-Stage Residual Inclusion (2SRI) and Coarsening Exact Matching (CEM)). Our findings suggest, first, that digital technologies increase milk production between around 14% and to 38%, depending on the technology used. Second, it appears that the agglomeration spillover is enhanced by non-dairy farmers’ or dairy farms’ uses of digital technologies in the county. Thus, farm users of digital technologies disseminate their knowledge and this affects all farmers, even those who do not use digital technologies which reinforce agglomeration.

Third, it seems that some technologies (like Internet connection and Decision Support Systems) may have a positive impact on manure production per cow or liter of milk. However, this efficiency was not observed when we consider the total quantity of manure produced on the farm or in the region. This is what we called in ecology “rebound effect” in which farmers are individually more efficient, given the positive effect of digital technologies on the environment; and consequently, are encouraged to increase their herd size or production.

Regional employment disparities in the aftermath of the COVID-19 outbreak: the role of digitalisation and working-from-home

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Online-G39-O3 Regional Consequences of the COVID-19 Pandemic, August 23, 2022, 2:00 PM - 3:40 PM

Employment responses to the Covid-19 crisis differed widely across German regional labour markets with differences in short-time-work (STW) rates of up to 20 percentage points at the beginning of the pandemic. About 6 months after the start of the crisis, German regional labour markets had converged to more similar STW rates with differences of up to 3 percentage points that have persisted since then. Local endowment in information technologies (IT) reduced STW usage in the short to medium run (up to 8 months). Working-from-home potential also lowered STW rates but only in the first months of the pandemic when a strict lockdown was in place. Regional labour markets differences in unemployment rates were at most 2 percentage points and did not depend on IT capital or working-from-home potential. The flexible STW schemes in place in Germany have been successful in cushioning the negative effect of the pandemic on local employment responses, which hit regions with low IT capital harder.

Smart cities and the promises of a digitalized (Post-COVID) world: infrastructure, networks and urban dynamics

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Pecs-S19-S1 Networks, Interaction, and Inequalities in Cities, B311, August 25, 2022, 9:15 AM - 10:45 AM

Based on the Internet of Things (IoT), Smart Cities seem to become inevitable, due to technology evolution, progressive and permanent integration of connected objects within urban networks and their ubiquity in various fields, assuring interconnections between virtual and physical objects, places and environments, allowing instant communications. Cities are indeed continuously integrating new technologies into urban space, considered both as instruments and catalysts of their development. Symbol of a digitalized, sustainable and automated future, this city model, promises potential improvements in services by monitoring numerous urban flows. The city's "Smart" name brings together various topics relating to urban space, particularly in terms of representation, infrastructure, social and spatial practices, mobility, data ...

A critical analysis of Smart Cities from a mobility angle seems to be herein an essential approach to further examine thru specific case studies its numerous influences on urban spaces. Such contribution aims to suggest a conceptual approach of this booming city model and an empirical study hoping to analyze the distinction of what is really smart in a city oriented towards information and data, particularly in a pandemic context.

Disparities in integration of digital and infrastructural networks within cities are discussed, while questioning the possible evolution of its urban dynamics and technological diversification at various scales. This research aims to see how "smartness" manifests itself thru a study of selected French cities and/or regions, particularly in mobility practices and their influences on behaviors often in an unevenly digitalized environment. The study reported herein aims to develop a city approach considering new urban dynamics as mobility restrictions and new ways of normality set in a COVID19 pandemic context.

The profusion of real time consumer created data allow personalizing services, via algorithms that analyze needs, wishes and habits. Its main goal is to reinforce the event-based character of a city that seems built on integrating the latest technology and infrastructure innovations, including urban mobility. Transition from infrastructure oriented to info-structure based mobility practices, disparities and unequal access to mobility services resulting from "digital divide" in urban development actions aligned with a strategic thinking on city level will be discussed.

Behaviors and work have also undergone radical changes that are still experienced today. This approach aims to highlight new urban dynamics challenges in a Covid-19 pandemic context marked by mobility restriction and their impacts on work and behavior equally highlights new possibilities of ways of life in French cities.

Inclusive path development: The role of agency, policy, and institutional change

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Online-G33-O1 Innovation and Entrepreneurship, August 23, 2022, 11:15 AM - 1:15 PM

The path development literature has recently sharpened its focus on the role of agency and institutions. However, this focus has tended to ignore differences between agentic and institutional processes that lead to different developments within a path. In particular, the question of inclusiveness has been largely ignored in the path development literature so far. The paper proposes a conceptual framework that combines concepts of path development, inclusive innovation, change and maintenance agency, and institutional change, and applies the framework to the case of Israel's Arab population in Haifa and Nazareth. For decades, Israel's path of high-technology entrepreneurship has been driven mainly the country's secular Jewish majority. During recent years and supported by targeted innovation policies, a nascent scene of high-tech entrepreneurship has developed in the largely Arab city of Nazareth and spilled over to the ethnically mixed city of Haifa. Nevertheless, Arab entrepreneurship is not separate from the dominant path in the Jewish majority but is partly promoted by the same agents. The paper examines the interplay of agentic and institutional processes in driving this integration of a minority into a path and thus contributes to better understanding the causes and consequences of inclusive path development which can inform policy agendas also in European countries.

Firm geography analyses in Central and Southeastern Europe

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Pecs-G01-O3 Regional and Urban Development, B016, August 24, 2022, 4:00 PM - 5:30 PM

World cities are the main nodes of the global economy (Taylor, 2004), or alternatively, (Vitali et al. 2011) the world economy is controlled by the most important companies, headquartered in world cities. While the position of the leading world cities appears stable (GaWC, 2020), the shifting foci of the world economy and the emerging crises have triggered a continuous expansion and geographical restructuring of world cities. Since the 1990s, new actors have been admitted into the rank of world cities (Sassen, 2001): a case in point were various cities in post-socialist countries, whose global economic integration was driven mainly by foreign direct investment (Lux-Horváth, 2017; Gorzelak, 2019). Aside from the capital cities, most of the regional centres in Central and Southeastern Europe – which are medium-sized or small cities at a European scale – are becoming gradually integrated into this global system (Rácz, 2019). From the perspective of space shaping processes, capital cities and metropolitan areas have played a dominant role in Central East Europe, gaining centre-stage in national and EU development policies. Thus, transformation processes have primarily affected metropolitan functions, which highlights the importance of studying this category of cities (Hajdú et al. 2017). The motivation of the research is to provide a review the post-socialist transformation and economic-geographical processes; its aim is to examine the territorial structure (at an aggregate, NUTS3 territorial level), economic potential and ownership structure of the most important firms in 14 Central East European and Balkan countries. The methodology of the study is based on an inventory drawing on data from Orbis Europe. Another objective of the research is to detect the emerging networks and economic cooperation between the countries studied, to identify factors as a basis for their comparison, and map the diversification of their ownership structure at the subregional and regional level.

Highly qualified social strata in urban areas of Hungarian regional centres from 1980 to 2011

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Pecs-G13-O2 Methods in Regional Science or Urban Analysis, B019, August 25, 2022, 9:15 AM - 10:45 AM

This research investigates the spatial concentration of highly qualified strata using statistical indicators and methods. Representation of highly qualified social strata means the spatial concentration of groups with higher social status (i.e. education level, foreign language skills, professional skills, and employment level) in the urban regions being studied; it does not coincide with mainstream definitions of social capital (based on interaction and networks between social groups). According to one of the most basic assumptions of the complex city concept, settlements with urban status are much more complex in terms of their economic, social, and technical structure and their network relations and interactions than settlements that have not been declared as cities. Simultaneously, the difference in social composition between cities and other settlements cannot be disputed because the concentration of economic resources and activities and the potential of employment and the fact that higher income attracts skilled workers to the cities and their catchment areas; all of these resulting in a higher proportion of highly qualified social strata. To meet the increasing needs of the global society and results of the transition to a market economy and globalization processes, a wider range of services are emerging, so the workforce is also undergoing significant differentiation, causing changes in the characteristics and composition of society. This research attempts to study these processes exploring the dynamic trends of change in the spatial distribution of the examined groups. The author is looking for answers to questions such as how this aspect of society could be measured? Is there a difference in the structure of the society of urban centres and their catchment areas regarding highly qualified groups? Has there been a change in the spatial-social characteristics of urban areas over the decades?

Do young people impact innovation and productivity of marginal and advanced areas? An empirical study on Italian Nuts 3 regions

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Online-G12-O2 Regional Competitiveness, Innovation and Productivity, August 22, 2022, 2:00 PM - 3:35 PM

see extendend abstract

Revisiting the effect of immigration on destination labour market: Evidence from a natural experiment

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Online-G03-O1 Demographic Change, Population, Migration and Mobility Behaviour, August 22, 2022, 9:15 AM - 10:55 AM

The Syrian Civil War started in 2011 after the Syrian government sought to suppress pro-democracy protests encouraged by the Arab Spring. The ensuing military civil conflict resulted in large-scale displacement of population within Syria as well as large flows of refugees across Syrian borders. In the course of the conflict, some 6.6 million Syrian moved to other countries (UNHCR, 2020). The main foreign recipient country of this refugee inflow has been Turkey hosting at present some 3.6 million Syrian refugees, which constitutes 4.3% of Turkey's population, in addition to 370 thousand refugees from Afghanistan, Iraq, and other countries (European Commission, 2020; UNHCR, 2020). Turkey has applied an "open-door" policy to these refugees. This research will build on and extend the existing literature on the labour market impact of refugee inflows in Turkey.

The Syrian refugee migration offers a unique opportunity to study the labor-market effects of immigration: the Syrian crises lead to a one-off influx of refugees to Turkey, which meets all the criteria of a quasi-experimental setting: it was sudden, unexpected, unrelated to economic conditions in Turkey, and largely concentrated geographically.

The analysis will therefore estimate a difference-in-difference model of the impact of immigration on the local labor-market outcomes: employment, unemployment, wages, participation, and the like. This research will be carried out with the micro level labour force survey data set (2005-2020) from TURKSTAT.

Since most refugees in Turkey reside outside of refugee camps, their location choices may be motivated by economic conditions as well as by other considerations. The consequence of this is endogeneity bias in the relationship between refugee concentrations and labor-market outcomes. Dealing with endogeneity requires suitable instruments. Besides the traditional approach based on the so-called shift-share instrument, this analysis will also introduce a novel alternative instrumental variable: electoral outcomes at the local level. Specifically, Turkish political parties differ in their attitudes towards refugees and non-Turks in general. Therefore, the welcome that the refugees receive in different districts or municipalities is likely to reflect the political orientation of the local government.

The previous literature find that the refugee influx to Turkey affected native Turkish males and females differently. The labour force survey data identify not only individuals but also household. As an additional contribution, this research will therefore utilize this feature of the data to assess also the impact of immigration on the division of labor within the household.

Competitive insertion of small producers of specialty coffees from Tolima in international markets as a mechanism for social inclusion.

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Online-G12-O1 Regional Competitiveness, Innovation and Productivity, August 22, 2022, 9:15 AM - 10:55 AM

The value chain of specialty coffees is framed within the seven productive bets that the department of Tolima has for its export offer to countries such as the United States, Belgium, Canada, Germany, and Japan. This research was oriented towards determining the incidence of productive insertion in the global value chain of specialty coffees on the social inclusion of small agricultural producers in the department of Tolima. The population corresponded to 146 specialty coffee producing associations located in 22 municipalities of the department of Tolima, from which a stratified sample of 59 was determined by optimal allocation. It corresponds to a quantitative study and was developed through descriptive statistics, a variable association or correlational analysis and statistical modeling to accept or reject the hypothesis.

It was established that the specialty coffee sector in Tolima faces limitations in terms of physical transportation infrastructure, education, knowledge of a second language, access to credit and social security. A condition for their competitiveness is the insertion in niches that imply a higher price and reduce the number of intermediaries. It is concluded that entering international markets by itself does not guarantee an improvement in the living conditions of small agricultural producers, but rather that integration must be based on a governance structure that promotes trusting relationships with global buyers and promote the social upgrading of producers in long-term cooperation schemes.

Climate change and land values: the case of the Swiss Ski resorts

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Pecs-G07-O2 Global Warming, Health and Environmental Issues, B316, August 25, 2022, 4:00 PM - 5:30 PM

Note: results not available at the time of abstract submission.

The way in which climate change impacts land and property values has drawn considerable attention of economists over the recent years as the impacts of climate change are starting to be felt. Agricultural land and residential property at risk of flooding have received most attention. Estimates vary widely depending on the method used and, in the case of flooding risk, significant discounts are found to exist only following a recent flooding event and/or after inclusion of variables related to the awareness or attitude of buyers towards climate change.

This paper looks at the case of reduced snowfall and the skiing industry in the Swiss Alps, an industry and a region that is uniquely dependent on the right climatic conditions for its economic survival. I hypothesize that skiers and house-buyers will switch from lower-lying, less snow-secure resorts to high-altitude resorts with more reliable snowfall. I further expect buyers of residential property to react earlier to the effect of climate change than buyers of ski passes as the former are assumed to use a far longer investment horizon.

I use a panel of 24 Swiss ski resorts from 1985 to the present day. I estimate a number of hedonic models that use climatic variables (snow cover and temperature) as the independent variables of interest and prices for ski passes (the rent paid on the ski resort itself) and real estate values of nearby properties as dependent variables.

This research contributes to the existing literature in a number of ways. Firstly, it is the first paper examining climate (snowfall) and house prices in the European Alps. Secondly, this paper measures the effect of actual climate change (previous research usually relied on measuring the effect of some climate-related variable on land/house prices and then modelling the effect of a change in the variable as a result of future climate change). Thirdly, this paper looks at the forward-lookingness of the market; at what point in time does the market start to take climate change into account (if at all).

KIBS and Innovation Life Cycle: evidence from Italian regions

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Pecs-G37 Technological Change and Diversification, B316, August 24, 2022, 2:00 PM - 3:30 PM

Prior empirical studies concur that Knowledge Intensive Business Services (KIBS) contribute to local economic development but, also, that the beneficial effect exhibits remarkable heterogeneity depending on specific characteristics of the regions. To date, few studies have addressed whether and to what extent the above empirical regularity depends also on specific characteristics of the innovation process. To address this gap the present paper explores the hypothesis that KIBS have differential impacts on regional innovation capacity depending on the stage of technology life-cycle, and of the attending know-how. Our empirical analysis focuses on Italian regions (NUTS 2) over the period 2000-2017. Using patent data to identify the life-cycle stages (from emergence to maturity) and employment data to compute the location quotients of regional KIBS intensity, we carry out fixed and random effects regressions while controlling for a battery of indicators such as share of manufacturing, human capital, R&D investments, and other structural characteristics. Preliminary results indicate a stronger correlation between KIBS endowment and early stages of the innovation life cycle, especially for northern regions in prior to the 2008 great recession.

The Spatial Aspects of the Restructuring of the Hungarian Economy in the Past Two Decades

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Pecs-G12 Regional Competitiveness, Innovation and Productivity, B018, August 24, 2022, 11:15 AM - 12:45 PM

In the first decade following the regime change of 1989-90, our country faced numerous economic and political challenges. Apart from the dominance of state privatisation, the '90s can definitely be described as the decade of transition. The performance of the Hungarian economy reached the pre-transition level by the turn of the millennium, besides, during this period the labour market and the structure of economic sectors changed substantially. On account of this, we considered it worthwhile to examine how the economic structure of our country developed after the decade of transition and what territorial specificities it is characterised by. Moreover, in investigating the productivity of each sector, the international literature draws the conclusion – which is sometimes easier and sometimes more difficult to explain – that among the developed OECD countries, productivity has not increased in the past decades.

In our work, we study the spatial transformation of the Hungarian economic sectors from 2000 to 2019. We conduct it by dividing the examination of the change of productivity into an “inter-sectoral” and an “intra-sectoral” element in our paper. We regard the analysis a relevant research question in general as well, but a special curiosity is offered by the global financial crisis of 2008 occurring at “half time” of the studied period, which we evidently consider as a structural discontinuity. The framework of the analysis is provided by the national counties (NUTS3 regions), we conduct our analysis in this context. It can be established that the primary factor of the productivity growth of the studied NUTS3 regions is the increase of performance within the sectors, i.e., it can be attributed to their development rather than to the shift in the economic structure of the counties. In several cases, the structural change takes not only a smaller value but a negative one. It indicates that the economic structure of the counties has shifted from the higher-productivity sectors towards the ones with lower productivity.

The anatomy of a population-scale social network

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Pecs-S19-S2 Networks, Interaction, and Inequalities in Cities, B311, August 25, 2022, 2:00 PM - 3:30 PM

See extended abstract in PDF.

Measuring regional smile curves in the European global value chains

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Pecs-G36 Trade and Global Value Chains, B314, August 25, 2022, 4:00 PM - 5:30 PM

The increasing role of global value chains (GVCs) and their impact in the international trade have significantly changed the nature and structure of global production processes. The concept of “smile curves” has gained importance in recent years and has been widely analyzed in case studies of relevant firms. The literature provides evidence of a U-shaped relationship between gains in value-added and the position in GVCs, showing that not only engagement in GVCs but also the competitive advantage at different stages of GVCs condition economic growth. This relationship has been primarily explored for some specific sectors or at the country level (for instance, automotive sector in China). The results based on cross-country analysis have generated results in support of this relationship. However, in this framework, relatively little attention has been directed so far to the potential impacts at the regional (sub-national) dimension and, in consequence, to the role that regional spillovers that might influence, positively or negatively the economic gains from the globalization processes. This paper aims to measure the “smile curves” at the regional and sectoral level in Europe, to analyze the common and differential determinants and to explore the role of structural, environmental and economic factors underlying the behaviors observed. Empirically, we focus on a set of NUTS2 European regions from the EUREGIO database for the period 2000 to 2010. Our empirical results point to a high heterogeneity among the European regions while, at the time, several geographical and sectoral clusters can be identified. The results confirm the impacts of GVCs on the growing gap between countries and regions.

The educational positions of Hungarian minorities in the neighbouring countries of Hungary in a territorial context

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Online-S29-S1 National Regions in regional development – National, ethnic, cultural, religious, and linguistic renaissance of European regions and identities, August 23, 2022, 2:00 PM - 3:40 PM

In the post-socialist states of East-Central Europe, the decades after the collapse of the socialist systems were accompanied not only by a general improvement in living conditions, but also by increasing social and territorial inequalities. Rising inequalities tend to affect such vulnerable social groups like ethnic minorities even stronger. In the countries neighbouring Hungary, there are approximately 2.1 million residents who are Hungarian by nationality or mother tongue. In their case, the possibility of an unequal (re)distribution of wealth also arises. Although, it can be assumed that significant territorial differences can be also observed in the social positions of the Hungarian minorities. Therefore, it is especially worth examining the socio-economic situation of Hungarian minorities, their relative positions in majority societies, as well as its territorial patterns. According to many theoretical concepts and empirical studies, one of the basic indicators of social position is educational attainment. Therefore, the social positions of the Hungarian minorities can be more or less presented by analysing the educational positions of these communities. Despite the importance of the topic, there is limited information about the educational positions of Hungarian minorities and their changes during the millennial decades. Due to this lack of information, this research aimed to examine the topic, and answer the question of how the relative educational positions of the Hungarian minorities evolved during the millennial decades, based on the proportion of graduates. The results of the research confirm the hypothesis that the educational positions of the Hungarian minorities were fundamentally worse than that of non-Hungarians throughout the whole examined period. Although the proportion of graduates in the Hungarian population has increased in all the examined regions, the relative position of Hungarians has weakened in almost everywhere.

Structural change and commuting flows: evidence from Italy

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Online-S24 Structural Change and Resilience in Local Labour Markets, August 23, 2022, 2:00 PM - 3:40 PM

See extended abstract

Resilience and vulnerability of regional labour markets: Principal component analysis of labour market efficiency in the EU

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Pecs-G18-O1 Regional and Urban Labour Markets and Entrepreneurship, B020, August 24, 2022, 4:00 PM - 5:30 PM

The present study proposes and tests an operational framework to examine the significance of resilience and the related concept of vulnerability, for labour market efficiency, in the context of regional competitiveness.

Three data analysis methods were used: principal component analysis, regression analysis, and multivariate classification using CART decision trees. The individual methods complemented each other for the purposes of comprehensive research on resilience and vulnerability of labour markets in the EU. Principal component analyses and regression modelling were used to test the significance of resilience and the related concept of vulnerability for labour market efficiency indicators in regions of the EU. For the interpretation of the principal component analyses results and regression analyses results, we deployed the CART decision tree algorithm to identify unknown data patterns of labour markets in regions of the EU based on resilience and vulnerability principal components and original LME indicators.

The proposed operational framework for understanding the resilience and vulnerability of regional labour markets, based on a principal components analysis, will be helpful in developing policy measures to improve both regional competitiveness and the resilience of regional labour markets. The proposed operational framework offers solid and new theoretical, methodological and empirical insights for understanding the real contribution of resilience and vulnerability to regional labour markets. A substantial advantage of the operational framework proposed in the present paper is its ability to become immediately applicable to policy and decision making. Our analysis employed readily accessible official Eurostat data, and standard indicators were involved in the Regional Competitiveness Index for 2019. Due to a consistency and time continuity in the Regional Competitiveness Index classification, policy-makers are able to compare the performance of their regions and regional labour markets and to appropriately design suitable measures and policies. From this point of view, the present paper has produced numerous relevant analytical elements and results for politicians and decision-making bodies appropriate for direct use and application at various levels.

The Regional pathways of China and USA towards the 2030 Agenda

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Online-G01-O4 Regional and Urban Development, August 22, 2022, 4:00 PM - 6:00 PM

The Agenda 2030 is the tool adopted to tackle the social and economic challenges faced by the international community. The agenda was launched in 2015, resuming and updating the experience of the Millennium Development Goals which since 2000 provide a common ground to evaluate world development, relating this term not only to economic growth but to multidimensional achievements. Indeed, the Agenda 2030 lists 17 Sustainable Development Goals (SDGs). The goals are meant to have a universal meaning, so their importance is not biased towards the needs of the developed (nor developing) countries or to subnational regions.

This paper adopts the perspective of SDGs to compare the development of the USA and China at subnational level between 2015 and 2019. The comparison between these two countries is receiving increasing attention, leading economists to interrogate about the timing of China's economy overtake of the US's one and political scientists to compare their capacity to appear a reference model for global development. Indeed, a quantitative approach based on the SDGs paradigm maintain the objectivity and comparability of monetary analyses but broadening the focus on an aspect, sustainable development, which is crucial for the future of humanity.

The achievements of these two countries are disaggregated at subnational level to obtain the Integrated Sustainable Development (ISD) Index which provides a measure about the SDGs achievements attained at the local level, which is more representative of the concept of Human Development. Moreover, moving the focus at the subnational level allows to catch the spatial inequalities within these countries and to test if there is convergence. Finally, from this perspective it is possible to observe the trade-offs and synergies across the Goals, exploring thus how the space of the Capabilities of individuals and communities.

When the ISD scores of US' states and China's provinces are combined, we observe how the two groups overlap. The stronger growth recorded in China, moreover, mirrors in a jump of the provinces that occupied the lowest ranks, while the top positions are maintained by US states. In other words, Chinese provinces are concentrating in the middle of the mixed ranking. Focusing on the top performers, some of the top performing (and famous) units in both countries remained almost stuck: this is the case of Beijing and Shanghai, and New York and California. Both countries experienced both σ - and β -convergence, although this process has been much stronger in China.

Spatial presentation of Hungarian gastronomic festivals in the light of international events, map of the world's gastronomic festivals

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Online-S08 Regional Disparities in the post-COVID Tourism Industry of East-Central Europe, August 23, 2022,
11:15 AM - 1:15 PM

The aim of this study is to comprehensively present the gastronomic festivals of Europe, Asia, America and Hungary, their spatial distribution, location within the continent, region and country. It seeks to establish a link between gastronomic festivals and the economic development and competitiveness of a given country, and to justify the link between cultural diversity and gastronomic festivals. It aims to provide an overview of the characteristics of the festival in each geographical region, to explore the similarities of the entire market, and to present local or continental characteristics. It aims to explain the number of festivals worldwide, the attitudes and motivations of visitors. In an international context, it is also looking for an example of the so-called festival evolution, their impact on the national or regional food industry. The aim is also to show the impact of COVID-19 on gastronomy and gastro-festivals which is related to tourism as a special tourism product.

Mapping Entrepreneurship in Morocco: A Human Capital Approach

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Pecs-G33 Innovation and Entrepreneurship, B018, August 26, 2022, 11:15 AM - 12:45 PM

Is there a relationship between labor market characteristics and entrepreneurship in the Moroccan ecosystem? To address this question, we explore two data sets that provide regional-level information for the country. First, we use census microdata to develop a people-based indicator of potential for innovation for Moroccan provinces and regions. We then collect regional data about enterprises creation and survival from the “Ministère de l’Inclusion Économique, de la Petite Entreprise, de l’Emploi et des Compétences”. We test the hypothesis whether the creation of new enterprises in large urban areas is more challenging than in other regions due to labor market rigidity. We discuss some policies that may enhance entrepreneurship behavior in Morocco, such as the reduction in the number and time of the officially required procedures for enterprises creation, the reform in the tax system for newly created enterprises, the promotion of R&D, and the simplification of the access to loans and financial services for new entrepreneurs.

Is there regional convergence between Morocco and its European partner countries in terms of multidimensional social well-being?

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Online-G03-O3 Demographic Change, Population, Migration and Mobility Behaviour, August 22, 2022, 9:15 AM - 10:55 AM

In order to raise the objective perception that the Moroccan population can make towards Europe, Morocco's main partner, we have constructed a Synthetic Index of Social Wellbeing (SISWB) aggregating, by the minmax method, six indicators covering the dimensions of health, living conditions and gender. SISWB covers the 93 regions of Morocco and 34 European countries between 2000 and 2019.

We have noted center-periphery disparities, in particular between the Nordic regions (In particular the Norwegian and Finnish capital regions Helsinki-Uusimaa in addition to the Swedish region Central Norrland) as well as the central German-speaking regions (In particular the Austrian Bundesland of the capital Vienna, the German Länder of the capital Berlin and Hamburg and the Swiss region of Northwestern Switzerland made up of the three German-speaking cantons of Basel-Stadt, Basel-Landschaft and Aargau) and the rest of Europe. Moroccan regions have the lowest SISWB scores in the same way as some of the countries of South-Eastern Europe, notably Turkey and Greece, and those of the countries concerned by the last enlargement of the EU in 2004, in particular, the Slovak Republic, Hungary and Slovenia.

Thus, we found that the distributions of social wellbeing are subject to significant spatial heterogeneity with a Moran's index of 0.84. Also, we checked the absolute β -convergence of the regions by a spatially autocorrelated error model (SEM). Thus, the effect of spatial diffusion of the domains of social well-being is linked to exogenous variables not taken into account in our specification. The speed of convergence is +0.9% per year, i.e. a convergence period of 83 years for the regions to reduce half of the gap which separates them from their stationary states. Thus, the weaker movement of the less advanced regions on the path of catching up with the more advanced regions partly explains the more exacerbated tensions at this level in the peripheral regions. This suggests more particular attention from non-advanced countries in terms of national public actions in favor of social cohesion at the territorial level.

The conceptual framework of social well-being serves as a basis for diagnosis, programming and prioritization of local development projects in Morocco. A possible extension of this work in the event of the publication of finer harmonized data would be to analyze local disparities in social well-being between districts, within vulnerable territories (oasis areas, mountainous areas, rural areas, landlocked areas, etc.) and between cities of different sizes.

Causal Model and Causal Inference for Entrepreneurial Ecosystem Success: A Bayesian Network Approach applied to Iranian EEs

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Pecs-S28 Aligning entrepreneurship, sustainability and regional policy, B310, August 24, 2022, 11:15 AM - 12:45 PM

'see extended abstract'

The closer partners the better ? The role of geographical proximity in the circular economy

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Pecs-S53 How to link multiple spatial scales in circularity transitions?, B323/2, August 26, 2022, 9:15 AM - 10:45 AM

The idea that geographical proximity is an important determinant in the production processes is quite common and well accepted in the linear economy, but has still to be tested seriously in the circular context. A few empirical studies emphasize the importance of co-location of firms to manage the adoption of Circular Economy (CE), to ensure the adoption of circular processes, and to facilitate the exchange of material and immaterial resource flows. But there is no identified work based on big data bases and econometric models which provides evidence on the fact that geographical proximity between firms is an explanatory factor for their level of engagement in the CE. Our paper contributes to this literature by investigating the extent to which engagement in firms in CE depends on geographical proximity to stakeholders, and whether the structure of the ecosystem (in terms of density of firms and actors with which a firm works) influences this engagement. Our study is based on the analysis of data from an original survey of 1 000 firms in the chemistry sector. We run a probit model to examine the impact of the geographical and collaboration variables in the probability of the firm to implement any kind of CE activity. In the paper we run a literature review on the collaborations and the role of proximities to develop CE approaches. Then, we expose our methodology and shed light on main results of our estimations. We finally discuss our results and the implications for policies and businesses.

Impact of Immobility and Mobility Activities on the Spread of Covid-19: Evidence from European Countries

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Pecs-S59-S4 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 25, 2022, 9:15 AM - 10:45 AM

To limit the spread of Covid-19, most countries in the world have put in place measures which restrict mobility. The co-presence of several people in the same place of work, shopping, leisure, or transport is considered a favourable vector for the transmission of the virus. However, this hypothesis remains to be verified in the light of the daily data available since the first wave of contamination. Does immobility reduce the spread of Covid-19 pandemics? Does mobility contribute to the increase in the number of infections? This paper applies several Pooled Mean Group–Autoregressive Distributed Lag (PMG-ARDL) models to investigate the impact of immobility and daily mobility activities on the spread of the Covid-19 pandemic in the European countries using daily data for the period 12 March 2020 to 31 August 2021. The results of the PMG-ARDL models show that immobility and higher temperatures play a significant role in reducing the Covid-19 pandemic. The increase in mobility activities (grocery, retail, use of transit) is also positively associated with the number of new Covid-19 cases. The Granger test of causality shows that the relationship between mobility and Covid-19 goes in both directions, with the exception of grocery shopping and commuting mobility. The former favours the spread of Covid-19, while the latter has no causal relationship with Covid-19.

On the road to recovery from COVID: transit ridership decline and recovery in 10 European cities

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Pecs-S59-S7 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 26, 2022, 9:15 AM - 10:45 AM

see extended abstract

Social innovation for the ecological transition: the EDU project of the Italian Youth Association for UNESCO in Italy and Calabria

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Pecs-S45 Ecological Transition: Planning Strategy for Scenarios and Emblematic Cases, B323/2, August 24, 2022, 2:00 PM - 3:30 PM

This paper illustrates the impact on the student community of the EDU project of the Italian Youth Association for UNESCO, in terms of social innovation and in some cases with participatory actions research, in the context of the policies for the Italian ecological transition. The results obtained from 2019 will be illustrated, the year in which AIGU started an impact monitoring through surveys proposed to more than 2000 students and teachers involved (in 20 Italian regions). The EDU project, born in 2017, had as main topics the “2030 Agenda” from 2019 and the “Faro convention” from 2022. From the beginning One of the aim of EDU was give knowledge and skills related to the ecological transition and the link between: 1) heritage (cultural, audio-visual, architectural, landscaped and natural); 2) well-being. Among the various regional projects, the EDU project of the Calabria Region entitled "Photovoice & Landscape" will be explored in this paper. In the calabrian case, EDU brought the students involved and the local decision makers to dialogue using a PAR methodology called “photovoice”. It is noted that the EDU project held in Calabria involved the student community which identifies itself as powerless with respect to territorial policies. Moreover, the calabrian case is in an inner area in which SNAI had foreseen the activation of civic monitoring on Monithon but without success.

The PAR methodology used in Calabria allowed students to develop proposals and questions to suggest policy guidelines to local decision makers. In addition, the skills to be able to monitor the spending of European funds through open data found on “Open Coesione” were transferred to the students, including skills to use an online platform for a simple civic monitoring (“Monithon”). Finally, considerations will be placed on the usefulness of PAR's visual methodologies, such as the declinations of the photovoice, to initiate social innovation processes useful for the creation of energy communities as well as pro-actives communities in the ecological transition.

Digital epidemiology framework for the surveillance of Subjective Well-being in open-source data: Information-Seeking during the COVID-19 outbreak in 10 countries

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Online-S05 Culture and Narratives through Time and Space, August 22, 2022, 11:15 AM - 12:55 PM

In the current global environment, digital technologies mediate our relationships and experiences. People rely on digital services and devices to consume, communicate, be informed, and be entertained. Finely grained insights from the interplay between technologies and people's psychological, social, economic, political, and cultural digital lives are essential to understanding contemporary society. When equipped with cross-disciplinary knowledge, at the intersection of Social & Behavioural Sciences and Artificial Intelligence, researchers and practitioners will be better able to map connections between segments of our digital lives. There is an urgent need to translate the computational methods of analysis from data science and epidemiology to fields in the social sciences. The unfolding of the COVID-19 outbreak was an unprecedented and unanticipated opportunity to understand how sudden global shocks modulate people's online searches when seeking information about their emotional well-being.

The present paper explores multiple validations of a novel general Machine Learning framework designed to investigate how highly granular can augment social and media listening and population-scale well-being surveys.

I will first present how we uncovered and validated strong linkages between time-series in the digital surveillance of search engines during the pandemic and 1- a selection of social media feeds in the UK, Spain and the USA, and 2- large scale well-being surveys in the United Kingdom and Wales. Then I will show how high-frequency search-listening web analytics (sampled every 8-minutes) provide robust, finely grained, and replicable evidence on variation in aggregated mental health measures at the population level. Finally, I will review the evidence we gathered in international search-listening research that analysed the relationship between online search behaviour and an individual's immediate need for knowledge in Romania, France, Turkey, Italy, Germany, and the United Kingdom.

Results are discussed against the backdrop of creating transparent surveillance systems of open-source data, an essential component of a healthy, democratic digital society.

Redevelopment of the Historical Public Slaughterhouse in Budapest – experiences from residential brownfield redevelopment by a private investor

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Pecs-G01-O2 Regional and Urban Development, B016, August 24, 2022, 2:00 PM - 3:30 PM

Brownfield sites are often considered as the legacy of a century of industrialization. Their rehabilitation is favourable from the perspective of sustainable regional and urban development. Depending on their size, they would represent opportunities from small scale to large-scale urban improvements contributing to the reduction of expansion pressure into green fields, which could contribute to achieving the EU Goal: No net land take by 2050. The brownfield redevelopment phenomenon is a global research theme discussed from regional/ national perspective (for e.g. Visegrad Countries, developing countries, China) to local case studies. On the European level, brownfield redevelopment has become a major topic in urban development context, however it is more than just a phenomenon with emerging importance, moreover an ongoing challenge for the governments, regional authorities, development agencies and institutions, communities, etc. The EU accepts a broad-spectrum definition which is based on the concept of previously developed land (originated from the UK terminology). The redevelopment of brownfields is widely discussed using CABERNET's ABC model or classification (extended later with category D) for the assessment of economic potential thus helping authorities to prioritize the investment projects. Our research aims to highlight the case of the locally protected former Public Slaughterhouse of Budapest (Közvágóhíd) which was bought by a Turkish entrepreneur in order to build a residential complex in the place of the slaughterhouse, and although the preliminary plans showed that they want to keep some of the elements of the monument, almost everything in the area has been demolished. Due to the fact that government classified the project as an investment of national importance in 2018, they did not have to consider any restrictions during the demolition. From the perspective of the urban planning in Budapest it is accepted that the former Public Slaughterhouse would become a new sub centre. A survey has been carried out in October 2020 resulting 204 valid answers from dominantly local residents live in the territory and other stakeholders who have relation to the area about their perceptions of the redevelopment. In the course of the research we highlight the results from liveability perspective and discuss what factors could contribute to strengthen the sub centre role of the area.

The impact of COVID-19 on tourism sector in Italy: a regional analysis

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Online-G19 Tourism and Overtourism Issues, August 22, 2022, 2:00 PM - 3:35 PM

The recent pandemic crisis caused by the diffusion of COVID-19 hit all economic sectors and in particular tourism. On one hand, there is large consensus about the fact that this is among the hardest hit sectors; on the other hand, the resilience of international tourism and the capacity of tourism to rebound from crisis has also recognized. The aim of this paper is twofold. First, to analyze the impact of COVID-19 on tourism flows in Italy, by looking in particular at regional monthly data on both national and international tourism demand. Second, to understand if and to what extent some destinations took advantage of this crisis. Preliminary results suggest that the domestic component of the demand first positively reacted to the shock during the month of August. Moreover, tourists' behaviors start to change, and future scenarios could see more flows in mountain destinations, art and cultural villages in inner areas, rather than in sea-side destinations and big cities.

Measuring structural resilience of economies: Globalization or deglobalization?

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Pecs-S15-S2 Supply Chains, Production Networks and Regions, B310, August 24, 2022, 4:00 PM - 5:30 PM

The debate about the role and effects of international trade has begun to intensify recently. On the one hand, we know that specialization and participation in the international division of labor results in more efficient production structures that bring welfare gains. On the other hand, the resulting strong interconnectedness of countries allows for rapid spread of shocks and a more volatile and vulnerable system. Overall, neither full self-sufficiency nor an extremely globalized production structure seems to be sustainable nowadays. However, the responsiveness of countries to shocks might depend on the resilience of the countries. A system's (economy's) level of resilience derives from two structural properties: redundancy and efficiency. An efficient system has only a few mutual relationships, which indicates strong specialized trade flows and corresponds to highly globalized production processes of a country. In contrast, a redundant system has many more similarly weak connections signaling a less specialized and embedded position of elements within the system, corresponding to a lower level of involvement within the international division of labor. While it is clear that extreme efficiency and extreme redundancy are not optimal arrangements, finding the optimal combination in between is challenging. Putting this framework of system resilience into international trade and production networks, may indicate the optimal trade-off between self-sufficiency (more redundant systems) and specialization within international trade (more efficient systems). In this paper we use methods from Ecological Network Analysis (ENA) to capture the countries' structural resilience building on sector level input-output data. The cross-country analysis shows that countries are heterogeneous in terms of resilience, and the structure of the countries has become more effective and globalized between 2000 and 2014. Using econometric tools, we find a strong and significant association between redundancy/efficiency and the level of international trade, confirming the use of the complex system perspective in international trade. Finally, we also examine the countries' level of self-organization and the window of vitality in terms of resilience.

Housing Prices, Airport Noise and an Unforeseeable Event of Silence – Airport Noise Decreases During the Covid Crisis

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Online-G16 Real Estate and Housing Markets Issues, August 22, 2022, 2:00 PM - 3:35 PM

Starting in March 2020, the spread of Covid-19 caused fundamental societal changes and challenges. Besides a variety of negative effects of the pandemic, we focus on a specific side effect with partially positive impact. Due to the pandemic and the lockdown measures, the air traffic collapsed in March 2020. Residents, close by the airport who faced massive aviation noise pollution suddenly experienced “an event of silence”. We exploit this sudden decrease of noise to analyze whether the noise decrease affected housing prices for apartments located within the noise contour of German airports. To derive causal estimates, we exploit a two-way fixed effects model using apartments in the proximity of the airport. We argue (and empirically show) that the control regions do not differ from the treated ones. While the pandemic was initially expected to affect the noise level only temporarily, the course of the pandemic illustrated a permanent shock through, for example, the rise of virtual meetings. Our results strongly support our hypothesis. While there is basically no effect on apartment prices before the first lockdown, we observe a price increase of 3% after the lockdown when it became obvious that the aviation sector will not recover swiftly. The effect is even stronger in the first half of 2021 (5%). For those locations exposed to high noise levels (before the pandemic), the effect even peaks at 8%. The paper contributes to the literature in two ways: First, the change of pollution is truly exogenous without any announcement or selection problems which typically evolve in similar papers regarding disamenities and housing prices. Second, in contrast to most evaluation showing that the erection of a disamenity affects prices negatively, we show the opposite effect. Locations, which permanently suffered from pollution in the past, are able to immediately catch up again, once the pollution is alleviated. This is good news for urban planning since local environmental policies seem to be meaningful.

Hiring by start-ups and regional labor supply

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Online-G18-R Regional and Urban Labour Markets and Entrepreneurship, August 23, 2022, 4:00 PM - 5:45 PM

One reason for subsidizing start-ups, either directly or indirectly, is that they are expected to provide jobs, especially at times and places where unemployment is high. However, increasing unemployment usually lowers local demand, which is a particular problem for young firms and calls into question the young businesses' prospects of success in such environments. On the other hand, young firms face difficulties in attracting workers and in particular skilled workers. This implies that such young companies, which need to grow, should benefit from an oversupply of labor in regions with high unemployment. Using linked employer-employee data for Germany, we investigate whether the regional unemployment and wage levels affect the probability of founders becoming employers. The results confirm a positive relationship between the local availability of labor and the hiring probability of young firms. Moreover, we find specific effects for particular types of young firms. Especially firms that started out with rather limited investment react to surplus labor supply by becoming employers, whereas necessity entrepreneurs, who start a business to provide a job for themselves, do not benefit from a large pool of available workers.

Detailed dynamics of local ecosystem services in urban areas

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Pecs-G08-O2 Cooperation and Local / Regional Development, B017, August 24, 2022, 4:00 PM - 5:30 PM

Urban dwellers benefit from ecosystem services in a wide range of scales and from different sources. Ecosystem services originated from green infrastructures within the urban areas that benefit people living in the city, depend on the physical configuration of the urban area and their availability vary at short distances. Therefore, the importance of urban-locally-provided ecosystem services (ULPES) for the wellbeing of dwellers in urban areas is increasingly recognized. A conventional approach for ULPES quantification is to assess their supply over space. While the main objective of ecosystem services research is to improve the benefit obtained by humans (in this case, urbanites), the demand over space needs to be assessed as well. However, relatively few studies address the balance between ULPES supply and demand using spatially explicit information with a high resolution. In addition, different public ULPES have different characteristics, as being congestible or not. These characteristics imply different quantification approaches. In this paper we address this gap by assessing the supply-demand mismatch of two ULPES associated with green infrastructures along an urban-rural gradient during a period of 15 years: recreation and cooling services. First, we develop a consistent quantification framework for each one of the services. Second, using data with high spatial resolution we quantify the spatial supply and demand of recreation and cooling services. Finally, we assess the spatial-temporal dynamics of the (mis)match between supply and demand in the entire region and along the urban-rural gradient. Increasing mismatch between ULPES supply and demand demonstrates the need for place-based policies towards a more sustainable and resilient urban development.

Locally-provided and globally-relevant ecosystem services: A suggested framework

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Pecs-G08-O1 Cooperation and Local / Regional Development, B017, August 24, 2022, 2:00 PM - 3:30 PM

Ecosystem services are defined as benefits obtained by humans from ecosystem functions and processes. Although the different types of ecosystem services are well defined, their measurement and quantification has remained controversial despite long last research efforts. A particularly elusive and of-ten neglected aspect of ecosystem services quantification has been a proper identification of the beneficiaries. We argue that a clear-cut distinction between locally-provided and globally-relevant ecosystem services are necessary in order to manage a meaningful debate about ecosystem services quantification. Using a detailed spatial analysis of land-use change and residential location in The Netherlands over almost two decades, we operationalize the distinction between two types of services provided by “green” land uses (protected natural areas, agricultural areas and parks). Recreational services available to nearby dwellers are used as an example of locally-provided ecosystem services, while carbon sequestration exemplifies the globally-relevant category. The conclusion is that while monetary value can be justified as a proxy measure of globally-relevant ecosystem services, non-monetary approaches are appropriate for locally-provided ecosystem services. The distinction between both types of ecosystem services is useful also for policy-making purposes: Quantification of locally-provided services is well suited for spatial planning in general and urban planning in particular, but globally-relevant services assessment (specially its monetary approach) is more informative at national and supranational levels.

A research and policy agenda for a sustainable rural digitalisation

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Online-S56 Assessing the socio-economic impact of digitalization in rural areas, August 22, 2022, 2:00 PM - 3:35 PM

The Green Deal has identified two transitions for Europe: digital and ecological transitions. However, the links between the two transitions are not clear yet, and there is the risk that the policies supporting the two transitions don't speak to each other. This risk is particularly evident with rural areas, where it is even difficult to get accurate data on the level of digitalization and of its impacts. Drawing on results of the DESIRA project, the paper will discuss a research and policy agenda for sustainable digitalization in rural areas. In particular, the paper wants to answer to the following questions:

- * How agriculture and rural areas are living digitalization processes? How nuanced is the landscape of digitalization?
- * What are the likely scenarios of digitalization in the next decade?
- * What subjects, infrastructures, technologies, organizational methods are needed to link digital and ecological transition?
- * What are the most suitable governance patterns to exploit the potential of digital technologies in the ecological transition?
- * How to make digitalization inclusive to the diversity of farm models that contribute to various ecological pathways?

The paper will contribute to answer to these questions by discussing two concepts that aim at explaining the diversified patterns of uptake of digital technologies across contexts. The first one is digital readiness, that highlights the need to design digitalization strategies tailored to the characteristics of the users and of their context. I will argue that the concept of Technological Readiness is too narrow to assess the potential uptake of a technology in rural areas and will propose to articulate the measure of readiness into "users' readiness", related to individual skills and motivations, and "scaling readiness", that links technological characteristics to the broader context to which technologies apply.

The second concept is 'digital ecosystem', which encompasses the ecological, infrastructural, and human capital conditions that allow a proper uptake of digital technologies, and that might limit the beneficial impact of digitalization. The analysis of digital ecosystems will allow a system approach to the analysis of costs and benefits of digitalization, as it will allow to measure the impact of the introduction of new technologies through the systemic connections of farm processes. The concept will also allow the introduction of a "digital ecosystem conduciveness" indicator, which measures to what extent the digital ecosystem to which the farm belongs can facilitate the successful adoption of digital technologies.

What explains flat experience curves of foreigners in Germany?

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Pecs-S49-S2 Drivers and impacts of migration: new insights on the role of local labour markets, human capital, personality and (family) networks, B323/1, August 26, 2022, 11:15 AM - 12:45 PM

This paper sheds light on the wage structure of foreign and German employees who are subject to social security contributions in fulltime employment and focuses on the experience structure. Existing evidence suggests that additional labour market experience is rewarded less for migrants than for their German counterparts. We identify and discuss reasons and explanations for migrants' flat experience curves, which is particularly important in the light of the debate on inequality between both groups. These explanations include: the recognition of vocational training degrees, the successful passing of vocational training in Germany, German citizenship by naturalisation, and the labour market experience. After ten to 15 years in the German labour market, we identify convergence in the returns to labour market experience.

Development programs, Covid epidemic in the settlements of Ormánság

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Online-S33-S1 Local Rural Perspectives on Disparities in a Digitalising (Post-COVID) Europe, August 23, 2022,
9:15 AM - 10:55 AM

Emerging and support programs funded by the European Union and the Hungarian government have been running for several decades in the settlements of disadvantaged areas, including Ormánság, which serves as the analysis / research field of the lecture. The lecture examines the current Infinite Opportunity District and the Emerging Settlements program. The presentation presents the Emerging Settlements programs and their outlined results through the Presence Points programs run by the Catholic Caritas. The presentation covers the responses of the

Presence Points to the Covid epidemic. The coronavirus epidemic that broke out in 2019 affected the settlements and the Emerging Settlements programs taking place there in all respects. This was perhaps most evident in digital skills, lack of tools and Internet services, and other competencies. The charitable / non-governmental organizations operating in the area of Ormánság helped the local community with programs, tools, internet, workshop and workshop-type activities, and small community programs. The lecture focuses on two small settlements: Kisszentmárton and Téseny. The examined settlements are, on the one hand, typical small villages in Ormánság (in terms of population and economic indicators), and, on the other hand, small settlements with segregation. The settlements are among the settlements with a moderate to small population decline in regional terms. In the context of the segregation of the Gypsy population in the examined settlements, we can speak of villages with a young age structure, where the proportion of the population with a disadvantaged, low education and poor labor market situation is high. (Ragadics 2019) (Boros-Bucher 2020)

Analyzing urban sustainability and heatwave resilience - a comparative study of different applied methodologies

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Pecs-G06 Adaptive and Resilient Cities and Regions, B020, August 24, 2022, 11:15 AM - 12:45 PM

Urban sustainability and resilience concerning the negative impacts of climate change are at the forefront of current urban studies. Although these concepts have a pivotal role in developing our cities, moreover, a large and growing body of literature has investigated them; a considerable amount of more or less different methodologies can be found to assess the aspects mentioned above. Hungarian cities are rarely studied regarding urban sustainability and climate resilience based on the limited availability of data and narrow spatial focus. Hence, this study aims to fill the existing literature gap by assessing urban sustainability and heatwave resilience in the most significant Hungarian cities by comparing and mapping the outputs of different applied methodologies regarding the often overlapping concepts. The pool of analyzed urban areas includes all cities with county rights and the districts of Budapest; consequently, the total number of assessed units is 46. The applied sets of indicators include socio-economic valuables based on statistical databases, moreover, various urban environmental and LULC-specific information retrieved from remote sensing data. The results reveal the spatial heterogeneity of the most often applied interpretation frameworks of urban sustainability and resilience; moreover, to draw attention to planning challenges related to the incoherent understanding of those aspects.

Residents' perceptions of tourism impacts in the Azores Archipelago (Portugal): a cluster analysis

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Pecs-G19 Tourism and Overtourism Issues, B323/1, August 25, 2022, 2:00 PM - 3:30 PM

The tourism industry has been increasingly looked as an essential component of development processes, especially in the case of some low-density territories, including islands. By its turn, looking to the quality of tourists' experiences and, thus, to the success of a destination, one has to convey that residents play a fundamental role. In this research, a cluster analysis was used to segment the Azores Archipelago (Portugal) residents into clusters according to their perceptions of the impacts of the tourism industry. The clustering procedure analysed 950 data observations from a residents' survey applied in 2018 by SREA (Regional Statistics Service of Azores). The analyses revealed the existence of three clusters: the Optimistic, integrating the large majority of the respondents; the Moderately Optimistic; and the Unconvinced. The results achieved follow what is common to find in the empirical literature, namely when we are dealing with emergent destinations. Regional and national authorities must be aware of these results when designing their policies, namely in the pursuit of a sustainable development strategy for the Azores.

From smart working to digital nomadism: challenges and opportunities for the Islands

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Online-S37 Disparities in a Digitalising Islands: Networks, Entrepreneurship and Sustainable Development,
August 23, 2022, 2:00 PM - 3:40 PM

The Covid 19 has changed the world of work and beyond. The distances have been bridged by Teams, Zoom, Meet. Meetings were postponed, then cancelled, then rescheduled in different forms. The emergency caused by the pandemic has led to reflections on organisational forms whose main driver is flexibility. Remote working is now an innovative and smart way of working, an advantage for employees, professionals and employers, a concrete and green possibility for a better work-life balance. In the last two years, many smart workers have moved their domicile or residence from the big cities to other municipalities in the inland areas or Islands, attracted by a simpler and more sustainable social dimension as it is linked to the cycles of nature and slower, or at least less stressful, timescales, even at the cost of a penalty in pay, a sign that a hypothetical improvement in the quality of life has an economic value that can be immediately discounted. An 'extreme' form of flexible working is digital nomadism: under the influence of digitalisation and globalisation, entrepreneurs, freelancers and employees have started to leave behind regular '9-to-5' working structures and to change their expectations of work, particularly in terms of work-life balance, thus extending the concept to work-leisure balance. These 'location-independent' workers often choose a rural, suburban or island area as their destination and embrace a new philosophy of life. This paper aims to shed light on these emerging types of work in the Islands from official statistical data by cross-referencing administrative data, survey data and experimental statistics.

Disparities in a Digitalising Islands and Sustainable Development

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Online-S37 Disparities in a Digitalising Islands: Networks, Entrepreneurship and Sustainable Development,
August 23, 2022, 2:00 PM - 3:40 PM

We know from research at various scales that digital technologies may lead to economic growth and potentially disruptive innovations with strong spatial footprints and potential benefits for whole regions, even peripheral or rural areas.

The COVID-19 pandemic and the consequent lockdowns increased our dependency on digital technologies and drastically accelerated digitalisation in various domains, from selling products online to working from home and from creatively designing online services and products to building new business models and digital infrastructure.

The digital transition is a cornerstone of the NextGenerationEU, a recovery instrument to help repair the economic and social damage brought about by the coronavirus pandemic.

But what implications does digitisation have for sustainable development and the 2030 Agenda?

What implications does digitisation have for rural , peripheral areas and Islands?

The paper will analyse the factors that influence the ability of the Islands to react, and pro-act, to digitalisation in the path toward the sustainable development goals.

The focus will be on the ability of (local) entrepreneurship to reconcile spiritual traditions and the impact of technological innovations according to creative resilient models of sustainable development that allow them to reap the great benefits of a structural transformation of the territories without losing their distinctive and qualifying features. The focus will be also on innovative and sustainable solutions that can make innovation an engine of development that can enhance their traditions, making them a driving force for the development of their economic systems.

For this reason, it is now more crucial than ever, especially for Islands and peripheral or rural areas, monitoring sustainable development through indicators that keep track of the degree of achievement of different goals and to steer political and public debate towards a long-term vision in which digitalisation is a key factor.

Regional Economic Growth and Well-Being in the European Union: What Role for the Cohesion Policy?

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Online-S10 Counterfactual methods for regional policy evaluation, August 22, 2022, 9:15 AM - 10:55 AM

In recent years, the debate around the need to move “Beyond GDP”, has given rise to more comprehensive and multidimensional measures of well-being (WB). In this perspective, given the relevance of the European Union’s (EU) Cohesion Policy (CP), aimed at strengthening economic and social cohesion by reducing disparities in the level of development between regions, it is worth studying the impact of CP on regional WB and its possible heterogeneity. Relying on the inference on counterfactual distributions proposed by Chernozhukov et al. (2013), we estimate the impact of CP on WB and its dimensions. The adopted indicator is an extended regionalised version of the Human Development Index that allows us to show the effect of CP for the programming period 2007-2013 on three WB dimensions: the economic performance, the level of education, and the health conditions, but offering a more reliable measure for developed regions respect to the standard HDI. The results show that CP affects regional WB, unveiling heterogeneity across regions. Finally, the effect of CP on WB fades when focusing on EU15 Member States, confirming the existence of a significant impact especially in low- performing areas.

Do Migrants Pay Higher Housing Costs? Migrants' Housing-related Capabilities in the Netherlands

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Pecs-S49-S1 Drivers and impacts of migration: new insights on the role of local labour markets, human capital, personality and (family) networks, B323/1, August 26, 2022, 9:15 AM - 10:45 AM

Capabilities, pioneered by the Nobel Laureate Amartya Sen, are individuals' real opportunities, "such as their genuine opportunities to be educated, their ability to move around or to enjoy supportive social relationships" (Robeyns & Byskov, Winter 2020 Edition, para.10). This paper studies migrants' housing in the Netherlands and asks: do migrants have equal capabilities and functionings in obtaining housing compared to the native population in the Netherlands? The paper makes a contribution to the capability approach by operationalizing it in the studies of housing deprivation of migrants and by revealing how personal, social, and environmental factors shape these restricted capabilities in housing.

By analyzing the WoON (Housing Research) 2018 dataset, the study examines whether people with a migration background in the Netherlands pay comparatively higher rents or purchase prices in obtaining similar quality of housing than people without a migration background. The difference in housing-related capabilities and functionings between the migrant and native population could be a result of migrants' different housing needs as well as limitations in social conditions such as housing discrimination and segregation. When thinking about how to effectively improve migrants' integration through housing, we urge scholars and policymakers to apply the capability approach in order to better understand how opportunities are restricted and how interventions in making up for these lost opportunities can be applied.

Fleeing Authoritative Violence. The Role of State Repression in the Venezuelan Diaspora.

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Pecs-S49-S1 Drivers and impacts of migration: new insights on the role of local labour markets, human capital, personality and (family) networks, B323/1, August 26, 2022, 9:15 AM - 10:45 AM

During the 2010s, Venezuela underwent the worst and deepest crisis of any non-war-ridden country in modern history. The failure of the socialist utopia, the economic crisis, the increasing lack of primary resources, and the dictatorial turn have caused the third, most dramatic, and complex Venezuelan out-migration wave in the past decade. Drawing on exclusive and georeferenced survey data collected in Venezuela and providing information on 21,382 individuals, this paper investigates the role of the police force militarization in the Venezuelan migration crisis of 2018. We find that the higher is the level of authoritative violence - proxied by the share of homicides committed by the security forces - the higher is the likelihood for an individual to migrate. The effect is significant only among males with a lower level of education. Estimates which rely on the travel time from the capital to each state's most populated city as an instrumental variable, are robust to the inclusion of several households, environmental and socio-demographic characteristics, including the overall level of violence represented by the number of violent deaths per 100,000 inhabitants.

Digital transformations, global value chains, and regional growth in Europe: The MASST5 model

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Pecs-G01-O4 Regional and Urban Development, B016, August 25, 2022, 9:15 AM - 10:45 AM

Digital transformations, global value chains, and regional growth in Europe: The MASST5 model

Abstract

During the past decade, global labor markets have undergone substantial transformations, mostly induced by fast diffusion of labor-saving technologies, and spurring a wave of empirical studies assessing the impact of Industry 4.0 technologies, and in particular of robotization in manufacturing industries, and digitalization in service ones, on skill composition and overall employment levels. Moreover, the largest wave of globalization recorded after the one taking place before WWI, caused first the emergence of Global Value Chains, and, more recently, their disintegration with partial mechanisms of reshoring.

This paper introduces the fifth version of the MACroeconomic, Sectoral, Social, Territorial (MASST5) model. The MASST model carved a relevant niche in the empirical literature on macroeconometric regional growth, and this paper discusses the main advances introduced in its fifth generation, namely the possibility to model future Industry 4.0 shocks, as well as the national and regional breakdown of the way Global Value Chains will re-organize. A longer time series, especially in the regional submodel, also allows to take into account the major changes taking place in Europe following the 2007/2008 financial crisis, and the 2020 COVID-induced contraction.

Keywords: Macroeconometric regional growth, digital transformations, Global Value Chains, territorial spillovers

JEL Classification codes: R11, R12, O11

The impact of COVID-19 on Europeans' economies: first and second-order supply and demand shocks

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Pecs-S25-S1 The spatial dimensions of productivity for regional growth, B323/1, August 24, 2022, 11:15 AM - 12:45 PM

We examine in this paper the economic and welfare effects of the COVID-19 pandemic for a set of European countries, based on a (frontier) production model with upstream-downstream sectoral linkages. We embed the theoretical framework developed by Caliendo et al (2017) into this model to control for productivity effects caused by the international competition for intermediate inputs in a globalized world. The proposed model provides an analytical framework that can simulate a large variety of cascading effects caused by the public health measures implemented in each country and the changes in preferences aiming to avoid infection. Deriving overall impact estimates involves modelling immediate (first-order) supply and demand-side shocks, as well as second-order effects, such as the decline in aggregate consumption due to lower income or the additional reductions in supply as potential shortages propagate through supply chains.

Population displacement and urban conflict: Global evidence from more than 3300 flood events

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Pecs-G04-O2 Urban-Rural Relationships, B019, August 24, 2022, 2:00 PM - 3:30 PM

In this paper, we study the effect of displacement of population into cities on urban conflict in developing countries. To do so, we construct a novel measure of exposure to floods, using data on more than 3,300 flood events worldwide, as an exogenous source of population displacement. We combine this with city level observations of more than 9,000 urban social disorder events over the period 1985-2015. Exposure to floods is found to be associated with higher intensity of urban social disorder. Our evidence suggests that the effects of floods on urban disorder occur in part through the displacement of population into large cities. Exploring the information on urban disorder events in more detail, we find that the association between city growth and urban disorder is strongest for events related to public service provision, prices and wages.

Beggars can be choosers. Digital skills and migrants' integration into labour market in a post-Covid era.

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Online-S32 Digital competences in a migratory context: knowledge – attitudes – skills, August 23, 2022, 9:15 AM - 10:55 AM

Recent research shows that, although the EU is now facing the Fourth Industrial Revolution (4IR), an increasingly fast process driven by digitalisation, big data and smart devices, within its territory digital skills are by no means distributed evenly. In a world in which two years of pandemic have fostered digital skills demand in numerous occupations, being left behind in the labour market often implies, nay, is the consequence of either lacking those skills or digital access.

This epochal change in the EU is intertwined with another major issue of this century, i.e. one of the greatest immigration waves in its history. The fifth and the sixth EU enlargement, eased new Europeans' mobility and fostered flows of immigration from Eastern to Western Europe. Moreover, geopolitical turmoil in the MENA region and in Africa prompted an escalation of asylum seekers' numbers trying to reach the EU. Especially for low skilled migrants, accessing employment and education has always been tough and it became even tougher in a pandemic and hyper-digitalised world.

Migrants find themselves at the crossroads between the aforementioned momentous changes. Besides being the protagonist of migration waves, these people might already have basic digital skills, albeit in most cases either not adequate or not up-to-date. As institutional recognition of migrants' qualifications is a difficult and knotty process, the acquisition of digital skills could be a powerful driver of integration, both socially and economically, from which both host countries and migrants could benefit. Although digital skills are a great opportunity for migrants, their acquisition requires proper tools, training and resources. Oftentimes, solidarity associations (SAs) frame themselves as intermediaries between migrants and the world of labour, striving for enhancing the latter's digital competences in order to make the 4IR an opportunity for their integration.

In this paper we hence aim to investigate and elucidate how and why digital skills should represent an opportunity for migrants to better integrate and overcome discrimination phenomena that they experience rather than being a further challenge. In particular, we decided to empirically assess with in-depth interviews SAs' role in strengthening migrants' digital skills, viz. through what actions they act as a key player in making the 4th industrial revolution an opportunity for migrants' integration. We will also endeavour to discuss SAs' ability to facilitate their access to digital infrastructures, to increase awareness of digital skills' benefits, and to integrate them into host countries' labour market.

Eco-innovations and digitalisation in Small Medium Enterprises: Does geographical location make the difference?

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Online-G20-R Cities, Regions and Digital Transformations, August 22, 2022, 11:15 AM - 12:55 PM

see extended abstract

Digital Readiness of Regions in Europe: the impact of the pandemic

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Online-G20-O1 Cities, Regions and Digital Transformations, August 22, 2022, 2:03 PM - 3:30 PM

The occurrence of the COVID-19 pandemic has raised awareness among individuals and across business sectors on the importance of digital connectivity, technologies, services and solutions. Concurrently, it has stimulated regional policymakers in setting more favourable conditions to take advantage of the growth opportunities related to the digital transformation of society and economy. Although this transformation began well before January 2020, the health crisis caused by the pandemic has undoubtedly accelerated technological change and hyperconnectivity.

This paper focuses on the understanding of the level of territories' readiness in Europe with respect to digital transformation, with a focus on the digital transformation of businesses. Upon the evidence that the health crisis increased the digital divide in some domains because of unequal access to digital infrastructure and services, the paper also compares the status of digital readiness in a pre- and post-Covid situation to see how and if the Digital Readiness of Regions (DRR) was affected by the pandemic. DRR is measured against a set of indicators for which data is available at the regional level. These indicators are grouped against the four components of the Digital Compass, i.e., infrastructure, skills, public services and businesses, to reflect the monitoring of the Digital Decade implemented by the Commission through its DESI index. Since the indicators used in DESI are not measurable at the regional level, we identified a limited number of proxy indicators to represent DRR.

Preliminary evidence highlights a persisting divide between rural and urban areas in terms of fast and ultrafast broadband coverage across European territories. There are also important differences across European regions in terms of users' digital skills and in some countries differences between individuals living in urban and rural areas widened in 2020 (post-Covid). The question concerning whether the digital changes triggered by the pandemic are permanent and have structurally transformed our European society is still open. DRR, in the absence of a regional DESI able to inform subnational public authorities about their progress against the four cardinal points of the Digital Compass, is proposed to support the taking of actions towards favourable structural conditions for digital transformation.

A historical approach to the economic development of Spanish municipalities: the rural-urban dichotomy during the 20th century to the present

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Pecs-G03-O2 Demographic Change, Population, Migration and Mobility Behaviour, B018, August 24, 2022,
4:00 PM - 5:30 PM

The article consists of the analysis and evaluation of the influencing factors in the evolution of the (~8000) Spanish municipalities population, from the 20th century to the present. It also evaluates the implications that may derive from this, especially in the face of demographic challenges, such as -mainly rural- depopulation. This implies filling a great gap in terms of systematic and consistent databases and associated literature available. The paper is framed in a research project consisting of 3 specific objectives: 1) Preparation and analysis by Spanish municipalities of a historical database of the population, irrigated areas, dry land and pastures, as well as associated climatic and geographical variables during the 20th century until the present. 2) Preparation and analysis of variables that quantify Spanish municipal economic activity during the 20th century to the present. 3) Analysis and evaluation of explanatory factors of municipal demographic change in Spain, with emphasis on the role of irrigation, as well as the installation of other industries and developments in the long term.

This evaluation, based on statistical and econometric analysis, allows to better understand the main explanatory factors of demographic change at such a fine scale, and potentially project development policies on the territories accordingly. The study has a clearly applied regional economics and historical character, being projected to be useful for the present and the future. Although the population information by municipality is relatively accessible from the censuses (~every decade), there is a lack of coherent and unified information for holistic analyses. A good part of the climatic, geographic and land use information is gathered and elaborated by the authors, being other variables potentially explanatory of population change less obvious or accessible. This fact is especially noticeable for economic variables on a scale as specific as municipalities. It can be stated that there are no databases or studies that have been capable of systematically representing and analysing the economic evolution of Spanish municipalities. Therefore, until now, it has not been possible to quantitatively evaluate jointly the population change with a clear-cut economics variable at municipal level, nor with other potentially explanatory factors, as it is being done in this work, which pioneers it via employment at detailed sectoral level. The work is intended also to provide example for other methodological and empirical works at European Union at fine scale, e.g. on the economics and geographical variables elaboration and joint analysis with demographics.

Remote working and Mobility Changes in Canada and US during the COVID-19 pandemic: A SHAP value analysis of XGBoost Predictions

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Pecs-S59-S7 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 26, 2022, 9:15 AM - 10:45 AM

This chapter aims to explore the determinants of the reduction in workplace mobility during 2020 in 10 Canadian Provinces and 50 US states through the analysis of 29 variables representing regional industrial composition, remote working potential, government support policies alongside with other main socioeconomic and demographic attributes is used. The main empirical results are obtained through the use of an extreme gradient boosting machine algorithm followed by the analysis of Shapley Additive Explanations (SHAP) values. Spatial dependences are taken into account. Results suggest that regions where mobility was reduced more were those with a higher share of persons in jobs amenable to remote working and persons working in the information and communication and science and technology oriented sectors. Conversely, regions with larger shares of distributive trade, repairs, transport, accommodation, food services, finance and insurance sectors experienced increased workplace mobility.

A regional analysis of employment recovery in late-pandemic Europe

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Pecs-S59-S8 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 26, 2022, 11:15 AM - 12:45 PM

This study aims to assess the socioeconomic, demographic, and space-based causes of the differences in employment recovery in European regions. We use data from Eurostat to explore the regional level factors that account for the differences in employment recovery across regions by using a Gradient Boosting Machine algorithm followed by a Shapley value analysis of feature effects, their sizes, and their interactions. We complement the findings by implementing an econometric estimation of a specification that is based on the machine learning results.

Modernizing reindustrialization strategies as drivers of productivity gains in the European regions

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Online-S25-S1 The spatial dimensions of productivity for regional growth: Industrial structure, industrial transitions and productivity, August 22, 2022, 11:58 AM - 12:55 PM

Reindustrialization was suggested by the political institutions in Europe as one of the strategies to counteract the productivity stagnation of European economies in the last 20-30 years. What is advocated by the European Institutions is a modern reindustrialization. This paper enters the debate by claiming that modernization, intended as process innovation taking place through digitalization of production activities, is fundamental for productivity gains especially when reindustrialization takes place in areas where a diversified variety of local sectors do not create a critical mass of know-how on which local firms can excel and compete. This is true for both high- or low-tech sectors. The paper presents empirical evidence on this claim, thanks to an original database on employment and value added disaggregated at regional (NUTS2) manufacturing sub-sectors level for the European members plus the UK. The results show that, while a reindustrialization focused on specialised sectors provides productivity gains irrespective of an explicit modernization strategy of the sectors, a reindustrialization in a variety of local sectors provides productivity increases only if sectors strongly modernize.

International Monetary Policy Spillovers: A Spatial Econometric Approach

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Pecs-G14-O1 Spatial Econometrics, B016, August 25, 2022, 2:00 PM - 3:30 PM

Before 2008, the Taylor Rule had seemed to be a reasonable representation of monetary policy decisions; however, recently, monetary policy agents have increasingly deviated from this rule. Given the higher financial integration, this study assumes that there is some spillover effect between several countries' monetary policy decisions, not included in the Taylor Rule. Considering spatial autocorrelation in monetary policy decisions, the coefficient of the direct effect of the domestic inflation on interest rate is 0.95, while the coefficient for the indirect or spillover effect is 0.10, resulting in a total effect of inflation equals to 1.05

Approaching the role and hierarchy of the spatial network in Greece

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Online-G12-O2 Regional Competitiveness, Innovation and Productivity, August 22, 2022, 2:00 PM - 3:35 PM

Given the general problem at the European level regarding the spatial network hierarchy, but also given the fact that the process of designing and using classifications must be attempted in a way that allows their constant updating and feedback depending on the dynamics of relationships developed in urban systems, This proposal identifies the differences in classification between the first (2003–2004) and the second generation (2018–2019) of regional spatial plans, in accordance with the General Spatial Plan.

In addition, using evaluation criteria belonging to the three main thematic areas; population, geographical location, services, and infrastructure, the paper proposes a new categorization of Greek spatial network that reflects the existing relationships and trends, as well as a picture of the spatial dynamics and intra-regional reach of the classified cities. Furthermore, the criteria used refer to population size, geopolitical location, accessibility, regional services, production infrastructure, research and technology infrastructure, and higher and technical education.

From all of the above, it is appropriate to expand the methodology and criteria for prioritizing the spatial network at both the national and regional level. For further research, more criteria will be added from literature, complementing new thematic units of social life and forming a multifactorial system of variables on the basis of which the residential network will be re-examined and, of course, will require a new prioritization at a later stage.

Unequal Exposure to Air Pollution - A Spatial Analysis for Vienna

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Pecs-G23-O1 Segregation, Social and Spatial Inequalities, B017, August 25, 2022, 2:00 PM - 3:30 PM

Air pollution poses a significant environmental risk to human health. Previous studies have shown that this risk is not evenly distributed across different population groups and space. In this case study, we investigate the spatial relationship between nitrogen dioxide (NO₂) exposure and the migrant share at a high spatial resolution for Vienna, Austria. We overcome data limitations of previous studies by combining a novel model-based data set on NO₂ concentration and sociodemographic data from 2019 on a 250m² grid in a spatial autoregressive model, controlling for contributing factors. Our results confirm a significant positive correlation between air pollution and the proportion of migrants for different spatial aggregation levels and model specifications. The findings provide evidence on the presence of environmental inequality in intra-urban spaces and emphasize the need to reduce the unequal distribution of the pollution risks for migrants.

Factors Conditioning the Turning Point of the Public Debt–Growth Relationship

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Online-G01-O2 Regional and Urban Development, August 22, 2022, 11:15 AM - 12:55 PM

This research contributes to the limited literature on the factors conditioning the turning point of the public debt–growth relationship. A decade after the global financial crisis, when the debt ratio in many countries was still above pre-crisis levels, the COVID-19 pandemic again increased the pressure on public finances. It revived the debate on the ability to promote economic recovery through debt-financed government expenditure. However, more intense government borrowing increases its costs and uncertainty about future taxation policy, thus potentially disturbing private consumption, investment, and economic growth. In this paper, we estimate the thresholds of indicators on which the expenditure multiplier depends, which may already imply a risk that public debt will dampen economic growth. We use a methodology of structural threshold regression to examine the varying effects that debt might have on growth using consumption, investment, taxes, and imports as threshold variables, as well as several other factors suggested by previous contributions. The applied methodology allows for the addressing of parameter heterogeneity and endogeneity to be accounted for at the same time. The main results suggest that a positive debt effect is more likely if the conditions for a high expenditure multiplier are met, that an increase in the public-debt-to-GDP ratio is not necessarily deleterious to growth if shares of private consumption and investment in GDP are high, while the tax-revenue-to-GDP ratio is low. However, we stress that these results need to be interpreted with caution, as threshold values were estimated for a sample of countries that includes both developed and developing ones. Another limitation is that we do not estimate the joint effect of consumption, investment, tax revenue, and imports on the debt–growth relationship. For example, if two factors are favorable for a higher expenditure multiplier value, e.g., both investment and consumption shares in GDP are high, then one can expect a higher taxes to GDP threshold value. Despite these limitations, we recommend that fiscal policymakers at least monitor the dynamics of consumption, investment, and taxes as a share of GDP, aiming to forecast the effectiveness of expansionary public spending using borrowed funds.

The Role of Infrastructure in driving City Growth

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Online-G01-O4 Regional and Urban Development, August 22, 2022, 4:00 PM - 6:00 PM

The purpose of this research is to gain a deeper understanding of the impact of infrastructure in driving city growth. The results may inform policy makers around the dynamics of different cities and provide valuable insights which would be relevant from a regional and spatial perspective.

With respect to cities, larger agglomerations of firms is linked with increasing productivity and thus growth along with the accumulation and spill over effects of the creation of knowledge and skills. This factors result in cities being more productive.

The development of infrastructure is considered a key component in unlocking and facilitating existing economic growth as well as sustaining future economic growth. The role of investment is critical as the development of large scale infrastructure projects can facilitate key connectivity points in the delivery of goods and services, often between multiple agglomerations.

This research will identify the dynamics between agglomerations and infrastructure development. With consistent increasing concentrations of people living in cities, the demand for the types and placement of, specific kinds of infrastructure, is of increasing interest to both citizens and policymakers from a spatial perspective.

Pandemic Risk and Recovery Indices: Understanding Persistent Impacts of a Global Endemic

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Pecs-S59-S6 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of
Pandemics, A308, August 25, 2022, 4:00 PM - 5:30 PM

see extended abstract

Inequality and Resilience: An Analysis of Italian Local Labor System

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Online-G23-O1 Segregation, Social and Spatial Inequalities, August 23, 2022, 11:15 AM - 1:15 PM

Very few studies, to the best of our knowledge, have explored the empirical link between inequality and resilience. In details, in this paper we move from the assumption that inequality may exacerbate the effect of economic downturns, therefore we focus on the effect of the financial crisis of 2008 on Italy, as one of the countries with higher inequality levels among European Union Member States. In this work, we deal with the very well-known resistance and the recovery indices of the area built upon employment growth paths. Furthermore, we also build an ad-hoc measure of inequality at the Labor Market Areas during the period 2007-2012. This geographical scale is particularly functional to analyze the relationship between income inequality and resilience to economic shocks of Italy because it is based on commuting flows. Indeed, most of the studies on resilience use administrative boundaries to measure the resilience of an economic system, but in analysis on economic resilience the level of disaggregation should be based on functional areas, especially when using labor market-related variables, such as employment. We estimate the effect of inequality, using the Gini coefficient from individuals' tax declarations, in both resistance and recovery phases, controlling for a wide list of potential determinants of resilience, such as population size, industrial diversification, education level, population age, urbanization, and regional fixed effects. Specifically, in our analysis 2009–2010 is the resistance phase, the pre-recessionary period is 2007–2008, and the recovery periods are 2011, in the short-run, and 2016 in the long.-run. Our paper contributes to corroborate the idea that high levels of inequality represent a threat to employment resilience.

European Structural and Investment Funds (ESIF) and Development in Portugal

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Pecs-G01-O1 Regional and Urban Development, B016, August 24, 2022, 11:15 AM - 12:45 PM

The European Structural and Investment Funds (ESIF) are financial instruments to promote the European Union's strategy for smart, sustainable and inclusive growth. Since 2014, Portugal has received more than €29.4 billion in investment. Despite the large amount of funding, there has been an insufficient assessment of the impact this investment had on Portuguese development. The research presented here aims to assess the impact of ESIF on regional development in Portugal.

In the first step, the relevant development variables were identified, aligning the ESIF objectives with the United Nations Sustainable Development Goals (SDGs). The data collected presented a breakdown of Portugal's 308 municipalities (7 regions), and a time horizon of the last decade. From the collected data, development indicators were constructed.

The analysis methodology used algorithmic statistical techniques such as Data Mining. Specific analyses were carried out when the interconnections between the variables justified it. The efficiency of using ESIF to generate development was studied using optimization models and tools such as Data Envelopment Analysis (DEA).

Research results make it possible to identify the real impact of the ESIF on the development of regions and on people's lives. Graphic elements were produced that allows each municipality (region) to monitor its positioning. Policy makers find in this methodology and its results relevant informational support that allows for more conscious decision-making. This facilitates the pursuit of sustainable development goals (SDGs).

Local impact of pandemics: the case of Spanish Flu in Milan

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Pecs-S59-S2 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 24, 2022, 2:00 PM - 3:30 PM

The paper has a twofold objective. Firstly, it aims to discuss the effects of the Spanish flu within the classical theoretical framework that addresses the possible consequences of a pandemic (i.e., but not only, labour shortage or capital accumulation). It then explains why the classical approach is not entirely satisfactory by considering the WWI's disturbing effects on Italy. Secondly, it tries to overcome this issue by resorting to some unexplored archival sources in search of traces that the Influenza presumably exerted on Milan's economic and social structure, which was heavily affected by the health emergency. We adopt different sources to provide a broader perspective. They include the Milan Municipality, the main city hospital, a major industrial company and a major bank.

Inner areas matter. A place-sensitive approach for the identification of the daily-life spaces in the Abruzzo Region

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Online-G05 Mountain, Rural and Marginal Issues, August 22, 2022, 4:00 PM - 6:00 PM

The launch of the Italian National Strategy for Inner Areas (SNAI) in 2014 has institutionalised the issue of inner areas: the long-run marginalisation process they suffer from has finally become the target of specific policies. This attempt, however, has not been supported by an appropriate reflection about the functional organisation of space in marginal areas, which, in general, are still perceived and considered as the periphery of urban areas. This finally risks jeopardising cohesion and local development policies, especially those targeting inner areas, which, to be effective, should rely on a sound and reliable territorial unit of analysis. To this end, we propose a methodology aimed at identifying the citizens' daily-life spaces in the Abruzzo region. Their identification results from a multi-step algorithm based on an original definition of central places (according with the supralocal functions they are able to provide) and on the notions of proximity, isochrones and citizens' travel time, further controlling for the directions of the commuting flows. Comparing the results of our methodology with that of the Italian Labour Market Areas suggests that the former better describes the spatial organisation of daily life space of citizens, thus appearing as most suitable to provide the territorial base for cohesion policies.

Optimization of the maritime interisland transportation network in Canary Islands based on net social benefit and financial profits

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Pecs-G17-O3 Transport and Accessibility, B018, August 25, 2022, 4:00 PM - 5:30 PM

The eight Canary Islands form an archipelago located in the middle Atlantic and belong to Spain. In 2019 the region had 2,2 million inhabitants and received 16 million tourists. There is a robust interisland transport system consisting in well-developed aerial and maritime networks.

The objective of the presentation is to analyse the feasibility of possible improvements of the existing maritime network served by Ro-Pax ships. The alternative routes proposed require construction or improvement of port infrastructure but would provide reduced total travel time for large segments of the market.

Methodology: Net social benefits and financial results of the operating companies are used as performance indicators, as well as a generalized travel cost. These magnitudes are projected onto a long-term potential scenario 25 years ahead.

The net social benefit is calculated with consumer and producer surplus, what requires a modelling of both demand and supply for all these markets. They are estimated with econometric tools based on time series of transported quantities, prices, and macroeconomic variables. In addition, some important non-market effects are considered in the model through their monetization, which requires application of several models. Examples of these externalities are atmospheric and noise pollution, destruction of territory, accidentality, public subsidies or the profit made by infrastructure providers.

The potential demand for the future scenario is estimated using a series of gravity models for both tourists and local passengers, passenger vehicles and freight transported in Ro-Pax ships. Econometrics is used to estimate the parameters based on time series of transported quantities.

Financial profits of producers are calculated by estimating pricing and cost structure of the industry, whereas the generalized travel cost is calculated with ticket prices and monetized door-to-door travel time.

Findings: Alternatives to routes connecting Tenerife and Gran Canaria (1), Tenerife with La Palma (2) and Gran Canaria with Lanzarote (3) are analysed. In case (1) the proposal has positive net social benefit but would imply negative financial results to the operators. The same would happen en case (2), whereas in case (3) both social profits and the shipping company's results would be negative.

Solutions to Resilience Challenges in Planned Communities. The Success Story of a Famous European 'New Town'

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Pecs-G06 Adaptive and Resilient Cities and Regions, B020, August 24, 2022, 11:15 AM - 12:45 PM

According to 2030 Agenda for Sustainable Development, making cities and human settlements „inclusive, safe, resilient and sustainable” represents one of the major goals, pointing out the close relationship between resilience and sustainability when it comes to rational urban development (Zhang and Li, 2018). Urban resilience contributes to this paradigm „the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience”(100 Resilient Cities). In order to ensure the capacity to respond the urban community needs and changing conditions, a two-pronged approach to urban systems pressures and challenges have to be applied in a pragmatic manner, based on a pre-emptive, integrated vision: on the one hand, the systemic problems of new settlements are solved in anticipation, „balanced and manageable” sites being developed; on the other hand, the current and ongoing weaknesses and stresses of the existing settlements are addressed (Jain, 2014). This vision suggests that resilience-building in planned communities responds in advance, with lower costs, a series of resilience challenges such as housing affordability, access to labour markets, traffic congestion, access to public spaces, natural hazard risk to community, access to basic services (water, sanitation, electricity) compared to existing communities. However, while the planned communities are populated with their residents and develop, various resilience challenges appear, requiring adequate strategies, plans and concrete actions. This paper discusses the challenges that have to be faced in order to keep the master-planned communities resilient and the solutions proposed in this respect, requiring an integrated approach, using for the case study the story of Milton Keynes – Buckinghamshire, UK, the most famous 'new town' in Europe and one of the most cited examples of successful new towns in the world. Besides the study of a large number of significant documents, the research included field trips to Milton Keynes and interviews with city-planners during the author's research visit to the University of Oxford.

A comparative analysis of the quality of life perception in European cities : an evolution between 2012 and 2019

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Pecs-G01-O2 Regional and Urban Development, B016, August 24, 2022, 2:00 PM - 3:30 PM

The issue of quality of life plays an increasing role in a context of growing competition between cities. The latter are regularly asserting their strengths to attract new residents. This subject matter of liveability includes sustainability which implies different topics concerning environment, social and economic pillars, referring to the definition of Brundtland report. Nevertheless, health, social security, education, culture and sport accessibility could also be indicators of well-being. The objective of this presentation is to propose a comparative study of the urban quality of life across European Union cities and to question the issue of a spatial differentiation of the quality of life. This research is based on Eurostat data from the Urban Audit. This study refers to a survey concerning five hundred citizens in seventy different European cities on their quality of life perception. More precisely, our presentation analyses the existence of a spatial differentiation of the perceived quality of life by the inhabitants. The indicators evaluated concern many topics of the quality of life and well-being as local employment, air quality, confidence toward public administration or local transportation. The subsequent construction of a composite index and a typology of European cities for 2006, 2012 and 2019, are based on the same work we implemented in 2016. It reproduces this model with new statistical variables like population, density or employment or tourist attraction, in the aim to go further in the geography of a better/worse place in which to live and if some indicators could affect attractiveness. We could observe cities characterized by environmental quality, other cities which the most important asset is employment. This typology also demonstrates the fact that cities with a bad quality of life exists, from the inhabitants point of view. In the same way, the composite index works in the same direction with cities obtaining good results for some indicators and non-performing results for other cities. Even if Northern Europe cities seem to be sustainable and Southern or Eastern Europe cities could be considered less performant, we evaluate disparities all over Europe concerning the different indicators, as mentioned in the classification. This research could go further in comparing these indicators with quantitative indicators measuring quality of life which could allow us to compare the efficiency of urban planning, social links or education and the well-being of the inhabitants.

Agglomeration conditioning productivity spillovers? The effects of productivity gap, skill-related labor flows and agglomeration economies.

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Pecs-S19-S3 Networks, Interaction, and Inequalities in Cities, B311, August 25, 2022, 4:00 PM - 5:30 PM

This paper aims to identify the effects of agglomeration economies from firm-level sorting effects of labor flows - new hires with an experience of a more efficient production or in a technologically related industry. I employ CBS Microdata to establish the employee mobility network of firms in the Netherlands in the period 2005-2016, and create variables on labor flows, which are used as explanatory variables in a regression on subsequent firm productivity to quantify productivity spillovers. To address possible endogeneity of labor mobility, wage equations are used to calculate the human capital for each worker, which is then averaged on the firm level to use as a control in the productivity regressions along with more firm-level variables (employment size, assets, lag productivity). The findings reveal that urbanization is positively associated with firm productivity, even when controlling for current productivity. This effect is no longer sustained when human capital and work experience of new hires of a more efficient production company is controlled for. This may point to a mechanism through which urbanization affects productivity spillovers through attracting and selecting skilled workers into the region, who can then learn from each other facilitated by the urban setting. I also find that new hires with related but not identical industry experience (measured in three ways) have the highest impact on firm productivity growth. Comparison with earlier research points towards the generalizability of the productivity gap argument independently of the level of economic development or labor market structures.

Regional development in Romania: new wine in on old bottle

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Pecs-G29 Regional and Urban Policy and Governance, B019, August 25, 2022, 4:00 PM - 5:30 PM

The aim of the study is to show basic characteristics of regional planning in Romania. In order to have a perspective accessible in general, I am going to identify national policies and actions related to regional development, no matter if the national regional policy does not label these actions as regional development.

I am going to offer a short description of the governance and planning of these regional development related actions, and how they evolved in time - mainly from the current century.

The main aim of the study is not only the descriptive analysis of the governance of regional development in Romania, but also the tell if its changes led to a more suitable solution, are they in line with current planning theory, or they are merely reflecting the political changes of the member state while fulfilling the conditions set by the European Commission for the given programming periods.

Ethnic Polarization and Human Development: The Conditional Effects of Minority Language Recognition

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Online-S29-S2 National Regions in regional development – National, ethnic, cultural, religious, and linguistic renaissance of European regions and identities, August 23, 2022, 11:15 AM - 1:15 PM

The literature suggests ethnic diversity has a negative effect on development. Yet, we also know that government policies – e.g., recognizing multiple languages in minority-sizable areas – can attenuate these effects. In this paper, we ask: What are the socioeconomic implications of minority language recognition? We leverage a legal stipulation in Romania as a quasi-experiment: Minority languages are recognized as official in areas where the minority constitutes more than 20% of the population. We argue the recognition of minority languages builds social trust and facilitates efficiency in economic exchanges – mollifying the otherwise detrimental consequences of diversity. Using data at the municipality level, we find that in areas where only Romanian is recognized, ethnic diversity has a negative effect on development – a result consistent with the literature. This effect, however, is absent in areas where a minority language is recognized. The implications suggest that lowering the threshold for language recognition could promote even further development.

Ethnocentric-Type of Migration Influencing Regional Socio-Economic Processes in Europe

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Online-S29-S2 National Regions in regional development – National, ethnic, cultural, religious, and linguistic renaissance of European regions and identities, August 23, 2022, 11:15 AM - 1:15 PM

A mass migration of Central and Eastern European (CEE) labour force towards Western Europe is a major demographic trend, which is mainly driven by differences in wages, and strengthens centre-periphery relations. Due to the labour shortage caused by emigration many CEE countries themselves have become target areas of labour force migration since the mid-2010s from regions lying east and south of the EU. Specific feature of these migration processes is that a large number of immigrants speak the same language and have the same ethnic background as the host population. This type of ethnocentric migration, where communities sharing the same ethnic background move between countries is a traditional feature in this macroregion where ethnic minority communities exist in a high density. Ethnocentric migration can have economic and cultural triggers, but it can also be motivated by kin-state policies or forced by disadvantageous political position of a minority community.

The situation of ethnic Hungarians is one of the most representative markers of this type of migration, as this population makes up large communities: more than two million ethnic Hungarians live in the seven neighbouring countries, with communities numbering well more than 100,000 in four countries. The research is based on the 2011 census data sets; the target group is the population born in neighbouring countries that moved to Hungary after 1985, and the focus is on the effects of this immigration on Hungarian society and the economy. Since a decrease has been observed in this immigration flow recently, population projections were also carried out in the frame of the research to predict the long-term demographic challenges.

The results show that in many respects the immigrants are more highly qualified, have a richer language knowledge, are generally in a better position in the labour market and are over-represented in key professions (e.g., teachers, nurses, doctors), thus contributing to alleviating labour shortages. Without migrants, Hungary's demographic trends would also be much worse: the country's population would have fallen below 10 million already in 2003 (in fact, it happened in 2011). Based on the projections of the present study, a possible stagnation in migration could result in a population 700,000 smaller by 2060 than would be expected under the baseline scenario of the official population projection of Hungary.

Modeling of Economic Impact and Post-disaster Recovery: A Focus on the Changes in Gross Regional Product

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Online-G07 Global Warming, Health and Environmental Issues, August 22, 2022, 11:15 AM - 12:55 PM

The 2015 Sendai Framework for Disaster Risk Reduction which was adopted in the Third UN World Conference on DRR stated the global targets which were reduction of disaster mortality, number of affected people, and disaster economic loss related to the GDP by 2030. Moreover, the policy of "build back better" was proposed which states the importance of incorporating disaster experiences and lessons in the post-disaster recovery, rehabilitation, and reconstruction, to strengthen the disaster response capabilities and make nations and communities more resilient to disasters.

According to the report of the Cabinet Office, Government of Japan, the Nankai Trough Earthquake (M9) which is said to occur within the next 30 years with a 70-80% probability, will cause a lot of human damage, collapse of social infrastructure, and impacts in economic activities. In particular, many of the towns and villages in the Pacific coastal area which are assumed to be damaged by the tsunami in the Nankai Trough Earthquake, are facing a population crisis and will be cause for challenges in the recovery of regional vitality post-disaster. In predicting the economic impacts caused by a massive disaster in future, it is necessary to consider population changes in the socio-economic system.

A number of studies have been conducted to estimate the economic impact using input-output analysis or CGE models which can provide relatively accurate results. However, since many parameters need to be set for the models, high expertise is required. This study aims to develop an estimating model of economic damage using production function which is versatile and generally easy to understand, and which is applicable to various stakeholders in disaster prevention gaming and education programs. It considers the population change in Japan and takes into account assumptions about a potential future quake and measures based on the idea of "build back better", formulates the production function at the municipal level by dividing four regional economy sectors, and estimates the impacts of GRP (Gross Regional Product) to examine economic changes which have differences in regions and industrial structures, based on the damage and recovery scenario of Nankai Trough Earthquake.

Determinants of tourism destination vulnerability during the COVID-19 pandemic

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Pecs-S44 Assessing tourism sustainability and resilience: new data, methods and tools, B019, August 25, 2022, 2:00 PM - 3:30 PM

Tourism was one of the most negatively affected sectors by the outbreak of the COVID-19 and the restrictions put in place by national authorities to contain it. The heterogeneous impact on travel demand across EU regions in EU27 in 2020 underlined a place-specific vulnerability. This study aims at assessing the determinants of regional tourism vulnerability in the context of the pandemic and providing new insight for tourism policy aiming at a more resilient tourism activity. We investigate the vulnerability of European tourism destinations at the NUTS2 level, by considering the percentage loss of night spent in response to the demand shock induced by the pandemic. Nights spent were retrieved from Eurostat's experimental data source on Collaborative economy platforms, which records the number of nights spent by all guests booking accommodation via four different platforms: Airbnb, Booking.com, Tripadvisor, and Expedia for 2019 and 2020 at NUTS2 level. Results from a two-steps fractional response model conducted on 233 NUTS 2 regions from EU countries show that, controlling for socio-economic variables and COVID-19 related restrictions, it is possible to identify destination-related characteristics explaining vulnerability, such as proximal demand, share of foreign tourism, destination type and population density. Proximal demand and the presence of natural assets seems to mitigate destinations vulnerability, which suffers from high share of foreign tourism and a high population density. Further investigation is needed to obtain a detailed seasonal analysis and to explore the impact of additional variables, such as tourism density.

Convergence clubs, economic structure, and spatial dependence in the European Union

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Online-G23-O1 Segregation, Social and Spatial Inequalities, August 23, 2022, 11:15 AM - 1:15 PM

This paper studies regional income convergence and its conditioning factors across 267 subnational regions of the European Union over the 2003-2016 period. Building on previous research that documents the formation of multiple convergence clubs in per-capita income, we study the role of structural change and spatial dependence as key conditioning factors explaining club convergence. Our results are three-fold. First, we document that the spatial distribution of the convergence clubs shows a strong degree of spatial dependence. Second, we study the evolution of structural change and spatial dependence. Our results show that the share of manufacturing has been decreasing while its degree of spatial dependence has been increasing over time. In contrast, the share of knowledge-intensive services has been increasing while its degree of spatial dependence has been decreasing. Third, we evaluate the role of structural change and spatial dependence in the formation of convergence clubs using a spatial ordered-logit model. Our results show that when spatial dependence is omitted from the econometric specification, manufacturing and knowledge-intensive services are not significant predictors of club convergence. Only when spatial dependence is added to the specification, most structural change variables become statistically significant. Moreover, there are contrasting spatial effects across structural change variables. On the one hand, geographical spillover effects for manufacturing and routine services are statistically significant. On the other hand, knowledge-intensive services do not show significant spillover effects. Overall, our results highlight the joint importance of structural change and spatial dependence in the formation of convergence clubs. Specifically, the notion of spatial structural change deserves further attention as it appears to play a major role in the evolution of regional disparities in the European Union.

Estimating research collaboration intensities between regions

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Online-S35 Complex Networks in Economics and Innovation, August 23, 2022, 4:00 PM - 5:45 PM

We develop a simple model of research collaborations with heterogeneous researchers that is consistent with several stylized facts of interregional research collaborations in Europe. We show that the impact of transaction costs associated with collaborative research can be decomposed into the intensive and extensive margins, where the former refers to the research intensity of collaboration between partner regions (edge weight) and the latter refers to the number of region pairs with positive ties (edge formation). We use the model to derive a two-stage gravity equation that accounts for self-selection into interregional research in the first stage and estimates research intensities in the second stage. We implement this procedure parametrically by estimating the probability of collaboration between any two regions using a probit model and then correcting for selection in the second stage. Since collaboration intensities are measured by using count data on joint publications, the Poisson pseudo-maximum likelihood estimator is used to provide consistent estimates in the second stage of the procedure. We show that prior estimates on interregional research collaboration intensities are likely to be biased due to self-selection and the omission of the extensive margin. In addition, most of the variables that are often associated in the literature with the strength of interregional collaboration relations (e.g. geographical distance, social and institutional proximity etc.) differ in whether they act through the intensive or the extensive margin.

Land value dynamics and the spatial evolution of cities following COVID 19 using big data analytics

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Pecs-S59-S3 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 24, 2022, 4:00 PM - 5:30 PM

In this paper we present results of a land-use forecasting model that we calibrated with vast geo-referenced data of a major metropolitan area. Each land parcel includes information concerning regulations indicating permitted land-uses as well as the certain characteristics of existing buildings. Data concerning all real estate transactions include information about the assets and the price of the exchanges. Based on these data we estimated the spatial dynamics of land values in the metropolitan area over time and identified locations experiencing development pressures. This analysis allows us to forecast plausible futures of the urban spatial configuration. Taking the approach one step further, we propose simulations motivated by the natural experiment of COVID 19. We assumed that part of the behavioral changes observed during the pandemic will endure. The resulting simulations provide forecasts of the future spatial structure of the metropolitan area. Comparing the actual and the forecasted scenarios we interpret the spatial dynamics of the city as they would be if a business-as-usual-pre-Covid-19 scenario is realized, and possible trend changes if the impact of the pandemic is long lasting.

Conflict Dynamics Over Farmland Use in the Multifunctional Countryside

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Pecs-G04-O2 Urban-Rural Relationships, B019, August 24, 2022, 2:00 PM - 3:30 PM

Recent research confirms the growing scale and frequency of land-use conflicts. Such conflicts primarily affect rural areas and farmland due to urban expansion or transformations towards multifunctionality. This paper therefore aims to identify changes in the scale and structure of farmland-use conflicts among the three main competing functions (production, consumption and protection) drawing upon Holmes' conceptualisation of the multifunctional countryside. Unlike other research based mainly on qualitative case studies, we use Shannon entropy and the administrative courts' database to analyse farmland-use conflicts in a quantitative approach. We focus on rural areas in Poland, which seem to be well-suited for investigating farmland-use conflicts, due to the growing demand for farmland and the number of land-use conflicts involving different parties, such as farmers, real-estate companies, local authorities and individual investors. Our results show the growing dynamics and changing conflict structure observed in time and space but also, to some extent, depending on the composition and configuration of land functions. The results also prove the importance of agricultural and environmental policies in increasing the number of conflict cases. As a consequence, the shifting conflict-line from mainly production-consumption conflicts to conflicts within one function (production-production) and production-protection ones were observed. However, in the light of this study, land-use conflicts, often perceived as socially undesirable, are not necessarily "unfavourable" as they manifest the increasing capacity of dispute engagement and the inclusion of forgotten or deliberately excluded actors in the resistance-building process. This capacity-building process was accelerated after the introduction of extensive CAP measures, mainly supporting farmers financially. On the other hand, the EU conservation policies supported the institutions responsible for the implementation of law enforcement in this area, which in turn strengthened the protection function. Thus the policies introduced have changed the nature and subject of conflicts from those in which agriculture is pushed out by other functions and activities to those where the conflicts occur within the production function. The current reform of the CAP, including, among others, increasing support for smaller and medium-sized farms, may exacerbate such types of conflict. The COVID-19 pandemic appears to be another important factor influencing the dynamics of conflicts over farmland in the future as it has changed tourism patterns and increased urban-sprawl tensions due to the boosted development of the housing function observed in many countries.

Capital Shocks and Productivity in European Cities and Regions

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Pecs-S25-S3 The spatial dimensions of productivity for regional growth, B323/1, August 24, 2022, 4:00 PM - 5:30 PM

The aim of this paper is to uncover the role which capital shocks and investment allocation processes play in shaping local and regional productivity responses. Our analysis examines how the links between the macroeconomic and national governance features of a country and the internal economic geography of a country shape the productivity-driving role of cities and regions. In order to do this, we build on the approach which is based on the integration and analysis of real estate capital inflows spanning all sectors into cities and regions across Europe.

The importance of real estate capital flows is that they are both location-specific and they also represent large scale and long-term investments into a locality which bundle together the capital from many different stakeholders and institutions, and in turn act as a key conduit for leveraging additional investment flows for other business investment purposes. We decompose the various elements of the capital-asset pricing model broken down by location and city and time period and relates these to different potential explanatory features to the investment allocation characteristics.

Our analysis will exploit the enormous heterogeneity of European nations, region and cities so as to identify which national, regional, or city-specific features either mediate, ameliorate or exacerbate the productivity-related implications of national monetary shocks. In order to do this we will analyse real estate investment flows for the period 2003-2015, in other words during the years prior to the 2008 global financial crisis as well as in the years following the crisis. We use uniquely detailed real estate investment data, which provides a wide range of transaction-specific information on more than 60,000 transactions of investment-grade European real estate. These data cover 26 countries and include information on yield values, pricing, and other characteristics of the individual transactions. We enrich these data with OECD-standardised national, regional, and city data as relevant to different national and regional institutional and policy settings within which we examine real estate capital flows.

Supply chain disruption in the U.S. food system

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Pecs-G17-O4 Transport and Accessibility, B018, August 26, 2022, 9:15 AM - 10:45 AM

We adapt a Ricardian general equilibrium model to the setting of U.S. domestic agri-food trade to assess states' vulnerability to adverse production shocks and supply chain disruptions. To this end, we analyze how domestic crop supply chains depend on fundamental state-level comparative advantages – which reflect underlying differences in states' cost-adjusted productivity levels – and thereby illustrate the capacity of states to adapt to and mitigate the impacts of such disruptions to the U.S. agricultural sector. Based on the theoretical framework and our estimates of the model's structural parameters obtained using data on U.S. production, consumption, and domestic trade in crops, we undertake counterfactual simulations to characterize the welfare implications of counterfactual scenarios depicting disruptions to (1) states' agricultural productive capacity, and (2) interstate supply linkages. Our results emphasize that the distributional impacts of domestic supply chain disruptions hinge on the extent of individual states' agricultural productive capacities, and that the capacity for states to mitigate the impacts of adverse production shocks through trade relies on the degree to which states are able to substitute local production shortfalls by sourcing crops from other states.

Instrumental Variable Network Difference-in-Differences (IV-NDID) estimator: model and application

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Pecs-G14-R Spatial Econometrics, B316, August 24, 2022, 11:15 AM - 12:45 PM

The difference-in-difference (DID) framework is now a well-accepted method in quasi-experimental research. However, DID does not consider treatment-induced changes to a network linking treated and control units. Our instrumental variable network DID methodology controls first for the endogeneity of the network to the treatment and, second, for the direct and indirect role of the treatment on any network member. Monte Carlo simulations and an estimation of the drought impact on global wheat trade and production demonstrate the performance of our new estimator. Results show that DID disregarding the network and its changes leads to significant underestimates of overall treatment effects.

Does historic diaspora contribute to FDI? Evidence from Italian regions

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Online-S52-S2 Foreign Direct Investments, trade and local development: drivers and impacts, August 23, 2022, 2:00 PM - 3:40 PM

This paper investigates the link between historical emigration (between the end of the 19th and the beginning of the 20th century) and inward and outward FDI of Italian regions. We study whether the findings of a sizeable literature on contemporary migration-trade link can be extended to a longer-run perspective. We employ a set of hybrid panel models, that allow us to study the effects of past migration while controlling for dyadic heterogeneity. Preliminary results indicate that, at an aggregate level, the effects of historical migration do not seem to affect FDI. However, behind this result lies significant heterogeneity. Indeed, historical migration pre-dating world war I appears to positively and significantly affect FDI, especially outward FDI. Instead, migration in later, post-war years negatively and significantly correlates with FDI, suggesting that brain drain effects are at play.

Determinants of FDI in Balkan countries: the role of different stages of EU accession

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Online-S52-S1 Foreign Direct Investments, trade and local development: drivers and impacts, August 23, 2022, 9:15 AM - 10:55 AM

Foreign Direct Investments (FDI) have heterogeneously increased across Balkan countries over the last decades. We investigate one likely source of this heterogeneity by using information on 9,185 greenfield FDI locating in 8 Balkan countries from 84 origin countries worldwide over the 2003-2019 period. Notably, we investigate the role of the different phases of the European Union accession process in determining the probability that an FDI will locate in one specific Balkan country. In doing so, we control for standard FDI determinants such as market size, openness to trade, wages and governance as well as different forms of co-location between the new investment and those previously located in the same host country. We stratify our sample in terms of both FDI origin countries—distinguishing between EU and non-EU investors—and industry activity located abroad. Overall, all stages (negotiations, approval, official membership) appear to be associated with positive gains in FDI. Moreover, an anticipation effect emerges from the approval phase, most likely due to the reduction in the uncertainty perceived by investors. The positive effect of prospect membership also extends to the years before official negotiations start. These results also hold when stratifying the sample for industry heterogeneity and origin country of investments, the only exception being the negative effect of EU membership on the location of FDI in manufacturing. To our knowledge, this is the first study to address the issue of FDI determinants in Balkan countries including such a comprehensive set of regressors and exploring country of origin and functional heterogeneity at the investment level, while dealing with the hot topic of the EU accession.

New Firm Formation in Turkey: The Effect of Export Activities of Large Domestic and Foreign Incumbent Firms

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Pecs-G36 Trade and Global Value Chains, B314, August 25, 2022, 4:00 PM - 5:30 PM

There is consensus that the presence and operations of foreign firms are critical in shaping the entrepreneurial landscape in host countries. The emerging issue is not whether foreign firms matter, but through which channels this effect occurs. Surprisingly, how export activities of foreign firms are related to new firm formation is poorly understood, and remains an unexplored channel, although these firms are heavily involved in trade and alter local market conditions faced by would-be entrepreneurs. Utilising a two-level multilevel model, this paper empirically investigates foreign and domestic incumbents' exports as possible antecedents of new firm formation in 81 provinces (NUTS-3) in Turkey over 2013-2020, which yields a panel of 648 province-year observations. The effect of domestic incumbents is also considered because their presence in international markets has been steadily increasing, and they contribute to the renewal and development of regional capabilities along with their foreign counterparts. Finally, I explore the heterogeneity of export channel effects among new firms, again differentiated by ownership: domestic versus foreign entry. I adopt a regional perspective, taking into account the significant social and economic disparities across provinces. The main result is that provincial variation in new firm formation is explained largely by incumbent firms' exports, and I uncover significant heterogeneity. While exports by foreign incumbents in a province are negatively associated with new total, domestic and foreign entry rates, exports by domestic incumbents are positively associated with all three measures of entry. The data allows me to track the source of these significant effects. The analysis confirms that it is producer-exporters that drive the results rather than intermediate-exporters. I borrow from the convergence literature to elucidate the findings, and conceptualize domestic exporters as lagging and foreign exporters as leading firms. I argue that the former are better positioned to acquire and assimilate knowledge available in overseas markets, and adapt it to the local context. Foreign firms, in contrast, are already far advanced and less concerned about knowledge absorption via exports.

Monitoring EU regional gender equality with the female achievement and disadvantage indices

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Online-G01-O2 Regional and Urban Development, August 22, 2022, 11:15 AM - 12:55 PM

In some EU regions women are able to flourish, while in others they languish behind. This work presents two regional indices: the Female Achievement Index and the Female Disadvantage Index. They reveal in which regions women are achieving more and in which women are at a disadvantage compared to men. The two indices are based on 33 indicators grouped into seven domains. The work shows that, on average, women in more developed regions are able to achieve more and are at less of a disadvantage, while most women in less developed regions face big challenges. Within countries, women in capital regions tend to achieve more and are at less of a disadvantage. In general, regions with a lower female achievement index have a lower gross domestic product per capita, while regions with a higher level of female achievement have a higher level of human development. Finally, the quality of government is higher in regions where women achieve more.

Learning culture and lifelong development in companies

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Online-G18-O3 Regional and Urban Labour Markets and Entrepreneurship, August 23, 2022, 4:00 PM - 5:45 PM

Automation, digitization, and robotization continuously change the work we do (Frey & Osborne, 2017; Koster & Brunori, 2021). Additionally, demographic changes, like aging and migration, require a change of work. Therefore, knowledge and skills need to constantly improve (Midtsundstad & Nielsen, 2019). These developments cause a need for all individuals to keep developing themselves throughout their careers.

Similarly, a company that barely innovates is doomed to go bankrupt in the long term and national economies need innovation too (Heraty, 2004). Constant innovation in products, production processes, and consumers is necessary and cannot only be done by an R&D department (Lomineishvili, 2021). It also requires employees to be able to adapt to new techniques and processes. The question is then how you organize this effectively and efficiently. Crucial to this is that employees are convinced that they need to continue developing and are motivated to continue to invest in their development. To do this, a positive learning culture is necessary for a company so that both employees and the organization continue to develop themselves.

Instinctively, lifelong development has a relationship with the learning culture in an organization. Harris (2007), notes that there is no research on whether companies with a positive learning culture are better in motivating their employees for lifelong development and whether these companies invest more. That gap is filled with this research. In this paper, we draw upon existing definitions of learning culture within companies and connect that to investments in lifelong development. We investigate the different components of learning culture, like the attitude towards learning within an organization, the role of managers, and the relevance of feedback and reflection. Additionally, we investigate how these components affect investments in lifelong development.

The main goal of this paper is to investigate the relationship between learning culture and the investments in lifelong development by the organization. To do so, first, a framework is developed on how learning culture and lifelong development exactly relate. Then a newly conducted survey is used to test this framework. This survey was sent to 6500 companies with at least 5 employees in the north of the Netherlands of which 671 replied. In the survey, we asked about the investments in schooling in the past 12 months and define learning culture based on 8 questions allowing us to do this research.

Does the top exporter alter the comparative advantage of subnational exports?

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Online-G36 Trade, Global and Local Value Chains, August 22, 2022, 4:00 PM - 6:00 PM

Top exporters conditions the export specialization pattern and aggregate exports evolution at regional level. Our results show that, on average, 28 percent of aggregate exports in each province are in sectors in which the top exporter determines the revealed comparative advantage. Additionally, we show that sectors in which comparative advantage is determined by top exporter exhibit higher instability in the pattern of province export specialization over time.

Building up proximity relations to boost digital solutions in rural areas: The Drabe

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Online-S56 Assessing the socio-economic impact of digitalization in rural areas, August 22, 2022, 2:00 PM - 3:35 PM

Recent challenges in the agrifood system call for transformative adaptation, boosted by innovation that can take on disruptive characters (Klerkx, 2020). Surely, digitalization is one of the most important solutions encouraged by the policy makers, which is gaining ground in the last decades, thanks to a set of available innovation allowing an easier transition towards more sustainable and resilient farming systems.

As a matter of fact, how digitalization may improve this transition represents a relevant field of analysis, due to the high complexity behind the question of "innovation adoption" among potential stakeholders. As a consequence, more comprehensive and ecosystemic approaches are necessary with the purpose of taking into account social, economic and geographical dimensions affecting the entrepreneurial decision of adopting digital solutions.

Therefore, starting from an ecosystemic perspective, this paper analyses the mechanisms of building up digital business ecosystems we will label as Digital Rural and Agricultural Business Ecosystems (DRABE). More precisely, the purpose of the proposal is to explore the role of digital solutions in boosting transition towards sustainable farming systems.

Starting from the literature on business and innovation ecosystems, the last being ecosystems aiming to value creation, we concentrate our attention on the relevance of the following research questions:

1. How a DRABE is built?
2. How social, economic and geographical characteristics of rural areas could affect DRABE creation?
3. How DRABE affect transition towards sustainable farming systems?
4. What is the role of policies in boosting transition and fostering DRABE?

In order to answer these questions, we problematize proximity relations through:

- a) excavating relationships among actors in rural systems where digital solutions are going to be adopted;
- b) analyzing how local actors in rural contexts are able to build up organized proximities, overlapped to geographical proximity.

To this end, the paper is drawn on the school of proximity and emphasizes the importance of investigating both belonging and similarities logics in the adoption of digital solutions.

What do P2P hosting users perceive? an analysis through the Airbnb platform

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Online-S04-S2 Sustainability, water and energy use in the productive sectors: tourism, services, industry, agriculture and public administrations, August 22, 2022, 2:00 PM - 3:35 PM

This study aims to examine what are the determinants that influence customer satisfaction and loyalty in peer to peer accommodation (P2P: network between peers). To do this, and in order to better understand the behavioral characteristics of the collaborative economy, we have based ourselves on a study of 107 Airbnb users, and it has been found that user satisfaction is conditioned by the tangibility of the accommodation, the reliability of the information provided and economic benefits. It should also be noted that user satisfaction is a determinant of loyalty towards the services offered through the Airbnb platform. On the other hand, it has not been possible to verify the impact of security and location aspects on customer satisfaction, for various reasons. We consider that this work can be useful to better understand the relationship between clients and P2P platforms.

Customer satisfaction, Sharing economy, Loyalty, Airbnb.

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Online-S04-S1 Sustainability, water and energy use in the productive sectors: tourism, services, industry, agriculture and public administrations, August 22, 2022, 11:15 AM - 12:55 PM

The recent conflict between Russia and Ukraine, aside from being resolved, is causing a general rise in prices of certain energy resources. This study aims to examine what the short-term consequences are and will be at the tourism level, through opinions collected from experts and data published in the sector. We believe that this will cause an increase in the prices of hotel reservations, which may lead to a decrease in demand for this coming summer 2022. Likewise, the high energy dependence of gas-producing countries may lead to greater awareness at a global level about the use of renewable energies, in order to limit this dependence in favor of cleaner and more durable energies, and thereby be able to promote more sustainable tourism.

Risk propagation channels of spatially explicit climate extremes in the EU bioeconomy

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Pecs-S42 Territorial aspects of circular economy transition, B316, August 26, 2022, 11:15 AM - 12:45 PM

In an effort to reconcile economic growth with climate constraints, the European Union has launched a bioeconomy strategy to support the transition towards the use of biological materials, energy and (bio)technologies in economic value chains. However, critical knowledge gaps exist regarding novel risks, interdependencies and potential vulnerabilities related to bioeconomy activities and related transition paths under increasing climate hazard risk. In particular, data gaps and methodological inadequacies exist at the sub-national level of societies, where agricultural production takes place in heterogeneous agronomic regions that are subject to diverse and increasingly co-occurring climate extremes. In this study, we apply a mixed method to gain insights on the propagation channels of physical supply shocks and the social amplification of price risk in a bioeconomy that is impacted by heat extremes, drought extremes, precipitation extremes, cold extremes and forest fires. First, a structured literature review has been conducted that sheds light on distinct biophysical and economic risk propagation patterns in the EU bioeconomy from primary production through food and non-food biobased supply chains on to the household level. Second, empirical patterns of biophysical impacts of sub-national (NUTS 2) climate hazards have been identified in physical supply-use tables for agricultural crops & timber. Third, social multiplication of biophysical supply shocks have been analysed in terms of economic risk propagation from primary production towards the household level in EU cities, regions and countries in monetary supply-use tables. Fourth, finally, potential impacts and social vulnerabilities have been modelled and analysed under different (RCP) climate risk scenarios. As compared to the state of the art in empirical research on the impact of climate extremes on agriculture in a climate change context, this research reveals critical dependencies, risk propagation patterns and vulnerabilities among economic activities, communities and countries in the EU bioeconomy.

Romanian Transectoral Governance through the Network of Sustainable Development Hubs in Romania

Dr Ștefania Deák¹, Dr László BORBÉLY¹, Mrs Ilena Luminița BĂLĂLĂU¹

¹*the Government of Romania*

Pecs-S12 Multi-Level Governance through the Core Network for Sustainable Development – Building Green and Digital Skills for Sustainability, B312, August 24, 2022, 2:00 PM - 3:30 PM

Romania has received UN DESA recognition for increasing the efficiency of institutions in pursuing the SDGs, emphasizing the links between the SDGs through integrated policies and development plans. The institutional framework, developed by the Department for Sustainable Development (DSD) - Government of Romania, for the implementation of the 2030 Agenda at national level, emphasizes that all segments of society must be involved in achieving sustainable development goals, from political actors to civil society, private sector, academic environment and so on. Establishing a Network of Sustainable Development Hubs (NSDH) in line ministries it's an innovative approach of DSD for ensuring coherence in governmental action and for professionalizing the competences in strategic planning and sustainable development of the central public administration. These hubs consist of staff who are tasked with implementing the SDGs while also acting as liaisons between their own institutions, different departments, National Institute of Statistics and DSD. Currently, with support of ESF funding, DSD formalizes the collaboration with SD Hubs and supports their civil servants to become Experts of Sustainable Development, a new professional figure in Romania.

Drivers of COVID Deaths in a World of Spatial Modeling Uncertainty

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Pecs-S59-S9 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 26, 2022, 2:00 PM - 3:30 PM

The patterns of COVID death rates across the U.S. almost appears random with respect to underlying socioeconomic and demographic characteristics of local communities. The pandemic does not appear to have impacted certain types of communities relative to others. If we are to better prepare for future pandemics, however, we need to better understand the characteristics of communities that may be more at risk. This exploratory study seeks to explore socioeconomic and demographic characteristics associated with COVID death rates. We undertake this study under the umbrella of modeling uncertainty. Specifically, we use a Spatial Bayesian Model Averaging approach to explore a large modeling space to determine which community characteristics are most associated with COVID death rates.

The heterogeneous spatial location of CCI – innovation and filière behind the scenes

Dr Roberto Dellisanti¹

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Online-G24 Creative Industries and Regional Development, August 23, 2022, 9:15 AM - 10:55 AM

At the intersection of the major trends that are running over the economy, Cultural Industries (CCIs) are on the edge of these processes, being largely affected by new technologies without losing their distinctive human trait: creativity. Specifically, countless are the opportunities offered by new technologies for these activities that could potentially create new experiences for a larger plethora of users, located anywhere and connected through the innovative digital platforms. In fact, new technologies are rapidly changing the way in which firms and industries make profits, intercepting the new consumers' demand through emerging platforms such the Metaverse (JPMorgan, 2022).

These new trends will also change the geography of economic activity in a way that we are not yet able to foresee, with CCIs as possible trailblazer of the change. Will centripetal forces continue to attract the creatives in urban areas? Will creative functions move out from city centres due to the new technological advancements?

In order to be ready to study and discuss the novel spatial trends in CCIs, it is important to have a clearer idea of the territorial determinants behind their clustering. 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 attempts to enrich this debate, using two distinctive features of CCIs as starting point, namely their strong and heterogeneous capacity to innovate and the creative value chain.

These two dimensions will allow to outline a theoretical taxonomy suitable to better understand the reasons behind clustering. The idea is that according to their capacity to innovate and according to the industrial relationships, CCIs require different territorial conditions to cluster. The preliminary results seem to confirm this idea, highlighting different agglomeration forces operating on 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.

Predicting Dropout from Higher Education: Evidence from Italy

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Online-S58 University impacts on the local and regional economy, August 23, 2022, 4:00 PM - 5:45 PM

This paper investigates whether Machine Learning methods are valuable tools for predicting students' likelihood of leaving the pursuit of higher education studies. Our analysis takes advantage of administrative data concerning the whole population of Italian students enrolled in bachelor courses for the academic year 2013-2014.

Our numerical results suggest that machine learning algorithms, particularly Random Forest and Gradient Boosting Machines, are potent predictors suggesting their use as early warning indicators. In addition, the feature importance analysis highlights the role of the number of ECTS obtained during the first year for predicting the likelihood of dropout. Accordingly, our analysis suggests that policies aimed to boost the number of ECTS gained in the early academic career may be effective in reducing drop-out rates in Italian universities.

Clusters and Russian private firms' performance: cross-industry analysis

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Online-G31-O1 Location of Economic Activity, August 23, 2022, 9:15 AM - 10:55 AM

This paper discovers agglomeration externalities' sustainability and robustness issues for Russian private real sector companies during the period from 2011 to 2018. Agglomeration effects are measured via Ellison-Glaeser index (industry is supposed to be clustered in certain region(s) if the EG value is high). Firms' sales margin was chosen as the main performance characteristic. The sample was divided into 6 aggregated groups (agriculture, mining, manufacturing, transport, IT, services) and for each of them sustainability and robustness of the concentration effect was checked using OLS estimates with heteroscedasticity-consistent standard errors obtained for each year. Companies, located in and out of the cluster were studied separately. Strong, sustainable, and positive concentration effects were found for Agricultural, Mining and Transport industries. Sustainable negative agglomeration effects appear for Manufacturing and Service industries. For IT companies the agglomeration effect depends on the company location (in or out of the industry cluster). For IT companies located inside the industry cluster the agglomeration effect appeared to be negative and for those outside the industry cluster it was positive. The information about the sustainability of the localization effects can be useful for policymakers, while stimulating the development of certain industries or territories. The results can also be helpful for further research with the goal to identify an optimal agglomeration structure and optimal distribution of companies across regions.

Regional Effects of Fiscal Policy: Analysis with Spatial Vector Autoregressive Models

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Online-G02 Macroeconomic, Transregional, Regional and Urban Policy and Governance, August 22, 2022, 9:15 AM - 10:55 AM

This paper attempts to assess the impact of fiscal policy measures in the regions of Russia on GRP. Interest in studying issues related to fiscal policy in the Russian Federation is largely due to recent government decisions in this field, for example, an increase in the VAT interest rate and significant budgetary spending for the implementation of national projects. The Russian Federation units are very different from each other in terms of socio-economic indicators. Therefore, the study of their reaction to the common fiscal policy is very important. Recent studies on the estimation of fiscal policy multipliers at the US state level emphasize the importance of consideration of spillover effects in the model. While in the Russian researches this issue was considered only at the national level. We used panel data for 80 Russian regions to build a spatial vector autoregression model that allows for spillover effects by using a first order contiguity matrix. Having analyzed the impulse response functions of the GRP to the shock of an increase in expenditures in each main category of the consolidated budgets of the regions by 1%, we have shown that expenditures on the national economy, general government issues and healthcare are among the most effective ones. Additionally, rather high values of the response at the zero time point were observed, which may indirectly indicate the procyclical nature of fiscal policy in Russian regions. See extended abstract.

Organic and Rational Spatial Interaction to Analyse the Impact of Covid-19 in the Economy of the Portuguese Municipalities.

Dr. Tomaz Dentinho¹, Dr. Karina Sass¹

¹*Univ. dos Açores*

Pecs-S59-S7 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 26, 2022, 9:15 AM - 10:45 AM

This paper tries to frame the complexity of spatial interactions using the structure of space; imagined as a network of spatial channels built up by interacting flows. The first assumption is that space is a productive system represented by flows that justify, built up, and maintain channels, the same way as income justifies, constructs and preserves capital. The second assumption is that either there is an organic evolution of the territory that maximizes the size of channels, like a city that puts most of its incomes in urban infrastructure, or there is human rationality that optimizes the size of the channels to maximize human interaction flows. Using an entropy function, we can explain the relation between channel sizes and the flows that move along them. On the other hand, we use the integral of the entropy function to explain how the size of channels are build-up through the accumulated flows they generate. Finally, entropy functions that explain flows and channels are open up to include distance constraints and external impacts. The demonstration of these conceptual and operational models of complex spatial systems comes in the last part of the chapter. First, with the calibration of a model that explains the spread of infectious diseases to exemplify the organic maximization of infection channels. Second, with the estimation of a regional economic model that maximizes flows subject to the spatial structure of channels, confined by policy measures.

Networks of complementary and substitutable channels modelled by entropy

Dr. Tomaz Dentinho¹

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Online-S35 Complex Networks in Economics and Innovation, August 23, 2022, 4:00 PM - 5:45 PM

This paper aims to frame the complexity of spatial interactions using the structure of space imagined as a network of spatial channels built up by interacting flows. The first assumption is that space is a productive system represented by flows that justify, build up and maintain the channels, the same way as income justifies, constructs and preserves capital. The second assumption is that either there is (self-adapting) evolution of the territory that maximizes the size of channels, like a city that puts most of its income in urban infrastructure, or there is human rationality that optimizes the size of the channels to maximize human interaction flows. Using an entropy function, we can explain the relation between channel sizes and the flows that move along them. On the other hand, we use the integral of the entropy function to explain how the size of channels are built-up through the accumulated flows they generate. Finally, entropy functions that explain flows and channels open up to include distance constraints and external impacts. The paper demonstrates the capacity of spatial interaction models to explain and operationalize complex spatial networked systems with organic and human interaction within space. The application looks into the evolution of the Spanish city-regions since the civil war to see if the complementarity and substitutability between them follows an organic rule that maximizes the size of major cities or a rational rule that maximizes the interaction between city regions.

Cognitive assessment of residential location using Elo scoring and visual modalities

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Pecs-G09 GIS and Location Modelling, B020, August 24, 2022, 2:00 PM - 3:30 PM

In order to understand interrelated spatial dependencies in the assesment of real estate location, analysts utilize various methods that examine e.g. neighborhood characteristics, sociodemographics, proximity and accessibility to spatial externalities.

The general problem with this approach is that the location characteristics and parameters of the assessment must be selected and defined by the analyst.

Thus, this approach depends on a considerable number of analyst's subjective and implicit decisions.

One way to address this issue could be to use complementary information from diefferent modalities as the key to more robust information extraction and higher data quality.

We conducted an experimental approach to determine the quality of residential locations based on iterative cognitive voting of image pairs using the Elo rating system of multiple visual modalities like Street View and satellite photos.

Using the obtained rating values, we built a ConvNet-based regression model to predict the Elo scores for a set of independent image representations.

We derive the inference for our experiment by predicting the rental and purchase prices using obtained locational Elo scores along with additional explanatory variables.

From the results of our study, we found that incremental assessment of location images by independent individuals in terms of active learning can serve as a control variable as well as that the utilization of complementary modalities in location quality assessment has potential for further investigation.

Do diverse study programmes matter for university dynamics?

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¹University of Corsica, ²University of Sassari, ³CRENoS

Pecs-S58-S1 University impacts on the local and regional economy, B314, August 25, 2022, 2:00 PM - 3:30 PM

This paper investigates the pull factors that influence the dynamics of first-year undergraduates at university. The focus is devoted to the role of internal supply factors (e.g., course quantity and quality, fees) and external factors related to the structural characteristics of the hosting location. Three main research questions are assessed. (RQ1) Are diversification and divergence of teaching programs good strategies to increase demand? Do these effects change with (RQ2) the internal characteristics of universities (i.e., size and quality of research) and/or (RQ3) the external characteristics of universities (i.e., geographical location, type of city, proximity of another university)? The empirical analysis employs Italian data over 2013-2019. Based on a panel data approach, the findings reveal a tendency to converge towards the typical national specialisation. Yet diversification, especially for small-sized universities, positively drives demand. Besides, interesting differences are found at a geographical level. Based on the empirical findings, policy implications are drawn.

Do investment grants have an effect on the quality of employment? – Evidence from a staggered treatment adoption approach

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Pecs-S10-S1 Counterfactual methods for regional policy evaluation, B311, August 24, 2022, 11:15 AM - 12:45 PM

The aim of the intended study is the estimation of establishment-level employment effects of investment grants in Germany in terms of quantity and quality. As a starting point I estimate the average treatment effect for the treated establishment on the quantity of employed persons over the periods of one to seven years after the treatment is finished. Subsequently, I analyze potential changes in the quality of employment with the help of different proxies. The shares of high-skilled employees and at least medium-skilled employees are proxies for high quality employment in terms of employee qualification; the share of low-skilled employees represents the counterpart. The share of so-called 'normal contracts' (full-time employment subject to

social insurance contributions) is regarded as high-quality employment in terms of security and duration. Additionally, the median wage of full-time employees serves as a rough approximation of the labor productivity. For the estimation I apply a modification of Heckman's matching and difference-in-differences approach suitable for a staggered adoption design. So I am able to consider the flexibility of investment grants in terms of treatment timing and duration.

I base the analysis on a rich data set that combines treatment-related, establishment-specific and regional information from different sources. The sample consists of establishments working in sectors eligible for investment grants in Germany, thereof are 10,215 treated establishments located in eligible regions. Non-treated establishments regarded as potential controls are found exclusively in non-eligible regions. This decision is made to circumvent potential selection problems due to unobservable characteristics, since in general all establishments in eligible regions (in the eligible sectors) have access to the GRW program. And I cannot observe why some establishments apply for investment grants and others do not. Resulting from the definition of the eligibility of regions with the help of a composite structural weakness score, the regions eligible for GRW investment grants and the non-eligible regions are remarkably different in terms of e. g. infrastructure, tax revenues, unemployment rate and other factors that describe the economic environment and influence the success/development of establishments and thus, the employment effect of investment grants.

This fact rises a methodological question I would like to discuss at the conference: Is it possible to control for such regional differences between the region types? Is there a (non-parametric) equivalent to the tripple DID model that is compatible to the staggered treatment adoption framework?

Efficiency cuts: the local impact of closing undersized schools

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Pecs-S10-S1 Counterfactual methods for regional policy evaluation, B311, August 24, 2022, 11:15 AM - 12:45 PM

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 and income effects of primary school closures by focusing on the Italian context (2010-2019), exploiting a 2008 education reform that produced a signi

ficant contraction of the school network. We assess whether school closures have an impact on citizens' residential choices, on top and beyond preexisting negative population trends which motivate school closures. We address endogeneity by combining a two-way-fi

fixed-effects estimation with an instrumental variable approach, constructing the IV on the basis of institutional thresholds for school sizing adopted by some Italian Regions. Our fi

ndings suggest that municipalities affected by school closures experience signi

ficant reduction in population and income. The effect is driven by municipalities far away from economic centres, and distant to further schools. This evidence indicates that schooling rationalisation policies, by inducing depopulation of peripheral areas, has an influence on the spatial distribution of the labour force and of income, thus affecting territorial disparities.

Circularity and Global Value Chains: An Integrative Framework

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¹*Politecnico Di Milano*

Pecs-S53 How to link multiple spatial scales in circularity transitions?, B323/2, August 26, 2022, 9:15 AM - 10:45 AM

The circular economy (CE) concept is gaining momentum among scholars and practitioners given the necessity to maintain economic growth while reducing the pressure on the environment, the consumption of natural resources and the production of waste.

The literature considers CE as a system solution aimed at improving economic development, but a perspective that considers the actual structure of the economic system (i.e. the international dispersion of production activities) is missing in the debate. Even when the discussion on CE reaches a macro level (city, region, nation and beyond) (Kirchherr et al., 2017), it does not take into account that the world economy is structured around global value chains (GVCs) in which all the activities that go from the design of a product to end use are fragmented and spread across several different countries.

At the same time, the international business community has not yet participated at all in the dialogue on CE (Hofstetter et al., 2021).

The aim of this study is to fill this research gap and identify possible linkages between the two research fields. We believe that a real understanding of the disruptive potential of CE asks for a new outlook in which issues raised by the debate on this topic are tackled from the local development standpoint as well from an international business and GVCs perspective. Thus, our main objective is to investigate if and how the adoption of a circularity paradigm may influence GVCs configuration and development. In this paper, we address the issue from a conceptual point of view. To reach our research objective, we develop a framework in which GVCs and CE dimensions are crossed and analytically investigated. The present study is a first attempt to recognize possible interconnections between two separate fields of research (CE and GVCs) that, to the best of our knowledge, had never met before.

Applying a CE perspective on the different dimensions of GVCs, this work contributes to the ongoing debate on the evolution of GVCs and adds a new point of view to the CE discussion.

The proposed framework may also provide relevant insights for the main actors involved in GVC and the CE transition. It may induce a rethinking of each company and country's position in the GVC, and may serve as a guide for policymakers in developing effective political agenda on CE.

Where is innovation registered? Measuring the headquarters effect in innovation

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Pecs-S40-S2 Innovation catalysts, regional development and unintended consequences, B313, August 26, 2022, 2:00 PM - 3:30 PM

One of the main sources of regional economic growth and productivity is the investment in innovation and development across the chain of production. This component is considered a key element of economic activity, specially in the long run. Given enough time, these investments can easily create new opportunities for firms in terms of higher profitability in existing markets and/or access to new markets, boosting production and rent at a macroeconomic level.

Despite the importance of this component in the theoretical literature, there are important difficulties to accurately measure it given that most of the firms tend to locate their headquarters in the capital of countries. This bias can easily mislead regional governments about the impact of their policies to boost this indicator, changing their decisions, or the importance of this variable to increase economic activity in a region.

We propose a methodology based on Gutierrez-Portilla, et al (2019), where the authors measured the importance of headquarters effect on Foreign Direct Investment (FDI). Through this paper we estimate regional headquarters effect in innovation from 1990 through a panel specification with spatial effects using European data provided by Eurostat. We also evaluate what regions tend to be more affected by this type of problem in their indicators.

Rethinking Segregation: The Role of Social Connections in Racial Segregation

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Online-S19 Networks, Interaction, and Inequalities in Cities, August 22, 2022, 9:15 AM - 10:55 AM

We study the extent of segregation in the social space of American cities. We measure segregation as the (lack of) actual personal connections between groups as opposed to conventional measures based on the spatial relationship between residents. We conceptualise how social segregation in American cities compares to geographical segregation and why the differentiation is important. Using data on the universe of Facebook friendships between urban zip codes, we then create city-level indices of social segregation and compare these with their geographical counterparts. We explore how various features of the urban space correlate with the discrepancies we observe. We also consider outcomes related to social exposure across neighbourhoods within-city, holding residential exposure fixed.

Using Web Data and Network Science to Detect Spatial Relationships

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Pecs-S19-S1 Networks, Interaction, and Inequalities in Cities, B311, August 25, 2022, 9:15 AM - 10:45 AM

Spatial relationships are at the core of spatial sciences, however geographers often lack means of observing spatial relationships. Understanding how two places are connected is useful, but can only be inferred and not observed. With access to more and more new sources of Big Data, there are opportunities to extract spatial relationships from the data, and develop methods to effectively do so. Being able to capture trade and connections between regions, and how these change with time, are spatial relationships that currently there is a limited understanding of. By using these new data, with methods that have developed alongside our ability to process larger quantities of data, we can draw out new information about spatial relationships we know exist and can benefit from understanding better.

Using data from the Internet Archive (IA)'s web collection related to the UK, which has been collected over the period 1996-2013, hyperlinks between websites over time and the geolocations of the websites are recorded. The IA obtained geolocations for websites, by analysing the html text for the websites and identifying postcodes in the text, which provides spatial aspect to this data. The data can be grouped by year, to add in a temporal dimension.

By aggregating the data from individual website granularity to a level that avoids high sparsity (e.g. to MSOAs), methods for analysing embedded dynamic networks can be applied. The data can be put into graphs, to develop an understanding of the spatial locations and volumes of which there are connections between websites in the UK.

By building a spectrally embedded temporal model, new things about the spatial relationships can be learnt. A joint spectral embedding of multiple graphs technique called unfolded adjacency spectral embedding (UASE) is a process that can be applied to the data described, to see how the graph evolves with time. The findings can then be interpreted to understand the changes in behaviour of websites, communities, or the entire graph, that happen with time. We can visualise where clusters of communities are linked with one another are located spatially, and how these connections evolve with time. By adding the temporal aspect to the spatial relationships found, insights to why/how these relationships change can be made.

Urban quality of life: in search for perfect neighbourhood

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Pecs-G13-O2 Methods in Regional Science or Urban Analysis, B019, August 25, 2022, 9:15 AM - 10:45 AM

Literature offers many different methods for measuring the quality of life. However, currently known indices usually consider the population of the whole country or region, while much less they refer to a local areas. Thus, they inform only about the situation on a highly aggregated level and give no insight into the spatial distribution of quality of life within the local studied area. We are missing a well-built local index, which enable comparisons between the quality of life in small territories, such as city districts or local neighbourhoods. Nevertheless, even though urban economics literature indicates a few factors determining the local quality of life, such as access to green spaces or abundance of leisure facilities, this topic has not been carefully studied. Its importance is, however, undeniable – the information about the spatial distribution of quality of life within cities could be crucial not only to the local government deciding where to locate budget to help its citizens best, but also to entrepreneurs wondering where to invest or to people looking for a new place to live.

In this study, an example of Warsaw city is used to introduce a brand new approach for building a local quality of life index. Firstly, the city is divided into 1 km² grid cells. Secondly, for each cell separately there are calculated some economic factors that affect the quality of life, such as a number of shops and service premises, safety level, accessibility to public schools, universities, libraries or clinics, development of transport infrastructure, or greenness of the area, with an application of NDVI index. The next stage is to use all of these indicators to find the formula of the index and assign its value to each grid cell. Finally, the obtained results are analyzed, and several questions are answered: What is the spatial distribution of local quality of life? Are people living in the city centre better off than people living in the suburbs? How big is the difference? What can be said about the distributions when several cities are compared – are they similar, or do they vary? The last part of the project determines whether real estate prices correlate with the quality of life. For this purpose, we build a spatial econometric model and analyze its results.

Corporate Ecological Management: environmental aspects of organizational and production performance (the case of Natura Siberica Company)

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Online-G33-O2 Innovation and Entrepreneurship, August 23, 2022, 2:00 PM - 3:40 PM

The research is focused on the problem of ecological impact on the company's organizational and production performance. In particular organic cosmetics market is considered. There is the case of a company which operates in the cosmetic industry and uses a number of natural resources. The study is aimed at defining issues and providing solutions to cope with the ecological influence in terms of production specifics of the company in question. Findings are related to the transition of traditional manufacture to greener production. Conclusions allowed to modify the company's environmental policy on the basis of modernization of production process.

Creating a geodemographic classification for older people in England: the Aging in Place Classification

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Pecs-G03-O2 Demographic Change, Population, Migration and Mobility Behaviour, B018, August 24, 2022,
4:00 PM - 5:30 PM

Abstract

The English population is rapidly aging. A granular understanding of the key characteristics and spatial distribution of this population is required to tackle its emerging needs. To better understand the social and spatial heterogeneity within the older population and thereby support effective policy development and targeted service provision, this study develops an open access, multidimensional classification of the older population in England at a small area level.

The 'Aging in Place Classification' (AiPC) geodemographic classification has been designed to investigate the conditions of ageing population across 9 key domains. It pertains to population aged 50+ and employs cross-sectional data including Census and other novel data sources capturing housing, health, digital engagement, mobility and consumer behaviour characteristics. The classification is built using multiple machine learning techniques and it has been validated through a ground-truthing process. A top-down k-means clustering model grouped areas at the LSOA level into two tiers: 5 main clusters (Supergroups) and 13 nested sub-clusters (Groups). By creating the so-called 'Pen Portraits', we capture key characteristics of each cluster and sub-cluster. Currently, we aim to demonstrate how AiPC can be applied to better understand the issue of loneliness and to inform more targeted interventions to improving and readapting housing stock and how new service provisions for older people can be better integrated at a neighbourhood level. The bespoke geodemographic classification, our analysis and data products provide invaluable insights enabling more effective planning and policy intervention that address the needs and opportunities arising from an older population.

The Sources of Diverging Wage Inequality in Eastern European Transitional Economies

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Online-G18-R Regional and Urban Labour Markets and Entrepreneurship, August 23, 2022, 4:00 PM - 5:45 PM

A substantial wage differential started at the beginning of the 1980s and continued during the 1990s in the USA, spreading to other developed countries. Rising wage inequality has attracted considerable attention among academics, policymakers, and practitioners. However, wage inequality research has not reached a consensus on why wage disparities have widened, and it mainly concentrates on advanced countries. EU Statistics presents the diverging trend in income inequality in EU countries, especially in Eastern Europe. This study questions why wage inequality is persistently high in some countries and low in other countries with similar socio-economic conditions. In this regard, this paper focuses on wage differentials in Eastern Europe, paying attention to six countries: Bulgaria, Romania, Poland, Hungary, Czechia, and Slovakia. The research aims to examine the main drivers behind the diverging patterns of wage inequality in these countries. European Union Statistics on Income and Living Conditions (EU-SILC) is used to estimate the quantile regression models for determining how individual factors affect the wage in different parts of the wage distribution. The extension to the Oaxaca-Blinder decomposition is applied to disentangle and quantify the contributions of factors to the significant changes in wage inequality that occurred from 2010 to 2020.

Enhancing cooperation between V4 countries for innovative urban development

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Pecs-G29 Regional and Urban Policy and Governance, B019, August 25, 2022, 4:00 PM - 5:30 PM

The coming decade will bring new challenges to be faced in urban and regional planning: climate crisis, Industry 4.0, and circular economy. These challenges will prompt planners to create networks among various actors: investors, manufacturers, information technology, which also has spatial manifestation in the form of new sort of urban patterns.

In Central Europe we are witnessing a dual development: central regions face a strong urbanization and parallelly other regions are shrinking: losing their economic attractiveness and population, resulting in numerous social and environmental issues. The named tendencies change the importance and role of functional urban areas but also create new opportunities. As countries in the V4 region are in a similar position, they can effectively work together to trigger novel methodologies in urban planning and development. Besides mapping the state-of-the-art of urban planning, the project will deliver an interactive knowledge base regarding the following cross-cutting trends of nowadays urban planning. V4 countries are similar in differing from Western European planning system and economic culture, that is why cross-cutting issues such as climate change, digitalization and Industry 4.0 need a slightly different implementation model.

The main result of our research project is to collect the newest challenges of the municipalities, which they will have to face from the coming years and we will trigger solutions to them, using the knowledge from common planning traditions. The conference is ideal to open discussion on how to support researchers and urban experts, the daily management of cities in practice, how we can learn from each other in the V4 countries to adapt to new challenges besides their limited financial latitude.

Regional concentration of creative industries: some experience from the cities of CEE region

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Pecs-G01-O3 Regional and Urban Development, B016, August 24, 2022, 4:00 PM - 5:30 PM

Creative industries have become more and more significant role in our economy as described by various models. Especially in the countries of Central Europe, transformation of the economic structure raises a number of questions, whether the region remains a semi-periphery or can move up the hierarchy of value production. The emergence of the creative economy is a sign of this; however, its significance is modest. Policies focused on industrialization of cities in CEE region, although high value-added processes are linked to the creative economy, which have become less prominent.

The aim of this article is to analyse the presence of creative industries in various groups of cities from CEE region, focus on Visegrad countries. At the same time, it compares the results in different types of cities (more and less industrialized ones, cities to capitals).

Using qualitative research methods, we can see the background of creative industries, divide it different sectors, such as financial, IT, research and development or management, following internationally accepted definitions. These types of activities are based on highly skilled human resources and skills, assuming a link to knowledge sharing between regions led by a strong local-regional knowledge production and integration. Creative industries can empower the economic actors of the tertiary sector to be more closely linked to developed economic centres. Creative activities can widen the role of smaller cities in the monocentric countries. Not least, creative activities enhance the attractiveness of the cities, as widely accepted, which is a new opportunity of less developed but dynamically evolving ones.

The adoption of Open Innovation practices to promote the circular economy: a territorial exploration.

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Online-G12-O2 Regional Competitiveness, Innovation and Productivity, August 22, 2022, 2:00 PM - 3:35 PM

The adoption of Open Innovation practices to promote the circular economy: a territorial exploration.

The Circular Economy (CE) has recently been presented by a large number of development economist as a promising approach for sustainable development (Bakker et al., 2021; Ghisellini et al., 2016; Kirchherr et al., 2017; Korhonen et al., 2018; Rosa et al., 2020). CE operates at the micro (companies, products and consumers), meso (eco-industrial parks and industrial symbiosis networks) or macro-level (cities, regions and national or global governments) (Jesus & Jugend, 2021; Khitous et al., 2020; Skawińska & Zalewski, 2018). This study focuses on the micro level, since a number of studies have pointed out that a detailed understanding of how to progress towards a circular economy on a micro level is lacking (Baratsas et al., 2022; Kristensen & Mosgaard, 2019). Consequently, rather than concentrating on the development of circular business models, we have dedicated to the study of circular products in order to advance CE strategies (Bocken et al., 2016; Cooper, 1983; Franzò et al., 2021).

Scholars have claimed that there is insufficient literature covering the adoption of innovation practices in the implementation of CE initiatives. In particular, Open Innovation (OI) can be seen as a path to reduce technological barriers in the transition from linear to circular products (Ambos et al., 2021; Brown et al., 2020; Elmquist et al., 2009; Giuliani et al., 2015; Lazzarotti et al., 2017; Lema et al., 2019; Manzini et al., 2017). Therefore, this paper examines how companies exploit OI practices to further CE by advancing new product development.

By applying it to a specific case study, this paper is intended to fill the existing gap in the literature that addresses CE and OI. On the example of Uruguay, where government and Finnish multinational UPM have recently reached a record-setting USD 3 billion agreement to construct a pulp mill in the center of the country, it addresses implications of adopting OI practices for the development of circular production at the micro-level.

Using the Participatory Action Research (PAR) methodological framework, this study intends to contribute to the broader literature on territorial (regional) development, sustainability, and innovation by answering the following research question:

How do companies exploit open innovation for developing circular products?

Keywords: Circular economy, Circular products, Open Innovation, Sustainability, Local Development, Pulp Industry, forestry/wood/cellulose sector, Territory, Participatory Action Research.

Decentralized composting of municipal bio-waste. European best practices and local initiatives in the Cluj-Napoca Metropolitan Area

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Online-S12-S1 Multi-Level Governance through the Core Network for Sustainable Development –Building Green and Digital Skills for Sustainability, August 22, 2022, 2:00 PM - 3:35 PM

Dealing with bio-waste in urban areas is a challenge for the institutions in charge of solid municipal waste management, but decentralized composting proved to be a viable solution for many cities and regions in Europe. In the present paper we explore the possibility of a decentralized bio-waste management in urban areas in Romania. Out of the many successful examples in the scientific literature, we chose three decentralized composting systems applied in the European Union (that were different in terms of spatial scale, population involved, efficiency, etc.), and searched for best practices that could be transferred to the bio-waste management in Romania. We found out that several aspects are important for implementing a successful decentralized composting system: good knowledge of the local situation, support from the local authorities, keeping the resources local, training expert composters (that know very well the biological processes involved at various scales), and educate the population. We also searched on local mass-media and on social media for bottom-up initiatives for decentralized composting in Cluj-Napoca (the second-largest city of Romania). We found informal groups for collecting and composting bio-waste, local producers and consumer groups promoting the circular use of agricultural products, start-ups providing bio-waste collection services to urban households and community gardening and composting. The identified best practices from European cases and the described local initiatives represent a foundation that can be built upon in order to create locally adapted bio-waste management systems in urban areas in Romania, in accordance with the circular economy principles.

Outsourcing and City Development: A Case Study of Digital Cities in the Philippines

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Pecs-G20-O1 Cities, Regions and Digital Transformations, B314, August 24, 2022, 2:00 PM - 3:30 PM

The Philippines remains to be one of the top destination for Information Technology and business process outsourcing(IT-BPO) investments. Despite the global economic downturn brought about by Covid-19 pandemic, the IT-BPO industry in the Philippines was able to deliver 26-billion-dollar revenue and grew by 1.4-1.8 percent in 2020. IT-BPO firms were initially concentrated in Metro Manila, however, in recent years, many IT-BPO companies are expanding their operation throughout the country. In order to sustain the progress of the industry and to diffuse the growth to local economies, the government together with the private sector have identified 25 Digital Cities which have the potential to attract and host IT-BPO investments. This paper aims to examine the characteristics and analyze the competitiveness of the 25 Digital Cities both at the international and national level. This paper utilizes the Tholons Global Innovation Index to assess the competitiveness at the global level and Cities and Municipalities Competitiveness Index(CMCI) by Philippines National Competitiveness Council to evaluate the competitiveness of Digital Cities at the national level. This paper also presents relevant IT-BPO statistics and discusses key historical transformation in IT-BPO industry. The Digital Cities have varied characteristics in terms of population, location, and number of IT-BPO firms and employees. Cities such as Cebu, Davao, Santa Rosa, Bacolod, Iloilo, and Baguio are consistently listed in the Tholon's Top 100 Outsourcing Destination since 2015. Majority of the Digital Cities also rank relatively high in CMCI ranking. Furthermore, majority of the Digital Cities have experienced significant improvement in specific areas such as local economy growth, gross sales of registered firms, employment, and productivity.

Foreign Partnership Economic Zones: A Case Study of Japanese Affiliated Zones in the Philippines

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Pecs-G31-O1 Location of Economic Activity, B020, August 26, 2022, 9:15 AM - 10:45 AM

Given the extensive involvement of Japanese companies in the development and operation of special economic zones in the Philippines, particularly in industrial parks or manufacturing economic zones, this paper aims to explore the characteristics and performance of the Japanese affiliated industrial parks in the Philippines. This paper also discusses the prominent trend in special economic zones development, particularly, the emergence of private foreign partnership economic zones. This paper also presents relevant facts and figures about special economic zones in the Philippines. This paper also examines the case of four affiliated-Japanese economic zones in the Philippines: First Philippine Industrial Park (FPIP)-Sumitomo Corporation, Lima Technology Center (LTC)- Marubeni Corporation, and Lima Technology Center (LTC)- Marubeni Corporation. This study has found that Japanese affiliated industrial zones are concentrated in few areas of the country, particularly in the industrialized province of Batangas, Cavite, and Laguna. In comparison with other manufacturing zones and all other economic zones, Japanese affiliated industrial parks are found to deliver more significant outcome, particularly in terms of number of tenant firms, investments, exports, and employment. The nature of cooperation of Japanese companies varies from full involvement in development and operation to conducting specific functions such as sales and marketing.

Evaluation and support of digitalisation of companies in Europe in times of the COVID-19 pandemic.

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Pecs-S23 Effects of Digitalization and COVID19 on regional employment, B313, August 24, 2022, 2:00 PM - 3:30 PM

The Covid-19 created a sudden and unexpected chance for the faster digitalisation of companies in Europe. Our research aims at answering the following questions: (1) Which aspects of digitalisation in European companies accelerated during the COVID-19 pandemic?, (2) What role in digitalisation of companies in Europe during the Covid-19 played entrepreneurship of managers, national policies, activities of Digital Innovation Hubs?, (3) Which solutions utilising digital technologies introduced in the European companies to cope with the COVID-19 situation will still be used after the end of the pandemic?

The study is based on the online survey conducted between October and December of 2021 among 124 experts in digitalisation from 22 European countries, representing Digital Innovation Hubs and administration offices. The results obtained allow to draw the following conclusions: (1) The Covid-19 pandemic (the sudden absence of workers, restrictions concerning functioning of companies) led to the acceleration of the digitalisation of companies in Europe. In companies rendering services and larger in terms of size the process is perceived to be faster than in manufacturing and smaller firms. The process is especially evident for newest software technologies allowing online meetings, remote work and e-commerce. (2) Online meetings and reduction in business travel are believed to become a universal in Europe, long-lasting effects of digitalisation in companies in times of the COVID-19 pandemic. In countries characterised by high innovativeness and high value of the Digital Economy and Society Index (DESI) additional long-lasting effects will probably include popularisation of remote working (at least on some working days) and flexible workspaces – both of which may lead to the reductions in overall office space used. (3) There are differences in barriers and actions considered as most effectively supporting digitalisation in groups of European countries, especially between old-EU countries (EU-15) and new-EU countries with EU candidates.

The research is one of the first attempts to evaluate digitalisation paths in European companies in times of the COVID-19 pandemic and one of the first survey among a panel of experts assessing possible long-lasting effects of the pandemic on the digitalisation of companies.

Urban geographical patterns of the relationship between mobile communication, social networks and economic development in Hungary

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Pecs-G20-O2 Cities, Regions and Digital Transformations, B314, August 24, 2022, 4:00 PM - 5:30 PM

In the post-industrial age, the transformation of urban networks and urban regions was fundamentally influenced by the rapid spread of infocommunication technologies (ICT) and the Internet. People share information in their daily lives with the help of various ICT devices and ultimately generate georeferenced data that could obtain important information about people's use of space, spatial movement and social connections. The main aim of the study is to explore the urban geographical and spatial impacts of ICT and social media networks in Hungarian cities. We focus on drawing territorial and settlement hierarchical patterns and clusters based on the mobile communication and online social network relationship data of Hungarian cities. The paper highlights the relationship between the intensity of mobile communication and the density and expansion of intercity social relations and the settlements' level of economic development, respectively. The methodology is based on mobile phone call detail record (CDR) analysis and intercity network analysis of social media activities. Our findings suggest that different communication networks follow divergent spatial patterns in Hungary. The traditional East–West dichotomy of the Hungarian spatial divide is still reflected in mobile communication, but intercity clusters based on social media activities are usually aligned to the borders of administrative structures. In several cases, we were able to identify strong intercity links between settlements with a similar level of economic development of the mesolevel spatial structure that traverses over different counties and regional borders. Results on social and demographic issues suggest that 'generation Z' could play a key role in dampening the social and economic tensions created by the digital divide in the long run. Using a multidimensional explanatory model, we could demonstrate the growing interconnectedness between digital networks and economic development.

Spatial convergence of Hungarian settlements after the 2008 economic crisis

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Online-G14 Spatial Econometrics, August 23, 2022, 9:15 AM - 10:55 AM

The issues of regional income inequality have been prominent in both academic research and economic and territorial policy ideas over the last two to three decades. The topic has aroused particularly intense interest in Central and Eastern Europe and Hungary in the period of regime change and beyond.

The overall aim of the presentation is to analyze the effects of the territorial income inequality affecting Hungary in the period following the global crisis that started in the United States in 2007-2008.

The territorial entity of the study is the Hungarian settlement (3154 pieces).

Using spatial econometric methods (spatial and LISA Markov-chains, kernel function estimation, etc.), we describe the main features of income inequalities. With our analyzes, we point out the spatial club convergence at the municipal level, and the forces shaping the phenomenon.

Contemporary trends in European industrial policy: from global interdependencies to more economic sovereignty and autonomy?

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¹KRTK

Online-G29-O1 Regional and Urban Policy and Governance, August 23, 2022, 11:15 AM - 1:15 PM

The objective of EU industrial policy in the 2021-2027 programming cycle (with €1.8 tn funding dedicated to recovery from the coronavirus pandemic and long-term EU priorities) is to better connect European science and technology infrastructure to industrial research and innovation in order to counter offshoring and achieve a stronger territorial embeddedness of European firms. Transcending economic nationalisms, innovation driven re-industrialisation has highlighted the role of an integrated European industrial policy, synthesising horizontal and vertical industrial policy instruments as a strategic priority. The likelihood of a Europe-wide industrial renaissance is conditioned by current trends shaping the new directions of new industrial policy, such as growing economic nationalisms and global competition for innovation, violations of European competition policy, the fragmentation of the European economic landscape along antagonistic competition vs. industrial policy interests, and the protectionist endeavors of supranational industrial circles and lobby groups. The offensive nature of new industrial policy solutions aimed at strengthening the EU's global positions facilitates exemptions from competition policy, revisiting rules on mergers and acquisitions, the policies on selecting “winners”, and joint efforts in favor of a Europeanisation of value chains and addressing the strategic dependencies of the European economy. For the industrial heartland of Europe, striking a balance between the objectives of innovative cohesion and disruptive innovation under the aegis of a pan-European industrial strategy is of crucial significance. The innovation (and more recently, coal) divide as a major barrier to unlocking growth in the European industry is manifest in the spatially variable drivers of competitiveness and strengthening dependency relations between the economic core and “nearshoring” countries. A pan-European industrial strategy conceived in a multi-level governance approach has to be mindful of the harmonisation of industrial policies promoting the catching-up of countries lagging far behind the technological frontier. The objective of the present paper is to discuss contemporary dilemmas brought to the fore by the EU's integrated industrial policy approach against the backdrop of the recent health and humanitarian crises.

Studying transport networks using centrality measures: The Case of Tunisian Sahel Region

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Online-S19 Networks, Interaction, and Inequalities in Cities, August 22, 2022, 9:15 AM - 10:55 AM

see extended abstract

A Tale of two neighbours: Unveiling the North-South trade using high geographical grid data

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Online-YSS3, August 22, 2022, 9:15 AM - 10:45 AM

This paper is the first to build a dataset on bilateral trade flows between provinces of a developed and a developing country. It offers insights to existing datasets for developed countries, such as the US and Canada, or countries in Europe. We present a province-to-province (NUTS3) trade dataset between Spain and Morocco compiled by combining trade and freight statistics for the period 2010-2018 split into 15 sectors and 3 transport modes. The dataset is used to estimate a gravity equation, which identifies the main determinants of bilateral trade and controls for singular geographical relations between entities. Moreover, we discuss port hinterland issues in Morocco and analyze potential connections of inland Moroccan provinces with selected ports. Our results are of special relevance for the EU-MENA relations and provide interesting insights for other countries whose colonial ties reversed in hostilities and political differences.

The Systemic Impacts of Tourism Activities in Moroccan Regions

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Pecs-G19 Tourism and Overtourism Issues, B323/1, August 25, 2022, 2:00 PM - 3:30 PM

In this paper, we assess the systemic impacts of tourism activities in the different regions of Morocco. The country faces strong regional concentration in terms of the contribution of tourism to the national GDP. According to the Ministry of Economy and Finance, Marrakech occupies the first position in terms of internal tourist flows, showing an average contribution of 23.7% (2002- 2013), while its overall share in arrivals reached 30.7%. Tourism contributes to the Moroccan economy, particularly to the economic diversification of activities and has strong links with other sectors. Moreover, tourism activities may contribute to reducing regional inequality and providing employment opportunities. In this context, we will use an interregional input-output model that incorporates data from the latest national surveys done in Morocco in order to compute different dimensions of tourism multiplier effects. This intersectoral and interregional analysis will allow us to investigate the benefits of promoting tourism in some peripheral regions with potential to be attractive destinations for tourists.

Border-crossings as memory sites? The case study of the Czech-Polish border in Cieszyn Silesia.

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Pecs-S27-S1 Borders and Borderlands – Integration and Cohesion in (Central) Europe, B312, August 25, 2022,
2:00 PM - 3:30 PM

This project evaluates the state borders between Czechia and Poland in the region of Cieszyn Silesia from the perspective of memory studies. Emphasizing the fact that the borders and especially border crossings are sites rich in symbolics, the field observation was conducted to explore whether the border-crossings (can) play a role in memory work. These sites, apart from their apparent function, represent bridges between two states and usually two national communities. If these groups were in past in antagonistic relationships (tensions, violence), the border could also become a site of rivalry (e.g., contested border demarcations). In this project, all the border-crossings between Czechia and Poland in Cieszyn Silesia are considered and the imprints of the past are identified. According to the approach of the SANE framework (Björkdahl et al., 2017), some of these border crossings can be also considered memory sites which means they are (can become) a platform for reconciliation or construction of new and better cross-border relationships. That goal is valid also for Cieszyn Silesia which was 1919 divided into two parts (Czechoslovak and Polish). Such demarcation did not respect the national and linguistic distribution of populations and left many Poles in Czechoslovakia. The demarcation of the new border was accompanied by events that turned sensitive from a longer perspective (Czechoslovak military campaign in 1919 on Polish territory, Polish occupation of Cieszyn Silesia in 1938). This paper is, therefore, exploring the reconciling and conflicting narratives the memory sites may have.

Robust skill-relatedness networks of industries make resilient regions

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Pecs-S24-S2 Structural Change and Resilience in Local Labour Markets, B311, August 26, 2022, 11:15 AM - 12:45 PM

In this paper we set out to study how the skill-relatedness network structure of industries conditions the economic resilience of regions across 72 local labour markets in Sweden. Drawing on recent advancements in network science we stress-test skill-relatedness networks constructed from local labour flows between industries against the elimination of some of their nodes. We then validate the connection between such network robustness and employment growth in the context of the 2008 economic crisis. We find marked heterogeneity across regions in terms of network robustness. Our results from regression analysis support that regions endowed with more robust local skill-relatedness networks of industries experience higher employment growth particularly in the resistance stage of the unfolding crisis and its aftermath.

Poverty transitions, wellbeing and territory in Italy: The need of a multi-dimensional matching approach

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Online-G23-O2 Segregation, Social and Spatial Inequalities, August 23, 2022, 2:00 PM - 3:40 PM

The idea that people adapt to poverty and deprivation by learning to suppress their wants, hopes and aspirations has gained a great deal of currency in development ethics (Clark, 2009). In particular, this line of thought is frequently cited as a reason for moving away from utilitarian-inspired concepts of well-being based on happiness or the fulfilment of desires. Inspired by the meaningful role of mental adaption and transition to poverty to a multidimensional SWB perspective, this work aims at shedding the light on few drawbacks in the literature about subjective wellbeing, poverty and territorial dimensions. In particular, we investigate the role of poverty adaption both as mental status and as repeated material condition over time, with data obtained through the statistical matching of the ISTAT surveys of Aspect of Daily Life and Households Budget Survey, for the period 2011-2017. In this regard, in this paper we propose a multi-dimensional matching approach to investigate the joint information about poverty condition, life domains and mental adaption for Italy, aiming to investigate territorial disparities on the effect of poverty metrics and poverty adaption measures on satisfaction of Italian resident with six life domains. The joint information allows to show the effect of adaption to poverty on different life domains of subjective well-being, stressing the role of cultural and regional characteristics in the individual perceptions.

What drives sustainable NTFP production from subsistence harvesting? The case of *Caesalpinia spinosa* in southern Ecuador.

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Pecs-G07-O1 Global Warming, Health and Environmental Issues, B316, August 25, 2022, 2:00 PM - 3:30 PM

The sustainable collection and production of non-timber forest products (NTFPs) is an important way to achieve a balance between the rational use of natural resources and the development of the livelihoods of the population. *Caesalpinia Spinosa*, also known as tara, is a NTFP with great production and market potential, originating in the Andean region of South America and used in various industries such as food and medicine, due to its high content of tannin agents, gallic acid and other compounds. This study aims to analyze the factors that determine the willingness to invest in sustainable commercial plantations of *Caesalpinia Spinosa*. To collect the information, a structured survey was applied to 125 households that collect *Caesalpinia Spinosa* in forests in southern Ecuador. To estimate the factors that determine the willingness to invest in sustainable commercial plantations of *Caesalpinia Spinosa*, a logistic regression model was used. The results identified 5 factors that influence the willingness to invest: age, number of children under 12 years of age, education, experience in collecting and managing of tara trees. Tara tree management has a strong influence and younger collectors are the most likely to invest in sustainable commercial tara plantations. Tara harvesting is a complementary activity to the agricultural and livestock activities of the farms, with great economic, social and environmental potential. More than 60% of collectors are willing to invest in sustainable commercial tara plantations, motivated by socio-demographic aspects and others related to the activity of collecting tara. Based on the findings, this study suggests the implementation of productive projects related to NTFPs in areas of low agricultural productivity and high rates of poverty, such as the dry forest zone in southern Ecuador. In addition, changes are suggested in the NTFP collection and production system and in local forest management, aimed at the efficient use of NTFPs and poverty reduction.

Geographical and Sectoral Polarization of Jobs: The Case of Romania during the First Decade Following the EU Accession

Dr. Mihail Eva¹

¹*Alexandru Ioan Cuza University of Iasi*

Pecs-S17 The new geography of labor market inequalities, B323/2, August 25, 2022, 9:15 AM - 10:45 AM

This research inquires the geographical dimension of labour market polarization. The first main objective aims at delivering a systematic assessment of labour market polarization in Romania during 2007-2018, by answering the following two questions: (i) can we speak of labour market polarization in Romania during the period 2007-2018? And (ii) How can we describe the geography of labour market polarization? To answer the first question, labour market polarization is assessed by classifying all economic sectors (2 digit NACE rev2) into five groups (five quintiles) based on the average of wages of all employees from the sector. Taking this classification we further compute the evolution of the number of jobs for each of the quantile and thus test the polarization hypothesis at the national level. To answer the second question, the same procedure is repeated for each commune/city of Romania. After classifying each commune/city into one of the well-known categories found in the literature (polarizing, upgrading, downgrading, mid-upgrading - as defined by Henning & Eriksson, 2021), we finally obtain not only the frequency of polarizing cases, but also their geography. The second main objective aims at exploring the determinants of the geography of structural changes in the labour market, including determinants such as spatial accessibility to the EU market (computed using a highly detailed GIS road network), demographic size and demographic structure in 2011, spatial proximity to various categories of urban centres, and education level in 2011.

Causal effect of embankment fires on railway traffic: An instrumental variable analysis

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Pecs-G06 Adaptive and Resilient Cities and Regions, B020, August 24, 2022, 11:15 AM - 12:45 PM

Embankment fires are one of the most common natural hazards that cause unexpected disruptions in railway operations. A route closure due to embankment fires in Germany last on average three hours, which could potentially lead to enormous economic losses. In order to quantify the extent of railway infrastructure vulnerability to embankment fires, this paper estimates the causal effect of forest-fire incidence on railway traffic. Extensive train traffic data across all railway lines of the German Deutsche Bahn AG (DB) are matched with geospatial information on disruptive embankment-fire events between the years 2018 to 2020. Since sparks from passing trains are often the cause of forest fires along the railway tracks, the relationship between embankment fires and railway traffic suffers from reverse causality. We address this by using air temperature, relative humidity and daylight hours as instrumental variables in a two-stage residual inclusion (2SRI) estimation. Results suggest that embankment fires have a negative causal effect on daily train traffic. As the risk of forest fires increase due to climate forecasts of intensifying heat waves and longer drought periods, these results can contribute to the valuation of the economic costs of climate change and the resilience of countrywide railway infrastructure to natural hazards.

Analyzing the effect of European Community-Led Local Development Programs: does it increase labor markets disparities in rural areas?

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Online-G18-O3 Regional and Urban Labour Markets and Entrepreneurship, August 23, 2022, 4:00 PM - 5:45 PM

The difficulties of entrepreneurship and business development in rural areas has long been a topic of both academic and policy interest. This has given rise to a variety of EU, national and regional program aimed at levelling the playing field for firms and entrepreneurs operating in challenging regional settings. We analyze one of such programs that has been considered particularly promising: Community-Led Local Development. We analyze the effect of this approach, based on empowering local communities, upon rural municipalities of Spain. To do so, we have constructed a novel dataset with information on over 12.6 million beneficiaries, aggregated at a LAU 2 level. In order to avoid bias in our estimation arising from multiple time periods and relevant covariates, we employ the recent Difference-in-Difference estimator developed by Callaway and Sant'Anna (2021). The analysis renders important insights regarding both the effect of the policy and the possible increase of disparities across gender in rural areas. The policy succeeds reducing unemployment in the municipalities that received aid, but the estimates also show considerable difference in the causal effect for women and men. For female workers, the policy is not as successful as for male workers. Further research is needed to ensure that the policy does not inadvertently widen the gender gap present in rural labor markets.

Border Effect on firm's competitiveness: how do they change in specific territories.

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¹*Politecnico di Milano - DABC*

Online-S27 Borders and Borderlands – Integration and Cohesion in (Central) Europe, August 22, 2022, 2:00 PM - 3:35 PM

The issue of the “Border Effects” has long been studied in the regional literature. Since its identification, it has been at the central element of many studies and has become the focus of specific territorial cooperation policies from the European Union.

Many empirical studies have been published, based on a gravitational model approach aiming to estimate the costs of a border in terms of missed trade, production costs and territorial growth. Moreover, qualitative studies, sometimes based on cases, have been investigating the situation of border areas or the consequences of processes of aggregation and disaggregation of countries. Finally, analytical studies have been investigating the consequences of borders, for example on firm productivity and on their production and investment choices.

Recently, some papers have highlighted different potential effects and obstacles generated by the physical presence of the border, differentiating between “endowment needs” and “efficiency needs”, and showing the importance of institutional, physical and socio-cultural obstacles in limiting the exploitation of different growth assets.

This wide scientific literature is largely macroeconomic, as are most interregional policies, which follow a similar macro-economic perspective to improve territorial cooperation either at regional (NUTS-2) or provincial (NUTS-3) level.

Improving from this stream of literature, this paper focuses instead on microeconomic outcomes by looking at how the presence of the border impacts the competitiveness of firms located in border and near-border, and does it by adopting an analytical perspective in which the effects are territorialized.

The empirical analysis uses the case of Italian land borders to study the difference competitiveness of firms located in border regions, (i) for different industries; (ii) in centres of provision of services vs remote municipalities, (iii) in areas physically close to the border vs areas belonging to border regions but farer away.

Methodologically, the paper employs a counterfactual strategy with an innovative “double” matching design.

The results produced in the paper are only specific for the Italian Land-Borders considered in the study - and other European border territories sharing the same characteristics - but provide important policy indications on the effect of the border that cannot be individuated with a macroeconomic approach. In this way, they provide a contribution on a better territorialization of cross-border EU policies.

Cost pass-through and local market power: the experiences of a gasoline market merger

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Pecs-G12 Regional Competitiveness, Innovation and Productivity, B018, August 24, 2022, 11:15 AM - 12:45 PM

Recent researches emphasize the role of how costs are passed through into prices. However, there is no straightforward consensus, many researchers and competition authorities have the viewpoint, if „rockets and feathers“ occurs in an industry, it is evidence for price maker behavior of fi

rms. The present paper investigates the changes in cost pass-through rates of

firms in response to the local market power changes caused by the merger of two branded chains on the Hungarian retail gasoline market. Applying the ECM regression technique and difference-in-difference estimation strategy, on the one hand, we provide evidence that the relationship between cost pass-through asymmetry and local market power is not obvious. On the other hand, we also show that asymmetry of fi

rms' cost pass-through increased with the acquisition.

Financial Institutions Matter for Cohesion Policy

Ms Sára Farkas¹

¹*John von Neumann University*

Pecs-G01-O1 Regional and Urban Development, B016, August 24, 2022, 11:15 AM - 12:45 PM

The presentation aims to give a brief overview about the financial instruments' role in development policy in the EU and, as a Central- European emerging country, to highlight the special features of the Hungarian delivery system (2007- 2013), and to identify the risks and challenges on local economic development.

Partnership and technology in urban development

Ms Sára Farkas¹

¹*John von Neumann University*

Pecs-G08-O1 Cooperation and Local / Regional Development, B017, August 24, 2022, 2:00 PM - 3:30 PM

In the age of technology, the role of cities is becoming increasingly important, and technology is playing an increasingly important role in the life of cities. Considering the fact that the basis of successful cities in the 21st century is determined by the successful interconnection and networking of stakeholders interested in urban development, it is essential for every city to create the right framework and processes for a more efficient urban level partnership management and to promote networking using infocommunication solutions. The aim of the article is to offer a theoretical basis and some practical examples with infocommunication solutions for more effective connection and networking of stakeholders in urban development.

Energy transition and social acceptance: evaluation of biogas plants on real estate prices in France

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¹CREM/CNRS, ²Métis

Pecs-G16 Real Estate and Housing Markets Issues, B017, August 26, 2022, 9:15 AM - 10:45 AM

The impact of real estate prices is one of the crucial points on the social acceptability issues faced by biogas facilities in France. To date, we have only identified three studies on the price of real estate. The one by MODICA (2017) analyzes the impact of biogas plants on the average property value per municipality based on revealed preference data in Piedmont (Italy), and finds no evidence of impact. However, PECHROVA and LOHR (2016) find a negative impact of biogas plants on house prices based on eight biogas plants in the Jihomoravsky region of the Czech Republic using the hedonic pricing method. As for the study conducted by ZEMO et AL. (2019), they highlight that large-scale farms and biogas facilities have an adverse effect on property values while small-scale facilities have a positive effect. More importantly, the acceptability of biogas facilities can vary from country to country (SCHULACHER AND SCHULTMANN, 2017) and even from region to region within a country (KORTSCH et AL., 2015). Given the very limited number of economic evaluation studies of residents' opposition and support for green energy facilities and the inconclusive results, it is important to obtain more evidence on the effects of biogas projects on the hypothetical decrease in housing prices and its influence on social acceptability.

Based on a database of 61,942 sales between 2015 and 2021 on real estate sales in the Great West (Normandy and Brittany), a difference-in-difference (DiD) counterfactual method is used to evaluate the effects of biogas units on the price of real estate in the areas near these units. This study aims to continue the work initiated by ZEMO et AL. (2019) by applying a new field of study (Normandy and Brittany) and making changes to the method (DiD). We will test what role the size of the biogas plants plays and how the existence of opposition from the local population to the establishment of such facilities influences local real estate prices.

Examining the role of entrepreneurship ecosystems in Hungarian urban regions

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Pecs-G01-O4 Regional and Urban Development, B016, August 25, 2022, 9:15 AM - 10:45 AM

Economic growth and development are probably the most well-known policy targets for improving the well-being of the population. However, researchers and policy makers disagree about how to achieve high growth. Some highlight the role of investment and associated savings, others believe in foreign direct investment (FDI) or institutional development. Entrepreneurship scholars emphasize the role of entrepreneurship in economic development, but they disagree about the exact definition of the term. Over the last decade, entrepreneurship ecosystem (EE) research has become a leading field in entrepreneurship research.

In this paper, we use the Regional Entrepreneurship and Development Index (REDI) methodology to analyze the EEs of 22 urban regions in Hungary. These urban regions statistically range from metropolitan agglomerations to smaller regional units with urban centers which organize their respective local economies, representing real economic entities relevant to EEs. Such an approach sheds light on the actual regional differences in entrepreneurship ecosystems since the data are aggregated at lower levels and could lead to more appropriately targeted policy interventions.

As compared to other European regions, Hungarian urban regions perform poorly in entrepreneurship. Budapest, the leading Hungarian regions, ranks 81st out of the 140 regions in the sample, and it also lags behind other similarly developed regions. Looking at the REDI sub-indices, Hungarian urban regions perform relatively well in Entrepreneurial Attitudes while Entrepreneurial Aspiration is the weakest component in 19 of them. At the pillar level, we have identified the strengths and the weaknesses of each region. The weaknesses of Hungary's urban regions are concentrated in three pillars: Risk Acceptance and Financing are the weakest pillars for eight urban regions each, while four regions have problems regarding Opportunity Startup and the Product Innovation and Process Innovation pillar account for the lowest scores for one urban region each. Pinpointing local weaknesses is particularly important because they act as limitations on the operation of EEs and serve as a basis for policy interventions. The present research provides evidences that it is worthwhile to examine small, relative homogeneous territorial unites as compared to larger regions. We have provided additional information and more precise measurements of the entrepreneurship ecosystems for lower-level economic entities, namely urban regions, with a view to providing a basis for better, more targeted policy interventions.

Cross-border city governance in the Danube region

Dr. David Fekete¹

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Pecs-G02 Macroregional, Transregional, Regional and Urban Policy and Governance, B017, August 24, 2022,
11:15 AM - 12:45 PM

European urban development trends have shown two directions in the field of metropolitan governance in recent years: (1) The governance of big cities has not been the exclusive responsibility of municipal self-governments for long, (2) The impacts and governance potential of big cities do not stop at their administrative borders. The focus of this paper is the governance practice of six big border cities in Hungary. The research questions are as follows: Are there formalised institutional frameworks for the governance of Hungarian big cities? Are there project cooperations that reinforce the governance activity of big border cities?

It can be said that in the building out of cross-border governance structures two of the six big cities examined do not show any activity on the basis of the defined indicators, while in one case the formal frameworks have been created, but without any real activity.

The survey proved that the EGTC membership chosen as the first indicator is only relevant for half of the big cities, and only two of them show any activity in real life (Pécs and Győr). Looking at the project-based cooperations, only three projects are implemented in border regions, and they are connected to two big cities (Győr and Szeged).

'Traffic Light' Theory for Covid-19 Spatial Mitigation Policy Design

Prof Michael Beenstock¹, **Prof. Daniel Felsenstein**¹, Dr Dai Xieer³

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Pecs-S59-S1 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 24, 2022, 11:15 AM - 12:45 PM

We suggest the use of outdegrees from graph theory to rank locations in terms of their contagiousness. We use this approach for measuring the contagiousness of locations for operating 'traffic light' policy as an alternative to national mitigation policy. This measure is applicable to any contagious disease and not just Covid-19. The outdegree for locations measure their contribution to national morbidity. Outdegree justly penalizes locations for the contagion that they propagate. By contrast the practice of calculating R for locations unfairly exonerates locations, which export contagion, and penalizes locations, which import contagion. We show that outdegrees are equal to the column sums of spatial autoregressive matrices, which may be estimated using econometric methods for spatial panel data. Simulation methods are used to illustrate the concept of outdegrees and its structural determinants in terms of centrality, indigenous contagion and spatial contagion. A secondary criteria for traffic light shading involves the stochastic structure of morbidity shocks, which induce 'spiking' through their autoregressive persistence, conditional heteroscedasticity and diffusion jump parameters

Does investment in R&D have long-run effects on productivity? An analysis of the Spanish regions.

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¹*Universidad De Oviedo*

Pecs-S40-S1 Innovation catalysts, regional development and unintended consequences, B313, August 26, 2022, 11:15 AM - 12:45 PM

It is almost universally accepted that technological change and other kind of innovation are the most important sources of productivity growth and well-being (Edquist, 1996).

The objective of this article is to analyze if R&D investments has long run effects on Spanish regions productivity. In this analysis we distinguish between public and private investment and also, we observe if the results vary depending on whether the region is more or less developed. In addition to controlling for socioeconomic and demographic factors, such us human capital, density, territories level of education, among others, we include an interaction term which permit us to shape the effect of initial investment in R&D through time, being able to observe if R&D investments has long run effect on region's productivity. Results have been obtained from 45 estimates in which a "Fix Effects Panel Model" has been employed in each case. Errors have been clustered by regions to control for a possible spatial dependence. Results are clear. Initial R&D investment has long-run effect on productivity regardless of the sector or kind of regions that executes the investment. Later investment has less impact on regions productivity. Also, it is observed that the effect of the investment in R&D is not homogeneous throughout the territories. Specifically, investment in R&D generates a greater impact on most developed regions. In line with recent literature, we observe that less developed regions could have a lower capacity to absorb invested resources due to their own socioeconomic circumstances.

"see extended abstract"

Determinants of university and industrial patents in Brazilian regions: a Spatial Panel Approach

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Online-G12-O1 Regional Competitiveness, Innovation and Productivity, August 22, 2022, 9:15 AM - 10:55 AM

Academia and industry have different norms and incentives to participate in the innovative process which reflects in different focuses and specializations. Considering the growing importance of university patents in great number of countries, we use a Regional Knowledge Production Function to analyze, not only patents as a whole, but to evaluate industrial and university patents separately for Brazil from 1998 to 2018 using a spatial panel for 133 regions. This work aims to define the role played by the different determinants cited in the literature on university and industrial patenting of innovation in developing countries with a broader and more recent panel using a hierarchical-functional regional cut. Our results include differences between academic and industrial innovations regarding R&D efforts, urban agglomeration and network connections. Also, we find a great source of heterogeneity and differences in innovation, like complementary technological profile. Moreover, we find specificities for the North and South regions of Brazil regarding innovation patterns and explore heterogeneity of patent data for international patents (PTC), co-invented patents and utility models. These results are important to understand the real effect of each type of patent, helping to direct public innovation policies specific to develop industries and university knowledge in peripheral regions.

Land supply, agricultural productivity and structural transformation: protected areas and local development in Brazil

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Pecs-G31-O2 Location of Economic Activity, B020, August 26, 2022, 11:15 AM - 12:45 PM

How do sectoral economic and employment growth react to a shock to land supply for regions where agriculture plays an important role? In which way does this reaction depend on local land use patterns and agricultural productive structure?

In our case, the shocks to local land supply are the establishment of environmental protected areas in Brazil. As an important tool in the fight against climate change, as the size and number of protected areas should increase throughout the world on the next decades. Moreover, climate change should also lead to a decrease in land supply through changes in suitability for crops, highlighting the study's relevance.

This paper looks at the relation between land supply in agriculture and structural transformation at a regional level. Land supply plays a central role in land use decisions that affect agricultural productivity, labor intensity, rents and wages, which can induce broader sectoral transformations, especially in areas where agriculture plays an important role in the local economy. Global income and population increases exert pressure on some regions for agricultural specialization, and thus on land use, as higher prices increases land profitability, which boosts demand for previously unused/underdeveloped land where it becomes profitable to be turned into modern agricultural farms.

While other work focused on the impact on agricultural production, we take a step further and look at how land use affects broader sectoral behaviour. Understanding how those type of policies have an effect on local economies - and not only agriculture - becomes then an important issue, allowing a better cost-benefit evaluation.

We use data from the Brazilian Environmental Ministry for the protected areas, combined with data for the Brazil's Agricultural Census (1995, 2005, 2015) and Demographic Census (2000, 2010) to asses how nearby areas to protected land fare in terms of agricultural productivity, land use, and non-agricultural employment and sectoral structure.

The paper is not yet finished by the submission date.

The evolution of economic activities over space and time. The use of nightlights

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Pecs-G13-O1 Methods in Regional Science or Urban Analysis, B019, August 24, 2022, 4:00 PM - 5:30 PM

In this paper we investigate the evolution over time and space of economic activity by the use of nightlights, taking as empirical reference the dynamics of the income of Italian municipalities over the period 2008-2019.

We first show that in each year nightlights are strongly related to income and population at municipal level, which justifies the use of nightlights as an index of income/economic activity. However, we discuss the limits of this approach showing how the rate of transformation of nightlights in municipal income is decreasing in the level of income.

We then discuss that the level of aggregation used in the analysis is crucial for detecting the potential nonlinearity in the growth path of regional income. In particular, the growth path estimated using a very detailed grid (cells of 500m x 500m) appears strongly nonlinear and points to a twin-peaked distribution of nightlights, while the use of a more aggregate grid (cells of 6km x 6km) points to absolute convergence. Finally, we propose a theoretical spatial model reflecting the evolution over time and space of income sufficiently flexible to incorporate competitive and/or complementary theories based on increasing returns, local amenities, and local diffusion of factors as key determinants of the level of economic activity. The estimate of the model on the base of observed Italian nightlights reveals that all three types of determinants contribute to spatial distribution dynamics of Italian income.

The geography of income distribution dynamics: the case of Italian municipalities

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Pecs-S25-S1 The spatial dimensions of productivity for regional growth, B323/1, August 24, 2022, 11:15 AM - 12:45 PM

We propose a spatial model of growth which encompasses amenities, local factor accumulation, spatial spillovers, and factors and technological flows among locations driven by differential factors returns in an explicit geographical space. We then show how the model can be used to investigate the actual geography of income distribution dynamics. Finally, we estimate the model on the income dynamics of Italian municipalities over the period 2008-2019. We find evidence of conditional convergence, but also of the presence of i) spatial agglomeration, which we trace back to positive spatial spillovers; and ii) tendency of income to spread toward poorer locations, which we trace back to the reallocation of factors toward more productive locations.

Resilience of the Scottish economy to COVID-19 related changes in tourism demand

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Online-G19 Tourism and Overtourism Issues, August 22, 2022, 2:00 PM - 3:35 PM

The Covid-19 pandemic has led to unprecedented disruption for the tourism industry. Economic consequences are not confined to the tourism-facing sectors, as changes in tourism spending propagate through the whole economy. However, the scale of the system-wide consequences of reduced tourism spending can be hard to quantify. Although the Scottish economy was severely impacted by the reduction in tourism activities during the pandemic, especially in the early stages, a number of behavioural and policy responses have contributed to limit what could have been otherwise a disaster. In this paper, we calculate the direct reductions in spending across different tourism categories in Scotland including domestic, inbound and international tourism during 2021 using detailed information about tourism spending by origin, including domestic and international, type, day trips and over-night, month and local area of destination. We then use a combination of input-output (IO) and computable general equilibrium (CGE) models to quantify their system-wide economic impacts. We measure impacts related to both inherent resilience, that is the ability of a system to respond to economic shocks under normal circumstances, and adaptive resilience, that is the ability of an economic system to put in place responses that require extra effort. These can be either behavioural, such as changes in spending preferences, or policy driven such as the job retention scheme policy that protected the income of workers in at risk-categories. By comparing results from a series of scenarios we illustrate how different types of resilience have incrementally contributed to mitigate the economic impact of changes in tourism demand due to COVID-19 in Scotland and discuss policy implications of different recovery strategies.

Partnership and MLG in the practice of the EU Commission in the light of a specific case

Dr. István Finta¹

¹Krtk

Online-S13 Governance challenges in the periphery of European Union, August 22, 2022, 9:15 AM - 10:55 AM

It is well known that partnership and MLG are fundamental principles of EU cohesion policy, as laid down in law. A number of EU-level documents (the resolutions and declarations of the Committee of the Regions, of the European Parliament, of the European Economic and of the Social Committee) draw attention to the fact that the development of local governance can contribute to reducing territorial disparities, thereby reducing the disadvantages of peripheral regions, to achieve EU objectives and to deliver EU messages to local level.

The fundamental question is whether the principles, as basic legal requirements, are merely general expectations that are not taken seriously, or whether they are values that are ensured by the (moral and) legal system of the EU and the Member States, with the possibility of substantive consequences for breaking the law. It is particularly important to assess whether the Commission, as one of the main guardians of EU norms and values, can hide behind the cloak of shared management to escape the constraints and responsibilities of action, especially on development-sensitive issues. In this context, the familiar EU documents see MLG, partnership, as a value-added, even financially measurable thing, that does not meet the needs of a relatively narrow, centralised interest group, but links EU-level development policy objectives to local-level opportunities through a bottom-up approach, by relying on the broadest sections of society, and by building consensus or compromise on real local needs.

In this perspective, partnership, multilevel governance and shared decision-making are not competing and mutually exclusive principles or methods of governance, but complementary values and mechanisms that ensure the implementation - and not the circumvention - of laws that guarantee the enforcement of the rule of law both at EU and national level.

The Hungarian Federation of LEADER Associations has submitted an initiative to the Commission that clearly justifies the Commission's position on the practical feasibility of the partnership and the MLG. This presentation aims to provide details on this.

Conditioning factors for success in the formation of agtech in innovation environment of the Ibero-America countries

Dr. Ricardo Firetti¹, Leticia Baptiston², Marcelo Ribeiro², César Lima², Augusto Gameiro⁴, Luciene Lemes³, João Cardoso¹⁰, Claudina Bórquez⁷, Edwin Henao⁶, Carlos Brito⁵, Mónica Schachter⁹, Juan Esteve⁸, Vicent Císcar⁸, Celso Carrer²

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Online-G30-O1 Innovation and Regional Development, August 23, 2022, 11:15 AM - 1:15 PM

The formation of startups in the agri-food sector (agtechs) is dependent on innovation environments that positively condition them by offering infrastructure for the development of their businesses; through mentoring, networking, fundraising systems and product validation laboratories. They can be within universities with the necessary approximation of researchers or in the private sector, with the participation of leading companies that practice open innovation. Thus, this work sought to identify what are the conditioning factors for the success of the formation of agtechs, as well as the good practices of incubation within innovation environments of Ibero-American countries: Argentina (SABERR), Brazil (ESALQTEC), Chile (INCUBATEC), Colombia (CUEE), Spain (PCUV) and Portugal (UPTEC). For this, exploratory research was carried out, based on secondary qualitative data originating from lectures held at the “International Online Forum on Entrepreneurship and Innovation in Agro 2020” and at the “4th World Meeting of the Agroincuba Network”. The cases were purposely selected because they present different forms of management and performance, degrees of maturity and peculiarities that could be valuable in generating data. The lectures were transcribed and underwent an analytical and careful systematization, describing each innovation environment. The results showed that there is an entrepreneurial culture developed in the cases studied, wide participation of professors and Universities who work directly or indirectly in entrepreneurial training, validation of solutions and also have the support of the University's infrastructure. These innovation environments become catalysts for the generation of companies that will develop emerging issues in the regions where they are located. Another important aspect is the concern with the formation of talents even within the University, where companies take their demands to university professors who develop ideas together with their students, fundamental in the formation and practical vision and applied to the market. Finally, it was found that there are key activities that favor the development of more solid agtechs: fostering the creation and maintenance of innovation environments through public policies; the partnership between companies, Universities and the State with interaction between these actors; entrepreneurial training, with emphasis on the initial incubation phases of startups; the presence of mixed capital funds that aim to support the critical or risk phases of research activities; the formation of international partnerships; the presence of open innovation through the synergistic action of large companies and startups; and a strong interaction between different stakeholders that make up the regional innovation system.

Concentration and specialization of food production in the São Paulo State, Brazil, measured with locational gini coefficients and locational quotient

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Online-G31-O2 Location of Economic Activity, August 23, 2022, 4:00 PM - 5:45 PM

The State of São Paulo is the largest producer of fresh fruits and vegetables in Brazil and the main food export platform. In addition, it is the main consumer market in South America. This work identified and located agglomerations of food production, important for the localities and for the total product class, providing information on the concentration and economic specialization of 65 products in 40 microregions of the State of São Paulo. The value of agricultural production (VAP) was used as the main variable in the analysis using data from 2015, calculating the locational gini (LG) and locational quotient (LQ) indices that are used in the international literature. In this work, the LQ corresponds to the relationship between the share of the value of the production of a given product in a given micro-region in the total VAP of the region; and the participation of the region's VAP in the total Value of Agricultural Production in the State of São Paulo. To make it possible to compare the results of LQ, a numerical variable was created based on the coefficient of variation obtained for each of the 65 products and then hierarchized and classified into three types (high, medium and low specialization). The coefficient of variation (CV) is a measure used to compare variables that have different standard deviations and means. The results showed an average LG of 0.79 and showed a small spatial concentration of the value of agricultural production only for four products (LG<0.5): Sugarcane; Beef; Chilled milk and corn. These products were classified as "widely distributed". The other products were considered spatially concentrated because they obtained LG>0.5. For 33 products, the LG result was greater than 0.81 and they were classified as "locally specialized". Another 28 products had LG between 0.51 and 0.80 and were classified as "concentrated in a set of microregions". The results obtained from the coefficient of variation of the LQ indicated that four products were considered of high specialization: Barley; fig for table; Annatto; Quail eggs and persimmon. Another 21 products were classified as having medium specialization, such as: Fish; Onion; Pineapple; Rice; Oat; Banana; among others. A further 33 products were classified as having low specialization. The set of results obtained indicate the possibility of promoting development policies, endogenous or exogenous, in micro-regions specialized in the production of certain foods that stimulate gains in competitiveness through joint actions and increased collective efficiency.

How political trust drives growth across European regions

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Pecs-G25 Institutions, Political and Decisional Processes, B017, August 26, 2022, 11:15 AM - 12:45 PM

Economic development theory increasingly recognises that soft institutional factors, such as trust and, in particular, political trust, influence economic outcomes. Political trust is a function of the general level of social trust in society, but also of the quality of political institutions. In this paper, we examine the complex relationship between social trust, quality of government, political trust, and economic development, using a structural equation model (SEM) on pooled data from 208 regions in the European Union (EU). We find that political trust is a fundamental driver of economic growth in EU regions. Political trust is in turn shaped by both social trust and government quality, which are therefore both directly and indirectly associated with economic growth. These findings highlight the importance of political trust as a mechanism through which both formal and informal institutions influence regional development.

Economic Valuation of Cultural Ecosystem Services: The Case of Landscape Aesthetics in the Agritourism Market

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Pecs-G08-O1 Cooperation and Local / Regional Development, B017, August 24, 2022, 2:00 PM - 3:30 PM

Natural and agricultural landscapes provide a wide range of ecosystem services, among which are aesthetic landscapes. As these services have no direct market value, land use decision makers often ignore them in favor of urban sprawl, resulting in suboptimal resource allocation. Here, we suggest a novel method to evaluate the aesthetic landscape services of natural and agricultural ecosystems using the case of the agritourism market in Israel. We model the agritourism market as an oligopolistic market with differentiated products and formulate an equilibrium model with structural, double nested logit demand and pricing equations. The structural equations are expressed as a function of the attributes of the agritourism firm, among which are the components of landscape view. We use aggregate market data and GIS data to estimate the structural model. In the case of urban sprawl, the welfare loss is estimated at US\$108,000–197,000 per km², depending on the type of ecosystem that is forgone, whereas in agricultural sprawl over natural areas, the welfare loss is estimated at US\$141,000 per km². This welfare loss can be considered the economic value of landscape aesthetics services to the agritourism market. These findings illustrate the potential of using this valuation method for other ecosystems in other markets

The European Cities Liveability Index

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Online-G15 Cultural Heritage and Regional Development, August 22, 2022, 2:00 PM - 3:35 PM

Nowadays, most of the global population lives in urban areas, thus, the impact of cities on our future is increasingly recognised. The weight of this trend affects both the economic, social and environmental development of the European Union, as Eurostat figures show that 40.4% of the EU-28 population lived in cities in 2015. As a consequence, the European Commission earlier recognized the role that cities play in the lives of many inhabitants and has committed itself to act in this area. In fact, it has monitored the quality of life in European cities since 2004 through a perception survey investigating several issues concerning cities' liveability by gathering the experiences of citizens. On the basis of people' opinion on various aspects of their living conditions, we develop a composite indicator named European Cities Liveability Index (ECLI), based on cities' services, urban environment, affordability, amenities, and sociality. This indicator ranks the performance of urban areas over time, monitoring and exploring the possible reasons for their changes. Furthermore, provided that social and personal needs change with the different phases of life, we construct an age-based ECLI for different age groups, with the purpose of evaluating whether and how cities' liveability perceptions vary, accordingly. The use of this indicator provides insights of a decade of urban development in European countries, paving the way for future scenarios that are the concern of policy makers, researchers and urban planners.

Population ageing in European cities: policy challenge and opportunity

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Online-G23-R Segregation, Social and Spatial Inequalities, August 23, 2022, 2:00 PM - 3:40 PM

In 2018, 101.1 million of EU citizens were over 65, nearly 20% of the total population, which will become 28.5% in 2050. Ageing population poses challenges not only for welfare systems sustainability, but also in terms of suitability of goods and services that should be adapted to the needs of older people, the so-called Silver Economy. In this paper, using representative microdata for 83 European cities, we assess their suitability for the elderly and which of the factors identified by the mainstream literature contribute more to it. To achieve this aim, on the subset of over 65, we build a dichotomous dependent variable identifying if a city is (or is not) a good place to live for elderly people, and a set of covariates falling into the following macro areas: i) development of an age-friendly built environment; ii) knowledge for an active and healthy lifestyle; iii) integrated care services and improved connectivity; iv) olderpreneurship. We assess the relative contribution of each regressor to the explained variance. Our results have several policy implications. First, ranking cities according to their suitability to old people's wellbeing is important to identify relevant patterns in Europe. Second, the recognition of the relative importance of each regressor, together with its significance and sign, provides a powerful tool to assess each the macro area of intervention, and its components, directing policymakers to adopt the right measures according to local needs.

The impact of EU cohesion policy funds for innovation in a lagging region: evidence from RDD approach

Mr Francesco Foglia¹

¹*European Commission*

Online-S10 Counterfactual methods for regional policy evaluation, August 22, 2022, 9:15 AM - 10:55 AM

The paper assesses the ex-post impact of a specific innovation policy intervention financed by the European Structural and Investment Funds in Calabria under the Smart Specialisation Strategy on SMEs performance. In particular, the aim is to identify whether the possible added value of the EU funds in a region characterised by low levels of development and competitiveness compared to European regions has encouraged investment in innovative activities impacting employment and business performance, compared to a counterfactual scenario in the absence of treatment. Therefore, the net effect of the policy is estimated by comparing the treated units with the counterfactual scenario, by using the Regression Discontinuity Design method, considered by Maas et al. (2017) as a rigorous and valid alternative to the randomised controlled trial, and by Lee and Lemieux (2010) as more reliable than other estimation methods used in natural experiments. As the majority of policy measures financed under the European cohesion policy are ongoing, there is little evidence of the ex-post impact of actions planned under the Smart Specialisation Strategy at a regional level. The paper's results contribute to identifying the effects of innovation policies financed by S3 at the microeconomic level and foster the debate on evidence-based policy timely for the 2021-2027 programming period.

Population movement: an analysis of the driving factors of migration in Spain

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Online-G03-O1 Demographic Change, Population, Migration and Mobility Behaviour, August 22, 2022, 9:15 AM - 10:55 AM

Population displacement and its structure affects society through the participation of the active population in the labour market. It has been considered that the correct integration of migrants in the labour market helps to mitigate the negative effects of the aging population, especially in advanced economies such as Spain. This article seeks to examine the main determinants of interregional migration in Spain, specifically the immigration flows perceived in Madrid by the most populated autonomous communities. To accomplish this task, two mechanisms will be applied to estimate and predict the entry of people into the destination community. First, a simple vector autoregressive (VAR) model is developed to measure the influence exerted by the variables used. Then an extension to the Kalman filter is adapted to improve the estimation with noise that does not follow a normal distribution. To do so, educational level, expected salary, price of housing, participation of agriculture, construction and services in GDP and dependency ratio (considering young and old-age dependency) are considered as concluding variables. It is expected that the results obtained will provide an overview of the most important determinants of internal migration in Spain among the migratory flows for each autonomous community, considered as a place of origin, to Madrid.

Digitalizing a new capital city: the Indonesian example

Mr Pierre Fournie¹

¹*University Gustave Eiffel*

Pecs-S11 The Relevance of Digitalization for Clusters and Entrepreneurship - Empirical Studies of Processes, Relationships and Policy, B312, August 25, 2022, 9:15 AM - 10:45 AM

Moving a capital city never can be considered as a trivial act. Even more when the new city has to be created ex-nihilo. In Indonesia, President Joko Widodo (Jokowi) announced on August 16, 2019, his decision to transfer the "Mother City" or "Ibu-Kota" to the island of Kalimantan (Borneo). The congestion of the capital city (1), the intense and regular flooding of Jakarta (2), the absence of volcanoes (3) support the choice. This highly political decision also covers strategic, economic and social considerations. A time delayed by the COVID-19 pandemic, the bill presented to parliament in September 2021 reinvigorates the presidential vision, sets 2024 as the completion date and establishes at 489 trillion Indonesian rupees (approximately 46.31 billion USD) the budget for transfer. The abandonment of Jakarta foreshadows a real reconfiguration of the national territory. The current paper intends, after looking at how Indonesia proceeds to bring into the "digitalization map" its "outer islands", to focus on Nusantara, as the "capital to be build" will be called. Located in the third largest island in the world, lightly populated, with limited available local competences on information technology, networks and energy supply to be developed (4), it constitutes an "extreme case study" on how digitalization can be conducted.

Stop worrying and love the robot? An activity-based approach to assess the impact of robotization on employment dynamics

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Online-S51 Digital platforms, servitisation and local labour markets, August 22, 2022, 11:15 AM - 12:55 PM

This work investigates the impact that changes in the local exposure to robots had on Italian employment dynamics over the period 2011-2018. It contributes to the debate by providing novel and granular evidence on the impact of robot adoption on new activity-based groups of occupations and by focusing on the overlap between the functional similarities of robot applications and occupations. This framework, consistently centered on workers' and robots' activities, reveals highly heterogeneous effects of robotization, ranging from positive to negative across different groups of occupations, thereby supporting a nuanced and granular reading of this debated phenomenon

European inequalities in services of general interest - a categorization of the main causes

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Online-G23-O2 Segregation, Social and Spatial Inequalities, August 23, 2022, 2:00 PM - 3:40 PM

A fundamental concept for the European Union and supported by the Member States is territorial cohesion. However, despite the effort developed through European policies and programs, regional disparities are a constant and encompass the multiple dimensions that characterize the territories (at different levels, for example, in the economic, social, administrative, among others). These inequalities are severe obstacles to regional development and to the convergence process, being more accentuated in peripheral or rural regions. Among the categories where disparities are latent are the services of general interest (SEGI) - which are basic and essential services for the population and over which the States have the obligation to guarantee standards of supply -, whose supply is often non-existent or inadequate. And the fact is that without these services there is no territorial cohesion and regional development is hampered, with the lack of supply being linked to socioeconomic decline and demographic processes that are harmful to the future of the regions. Thus, in order to understand and rank the factors that influence the offer of SEGI and the way in which the regions relate to them, a methodology based on 12 variables (economic, social, demographic, territorial occupation, local administration, services) was developed, which were analyzed through principal component analysis and cluster analysis. The major influencing factors in the supply of SEGI were found and ranked. The results show that socioeconomic conditions are the most important factor for the existence of provision, although peripherality/urbanity, administrative capacity or the population age structure also contribute to this. The findings not only reiterate that territorial cohesion remains a dream difficult to achieve, but also indicates that peripheral or rural regions - given their characteristics - tend to maintain (and even enhance) the obstacles to development that haunt them.

Local and network structures in the branching process: evidence from Brazil

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Online-G08 Cooperation and Local / Regional Development, August 22, 2022, 11:15 AM - 12:55 PM

The emergence of new economic structures has been discussed in the literature as a path-dependent process, in which sectors, technologies, and products related to the already existing local structures are more likely to be developed (Boschma et al., 2015; Hidalgo et al., 2007; Hidalgo et al., 2018; Neffke et al., 2011). Most studies on this subject have focused on the regional endowment of knowledge and capabilities as a driver of the branching process, not addressing how interregional flows and general network structures may impact this process. Hidalgo and Hausmann (2009) argued that the diversification process should target complex activities to enhance local economies' complexity. Complex activities are deemed sophisticated, requiring a combination of diverse capabilities and knowledge, which are not widely available. The less available these capabilities and knowledge are, the more exclusive the products an economy will be able to produce. In this vein, we aim to discuss how local and regional collaboration network structures impact technological diversification regarding the number of new technological specializations acquired by a region and the average complexity of the new specializations. To do so, we use patent data from Brazil for the 2000 – 2019 period and conduct an econometric analysis on the microregional level, adopting five main variables of interest: two related to the local structure (technological coherence and technological flexibility) and three related to the regional network structure (closeness, betweenness, and eigenvector). Our results indicate that coherence, flexibility, betweenness, and closeness positively impact the number of new specializations acquired. It means that having a portfolio of related technologies that are also highly related to technologies outside the region is positively correlated with acquiring new technological specializations. At the same time, highly connected and bridging regions are more likely to acquire new specializations. Being connected to other highly connected regions (eigenvector centrality) did not present statistical significance. In terms of the average complexity of new specializations, coherence, flexibility, and closeness showed a positive and statistically significant effect. However, in both cases, the coefficients of local structures were higher than network structures, and we could not find a compensation effect between the two of them. It means that highly connected regions must develop a coherent and flexible technological structure to benefit from central network positions.

Universal resilience patterns in labor markets

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Online-S35 Complex Networks in Economics and Innovation, August 23, 2022, 4:00 PM - 5:45 PM

Cities are the innovation centers of the US economy, but technological disruptions can exclude workers and inhibit a middle class. Therefore, urban policy must promote the jobs and skills that increase worker pay, create employment, and foster economic resilience. In this paper, we model labor market resilience with an ecologically-inspired job network constructed from the similarity of occupations' skill requirements. This framework reveals that the economic resilience of cities is universally and uniquely determined by the connectivity within a city's job network. US cities with greater job connectivity experienced lower unemployment during the Great Recession. Further, cities that increase their job connectivity see increasing wage bills, and workers of embedded occupations enjoy higher wages than their peers elsewhere. Finally, we show how job connectivity may clarify the augmenting and deleterious impact of automation in US cities. Policies that promote labor connectivity may grow labor markets and promote economic resilience.

Network constraints on worker mobility: How workplace skills determine a worker's next move

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Online-S35 Complex Networks in Economics and Innovation, August 23, 2022, 4:00 PM - 5:45 PM

Career mobility requires desirable workplace skills and access to relevant labor markets.

Division of labor suggests that workers should specialize their skills over their careers but standard skill classifications of "cognitive" or "college educated" can obfuscate career dynamics. Here, we model career transitions as a network of occupations connected by the similarity occupations' skill requirements. Using a nationally representative survey and two resume data sets each representing 100 million individual workers, we show that skill similarity predicts transition rates between occupations and that predictions improve with increasingly-granular skill data. These observations inform a new measure for skill specialization from a worker's embeddedness in their economy's occupation network. Job changes and/or relocations that decrease embeddedness correspond to increased wages and workers tend to decrease their embeddedness over their careers. While low-embeddedness workers may leverage their locally-rare skills in wage negotiations, employers might also offer higher wages as an incentive for skilled workers to relocate. We find evidence for the latter since the combined embeddedness of city pairs corresponds to increased Census migration and increased flows of enplaned passengers according to the US Bureau of Transportation Statistics. This study directly connects workplace skills to workers' career mobility and spatial mobility, thus offering new insights into skill specialization and current urbanization trends.

Regional industrial transitions to climate neutrality

Ms Jolien Noels¹, Dr Andrés Fuentes¹, Ms Daiana Derecichei¹, Ms Valentina Ventrice¹, Dr Jaebeum Cho¹
¹OECD

Pecs-S25-S3 The spatial dimensions of productivity for regional growth, B323/1, August 24, 2022, 4:00 PM - 5:30 PM

We study the transition to climate neutrality in manufacturing and its impacts on local employment, firm productivity and regional development. This work identifies manufacturing sectors which need to undergo particularly deep transformations and describes infrastructure gaps. Activity in these manufacturing sectors are regionally concentrated. Regions most vulnerable to these sectoral transformations are identified using regional employment data and a novel dataset that allocates EU ETS emissions to 3-digit NACE sectors at a fine geographical level. The transformations will change skill requirements, redistribute jobs across locations, decrease jobs in some activities and raise them in others. While the transformations bring both opportunities and challenges, employment losses may not occur where opportunities arise. They may also result in shifts of regional comparative advantage.

Integrating new zero-emission technologies is one of the main approaches for moving key manufacturing sectors to climate neutrality by 2050. The most productive firms are likely to be best able to integrate these new technologies. High productivity also boosts profitability which serves to finance the needed major investment. Regions with more productive firms in key sectors may therefore face fewer challenges and may be better placed to grasp opportunities in the transition to climate neutrality. Based on a novel ETS-ORBIS matched dataset, we explore the productivity of firms in regions identified as undergoing the largest transformations due to the transition. Regions differ substantially with respect to the labour productivity of companies active in them, notably in the production of chemicals and steel. Further analysis on existing socio-economic and worker characteristics gives a broader picture of regional vulnerabilities. Understanding the regional development impacts of the transition to climate neutrality can support policy makers make it more equitable.

Global social capital inequalities in the context of the digital divides

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Online-G23-O2 Segregation, Social and Spatial Inequalities, August 23, 2022, 2:00 PM - 3:40 PM

Digitalization has been a prime factor of social change already for decades and the COVID-19 pandemic gives new impetus to the spread and more intensive use of digital technologies. This study offers a pre-pandemic account of a crucial aspect of global social inequalities by combining two hitherto largely distinct approaches, social capital and the digital divides. By integrating the perspective of the three digital divides into an investigation of global social capital inequalities, we find typical patterns of social capital inequalities across 76 countries worldwide and a strong correlation between conventional measures of prosperity and the digitally enhanced composite indicators of bonding, bridging and linking social capital. Our evidence on the social embeddedness of digitalization in the pre-pandemic world offers a framework for thinking about policy interventions to mitigate the sources and consequences of the vast inequalities uncovered in the present study and serves as a standard against which to measure the impact of COVID-19 triggered digitalization.

In contrast to concepts of social capital which obscure the variety within the dimensions of trust, norms, and social connections, we 1. treat bonding, bridging and linking social capital as distinctive phenomena, 2. extend their conceptual and empirical scope to cover technology-mediated social interactions, 3. study their relation to prosperity separately, 4. do not integrate them into a single composite social capital index (as is conventional in the literature) but use them towards drawing the social capital country profiles of digitalized, industrialized and traditional societies. Composite indicators for bonding, bridging and linking social capital are constructed along the three pillars of trust and norms; ties and connections; and the technology that mediates social interaction using 32 indicators for 76 countries. We study the correlation of social capital indexes with prosperity outcomes and draw the social capital profiles of three clusters of countries. Digitalized, industrialized and traditional societies offer very different settings for bridging the digital divides and highlight the complexity of social circumstances of technology use worldwide, with implications for policy interventions in the new area of COVID-19 triggered digitalization.

Bridging the digital divides in the most deprived Hungarian rural regions

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Online-S33-S1 Local Rural Perspectives on Disparities in a Digitalising (Post-COVID) Europe, August 23, 2022,
9:15 AM - 10:55 AM

Our paper studies the intersection of conventional social disparities and the digital divide in the context of post-COVID rural Hungary. We focus on the policy potential of digital inclusion interventions in social inclusion programs in general and in particular on the potential they carry in improving the lives of the most deprived Hungarian rural communities.

While social inclusion policies usually target a wide array of social exclusion processes, including their various spatial implications, digital inclusion objectives are more of an exception than a convention in the policy toolkit of complex social rehabilitation programs implemented in vulnerable communities. The spatial concentration of social exclusion, segregation, is typically an urban phenomena globally but in the Hungarian (and wider Eastern European) context, rural segregation affects regionally clustered pools of rural communities. The most deprived 300 rural communities in Hungary are included in a comprehensive publicly funded Social Inclusion Program (<https://fete.hu>) implemented by five national charity organizations and a number of smaller charities since 2019. The program is local needs-tailored, as interventions are designed in response to an initial local social diagnosis. This policy design commitment opens the prospect of incorporating a wide array of social inclusion intervention measures, allows ample room for socially innovative solutions and creates the option for digital inclusion efforts that were shown to be most effective when tailored to local needs (Ragnedda 2020). What role does, and potentially could digital inclusion play in the intervention toolkit of professionals on the ground? To what extent are locals and helping professionals themselves connected, in possession of digital skills and in a position to reap digital dividends? Our results confirm that fundamental aspects of all three digital divides continue to be real barriers for the deprived rural communities we study. The digital posture of helping professionals, on the other hand, provides ground for designing intervention tools that would target existing potentials (such as the availability of smartphones) and assist helping professionals to become digital transformers. Our case study provides both an empirical insight into the intersection of social and digital inequalities and also informs digital inclusion policy making in deprived rural settings.

Fostering (supra-)regional cooperation through LEADER/CLLD

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Online-G08 Cooperation and Local / Regional Development, August 22, 2022, 11:15 AM - 12:55 PM

Community-led local development (CLLD), initiated as LEADER in 1991, is a bottom-up-oriented, participatory approach driven by cooperation between local actors in rural areas. It forms part of regional development programmes (RDPs), which are the basis of funding in rural areas in the EU. Through LEADER/CLLD, budgets are allocated to LEADER regions on the local level to support the implementation of projects in line with their local development strategies (LDS), which state the distinct objectives for local development in each region.

One feature local cooperation in LEADER focusses on is a multisectoral approach: Local Action Groups (LAGs) composed of stakeholders from local government, civil society and the economic sector are a platform for collaboration and decision-making (e.g. on project selection) within each LEADER region. This contribution, however, will focus on another feature, namely „LEADER cooperation“, which explicitly supports cooperation between rural communities from two or more different regions through joint projects. The two main types of cooperation are

1. inter-territorial cooperation between two or more LAGs or comparable groups within a Member State and
2. transnational cooperation between two or more LAGs or comparable groups from different Member States.

In our contribution, we shall present and discuss organisational and administrative aspects and outcomes of cooperation projects based on data from the evaluation of LEADER in four German federal states .

Main material was collected from 115 LEADER regions by means of two surveys, using written questionnaires (mainly executed as online surveys):

- LAG management survey: one manager per LAG was surveyed in 2018 (N=115, n=114, response rate 99 percent) with a mixture of general questions about the situation in the region and open questions to grasp more detailed assessments about specific problems. Usually, a six-point Likert scale was used to classify personal estimations of the LAG members.
- Survey of beneficiaries of LEADER cooperation projects (RDP submeasure 19.3) in 2020/2021: questions regarding the projects (N=148, n=132, response rate: 89 percent), the respondents were asked for estimations about project development, funding procedures and the results of their project, again using Likert scales and open questions.

In a first analysis of results, the larger time investment required in supraregional cooperation and different project selection criteria are identified as common challenges faced during the planning and management of LEADER cooperation projects while knowledge gain is widely seen as an added benefit.

Does Foreign Direct Investment generate regional economic growth? The case of Emerging Europe

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Pecs-S52-S1 Foreign Direct Investments, trade and local development: drivers and impacts, B323/2, August 25, 2022, 2:00 PM - 3:30 PM

In Central & Eastern Europe economic transformation was primarily driven by foreign direct investment (FDI) during the postsocialist transition. The paper examines the effects of FDI on GDP growth and Gross Fixed Capital Formation (GFCF), and tests the causal relationship between these variables in the Hungarian regions. The econometric analysis confirms that GDP growth is not the cause of FDI inflows, but more FDI flows into the already more developed regions. In addition, there is no significant effect of FDI on regional GDP growth in a panel regression controlling for GFCF, employment, R&D and the global financial crisis. The paper argues that in the absence of endogenous growth factors in FDI-driven dependent market economies of CEE, FDI alone is not sufficient to ensure the positive spillover effects and the long-term prosperity of regions. This reinforces the negative perception of economic transition and strengthens anti-EU populist parties and governments' search for an economic policy alternative to FDI.

Does collective catering in rural territories activate geographic proximity with its suppliers

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Online-G20-R Cities, Regions and Digital Transformations, August 22, 2022, 11:15 AM - 12:55 PM

After the food crisis in 2008, various large urban areas became aware of the lack of resilience of their food systems, which depend on long geographical import circuits and numerous intermediaries, leading to risks of shortages (Bricas, 2019, Rastouin 2018). They have therefore taken up the challenge of food and are seeking to reconnect with their nearest hinterland, especially as more than half of the world's population already resides there and their population will continue to grow (Moreno-Monroy & al, 2021).

Faced with the challenges linked to food, public actors also will seek to encourage a transition towards reterritorialised food systems by using the lever of collective catering (Morgan & Sonino, 2010). Purchasers do not activate often geographic proximity with wholesalers. On the other hand, they manage to activate some kind of organized proximity with these players. But recently, public policies have tried to impulse the reterritorialization of food system involving transactions with local actors and encouraging to activate latent geographical proximity with them especially with local farmers. Thus, reterritorialisation implies a reconfiguration of the articulation of proximities in supply chains.

This reterritorialisation of food has mainly been studied for the moment in urban territories. However, rural areas suffer from specific problems and in many cases inequalities in access to food. Moreover, they also suffer from invisibilisation, as potential initiatives are little studied. Collective catering is generally less present in rural areas than in urban areas, but it is not totally absent. The use of this lever for reterritorialisation can still be mobilised, but catering in these areas may be faced with specific issues, mainly a lack of local supply due to the decrease in the number of farmers and the orientation of their production. We will use the approach of the economy of proximity (Gilly & Torre, 2000, Torre, 2009) to analyse the (potential) activation of geographical proximity by rural and urban collective catering buyers with their suppliers.

We will use the social network method to analyse the network of suppliers to the collective catering sector. The objective is to identify a profile of buyers located in rural areas to be compared with that of urban areas according to their potential activation of geographical proximity. Our study area is the Côte d'Or department, which is part of the Burgundy region, one of the most rural regions in France.

A Spatial Stochastic Frontier Model Introducing Cross-Sectional Dependence both in the Frontier Function and in the Error Structure

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Online-G14 Spatial Econometrics, August 23, 2022, 9:15 AM - 10:55 AM

In the last two decades, scholars started to expand classical stochastic frontier models (SF) in order to include also some spatial components. Indeed, firms tend to concentrate in clusters, taking advantage of positive agglomeration externalities due to cooperation, shared ideas and emulation, resulting in increased productivity levels. Thus, producers cannot be regarded as isolated entities and the hypothesis of cross-sectional independence underlying the basic SF models must no longer be considered valid. Until now scholars have introduced spatial dependence in SF models following two different paths: evaluating global and local spatial spillovers affecting the frontier function or considering spatial cross-sectional correlation in the inefficiency and/or in the error term.

The model proposed in this work combines the two different modelling approaches obtaining a full comprehensive specification that introduces four different sources of spatial cross-sectional dependence. Specifically, we introduce the spatial lag of Y and of X to capture global and local spatial spillovers affecting the frontier function and we also add a spatial structure to the inefficiency and to the error term to capture respectively behavioural and environmental spatial correlation. Hence, we obtain a spatial Durbin stochastic frontier model for panel data introducing cross-sectional dependence both in the inefficiency and in the error term (SDF-CSD).

The most appealing feature of our model is that it allows to capture global and local spatial spillover effects while controlling for spatial correlation related to firms' efficiency and to unobserved but spatially correlated variables. The SDF-CSD model can be estimated using maximum likelihood techniques, modifying the estimation procedure suggested by Orea et al. (2019) in order to consider the endogeneity deriving from the inclusion of the spatial lag of the dependent variable. Implementing some Monte Carlo simulations, we show that our spatial estimator is able to distinguish between frontier and error-based spillovers considering sparse spatial weight matrices (as binary contiguity or truncated inverse distance matrices). Finally, an application to the Italian agricultural sector is provided.

Spatial Spillovers and Displacement Effects in Cohesion Policy: Evidence from Italian NUTS-3 regions

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Online-G02 Macroregional, Transregional, Regional and Urban Policy and Governance, August 22, 2022, 9:15 AM - 10:55 AM

In this work we assess the impact of the European Cohesion Policy by focusing on potential policy ineffectiveness occurring when the economic effects fall outside the treated areas. In evaluating the effectiveness of a public policy, aimed at territorial development, it is crucial to consider that spatial interaction can cause spillover effects when the gains of public investment projects are also captured by the territories adjacent to treated areas. This type of spillover effects is, of course, inherently positive, and desirable. However, when regional policy effects are mainly captured by the neighbouring territories, spillovers determine displacement effects. The assessment of Cohesion Policy is carried out by considering the growth of Italian NUTS-3 regions (provinces) during the recent programming periods (2007-2013 and 2014-2020) and taking into account spatial autocorrelation effects between neighbouring territories. The research design is based on spatial panel models that discriminate direct from indirect (spillovers) effects. Since the period under evaluation includes the Great Recession, we test the possible change on Structural Funds effectiveness and on spatial spillover effects during the crisis years. We also consider national Cohesion Policy intervention through domestic specific funds (Fondo di Sviluppo e Coesione and Piano di Azione e Coesione). We implement an analysis that uses data referred to completed project under the hypothesis that concluded projects are the most suitable for generating economic effects on local economies. The panel dataset was reconstructed starting from the Italian database on Cohesion Policy (Opencoesione). The econometric methodology dwells upon a Fixed Effect-Spatial Durbin Model (FE-SDM) with a spatial lag for both the dependent and the explanatory variables as well as policy variables, and other economic variables such as attractiveness, competitiveness, human capital, and infrastructural endowment. Hence, we disentangle the direct effects of each explanatory variable on the region under analysis from the (indirect) spillover effects on the other regions. Our main results show that, in Italy, the spatial autocorrelation pattern have an impact on regional policy causing displacement effects. Therefore, in designing the development policies, the policy maker cannot overlook the non-neutrality of their spillover effects. As for the Great Recession impact on Cohesion Policy effectiveness, spatial spillovers determined by the use of European Structural Funds in neighbouring areas have decreased during the crisis years, thus hampering resilience patterns for local economies.

Foreign Direct Investment and Local Development: the Role of Knowledge Spillovers and the Geography of Innovation in Brazilian Regions

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Pecs-S52-S2 Foreign Direct Investments, trade and local development: drivers and impacts, B323/2, August 25, 2022, 4:00 PM - 5:30 PM

Inward Foreign Direct Investment (FDI) can generate important knowledge spillovers on local economies, fostering regional innovation, especially in developing countries. In this paper, we analyze how regional industrial structure shapes the effects of inward FDI spillovers on the innovative performance of Brazilian regions. Prior literature has analyzed the effects of FDI spillovers on the productivity of host countries' firms, while less attention has been given to the corresponding effects on regional innovation. Thus, we use data on the investments of Multinational Companies (MNCs) in Brazilian regions for 2003–2014 and relate these data to the innovative performance measured by patents. Our results show that inward FDI positively influences innovation at the regional level since Brazilian regions that receive inward FDI present stronger innovative performance. In addition, the positive effects of inward FDI on local innovation are reinforced by the diversity of the regional industrial structure. Diversified regions that receive inward FDI are therefore better able to leverage the benefits of inward FDI spillovers.

Quality of Government and Regional Development in Brazil: a preliminary analysis

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Pecs-G13-R Methods in Regional Science or Urban Analysis, B312, August 24, 2022, 11:15 AM - 12:45 PM

Since the 2000s there has been a growing interest in the quality of government amongst academics and policy makers. This concern stems from the perception that the quality of government institutions can produce different social and economic impacts on societies (Rothstein & Teorell, 2008). In general, the quality of government is understood as impartiality in the exercise of power, high quality in the delivery of public services and low corruption. Most studies on quality of government have focused on the national level. Nevertheless, recently a growing set of research has increasingly sought to investigate how sub-national governments affect geographical differences in economic output and development, using new indicators to measure sub-national government quality (Charron & Lapuente, 2013; Charron, Dijkstra & Lapuente, 2014). The shift in focus has given rise to a series of empirical studies that set up links between the quality of government and regional development, in which innovation, economic growth, entrepreneurship and decentralisation have been scrutinised. However, this growing body of studies has centred, to a large extent, their attention on European countries. This implies that the rest of the world, particularly developing countries, remains a black box (Iddawela et al., 2021).

Bearing in mind this gap in the literature, a regional quality of government index for Brazil, named BR-QoG, was developed. This effort is a novelty in Brazil and, at the same time, represents an important step towards a better understanding of regional realities and, as a consequence, of the country itself, which has some key particularities: it is the largest country in South America; the ninth economy in the world; a regional power in Latin America; and a highly unequal country. Furthermore, this effort is also a contribution to the existing literature insofar as the discussion on the quality of government, as mentioned above, has been largely directed towards the European context.

Impacts of climate change on European regional tourism demand

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Online-S44 Assessing tourism sustainability and resilience: new data, methods and tools, August 23, 2022,
11:15 AM - 1:15 PM

Changes in climatic conditions can pose considerable stress on tourism, bringing potentially large economic implications for one of the most important contributors to European GDP. In this paper we analyse the possible consequences of future climate change on tourism demand in the European Union's regions. We build a historical statistical association between climate suitability indicators for tourism and tourism demand using panel data techniques and monthly data from 269 European NUTS2 regions over the 2000-2019 period. We considered two tourism suitability indicators, the Tourism Climate Index (TCI) and the Holiday Climate Index (HCI). Historical observations of these two indices were calculated using Copernicus' ERA5-Land reanalysis data. In the historical analysis, we accounted for a set of socioeconomic characteristics in the destination regions, such as the level of GDP and the consumer price index. Other spatiotemporal controls were also included to capture additional geographic and seasonal patterns of tourism demand. Using a hierarchical clustering algorithm based on hotel location patterns and geographical criteria, we classified regions according to their main tourism typology, which provided additional insights on the impacts expected for different tourism categories. In the second part of this study, we analysed the expected impacts of climate change on tourism demand over the period 2020-2100 by considering projections of the TCI and HCI spanned from five regional climate models provided by the EURO-CORDEX initiative and two emission scenarios (RCP4.5 and RCP8.5). We analysed the regional impacts projected at three specific global warming levels: the Paris Agreement targets (1.5°C and 2°C) and a higher warming level (3°C). Quantifying the economic costs of climate change impacts on tourism demand is determinant to better understand the level of possible regional losses in terms of growth and employment, and to provide key inputs to the policy debate on climate risks, mitigation, and adaptation.

Agglomeration or Market Access? The defining Factors for Firms' Location Choice.

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Pecs-YSS3, B311, August 25, 2022, 11:15 AM - 12:45 PM

This paper aims to answer the question whether complex accessibility indicators are considered by firms when choosing their location, or whether these decisions are made based on simpler proxies as suggested by previous literature.

In the first step, a novel accessibility indicator designed to capture the market access of firms in an intuitive way, but requiring significant data processing and computational efforts, is developed. Based on a sample of 110,083 firms in Germany, it combines the transport distance and time between firms with the relation between their respective industries and their economic size in a gravity-type model. The indicator thus describes the access to potential suppliers and customers on the company-level using the exact location of potential business partners.

In the next step, the impact of this measure on the location decision of firms is evaluated and compared with the effect of several simpler measures which are easily observable for firms (number of firms of the same industry, number of firms of relevant supplying and demanding industries, and regional economic importance). Combining these variables with the accessibility measure and company-specific characteristics, a multinomial logit model is estimated. The location choices are defined by a combination of states and the thünen-classification of German counties.

On the one hand, the easily observable variables have a strong impact on the location decision of firms. A significant positive impact is found for the number of firms from the same industry as well as from supplying and demanding industries, pointing out the existence of agglomeration effects. This is supported by a negative effect of the relative economic importance of a firm within a region, as firms tend to locate themselves in economically strong areas. On the other hand, the market access indicator does not have a significant impact on the location choice. The additional firm characteristics add to the explanatory power of the model with several variables showing significant effects. Different model specifications are estimated to check the robustness of the results.

It can be concluded that firms make their location decisions based on measures that are easy to observe instead of deriving more complex indicators. Consequently, firms locate themselves suboptimally from the perspective of accessibility, as it is found that 96% of all firms in the sample are not located in the region where they would have the highest possible market access.

Price disparities, food accessibility and settlements connectivity in the Sakha Republic (Yakutia)

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Pecs-S07 Researching Vulnerability: Spatiality and lived experiences to climate change, B313, August 24, 2022, 11:15 AM - 12:45 PM

In this paper, we analyze relationships between the geographical features of the Sakha Republic (Yakutia) and the accessibility and availability of modern and traditional food. We discuss the results of field research carried out within the RISE project. RISE (Climate change Resilience of Indigenous Socio-Ecological systems) is a joint international project that aims at filling this knowledge gap by understanding the socioeconomic and nutritional contributions of traditional food systems and the risks from future climate and environmental changes to promote sustainable development and adaptation.

The purpose of the study is to analyze the accessibility and availability of local and imported foodstuff to residents of the Sakha Republic (Yakutia) depending on the transport accessibility of settlements.

Objectives of the study: to characterize the local diet (the share of local and imported foodstuff); to study\explain disparities in food prices; to assess the accessibility and availability of local and imported food, depending on the isolation and transport accessibility of settlements.

Changing transport connections, accessibility, life quality of Yakutian settlements in the context of global warming

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Pecs-G17-O1 Transport and Accessibility, B018, August 25, 2022, 9:15 AM - 10:45 AM

Authors study issues of regional spatial development since 2017 within the researches of the Russian Academy of Sciences.

Geographically, the Republic of Sakha (Yakutia) is a complex vast territory, crossed by natural obstacles, such as the Lena, Vilyuy, Aldan rivers, etc. As a matter of fact, the Arctic tundra is the biggest obstacle and separates the few remote communities in the absence of paved roads. The Arctic is a zone of temporary winter routes, extreme fragmentation of the populated space.

Significant natural and climatic differences within the region also lead to differences in transport schemes and schedules. For instance, November is a “dead season” for the Yakutsk agglomeration: in the absence of a bridge across the Lena River, the closure of navigation and the unavailability of ice crossings close connection with the right-bank regions and other regions of the country. Meanwhile, for the Arctic isolated communities, this is the time to open winter roads and resume communication with the outside world. In addition, for a number of years we have been observing climate warming, which also complicates the overall transport model of the region.

First objection is to assess the dynamics of the spatial connectivity of all settlements of Yakutia over the past 20 years, using information on the calendar schedules for the operation of ferry, ice crossings and winter roads provided by the Ministry of Transportation of Yakutia. Further, this is an assessment of the influence of seasonality factors and the connectivity of the road network on the processes of concentration and polarization of economic activity.

Authors rely on the matrix of transport accessibility developed by themselves for 410 communities. In particular, we found that the integral connectivity over the past few years has a pronounced W-shape, fluctuating on average from a minimum value of 0.085 over 30 days from April 15 to May 24 to a maximum of 0.401 over 126 winter days.

The model also includes data on the capacity of the social infrastructure, the structure of economic activity, the level of prices and incomes, food habits in settlements against the background of temperature changes, natural disasters and road construction for 25 years. We proceed from the fact that the study of the above model will make it possible to understand the economic behavior of the local people, to assess the role of accessibility not only to transport, but also to an important life support infrastructure.

A tale of two countries: Regional Misallocation in Italy and Spain.

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Online-S25-S2 The spatial dimensions of productivity for regional growth: A broad view on productivity,
August 22, 2022, 4:00 PM - 6:00 PM

Total factor productivity (TFP) growth is deemed to depend, almost equally, on technological adoption and on the efficiency with which production factors are allocated across heterogeneous firms. However, while the former has received extensive attention from the regional and spatial economics' fields, regional perspectives on the latter are still scant notwithstanding reasons, both theoretical (spatial frictions, market segmentation, and agglomeration economies) and evidence-based to expect location to affect the efficiency of factors allocation across firms.

The present article deals with factors misallocation at national and subnational level, with a comparative framework among two countries, Italy and Spain, sharing similar economics features (e.g. in terms of geographical concentration of production, economic disparities among regions, share of familiar-owned firms, low institutional quality, account imbalances and output gap).

As such, it is expected to offer insights on the role of different misallocation markers, verifying and extending country-specific previous findings on the role of specific firms and local characteristics such as ownership type, innovativeness, and agglomeration economies.

By performing the analysis at different levels of geographical aggregation, it will provide insights on the within-country imbalances in resource allocative efficiency, assessing how much of the two countries' aggregates are explained at local level, which areas are the ones deserving more attention, and which productive characteristics are linked with misallocation in agglomerated or peripheral areas. Finally, on account of the time-span up to the end of 2020, the research will offer some preliminary results of the impact of Covid-19 on the misallocation trends in the two Southern European countries.

Economic effects of migration on Laljin as an Industrial District (ID)

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Pecs-G06 Adaptive and Resilient Cities and Regions, B020, August 24, 2022, 11:15 AM - 12:45 PM

Following Becattini (1990), by defining industrial districts as a region populated with common culture and ethic and social solidarity as a distinctive feature over other specialization theories, coming to immigration can be challenging for the future of the districts. Accordingly, the present study based on integration and influence of non-community members in industrial districts has been done a comprehensive, qualitative field study on Lalejin, World Pottery City, located in Iran which above 80 percent of the inhabitants specialized in this respect. The authorities saw this small city in order to do a comprehensive field study using Grounded theory (GT) and have interviews with the local informative agents. Accordingly, the casual condition is categorized in six group of factors: Existence of advertising agents and expansion of local industry market; Existence of necessary factors for production; Special features of the industry; Respond to local needs; Possibility of learning on the spot; Local industry features. And Context factors encompass Context conditions of immigrants as labor; Context conditions of immigrants as producers. In the next step, we identify intervening conditions as they are related to the production system, consumer market, and local business environment which all result in the action or interaction strategy of immigrants to deal with this issue in the industrial district. And at the end the identified consequences have been presented.

The energy efficiency puzzle in Europe. A spatial stochastic frontier approach with endogenous variables.

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Pecs-G07-R Global Warming, Health and Environmental Issues, B323/1, August 25, 2022, 9:15 AM - 10:45 AM

The conflict in East Europe is adding further shadows on the future of energy policies in Europe. It overlaps the pandemic crisis. The rapid but uneven economic recovery from last year's Covid induced recession is putting major strains on parts of today's energy system, sparking sharp price rises in natural gas, coal and electricity markets. Despite advances being made by renewables and electric mobility, 2021 is seeing a large rebound in coal and oil use. Largely for this reason, it is also seeing the second-largest annual increase in CO2 emissions in history. (World Energy Outlook - WEO, 2021, page 15).

The WEO casts some shadows on targets established in the Paris conference and recently in the Cop26 meeting in November 2021: all countries will need to do more to align and strengthen their 2030 goals and make this a collaborative global transition in which no one is left behind. (WEO page 17).

This paper estimates the energy efficiency for European countries using a spatial stochastic frontier approach. Unlike current literature, the introduction of spatial correlation not only assures higher estimates efficiency but provides information on spatial interdependencies among countries. A point that must be considered in policy design. Moreover, the possibility that the variables used to estimate the efficiency component could be endogenous is managed by an instrumental approach.

Once consistently estimated the energy efficiency for each Country, policy implications will be drawn. Moreover, by exploiting scenarios depicted in the World Energy Outlook 2021, the empirical results will be compared to EU 2030 targets on energy efficiency.

A peripheric centre: the evolving urban development concepts of the city of Pécs

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Pecs-S13 Governance challenges in the periphery of European Union, B312, August 24, 2022, 4:00 PM - 5:30 PM

Cities and their urbanization processes play a central role in the development and modernization of nation states. Pécs is the fifth largest city in Hungary, traditionally was a mining and industrial centre of the region of Southern Transdanubia. Due to economic transformations after the regime change in 1989 and the demise of mining activities in the 1990s, the city had to reposition its regional role and create new strategies for urban development concepts. These efforts have not only been hindered by economic marginalisation, but the region's peripheral situation has also been exacerbated by the Yugoslavian war and its socioeconomic consequences. Based on the city's existing assets and resources, local governments of the following decades concentrated on development of the service sector with a special emphasis on education, health, and cultural services. At the same time Pécs has attempted to attract national and foreign industrial investors to overcome economic adversities. The presentation will provide detailed overview of urban development plans of Pécs for the period between 1999 and 2019. The analysis highlights achievements, obstacles, or even failures, while taking the changing political environments, and governance challenges into consideration. Moreover, the research focuses on how the city of Pécs positioned itself for its region in these documents.

Remotely (and wrongly) equal: Popular night-time lights data understate spatial inequality

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Online-G03-O3 Demographic Change, Population, Migration and Mobility Behaviour, August 22, 2022, 9:15 AM - 10:55 AM

A growing literature in economics and regional science uses satellite-detected night-time lights data to estimate spatial inequality. These spatial inequality estimates are used to make comparisons between regions and to estimate temporal trends in inequality. Many of these studies rely on Defense Meteorological Satellite Program (DMSP) night-time lights data which are poorly suited to use as a proxy for spatial inequality, because the DMSP data have spatially mean-reverting errors. These mean-reverting errors are due to inherent blurring of the DMSP images, where light is attributed to places it is not emitted, and to top-coding which attenuates differences in brightness between big cities and smaller towns. Consequently, estimates of spatial inequality that are based on DMSP data are significantly lower than the inequality estimates coming from sub-national GDP data. The inequality estimates derived from DMSP data are also significantly lower than what newer, research-focused and more accurate satellites show from their observations of the earth at night. In this paper, second and third level sub-national data from China, Indonesia and the United States are used to demonstrate the understatement of spatial inequality when DMSP data are used. In all three settings, benchmark data on sub-national GDP are available for establishing the actual level and trend in spatial inequality, which is then used to assess the accuracy of the estimates coming from remote sensing sources. In the rush to use big data it is important that researchers do not lose sight of basic measurement error features of some of these data sources which, if ignored, may lead to distorted understanding of important spatial patterns in inequality.

Revisiting the role of secondary towns: Effects of different types of urban growth on poverty in Indonesia

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Online-G14 Spatial Econometrics, August 23, 2022, 9:15 AM - 10:55 AM

There is increasing interest in assessing whether growth of big cities has effects that differ from effects of growth of secondary towns, especially for impacts on poverty. It can be difficult to study these issues with typical sub-national economic data for administrative units because urban growth often occurs outside of the administrative boundaries of cities. An emerging literature therefore uses remote sensing to measure patterns of urban growth without being restricted by limitations of data for administrative areas. We add to this literature by combining remote sensing data on night-time lights for 41 big cities and 497 districts in Indonesia with annual poverty estimates from socio-economic surveys, using spatial econometric models to examine effects of urban growth on poverty during 2011-19. We measure growth on both the extensive (lit area) and intensive (brightness within lit area) margins, and distinguish between growth of big cities and of secondary towns. The extensive margin growth of secondary towns is associated with lower rates of poverty but there is no similar effect for growth of big cities. The productivity advantages of big cities and concerns about agricultural land loss to expanding towns and cities may imply that urban growth patterns favoring big cities are warranted, while on the other hand these new results suggest, from a poverty reduction point of view, that policies to favor secondary towns may be warranted. Policymakers in countries like Indonesia therefore face difficult trade-offs when developing their urbanization strategies.

Local knowledge anchors for green regional restructuring: The development of the bioeconomy in Lower Austria

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Pecs-G38-O2 Smart Specialization, B019, August 26, 2022, 2:00 PM - 3:30 PM

In light of grand societal challenges there is an increasing awareness of the need for transformative innovation policies. So far, the literature on this topic has paid insufficient attention to the role of the regional policy level. Transformative innovation policy approaches have received critique for lacking sensitivity and attention to context-specific factors and for advocating rather 'place blind' policies. Over the past few years, scholarly work has begun to give more attention to such policies on a regional scale. With their varied characteristics, regions provide different barriers and opportunities to shape sustainability transitions. As in conventional endogenous innovation policy strategies, external relations play a less important role here. This paper argues that local anchor points obtain a decisive function in bringing new knowledge and impulses to a region. These anchors can combine existing capabilities and regional pre-conditions with external sources to enhance green transformation. This means that policy should target wider institutional dynamics and knowledge flows to cope with barriers and support the potentials in a region. This paper analyses recent diversification processes in Lower Austria by looking into the transformation process for green restructuring. Especially, it assesses how regional knowledge anchors set up by policy can attract, mobilize and diffuse external knowledge in a region to support the development of the bioeconomy in Lower Austria. In addition, it studies how wider institutional dynamics influences such processes. The paper uses a case study approach by looking into the role of two anchors and the specific mechanisms of how external knowledge is sourced, anchored, and diffused in the region to enhance green re-structuring.

Is European regional policy suitable to address COVID-19 regional effects? A case study of European regional policy in Greece

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Online-G29-O2 Regional and Urban Policy and Governance, August 23, 2022, 2:00 PM - 3:40 PM

The COVID-19 crisis affected the whole European Union in an unprecedented way and has socioeconomic impacts on each and every European region. In the same time, it is calling into question the role of European Union institutions as proper vehicles to accommodate short and medium term negative national and regional COVID-19 repercussions.

The uprising problem of the pandemics, reinforced the need for integrated economic programs for the alleviation of the economies. Many support programs were held from the European Union such Coronavirus Response Investment Initiative (CRII) and the Recovery Assistance for Cohesion and the Territories of Europe (REACT-EU), pioneering in the history of the Union.

The paper studies the efficiency of EU regional policies to encounter the effects of the Covid-19 pandemics on the economies of European regions at NUTS-2 level. The paper follows a policy oriented approach, assessing comparatively the criteria of regional recovery programs, so as to uncover the benefits and shortcomings of applied policies in the last two years. The case study selected, was the country of Greece which has already faced economic difficulties in the past years of its economic crisis. The adaptation of the European support programs in the particularities of Greece as requested from the Greek Government were examined.

The paper is structured as follows: After the introduction, section 2 sets the principles and criteria of European regional policies to address COVID-19 negative regional effects. Section 3 focuses on critical European regional indicators, Section 4 describes the adaptation of the selected European support programs focused on Greek regions , while Section 5 concludes and underlines the fundamental results.

Key words: regional development, European regional policy, covid-19 regional effects

University Science Parks as a Tool for Regional Innovation Cooperation?

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Pecs-G08-O2 Cooperation and Local / Regional Development, B017, August 24, 2022, 4:00 PM - 5:30 PM

Cooperation between universities, business and government is important in creating innovation, but often they face barriers which block the successful cooperation among institutional spheres. To improve and strengthen collaboration and overcome existing barriers were created hybrid organizations like university science parks.

The main goal of our paper is to examine the contribution of university science parks and research centres in Slovakia to increase of innovation and cooperation activities in the regions. In Slovakia, several such parks were built thanks to financial support from European Structural and Investment Funds in last 10 years. We applied the method of quantitative research – an online questionnaire survey complemented with interviews, which we used to collect basic data on all science parks in Slovakia. We also used project reports and annual reports of universities.

We found that despite quite large public investment, the research infrastructure doesn't perform the required functions, which were declared during the creation of the parks. Cooperation with companies in the region is significantly limited in these parks. They do not create additional added value and rather implement activities that the universities themselves have done before and without them, such as basic research. The main barriers to development include insufficient funding for research, wrong set up of initial projects as well as lack of professional staff.

Information society and socio-economic sustainability: analysis of the performance of European regions between 2011, 2018 and 2020

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Online-G20-O1 Cities, Regions and Digital Transformations, August 22, 2022, 2:03 PM - 3:30 PM

INFORMATION SOCIETY AND SOCIO-ECONOMIC SUSTAINABILITY: ANALYSIS OF THE PERFORMANCE OF EUROPEAN REGIONS BETWEEN 2011, 2018 AND 2020.

In the current development paradigm shift, understood in a holistic, integrated and sustainable way (Rothe, 2020), the progress of the Information Society for Households and Individuals and digital transformations is an opportunity for the socio-economic development of European regions, but it can also become a source of new economic and social inequalities (Helsper, 2021; Ramírez-Correa et al., 2020). It is of interest to know from a spatio-temporal perspective, the differences in behaviour at regional level in the relationship between ICT use-access by households and individuals (ICT-H+i) and social and economic sustainability (SES). This would help to identify which geographical areas need to make greater efforts to advance in digitization in order to achieve progress in social and economic sustainability. Within this framework, the aim of this research is to identify the types of behaviour of the ICT-H+i/SES binomial in European regions, between 2011, 2018 and 2020.

This research uses an own elaboration database constructed with variables resulting from a previous factor analyses based on the information provided by the "Survey on ICT Equipment and Use" (10 variables) and the "Indicators for monitoring the SDGs of the 2030 Agenda" (10 corresponding to the SDG indicators 1, 3, 4, 5 y 10), available in Eurostat's regional statistics. The typology of European regions is obtained by means of cluster analysis in two stages: i) hierarchical cluster analysis; and ii) K-means analysis. An index is calculated with the sum of the factor scores in z-scores to order the obtained groups according to the deviation with respect to the mean in the ICT-H+i/SES binomial defined by the three variables (factors) for each of the years studied. The initial results of this research show that, while between 2011 and 2018 the behaviours and characteristics of the ICT-H+i/SES binomial in the European regions underwent few modifications, the outbreak of the COVID-19 pandemic has led to a significant change in both the evolution and the characteristics of this binomial at the regional level. Hence, the spatial distribution of clusters in 2020 shows that regional differences in the binomial have increased, especially in Central Europe and Eastern Europe, as well as in the North-West (United Kingdom).

* This presentation is part of the results of the R+D+i PID2019-107993GB-I00 funded by MCIN/AEI/10.13039/501100011033

Urban growth in the long term: Belgium, 1880–1970

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Online-G03-O3 Demographic Change, Population, Migration and Mobility Behaviour, August 22, 2022, 9:15 AM - 10:55 AM

We take advantage of a new data set on Belgian cities to test random growth, that is, Gibrat's law. This unique data set provides annual population estimates for all Belgian municipalities (2,680 cities) from 1880 to 1970. The use of panel data methodology and unit root tests can provide a precise test of Gibrat's law (a unit root is equivalent to random growth). We run both time series and panel data unit root tests, obtaining strong support for random growth in the long term. The results hold when we allow for the presence of one and two structural breaks in the mean, and the timing of the breaks coincides with some major historical events, such as the World Wars and the economic crisis of 1929–1933.

Club classification of foreclosures rates in Spain

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Online-G16 Real Estate and Housing Markets Issues, August 22, 2022, 2:00 PM - 3:35 PM

In this paper, we study the evolution of the Spanish foreclosures rates (defined as the number of judicial foreclosures per 1,000 inhabitants) across the 50 Spanish provinces (NUTS III regions) during the period 2001(Q1) to 2019(Q4), using a cluster algorithm. This methodology allows us to determine the existence of foreclosures convergence among the Spanish provinces. We use the Phillips and Sul (2007, 2009) panel convergence method.

Results show that the Spanish province-level foreclosures rates do not converge in only one convergence club; rather, we identify ten foreclosures convergence groups when all the period is considered.

Nevertheless, during this period there was a major negative shock, the global financial crisis in 2008. As a consequence, there was a dramatic increase in foreclosures in all regions. The main governmental response to this crisis was an important change in legislation, the legal reform passed in 2012 to protect mortgage debtors. Under the new regime, it is difficult for low-income debtors who meet certain requirements to be evicted. To explore the possible effects of these events, we split the sample in two sub-periods (pre-crisis, 2001(Q1)–2008(Q4), and post-crisis, 2009(Q1)–2019(Q4)). We observe strong differences in the number of groups and their composition when using the entire sample and the post-crisis period. Surprisingly, in the post-crisis period no club classification is obtained, as all provinces are classified in the same club.

Therefore, there were different paths across regions before the crisis, but after the shock foreclosures rates in all provinces converged to the same path.

Supplementary analysis of the possible factors related to the club classification in the pre-crisis period is carried out. Furthermore, the cluster analysis is also applied to the loans rate (defined as the number of mortgage loans per 1,000 inhabitants) for the period 2007(Q1) to 2019(Q4). This time data is only available for the post-crisis period. Results support convergence in loans rates within six convergence clubs, pointing to six different loans rate patterns across the Spanish regions.

Shades of a Socialist Legacy? Innovation Activity in East and West Germany 1925-2014

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Pecs-S20 Historical Roots of Regional Entrepreneurship and Innovation, B313, August 24, 2022, 4:00 PM - 5:30 PM

There seems to be a consensus in the literature that socialism left an adverse imprint on the level of innovation activity and that this socialist legacy hampers the development after the switch to a market economic system. We investigate the long-term socialist treatment effect on the number of patents across East German regions by applying a difference-in-difference approach. There is increasing divergence between East and West that is only partly a result of socialist legacy but rather rooted in the transformation process. In particular we find that German unification led to a consolidation of research activities in fields that equally comprised the technological profiles of East and West. This consolidation seems to have a considerable long-term negative effect on innovation activity in the East.

External shocks and the evolution of emotions: COVID-19 vs the Ukrainian war

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Online-S05 Culture and Narratives through Time and Space, August 22, 2022, 11:15 AM - 12:55 PM

COVID-19 has had a significant impact on how we interact with others, go about our lives, work, study and many other aspects. Unfortunately, COVID-19 continues to wreak havoc globally with over 5 million people having lost their lives despite collective best efforts. Research shows that receiving the COVID-19 vaccine is the best way to protect yourself, your loved ones and your community against contracting the virus. However, vaccination rates in the Western world are slowing down, and there is a sense of increased complacency. We now know that negative emotions such as fear influences peoples' positive attitudes towards the COVID-19 vaccine. We also know that happier people make better health-related decisions. To better understand the trend in vaccination rates, we investigate the relationship between a nation's subjective well-being, measured by happiness, and COVID-19 vaccination rates for ten countries in the Northern and Southern hemispheres. To measure happiness, we use the Gross National Happiness index (GNH), derived from Big Data and from the Our World In Data; we use the vaccination rate. We consistently find a positive relationship in that higher levels of happiness encourage higher vaccination rates. In terms of policy, the government should offer people help with the central problems in their lives. Surely, the costs of improvements in social and psychological infrastructure are small compared with physical infrastructure costs. And the subsequent benefit to society at large could just possibly be winning the battle against COVID-19.

The relation between the health infrastructure and economic conditions in cantons and the covid-19 infection in Ecuador

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Online-G39-O3 Regional Consequences of the COVID-19 Pandemic, August 23, 2022, 2:00 PM - 3:40 PM

To face the COVID-19 pandemic, governments established certain stringency measures as the lockdown and the traffic light system. However, the response to the pandemic also depends on the existent capacity and underlying conditions of regions. In this line, this study aims to determine the relationship between the COVID-19 pandemic and the underlying regional conditions, using two dependent variables: number of COVID-19 cases and the COVID-19 prevalence rate; for three phases: isolation, social distancing and contingency. Using daily COVID-19 data and cantonal level variables, a Negative Binomial model and a Tobit model were estimated to analyze the determinants of the number of COVID-19 cases and the prevalence rate, respectively. Our results show that the international connection and richness of cantons increased the level of COVID-19 cases but their health infrastructure reduced it. Stringency measures such as the traffic light system were effective to face the pandemic. The geographical proximity between cantons and the nature of economic activities (essential and non-essential) mattered for the spread of the pandemic.

Local Rural Perspectives on Disparities in a Digitalising (PostCOVID) Europe: „boom“ of virtual assistance services in the Hungarian rural countries

Ms Krisztina Gulyas¹

¹*Sze Rgdi*

Online-S33-S2 Local Rural Perspectives on Disparities in a Digitalising (Post-COVID) Europe, August 23, 2022,
11:15 AM - 1:15 PM

I am Krisztina Gulyás, a PhD student at the Doctoral School of Regional Economics of the Széchenyi István University in Győr (HU). The topic of my doctoral dissertation research is the analysis and comparison of the responses to the everyday challenges of family businesses and small and medium-sized enterprises in Hungary, Austria and Italy.

Part of my research (one of the chapters) is an analysis of the digital challenges facing businesses in recent years and the solutions which have emerged for them (e.g., the proliferation of the virtual assistant -in following text: VA- service and its effects on businesses). So I managed to conduct a questionnaire survey in Hungary with the involvement of the client and the agent side (54 answers of an online questionnaire), and it has turned out that not only rural businesses, but also virtual assistants have been rising in the countryside on their own and self-organizing during the pandemic live and benefit from the digital revolution, for two years now.

Lots of employees –mostly women, mothers- had to face new and unknown challenges to be able to survive – these are also more in the rural areas, where there was not easy to find a job either with home office possibility or big flexibility to manage the children in homeschooling or the elderly relatives at home during the pandemic.

I can definitively confirm, based on the questionnaire feedbacks, that this kind of cooperation and art of digital solution (the VA) can help every business, every company deliver well even on a low budget, increase the profit margin for your services or products, and ultimately raise the own market share. As well as it definitively could help other hundreds of well qualified, talented „digital“ women and mothers to earn good money and can have a better work-life balance also living in the country side. First of all, the combination of the demand and supply in the rural areas have a lot of potential and perspective in the future for the development of the rural areas, for VAs and for the business development of little and medium sized companies.

In a bigger research (international, in Austria and in Italy) I will examine the same VA topic as a chapter in my dissertation to understand and evaluate the parallels and contradictions by the answers of the challenges and opportunities in all three countries (Hungary, Austria and Italy).

Pandemic and Work from Home: A Spatial Oligopsony Model

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Pecs-G14-O1 Spatial Econometrics, B016, August 25, 2022, 2:00 PM - 3:30 PM

Work-from-home is a rising observation of working away from a fixed job location in the office that can be carried out in home and any place. It has the beauty to help reduce energy consumption, traffic congestion and air pollution, save office space and provide work-life balance. This study is motivated by the onset of Covid-19 pandemic and the rapid development of digitalization that accelerated work from home that has received much attentions recently.

We attempt to establish a spatial framework of a circular labor market with oligopsony to analyze how work from home affects the labor market along with the factor of pandemic. It contributes to the existing limited theoretical studies by focusing on the effects from both the competition and undertaking several factors of benefits and difficulties from work from home, such as the percentage of work from home, the number of firms, commuting costs, costs from saving in office space, personal costs related to work from home, productivity of labors, and the production technology of firms. Analysis on the equilibrium wages, labor allocation, labor welfare, firms' profit and social welfare is derived.

We adopt a circular model with equal distanced firms as a spatial oligopsony. Consider two types of workers with either high or low productivities. The main results are as follows. First, work-from-home can be beneficial to both workers and overall social interest when the distance costs are high, firms are less competitive, the extra cost for work-from-home and the productivity gap are low. This result is consistent with empirical findings of positive impacts on productivity and workers' satisfaction. Second, wage dispersion among workers may become wider in work from home under similar conditions. The implied increased wage dispersion in pandemic was found in empirical data. Third, pandemic risk can induce increased wage dispersion, although the level of wages may either increase or decrease, depending on the extent of productivity shock and the cost from pandemic spread.

Potential empirical explanations from the proposed model and related empirical predictions are further discussed. Moreover, several extensions for robustness are provided to include investment game of digitalization, partially covered labor markets and unemployment, and linear model with both consumption and labor markets.

Role of Religious and Ethnic Identity in Dissolution of Former Yugoslavia - Case Study of Bosnia and Herzegovina -

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Online-S29-S2 National Regions in regional development – National, ethnic, cultural, religious, and linguistic renaissance of European regions and identities, August 23, 2022, 11:15 AM - 1:15 PM

see extended abstract:

Using the main tenants of the Social Identity Theory, this paper contemplates role of religion and ethnic identity in dissolution of former Yugoslavia, with a specific focus on Bosnia and Herzegovina and its governmental system and security situation, accompanied with social and cultural consequences.

After the civil and interreligious war that Bosnia and Herzegovina (BiH) experienced in the last decade of the 20th century, this country made religion and ethnic affiliation as a pre-condition to all the political, social, educational and cultural undergoing processes.

Any significant demographic changes in BiH could have grave, if not dangerous, impact on fragile political and security situation in Bosnia and Herzegovina. This hypothesis is based on the fact that political system in BiH is a product of consociationalism, an institutional instrument used to manage conflicts among nations of different, even adversary, religious and ethnic groups.

Key words: identity, immigration, cohesion, consociationalism, ethnic conflict resolution, primordialism and instrumentalism.

Tailoring innovation: An analysis for the European regions

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¹*University of Oviedo*

Pecs-S40-S2 Innovation catalysts, regional development and unintended consequences, B313, August 26, 2022, 2:00 PM - 3:30 PM

See extended abstract

Regional Science Meets the Past: What Do Coins Finds Tell Us About the Ancient Spatial Economy?

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Pecs-G13-O2 Methods in Regional Science or Urban Analysis, B019, August 25, 2022, 9:15 AM - 10:45 AM

The spurt of data and organized quantitative information from different archaeological sources has challenged established truths about the ancient economy in the last three decades. The range of tools and techniques for exploiting these archaeological sources has also grown dramatically. As a result, new questions are raised, which put our sources in a broader context that increasingly favors the long-term perspective. In this paper, we will discuss, using case studies, how the use of numbers can shed light in the study of ancient Greco-Roman history, with a particular interest in their economies. Our illustrative exercises focus on the use of regional science approaches, a discipline at the crossroads of economics and geography. We are particularly interested in Sir Alan G. Wilson's seminal contributions as conducive to our exploration of digital numismatic databases to unravel spatial processes in the ancient world. Deriving from universal laws of physics, we will explore principles of spatial interaction modeling applied to numismatic data that will help understand spatial interaction processes in ancient economies. By measuring, mapping, and modeling archaeological observations (i.e., numismatic records), we expect to make sense of patterns in the data formally and to use these insights comparatively and longitudinally, as preconized by different authors.

Regional digital competences and their role in shaping economic implications of digitalisation

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Pecs-G20-O1 Cities, Regions and Digital Transformations, B314, August 24, 2022, 2:00 PM - 3:30 PM

For many tasks digitalization requires reskilling measures. Traditionally, reskilling policies are based on industry-specific challenges and neglect considering regional conditions. Recently, there have been increasing calls to build and implement place-based reskilling policies. Such policies are designed according to the conditions in the targeted regions to reach a higher effectiveness compared to place-neutral policies. However, large parts of the basis for building place-based measures to cope with challenges from digitalization are missing. We know little about how and why digital competences are developed in different regions. In order to design targeted interventions, policy makers not only need to understand how digital competences differ between regions but also comprehend the key conditions that shape regional digital competences.

Addressing these gaps would also help to understand how digitalization affects regional economic disparities. While there is some evidence for socio-economic and demographic characteristics to play a role in shaping regional digitalization effects, little attention has been paid to digital competences. Digital competences comprise a multitude of hard and soft skills that are required in companies to seize opportunities and to avoid threats that digitalization brings. Digital competences in companies can be considered a necessary prerequisite in regions to seize desirable outcomes from digital opportunities and they might therefore be one important factor driving the effect of digitalization on regional disparities. However, there is almost no data on digital competences at a regional scale and there are enormous research gaps concerning their role in shaping regional economic implications of digitalization.

The aim of our contribution is to provide insights into regional differences concerning several aspects of digital competences in companies. We want to reveal key regional factors for the level of digital competence and want to understand how these regional conditions influence companies in building digital competences. We present our study, aimed at collecting data on digital competences in six German regions, which are differentiated in terms of relevant social and economic indicators. In our study we collect data from qualitative interviews with representatives from companies, mostly CEOs. To allow for interregional comparisons, in each region we focus on the same two branches. The insights gained from the interviews are aimed at supporting the elaboration of policies to foster digital competences in a spatially sensitive manner. Such policies may be needed not only to set up successful place-based reskilling measures but also to shape the regional outcomes of digitalization in a desirable way.

Tokaj wine region: state border separation (1920) and decision of EU Court of Justice about "two Tokajs" (2014)

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Pecs-S27-S3 Borders and Borderlands – Integration and Cohesion in (Central) Europe, B312, August 26, 2022,
9:15 AM - 10:45 AM

The Peace Treaty of Trianon (1920) took the Kassa - Csap railway line (to the north of the town of Sátoraljaújhely) as the basis of drawing the state border line between Hungary and Czechoslovakia. The Tokaj wine region was not subject to consideration in this process. (However, the decision nicknamed 'Wine Trianon' had a very high importance in the region.) Czechoslovakia 'realised' in 1924 that it had a small area (132 ha) belonging to the historical wine region (that was defined on the basis of the Hungarian wine act of 1908), and established a viticultural research station in Kistoronya (Malá Trňa).

The two countries' (following the dissolution of Czechoslovakia, as of 1993 Slovakia) dispute on the issue of the Tokaj wine region can be divided into four phases: 1) the period of the two world wars, 2) the era of state socialism, 3) from the regime changes in the two countries to the common EU memberships, 4) the period of disagreement within the European Union.

The nature of the state border policies and bilateral interstate relations were permanently present in the dispute at all times.

In the period of state socialism, a bilateral agreement 'arranged' the market for the 'Tokaj-type' wines produced in Czechoslovakia: Hungary had to buy these for US dollar from Czechoslovakia, and afterwards re-exported them to the Soviet Union for rouble. (The strange contract was terminated by both parties in 1989).

Following the systemic changes and privatisations in both countries a new situation has arisen. The role of the 'Western market' started growing very rapidly, especially for Hungary.

After 1989, influences of the European Union's wine regulations were emerging for both Hungary and Slovakia. Their bilateral relations and discussions became defined by acute market problems.

The ministers responsible for the issue tried several times to reach an agreement regarding the use of the name for the area and the wines, but even the preliminary agreements that appeared to be successful failed for governmental political considerations.

The bilateral dispute passed through the forums of the European Commission and the General Court, and in both cases Slovakia's position prevailed.

Following very long deliberations, the Court of Justice of the European Union declared on 13 February 2014 that 'the listing of the Slovak wine name 'Vinohradnícka oblast' Tokaj' in the E-Bacchus register of protected designations of origin does not constitute an actionable measure'.

Landscape fragmentation types caused by urban sprawl in surrounding zones of Central European regional centres

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Pecs-S30 Suburbanization, urban sprawl, and their impact on the environment in Central Europe, B313,
August 25, 2022, 4:00 PM - 5:30 PM

Examining the urban sprawl around middle-size cities in Hungary and Central Europe, we should see both sides of this process, on the one hand, the rural change process in the surrounding zones is characterized by counter-urbanization, and on the other hand the process of suburbanization characterized by residential out-migration and at the same time by immigration from the rural areas. These processes have intensified in the former socialist countries after the 2000s and it didn't treat a number of problems, which have become apparent during the eighties and nineties in Western countries. A fast urban sprawl took place with a low level of special control and planning but under the pressure of economic and financial development. The extent of spatial growth often exceeds the rate of population growth, it is taking place even in the lack of population growth. In our research Romanian, Hungarian, and Slovak regional centres and their surroundings were assessed by GIS methods to define their forms and types of expansions. The examination of the transition of land cover and settlement structures was done by the analysis of aerial photos (orthophotos), CORINE surface coverage database, and land register maps. Auxiliary on-field data records were used to help us make decisions in issues where maps and photos do not provide enough information. Based on these we detected different area types from the aspect of the urbanization process in the research areas. These types reflect the nature and intensity of the urban functions, the physical built-up and appearance moreover the extent and age of occurring changes. In this assessment different physical typologies of urban expansion were defined and analyzed together with historical, social, and economic features of these urban areas creating a combined model to understand these processes. This research is supported by the Hungarian National Research, Development, and Innovation Fund. NKFI-6-K-128703.

The technological transformation of economies: measurement framework overview and a new agenda

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Online-S51 Digital platforms, servitisation and local labour markets, August 22, 2022, 11:15 AM - 12:55 PM

Technological transformation means technology-driven structural socio-economic change which includes various aspects of economic activities as a result of technology use. In the measurement of technological transformation itself, the question of which dimensions should be included in the analysis of technological transformation is rarely present in the literature (Capello, Lenzi, 2022). This is the reason why it is important to define which types of technologies are analysed, which way these technologies appear in a national economy invention and/or adoption, which types of infrastructure and human capital are required for technological transformation, and how these technologies diffuse within economy/society, and on which way technologies create socio-economic impacts. The first objective of the research is to untangle the intricate links among different theoretical, conceptual, and methodological approaches to the measurement of technological transformation whereas the second objective is to propose a new conceptual framework for the measurement of technological transformation in the context of Industry 4.0 at the country level.

Spatial structure of Spatial Interaction: Using Graph structural information in Modelling Bipartite Networks

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Pecs-S19-S3 Networks, Interaction, and Inequalities in Cities, B311, August 25, 2022, 4:00 PM - 5:30 PM

Spatial Interaction Models (SIM) have been widely used to model migration, urban commuting, and trade flows. However, SIMs are used to model processes with very typical structure. It is unclear as to whether current methods can adequately account for non-traditional types of network, such as bipartite ones. Furthermore, the models are usually validated by standard predictive measures, that aim to evaluate the predictive performance for each flow in isolation, which does not allow us to evaluate how well the models capture the pattern of flows. Finally, we face a vague explanation of what spatial structure is, how it is conceptualized and incorporated into models. In this work, we explore the concept of spatial structure and draw an inference about its representation in the current modelling framework. We then explore the potential of graph structure measure, specifically PageRank, to provide a general measure of spatial structure, and examine its performance as an alternative measure of accessibility in SIMs. We do this for two different types of networks: unipartite and bipartite, and compare models with standard predictive performance methods as well as comparing their spatial pattern reconstruction. We find that PageRank accounts for changes in both at the local and global scale. It may provide a more useful general measure of spatial structure for typologically different SIMs and can yield estimates that are superior to traditional measures of accessibility. Overall, this work encourages us to think more critically about spatial structure in SIMs and widen our ideas of what constitutes "good performance".

The Pattern of Regional Trust

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Online-G14 Spatial Econometrics, August 23, 2022, 9:15 AM - 10:55 AM

Social trust is increasingly seen as an important determinant of economic growth and social prosperity in regions and nations. Even in a comparatively homogeneous area such as Europe, there are stark sub-national differences in levels of generalized trust. It is thus of crucial importance to identify the driving forces of regional trust and analyze the dynamics of its formation. The present paper considers these issues based on three waves of the European Values Study. Evidence is provided to demonstrate that values of regional trust remain substantially stable over an approx. 20-year period and are modified only through spatially correlated random noise processes. This finding is consistent with additional analyses identifying slow-moving factors that are responsible for the spatial distribution of trust scores and are buried deep in the cultural background of a society. Hence, in spite of its economic significance, social trust does not appear to be amenable to political intervention in the short to medium term.

Social innovation as a learning process

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Pecs-S40-S2 Innovation catalysts, regional development and unintended consequences, B313, August 26, 2022, 2:00 PM - 3:30 PM

Having considered numerous definitions and models of social innovation (SI), first we propose a new, nominal definition and then develop a new model of SI, inspired by the multi-channel interactive learning model of business innovations. As opposed to the linear models of innovation, this model does not identify 'stages' of business innovation. Rather, it stresses that innovation is an interactive process, in which collaboration among various partners are crucial, as they possess different types of knowledge, all indispensable for successful innovation activities. Following this logic, we identify the major actors in an SI process, their activities, interactions, modes of (co-)producing, disseminating, and utilising knowledge. We also consider the micro and macro environment of a given SI. We illustrate the analytical relevance of the proposed model by considering three real-life cases. The model can assist SI policy-makers, policy analysts, as well as practitioners when devising, implementing or assessing SI.

Innovation Studies, Social Innovation, and Sustainability Transitions Research: From mutual ignorance towards an integrated approach?

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Pecs-S47 Social and business innovations for local and regional development, B017, August 25, 2022, 9:15 AM - 10:45 AM

Transformative change has become the focus of various strands of innovation research in recent years. This paper focuses on the contributions of three main strands of innovation research to analyse goal-oriented transformative change, namely i) innovation studies; ii) social innovation research; and iii) transitions research. Drawing on a focussed literature review, we characterise the three strands of literature along the key features of innovation processes, namely: the principal aim of innovations, the 'subject' and the levels of change, the main actors and their interactions during an innovation process, the sources and types of knowledge (co-)produced, utilised and exchanged, how success and impact are defined and measured, and the diffusion mechanisms. We also discuss how transformation dynamics is understood in these strands of the literature.

We argue that mutual learning among the three strands' scholars is needed as a foundation of a deeper understanding of goal-oriented transformation processes. An integrative framework would offer various advantages.

We might arrive at a better understanding of normative issues. To explore meaningful normative ambitions we need transparent, more appropriate – and cost-efficient – methods for organising normative dialogues, better serving societal needs. Those dialogues can identify inevitable tensions among countries and social groups with different experience, worldviews, values, and ambitions and after participatory, systematic deliberations the actors can arrive at shared visions, specific objectives, and joint, effective actions.

A common framing of goal-oriented transformations in society would also advance theory building. We consider the following main building blocks of a new, integrative framework: i) goals of change; ii) types and levels of change; iii) sources of change; iv) processes and mechanisms of change; and v) a set of criteria to assess the impacts of transformations.

Strategic and policy implications could also be derived. An integrated approach to goal-oriented transformations can underpin more effective strategies for various types of actors, as well as more effective public policies. While there are inevitable tensions among the different types of actors, there are also complementarities among them in terms of their capabilities and opportunities to act, e.g., when orchestration of changing technologies, infrastructures, social and business networks, cognitive frames, institutions, and social practices is needed to set in motion certain goal-oriented transformation processes. This is a practical implication for innovators – 'change agents' – who need several, if not all types of approaches currently 'treated' in isolated ways in the three strands in terms of theorising, policy-making, and acting.

The Effects of the COVID-19 Pandemic on U.S. Regional Economies

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Pecs-S59-S2 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of
Pandemics, A308, August 24, 2022, 2:00 PM - 3:30 PM

The COVID-19 pandemic has significant impacts on U.S. regional economies. We examine the effects of COVID-19 on economic growth, population, labor markets, migration, and entrepreneurship. We also study the heterogeneous effects of the pandemic on urban and rural America.

Structural transformation of retail in the outer zones of urban agglomerations. The new location patterns and quantitative changes

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Pecs-S09 Structural transformation of retail chains in the outer zones of urban agglomerations. The quantitative changes and new location patterns., B310, August 25, 2022, 9:15 AM - 10:45 AM

The outer zones of urban agglomerations in Poland during recent decades experienced an uncontrolled expansion of urbanisation, characterised by a profound diversification of the land use structure accompanied by a dramatic increase in anthropopressure and occurs in a wide suburban zone, as well as in invasive forms of housing, commuting as well as services and retail in rural zones more loosely linked to larger urban centres. In the outer zones of urban agglomerations a deep transition in service patterns appears and massive structural change in local retail. Furthermore significant change in shopping behaviour and retail chains activities and locations became visible not only in distance and peripheral rural areas (Vias 2004, Paddison, Calderwood 2007), but also in small towns (Powe, Shaw 2004, Twardzik, Heffner 2019) and in wide suburban zones (Heffner, Twardzik 2015, Silhan, Kunc 2020).

In turn, restructuring and diversification of development structure, with a decrease in the intensity of spatial interactions, occurs most often in fully urbanised rural zones (often functioning as external parts of larger urban centres, Korcelli et al. 2012, Korcelli, Korcelli-Olejniczak 2017). The shortage of retail services in the rapidly growing suburbanisation zone is resulting in changes in shopping behaviour towards locations with chain stores (Heffner 2013, Heffner, Twardzik 2015). Network outlets appear singly even in relatively small rural localities, in municipal centres and small towns there are relatively often a few or more (Calvo-Porrall, Levy-Mangin 2018). Retail shops in smaller rural settlements are disappearing, while their number is decreasing in small towns and community centres (Damurski, Ładysz, Zipser 2016, Kunc, Reichel, Novotna 2020). It is important to find the main commercial pull factors of the local shopping centres in order to attract potential customers as well as elements for improving the quality of life in urbanised rural areas. Due to the interdependent nature of the relationship between changes in population distribution and flows (local peripheralisation process and degradation of the commercial service system), the evolution of economic functions and transformations in infrastructure makes difficult to identify their succession in different types of rural areas in the outer zones of urban agglomerations ((Gibas, Heffner 2018). Changes in the distribution, nature and functioning of retail trade in rural areas, including suburbanisation zones of larger cities, are becoming one of the most important factors shaping their quality of life and development.

The impact of immigration on native internal migration – Evidence for Germany (2008-2018)

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Online-S49-S2 Drivers and impacts of migration: new insights on the role of local labour markets, human capital, personality and (family) networks, August 23, 2022, 4:00 PM - 5:45 PM

This paper analyses the impact of immigration on the mobility of native citizens in Germany. Immigration to Germany has increased significantly over the last few years, driven in particular by a large and sudden influx of refugees during the so-called European refugee crisis. We make use of the quasi-experimental nature of this sudden influx to investigate its causal effect on internal migration decisions of native citizens, applying an instrumental variable (IV) estimation strategy that isolates the supply-side effects of refugee immigration through historical information on the spatial distribution of ethnic population groups across German NUTS3 regions. These effects are expected to act as a pull factor for new immigration inflows into these regions. We find that higher refugee immigration into a region leads to a significant decrease in the internal net migration rate of native citizens. Regarding the mechanism of this substitution effect, our IV estimates provide evidence that it is mainly driven by native “flight” rather than “avoidance”, with the observed effect varying greatly across age groups.

Do jobs follow people or people follow jobs? A Case Study from the German knowledge economy using Granger Causality

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Pecs-G01-O4 Regional and Urban Development, B016, August 25, 2022, 9:15 AM - 10:45 AM

“Do jobs follow people or people follow jobs?” is part of a decades-old debate in regional and economic science. The question of whether this growth in population, employment and jobs is demand-driven or supply-driven has yet to be answered. In his seminal work, Muth (1971) outlined two possible ways how regions grow: people move to locations where new jobs are created and conversely, new jobs are generated where people are located. In this study, we aim to add new insights from the German knowledge economy to the discussion. We do this by analyzing the change in employment of 480 firms and their respective firm locations grouped in advanced producer service firms (APS) and high-tech firms, surveyed over the period from 1999 to 2019. We use official labor market data for each firm and year provided by the Federal Employment Agency in Germany. We build on previous research in this field (e.g. Tervo 2016) by using the panel Granger causality model to study the interrelatedness of growth in the knowledge economy and general employment. In this study we examine different Granger causalities, from employment growth causing employment growth in APS/ high-tech and vice versa, to employment in APS firms causing employment growth in high-tech firms (and vice versa). We complement this study by mapping the results using GIS for 186 Functional Urban Areas (FUAs) in Germany. First results indicate that regions located near economically strong urban regions such as Munich, Hamburg, or Stuttgart exhibit a higher percentage of Granger-causal patterns.

Institutional changes and industry dynamics in the IPR service sector: A small open economy perspective

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Online-G33-O1 Innovation and Entrepreneurship, August 23, 2022, 11:15 AM - 1:15 PM

Patents and other intellectual property rights (IPRs) are at the core of innovation studies. But who in practice drafts the applications and supports the applicants in the filing process? We conduct an exploratory case study to shed light on the dynamics of the IPR service sector. We focus on the sector's evolution in Finland in 1990-2020, and analyse the impacts of globalization, European integration and digitalization. IPR register data and expert interviews suggest that the scale of services has increased, and the scope widened as national, regional, and global IPR institutions have become increasingly interconnected. Due to institutional changes triggered by European integration, the Finnish IPR service firms have shifted their services increasingly from the national patent office to EPO and EUIPO. Even though changes in IPR institutions aimed at reducing transaction costs have removed some sources of revenue from the IPR service firms, the increasing volume of international filings has counteracted that trend. We conclude with suggestions on how to include the role of IPR service providers to the study of IPR activity.

Regional inclusiveness: institutional factors and the innovative effects of cultural diversity in European regions

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Pecs-S49-S2 Drivers and impacts of migration: new insights on the role of local labour markets, human capital, personality and (family) networks, B323/1, August 26, 2022, 11:15 AM - 12:45 PM

A diverse mix of immigrants within a region provides a range of knowledge, skills, and ideas, which may foster regional innovation. However, this cultural diversity could also negatively impact innovation: communication barriers, conflict and intergroup biases, for example, may pose hurdles for cooperation and increase transaction costs. So far, empirical analyses of the relationship between cultural diversity and innovation show mixed results. This raises the question, whether regional institutional factors may be at play in reducing the costs and utilising the potential of diversity. Considering that the innovative effect of diversity may rely on knowledge transfer and joint problem-solving, institutional settings governing the exchange between heterogeneous actors could take on a crucial moderating role.

This paper explores the role of informal institutional characteristics in moderating the innovative effect of diversity across European regions. Using data from the European Eurobarometer survey, we conceptualise “inclusive institutions” along two dimensions: (i) attitudes towards immigration and (ii) the prevalence of social interaction between migrants and natives. Combining measures of these dimensions with data on cultural diversity from the European Labour Force Survey and patents from the REGPAT database, we investigate whether regions with more inclusive institutions benefit more strongly from cultural diversity. The results shed light on the largely understudied role of institutions in the economic and innovative effect of immigration and contribute to our understanding of the consequences of institutional differences across European regions.

Regional Functional Spaces: Functional diversification processes throughout GVCs

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Pecs-S15-S2 Supply Chains, Production Networks and Regions, B310, August 24, 2022, 4:00 PM - 5:30 PM

This paper examines the evolution of functional upgrading GVCs processes for EU regions (NUTS2) during the period 2000-2010. It relies upon a new dataset combining information on value added, occupations and wages. Value added information is retrieved from the interregional input-output table "EUREGIO". For information on occupations and wages, microdata from the EU Labour Force Survey and the EU Structure of Earnings Survey is used, respectively.

Within each regional industry, four different business functions are distinguished: R&D, management, marketing, and production. Firstly, the functional GVC specialisation of each regional industry is measured based on the contribution of each business function in the production of value added across GVCs (revealed comparative advantage). For this purpose, information on the number of workers developing specific occupations and their wages are matched with business functions. Secondly, based on this functional GVCs specialisation indexes, the relatedness density between them is computed following the method of co-occurrence. We then try to explain functional upgrading GVCs phenomena, as acquiring functional specialisation in new business functions, based on the relatedness to previous functional specialisation patterns. It is important to notice that three different kinds of functional upgrading GVCs processes are studied: intra-sectoral, inter-sectoral and deepening in already existing functional specialisations.

Expected results include the validation of the so-called "Principle of Relatedness". It is expected that regions become specialised in functions that are close to those in which they already have a relative comparative advantage. Unrelated functional upgrading GVCs processes are expected to be exceptional.

* See extended abstract as well.

Sustainable entrepreneurship and sustainable city

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Pecs-S28 Aligning entrepreneurship, sustainability and regional policy, B310, August 24, 2022, 11:15 AM - 12:45 PM

Context and originality of the subject

The rapidity with which cities are developing and the resulting urban problems have forced policy makers to look for new solutions to address sustainability issues (Simmons et al., 2018). Technology companies have proposed some solutions based on information and communication technologies to help use existing resources efficiently (Kummitha, 2018). They have thus contributed to the socio-economic transition approach implemented in cities and the emergence of "smart cities". However, while the increased use of these technologies may have solved many urban problems, they have also been a source of problems affecting the social and environmental quality of life of the inhabitants (United Nations, 2017). It was therefore essential to design solutions that allow cities to become not only "smart" but also sustainable (Carrière, 2015).

The responses of different types of actors in the processes of transitioning to more sustainable production and consumption patterns (Markard et al., 2012) have been widely studied. However, the importance of entrepreneurs in this regard has not been sufficiently emphasized. While they seem to be well placed to design solutions contributing to the sustainable transition of cities, their approaches and involvement in this process have not received sufficient attention from the scientific community. Indeed, despite the scale and importance of smart and sustainable cities, entrepreneurship researchers continue to ignore their impact (Letaifa, 2015) and the immense range of opportunities they offer (Quin, 2018).

The urban problems and challenges facing cities today have opened up research to different forms of entrepreneurial activity. These challenges represent opportunities for those who wish to reduce economic behaviors that degrade society and the environment (Cohen and Winn, 2007). They have given rise to a new type of sustainable entrepreneurial activity focused on improving well-being through for-profit, hybrid, or nonprofit business models. This type of entrepreneurship offers opportunities to address the failures of public or private services and can help solve important socio-economic, cultural and environmental problems (Dacin et al. 2010). The city thus becomes a kind of sustainable innovation platform or laboratory for testing and developing innovative and collaborative solutions, also involving the business community.

Research objective

The current challenges facing cities around the world present a multitude of opportunities for sustainability-oriented and city-conscious entrepreneurs. These should help mitigate some of these challenges, reconciling wealth disparities, economic and social inclusion, and environmental issues (Fors and Lennerfors, 2019). However, and despite the importance of sustainable entrepreneurship and its significant impacts on urban development (Glaeser et al., 2010), it has not been sufficiently studied. The empirical phenomenon itself remains scarce (Renko, 2013) and its understanding is still lacking (Hanohov and Baldacchino, 2018). A major challenge for researchers and practitioners is to understand the process by which creative and sustainable solutions can solve complex and persistent urban problems and improve urban life, as well as the different dimensions that influence the course of this process. In response to the need to better understand sustainable entrepreneurial initiatives aimed at the development of sustainable cities, this article focuses on entrepreneurial dynamics that are based on the Social Solidarity Economy and whose action is combined in urban settings.

Methodology

Drawing on existing theories in ordinary entrepreneurship research (Shane and Venkataraman, 2000) and emerging studies in the field of sustainable entrepreneurship, we seek to illuminate the dynamics through

which urban problems are addressed. We wish to study the impact of sustainable entrepreneurship in a context that combines the creation of social, environmental and economic values on the improvement of the quality of life in cities, as measured by the evolution of the Quality of Life Index (QLI). A first exploratory analysis showed the great disparity of the QLI on an international scale. Artificial intelligence tools allowed us to identify the process underlying the evolution of the QLI (ARIMA process). A panel database is collected over 10 years (2012 - 2022) and for 87 countries with different levels of QLI observed with respect to about 15 variables. Estimation of a dynamic panel model with the QLI as dependent variable has identified the most influential components of quality of life. These factors are used in various simulations. Different scenarios for predicting the level of quality of life according to its most significant determinants are tested and have allowed us to synthesize evaluation and reporting tools for urban growth and regeneration. Contrary to our expectations, our first results highlight the importance of the role of the innovation ecosystem in the short- and long-term propagation of the shock of innovative firms.

The Effect of Short-Term Rentals on Local Consumption Amenities: Evidence from Madrid

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Pecs-G13-O2 Methods in Regional Science or Urban Analysis, B019, August 25, 2022, 9:15 AM - 10:45 AM

The economic landscape in urban areas is rapidly changing as peer-to-peer (P2P) accommodation platforms enter the cities. As short-term rental platforms diffuse, studying their effect on the local economy is crucial, particularly their potentially uneven consequences across the urban geography. Since tourists are consumers with different needs and tastes, their arrival may change the economic activities around the new establishments. As short-term residents substitute long-term residents, the Airbnb-induced demand increases, potentially impacting stores locally. If, as Airbnb claims, guests prefer staying around and consuming near their listings, the arrival of these new temporal residents may represent a positive externality, leading to an increase in the demand for local consumption amenities like restaurants, coffee shops and other retail services.

To answer our research question, we must first solve the endogeneity issue coming from the non-random location of the Airbnb listings. To do so, we introduce a novel methodological approach to exploit the exogenous variation created by the unequal entry of Airbnb across the Madrid geography. To measure the impact of Airbnb on local consumption amenities, we use a Bartik-like instrumental variable (IV) approach, exploiting the number of rented houses in 2011 (before the Airbnb entry in Madrid) and the number of worldwide Airbnb Google searches as an instrument for the short-term rentals activity. Our IV approach relies on the importance of the stock of local supply rented houses before the Airbnb entry to explain the increase in the number of short-term rentals afterward. We exploit the sharp geographic and temporal variation in the availability of short-term rentals, using the census tracts as our main geographical units of analysis.

The main results show that the entry of Airbnb has positively impacted both the employment and the number of food and beverage establishments: an increase in ten Airbnb rooms in a given census tract translates into one more restaurant. The same increase in a given neighborhood generates nine new tourist-related employees. Interestingly, short-term rentals have a much stronger impact on local consumption amenities in less touristic areas, reinforcing the idea that peer-to-peer accommodations help redistribute tourism consumption over the city. Finally, we unveil the heterogeneous impact of Airbnb on local consumption amenities, identifying the restaurants and the coffees as the main activities benefited by the short-term rentals disruption. We find no evidence of pre-trends and our results are robust to sample composition, spatial spillovers and alternative measures of local consumption activities.

A survey of tourism behavior of international students in Pécs as tourism re-emerges in a post-pandemic phase

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Online-S08 Regional Disparities in the post-COVID Tourism Industry of East-Central Europe, August 23, 2022,
11:15 AM - 1:15 PM

Expanding international awareness and improving global integration through tourist activities is one of the positive driving forces which is increasing the number of students going abroad every year. Most international students take advantage of every holiday whilst studying and living overseas, especially if that country is located on another continent, to explore the local culture, and enjoy the distinctive culinary culture. Consequently, this not only boosts the local tourism economy but also contributes to the national economy. Strongly, study-abroad programs create more options for local entrepreneurs, economic benefits for small enterprises, and job opportunities for residents. To date, there have been a number of studies which identify international students as niche customers who, bring much potential to the local economy. This study examines the tourism behavior of international students studying in Pécs, one of Hungary's cities attracting a large number of international students each year. The study is produced as the crisis came under control, each citizen being offered free vaccinations, and tourism activities in Hungary and European countries are gradually recovering. The research's main goals are to (1) establish a network of domestic and international destinations in order to identify destinations that attract international students in the post-Covid-19 era; (2) synthesize international students' evaluations of night-life tourism activities in the city of Pécs; (3) determine international students' spending levels on tourism activities; and, finally, (4) to propose some orientations for diversifying tourism activities in Pécs for the new normal period.

To have the desired results, an online poll of international students studying at the University of Pécs is being undertaken. Gephi 9.2 software (Network analysis) is also be involved to build a destination network of options. Fundamentally, the initial study generates data on international students' travel behavior, including the determinants of destinations, the ability to decide domestic and international routes during the tourism recovery time, the level of spending on tourism activities, especially the reviews and recommendations on night-life products and services in Pécs. The study in part helps tourism managers in Pécs to understand the characteristics of a niche traveler, but also gives the potential for the development of the local tourism economy – to elaborate plans for product diversification, strengthen tourism activities and enhance the attractiveness of the destination image of Pécs.

How could a 'net zero' economy impact rural demography? Insights from a regional model for Scotland

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Online-G03-O2 Demographic Change, Population, Migration and Mobility Behaviour, August 22, 2022, 4:00 PM - 6:00 PM

Many remote and rural regions of Europe are experiencing depopulation and aging population structures. These phenomena tend to develop alongside the loss of local jobs, generating vicious cycles of decline with profound implications for the resilience of communities and provision of services. However, this is not a uniform pattern, and we argue that the optimism of demographic prospects varies across remoter regions, due to spatial differences in economic activity and accompanying sectoral trends, as well as diverse patterns of economic linkages with other regions. Moreover, economic development may be transformed in future by the substantial volume of investment and step-change in emissions cuts needed to achieve net zero targets (d'Aprile et al., 2020); the extent to which these will benefit remote and disadvantaged areas is uncertain. We will present results from data-rich economic-demographic modelling of regional populations within Scotland, UK, for the period 2018-43, given two economic scenarios: a) 'business-as-usual' patterns of industry-level employment change within regions, modelled using past regional employment data (2004-18); and b) 'net zero', which additionally captures the potential implications of transition to a carbon-free economy on sectoral employment, based on published (Cedefop, 2021) insights on the impacts of the European Green Deal. Given the geographical disadvantages faced by sparsely populated areas due to low population density and scattered settlement patterns, the modelling will generate foresight for custom geographies, drawn based on access to people by their residents: many of which are remote from economic centres and their agglomeration-derived strengths. We find considerable heterogeneity in projected future employment within the 2018-43 period, across Scotland's regions, as well as a positive impact of reducing carbon emissions on job numbers. The effect of these scenarios on patterns of regional demographic change will be explored. We will reflect on the importance of expanding access to economic benefits in order to support communities in remoter areas, and on the need to inform tailored interventions and policies using novel evidence.

References:

Cedefop (2021). The green employment and skills transformation: insights from a European Green Deal skills forecast scenario. Luxembourg: Publications Office. <http://data.europa.eu/doi/10.2801/112540>

d'Aprile, P., Engel, H., van Gendt, G., Helmcke, S., Hieronimus, S., Naclér, T., Pinner, D., Walter, D., Witteveen, M. (2020). How the European Union could achieve net-zero emissions at net-zero cost," December 3, 2020, Available at <https://www.mckinsey.com/business-functions/sustainability/our-insights/how-the-european-union-could-achieve-net-zero-emissions-at-net-zero-cost> (Accessed 11th March 2022)

Governance challenges in peripheral areas in Hungary

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Pecs-S12 Multi-Level Governance through the Core Network for Sustainable Development – Building Green and Digital Skills for Sustainability, B312, August 24, 2022, 2:00 PM - 3:30 PM

The paper deals with an old topic of regional science, how the position in space and power can influence the development path of the settlements and regions.

It is commonplace that peripheries have limited access to development resources, information, decision-making actors. The spatial centres are in the most favourable situation designated as development poles, supported by public subsidies and these are attractive places for the investors offering suitable infrastructure and human capacities.

Our research assumed that the connection between the peripheral situation in space and power is not a single determinism, regions and settlements can be developed based on their own, bottom-up sources and efforts.

We conducted empirical research in a Hungarian county alongside the southern border being far from the capital, the only development and power pole of the very centralized country. Our survey among the local elite provided signs of the importance of local networks and leadership. The public money distribution and planning mechanisms are, however, centralized, channels to the upper-level decision-making platforms dominate the development policy arena. Success stories in the peripheries unfold rarely. Unfortunately, even the EU cohesion policy principles were not able to contribute to catching up the regions lagging behind, and to the emergency of strong local partnerships.

The research involved both centres and peripheral settlements providing examples for failure and success stories based on different models of governance.

Perceptions of success in peripheral areas of Baranya county

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Pecs-S13 Governance challenges in the periphery of European Union, B312, August 24, 2022, 4:00 PM - 5:30 PM

In everyday life, many people are concerned about the unlivability of the periphery, negative demographic trends and the challenges of globalisation, in which the uniqueness of locality is disappearing. The beauty of rural life, the lack of development opportunities and the persistent disadvantage of our more remote settlements, rather than the 'romance of the countryside', are becoming increasingly worrying. In this study, we seek to answer the question: which of the municipalities in Baranya County, one of the most depressed areas in Hungary, can be considered successful? What do the leaders of the municipalities think success means, what aspects does it have?

The study compares the results of two primary data surveys with the concept of success as used in the national literature. The primary surveys were conducted in Baranya County in the second half of 2020 and the second half of 2021. The questionnaire survey investigates 220 respondents from 63 municipalities and 50 in-depth interviews were conducted to nuance the questionnaire responses and our preliminary assumptions.

Researchers working on the theory of success and its spatiality (Enyedi, 1996; Enyedi, 1997; Horváth, 2013; Csatári, 2002; Lengyel, 2000; Rechnitzer, 1993; Tímár-Velkey, 2003; Lukács, 2008, etc.) divide success into subjective and objective factors that determine the territorial unit and relationships they study. Defining success in rural areas is also a priority (Lukács, 2008; Rechnitzer, 2000; Szörényiné 2016; Bódi-Bóhm, 2000; Mezei, 2006).

Based on our previous knowledge, we assume that success is a complex, multi-factor phenomenon, which includes the importance of infrastructure and supply factors, the existence and exploitation of local assets, the activity of the population, and the mayor. In order to "survive", small villages and dwarf settlements in disadvantaged situations are forced to go beyond their previous activities and, by taking into account their local assets and by bringing together the local population, increase the economic prosperity of the settlement and thus improve the quality of life of the local inhabitants. This can (also) prevent a continuing population decline.

Local vegetables : for what prices and what distances do farmers and consumers agree to trade? Two discrete choice experiments.

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Online-G36 Trade, Global and Local Value Chains, August 22, 2022, 4:00 PM - 6:00 PM

See extended abstract

Policy territorialisation to boost digital changes in rural areas: the French case

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Pecs-G04-O1 Urban-Rural Relationships, B019, August 24, 2022, 11:15 AM - 12:45 PM

Digitalisation changes the relationship between spaces and actors, and can potentially take rural areas into a new era. Unfortunately, it has also expanded the urban-rural divide. The EU and France quickly turned to a policy of “an Information Society for All” from the beginning of their efforts to accelerate digitalisation in the last 30 years. E-inclusion remains the main reason for which institutional resources are allocated to rural areas apart from the paradigm of “smart agriculture”. However, local digital strategies influence directly on the territory. There is no research till now on the territorialisation of national policy considering different aspects of digitalisation. The French rural territory shows different dynamics in digital transformation across the country. Has the gap between the national and local digital strategies to some extent resulted in this heterogeneity? The objective of this paper is to build a holistic framework for territorialisation of national policies to frame local digital strategies in the rural territory of France. Based upon a comprehensive review of policy documents and interviews with selected actors, the following results are obtained: 1) a chronicle summary of national digital policies in France under the influences of the EU and a common framework for digital policy at national and local levels. 2) Understanding of the roles of different levels (EU, State, region, department, municipality and intermunicipality) and their interactions in framing local digital strategies in rural areas. 3) Investigation of local digital strategies and their heterogeneity among different rural areas. Recommendations for policy-makers and future research are provided. It is hoped that this study will shed light on the territorialisation of national policy and its related institutional resources to promote local digitalisation in rural areas, which will in turn contribute to territory cohesion.
(see extended abstract)

Measuring the effects of a new industrial path built on creative activities: the economic complexity approach

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Online-G24 Creative Industries and Regional Development, August 23, 2022, 9:15 AM - 10:55 AM

Higher economic complexity is not only related to diversification, but also to the sophistication of production and the localisation of the manifold and unique knowledge that drives economic development. Slovakia has 79 districts, which is a reasonably fine level, and enables more detailed comparisons and interpretations when using the Economic Complexity Index (Hidalgo and Hausmann, 2009). From a different perspective, sectors are contrasted by product complexity index scores. The indices confirm the dominance of agglomeration and the disadvantages of the more peripheral regions, but at the same time reveal surprising dynamics in 2008-2020 and hidden deficiencies also in regions considered more developed. The analytical framework gives the threefold view across district, industry and time as a way of predicting future trends.

However, the main research question is focused on the creative industries and their importance and suitability as a targeted specialisation. Košice, the second-largest city in Slovakia, implemented the European Capital of Culture project in 2013 with an attempt to depart from the original industrial path with a strong emphasis on the advancement of the creative industries. The creative industries have come to the forefront of the city's social progress, significantly increasing its attractiveness for the life of the creative class. However, in the short span of less than a decade, the potential product complexity of the creative industries has so far only partially contributed to increased economic performance.

A highway is not a panacea: Evaluating the labor-market impact of a new highway in Slovakia

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Pecs-G18-O1 Regional and Urban Labour Markets and Entrepreneurship, B020, August 24, 2022, 4:00 PM - 5:30 PM

In this paper, we explore the effect of transport infrastructure on regional labor markets by examining the impact of a new highway in central Slovakia, put into use in two stages: in 2000 and 2011. Our results show that although the unemployment of the whole region declined after the construction of the highway, we observe opposing effects at the municipal level: a decrease of unemployment in the municipalities near the first highway segment but a surge in unemployment rate of the municipalities in the vicinity of the second section. A possible explanation for these divergent patterns could be the different characteristics of the two regions, such as the quality of human capital or the ex-ante degree of industrialization.

Assessing the Economic and Social Effects of Integration through the Prism of Border Regions

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Pecs-G23-O1 Segregation, Social and Spatial Inequalities, B017, August 25, 2022, 2:00 PM - 3:30 PM

Borders impede economic activity in the areas in their proximity.

Hence, their elimination could lead provide the border regions with an economic boost.

In this paper, we investigate the impact of integration into the EU on municipalities located in regions in the proximity of the borders affected by EU integration.

Our aim is to use a broad dataset to cover and directly compare different the effect of different stages of EU deepening as well as EU widening processes.

Productivity and Resilience of European Regions in response to Covid-19

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Pecs-S25-S3 The spatial dimensions of productivity for regional growth, B323/1, August 24, 2022, 4:00 PM - 5:30 PM

This paper adopts an evolutionary framework for the joint study of productivity and resilience. Although they are both fundamental factors of economic performance, the interaction between the two has been neglected. We aim at filling this gap by analyzing how productivity and resilience combine with each other in European regions during the first year of the Covid-19 pandemic and then we investigate which factors explain and influence their relationship, with a particular focus on related and unrelated variety between industrial sectors. Data from different sources at the NUTS2 level are used, initially to build a taxonomy of European regions according to productivity and resilience indicators, and then to model the relation through a multinomial logit regression. Preliminary results show that related and unrelated variety have heterogeneous effects on the combined measure of productivity and resilience. Although still in its initial stage, this work can contribute to constructing a theoretical framework which can be used as a building block for further academic research and as a support for designing more balanced policies which can unlock and foster both productivity and resilience enhancing elements.

Spatial considerations on job insecurity during COVID-19 pandemic

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Pecs-G39-O2 Regional Consequences of the COVID-19 Pandemic, B016, August 26, 2022, 11:15 AM - 12:45 PM

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 and 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 from individual factors, there are other critical influences that should be considered in order to better understand the dynamics of job insecurity against the COVID-19 pandemic. Such influences can come from regional features such as spatial, economic, or demographic characteristics, like gender, age, or education. Our analyses are based on the PsyCorona database, a study with self-reported data deployed in 116 countries all around the world, that monitored various psychological variables starting March 2020. In order to get a better understanding of the spatial distribution of self-reported job insecurity, we chose to focus on eight European countries (France, Germany, Netherlands, United Kingdom, Greece, Romania, Spain, and Italy). Respondents from Western Europe countries expressed 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 the higher the overall job insecurity is perceived in a country, the higher the discrepancies between age, gender, and education categories tend to be.

Smart Initiatives' Impact on Urban Tourism Resilience

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Pecs-G32 Tourism and Culture, B316, August 26, 2022, 9:15 AM - 10:45 AM

During the last decades smart city initiatives increased both in number and financial investments. This increase was followed by a rapid diversification of their strategic fields, from the initial focus on energy consumption, transportation, and digital sensors towards more scattered areas like tourism, communication, social media, citizen participation. The tourism dimension of smart initiatives encompassed various topics relating to visitors' experience, transformation of tourism products, virtual and augmented reality, or guiding apps. However, there is an ardent ongoing debate regarding the palpable effect of smart initiatives upon tourism performance of urban destinations. Our paper tries to contribute to this debate with concrete evidence by taking into account the tourism resilience of cities.

For our research we first selected the top 50 Romanian cities in terms of tourism digital footprint. The digital footprint was calculated based on their presence on websites of booking, review, eWOM, and similar tourism-related platforms. Second, we compared their digital footprint with the smart city initiatives, especially tourism-related smart initiatives, the value of smart initiatives, tourist arrivals, lodging units, and tourism development potential, as assessed by national authorities. The results suggest a limited, however visible effect of smart city initiatives upon the tourism resilience and upon digital of Romanian urban areas. The study addresses a series of recommendations for policy-makers regarding the introduction of smart initiatives in local and regional tourism strategies.

Regional Inequalities: Evidence from Chile

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Pecs-G23-O1 Segregation, Social and Spatial Inequalities, B017, August 25, 2022, 2:00 PM - 3:30 PM

Application: Young Scientists Sessions (YS-)

The objective of this research proposal is to determine if regional differences in per capita income in Chile can be explained by the scope of Economy, Geography or Institutional approach. Considering the theoretical framework and the Chilean context of recent decades, the elimination of restrictions on international trade, the opening of the Chilean economy together with significant regions inequalities, it would be interesting to combine Economic, geography and Institutional approach field suggested by literature to contribute the explanations on the regional difference from a multidisciplinary perspective.

Literature on regional inequality has been traditionally focused on the regional economy context. Based in the first instance on the neoclassical analysis (constant returns to scale and perfect competition), it has now incorporated various alternatives, which divide into two. On the one hand, with origins in the theory of growth, the Solow Model and Endogenous Growth Theory, and on the other hand, originated from the international trade theory, the neoclassical Heckscher-Ohlin (HO) and New Economic Geography (NEG). Recently, NEG models emphasize the interaction among increasing returns to scale, transport costs and market size in a context of monopolistic competition; they predict the agglomeration of economic activities in the territory. In addition, Institutional approach, with New Institutionalism, which has the main premise that “institutions matter”, is interested in charting the impact of institutions on change measured over the time. All of these could have as a result a disequilibrium as policy makers remain attached to specific solutions. In this sense, inequality could be a disequilibrium. As related to Economic perspective Rodriguez (2017) argues that inequality is the most important obstacle to development; in this context, Chile is one of the most unequal countries in the region. Gonzalez (2020: 779) analyses the Chilean case – economic growth, high level of inequality as well social consent -and argues that it is necessary to “investigate Chile’s underlying institutions is key to understanding the profound roots of inequality”.

Evidence from empirical studies under a multidisciplinary perspective has been development mainly for European countries at national level. However, there is no evidence regard regional level (Rodriguez-Posse, 2020). In addition, evidence from empirical studies under a multidisciplinary perspective shows that the work done in the Latin American region is limited and virtually non-existent for the Chilean case. Thus, this research constitutes an original contribution from a multidisciplinary perspective.

Regional inequalities in the waves of COVID-19 pandemic in Europe

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Pecs-G39-O1 Regional Consequences of the COVID-19 Pandemic, B016, August 26, 2022, 9:15 AM - 10:45 AM

The Coronavirus pandemic severely affected the whole world, including Europe, and was characterised by considerable territorial inequalities. In my presentation, I will examine some of these spatial inequalities related to COVID-19 pandemic. I will present the theories of epidemic diffusion in regional science (and related disciplines) and how they have been confirmed by the spread of the COVID-19 pandemic in Europe. To do this, I collect regional-level, weekly pandemic data from European countries for the first two years of the pandemic (from January 2020 to Spring 2022).

Based on the available data (number of reported cases, number of reported COVID-19 deaths, excess mortality etc. - taking into account the issues regarding to the use of these data), I analyse the spatial characteristics of the COVID-19 waves, with a particular focus on the geographical reasons behind the differences. On the one hand, I will show the different spatial pattern of the spread of each pandemic wave across Europe and on the other hand how the spatial pattern of mortality rates has changed. I will use a multi-scale spatial approach; I will highlight inequalities related to the European centre-periphery relationship and macro-regional differences, as well as inequalities among regional typologies (urban-rural, coastal, island, mountainous, sparsely populated, etc.). I will also examine the changing vulnerability of European countries and regions over the two years under review (age structure and co-morbidity, acquisition of resistance through former infection and vaccination, etc.), and how this has affected the changes in territorial inequalities of the COVID-19 pandemic. Finally, I will summarise the results and identify the different spatial patterns of each wave of the pandemic and outline the possible reasons behind them.

EU's urban-rural mobility trends: exploring the impact of the the Covid 19 pandemic

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Pecs-S59-S5 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 25, 2022, 2:00 PM - 3:30 PM

Since the beginning of the 21st century, we live in the 'urban century'. Features of this emerging 'urban century' are: rise in the number of cities and mega-cities and structural population increase in most cities to the detriment of rural areas. Given the declining interest in rurality, the aims and scope of this paper are to map out the complex force field of rurality versus urbanity and explore if the COVID pandemic has induced any changes in the existing patterns. Relying on the Eurobarometer data (April 2021), the study investigates the mobility willingness of the population across the EU countries in the aftermath of the pandemic. Following a decomposition approach, two sets of explanatory variables were used for explaining the bidirectional settlement trends between urban and rural spaces. Whilst the first set of factors refers to different individual characteristics, the second set accounts for the wider contextual country effects. In policy terms, the paper addresses the need for a better understanding of the factors triggering the dynamics of mobility after the corona pandemic and thus urges to further scientific reflection on the future of both urban and rural areas.

The Big Push Lasts Forever: The Economic Legacy of Dutch Colonial Railroads in Java

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Online-S20 Historical Roots of Regional Entrepreneurship and Innovation, August 23, 2022, 2:00 PM - 3:40 PM

This paper examines the long-term economic impacts of an historically salient place-based policy in Java. Colonial Java was one of the world's triumphs for sugar production once the Dutch-forced cultivation system came into effect in the early nineteenth century. The Dutch then built exhaustive railroad networks across the island to particularly boost surplus extraction from the sugar commodity. We make progress by exploiting the Dutch quasi-random experiment stemming from the haphazard formation of cultivation system sugar factories to circumvent the potentially endogenous placement of railroads. Utilizing our new assembled dataset, we document that railroad locations remain to thrive today: they are more urbanized, more engaged in entrepreneurship and innovation, and wealthier although railroads have demised. The enduring effects are consistent with the pattern of path dependence owing to the durability of colonial sunk investments which automatically coordinates the allocation of present-day infrastructure investments, and human capital accumulation.

«Borrowed size» of the city - factor of dynamic development of the urban system of the region

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Online-G01-O1 Regional and Urban Development, August 22, 2022, 9:15 AM - 10:55 AM

The "borrowed size" concept of the city, developed by Alonso in 1973, acquires special relevance in modern Russian conditions. According to this concept, small and medium-sized cities can "borrow" some of the advantages of the agglomeration from their neighbors, while avoiding the costs of agglomeration. A borrowed size city receives average size benefits typical of a larger city. Thus, size and proximity generate technological spillovers that raise the productivity of small towns to that of larger ones. The growth of small towns is explained by the introduction of geographic space (geographical proximity, not just the size of the urban industrial complex) as a source of externalities and growth.

The purpose of the study is to identify the presence of "borrowed dimensions" and determine their impact on the dynamic development of the region's urban system in modern Russian conditions.

Research stages:

Theoretical block: analysis and systematization of works on the "borrowed size" of the city;

Empirical block: in view of the wide differentiation of natural, geographical and climatic conditions on the territory of the Russian Federation, it is advisable to carry out the stated analysis separately for the cities of the central part of the country, the European North and Siberia. An analysis is planned for 2010 and 2019.

The assessment of the "borrowed amount" will be carried out according to the following formula:

$$[\text{borrowed size}]_c = \sum_{j \neq c} \frac{[\text{pop}]_j}{w_{\text{geo}(c,i)}} , \forall c \neq j$$

where:

c and j are two cities;

W_{geo} is a distance weight matrix that formalizes the spatial interdependence between cities;

Pop is the population of the city;

The results obtained by calculation will allow drawing conclusions and making recommendations.

The final block: conclusions will be presented, the theoretical and practical significance of the study will be determined.

A spatial economic perspective of new high speed rail impact in Japan

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Pecs-G03-O1 Demographic Change, Population, Migration and Mobility Behaviour, B018, August 24, 2022,
2:00 PM - 3:30 PM

The development of intercity rapid transport system can be a trigger to bring about significant impacts on regional economic systems and distribution of economic activity. A new high speed rail (HSR) system, running faster than 500km/h, is planned to operate in a couple of decade in Japan. The HSR will connect Japanese three megalopolises and drastically shorten the travel time. This project can cause the geographical reform of the country. This paper develops a computational model based on spatial economics (eg. Krugman (1991) and Fujita et al. (2001)) and apply the model to evaluate the impacts of the HSR project. The model classifies Japanese economy into 47 regions based on prefecture border. Production sectors are classified into three sector, namely primary, manufacturing and tertiary sectors

The model illustrates the two types of the economic impacts, short run effects and long run effects. In short run, regional labor endowment is fixed and the model depicts the spatial benefit distribution and changes in sectoral outputs. In long run, labors choose the residential location based on the regional utility level. The rest point of the labor movement dynamics depicts the stationnal equilibrium.

The application analysis shows the almost all regions in Japan will gain positive benefit. However, the long run analysis implies the possibility of the population concentration on a few regions including the terminal regions, Tokyo and Osaka. The regional population may decrease in the large number of regions, especially regions situated west of Osaka terminal.

Temporal changes in human trajectories: what can we learn from network characteristics of mobile cell data?

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Pecs-G09 GIS and Location Modelling, B020, August 24, 2022, 2:00 PM - 3:30 PM

This study describes the change of global network characteristics of human movement determined from millions of geolocalized Hungarian mobile cellular network data. Mobile phone cells (or base transceiver towers) were considered as geolocalized nodes of the network and movements between two consecutive cells as network edges. As a result, the network based on locational relationships was appropriate to model mass spatial movements. The aim of the research was to answer the question: to what extent network characteristics change over time and what could we learn from the changes in relation with human dynamics. Alteration of network characteristics were measured by longitudinal change and variation in basic network metrics. Starting from 1st December 2018 until 30th November 2019 it was possible to analyse and compare each day's network characteristics globally, hence providing 365 individual, but still related networks covering a whole year of data on human mobility. Results confirmed that typical movement periods, such as holidays, have significantly different network characteristics than average workdays. Furthermore, observable difference was measured between intensive movement periods (ie. summer months) and less busy periods of the year (ie. winter seasons). Finally, a reverse possibility also arose when actual mobility processes are presumed from observed network metrics. The study, therefore, aims to introduce this mobile cell based network methodology also as a possible forecasting and measuring tool for spatial human movements.

Covid 19: Spatio-temporal modeling and resilience tools

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Pecs-G39-O3 Regional Consequences of the COVID-19 Pandemic, B016, August 26, 2022, 2:00 PM - 3:30 PM

The pandemics history teaches us that they are most often the result of environmental, food, health, economic and migratory crises. The emergence of Covid-19 is due to a deep degradation of nature and changes of lifestyles. This concerns in particular the industrial breeding of animals and massive deforestation. Forcing animals to move, these phenomena favor the transmission of pathogens from one species to another and cause the spread of pandemics, like the spread of Ebola or Zika. Pandemics subject countries to hardships and adverse impacts regardless of their level of development. It is to be expected that those countries that have experienced the greatest degradation of their livelihoods will be the most vulnerable and affected by the pandemic. At the same time, it can also be expected that those countries that are better endowed and equipped are those that can better combat the pandemic and cope with its effects. It would then be important to explore the spatial-temporal epidemic dynamics and to have spatio-temporal information on the magnitude, geographic pattern of transmission, hotspots, potential risk factors and impacts of the pandemic in a large group of countries to test our hypotheses. An epidemiospatial approach is an effective strategy to provide the prior understanding necessary for any public health action. It is now facilitated by the sophistication of mapping tools and methods, geographic information systems and spatial modeling (Gatrell, 2002). Referring to the geographical distribution of regions (Africa, America, Europe, South-East Asia, Western Pacific and Eastern Mediterranean Region) provided by the WHO, we collected data on Covid19 illnesses and deaths as a proportion of the total population and other variables such as hours of work lost due to Covid19. Contrary to expectations, the regions that are supposed to be best resourced and resilient (America and Europe) are the ones that have suffered the most from the pandemic in terms of incidence and mortality. Is it a question of policy failure? Should we review the means and tools of assesement or the "Coronametrie" ? Or is it rather a deep-seated failure that the Covid 19 shock has brought to the surface?

Bilateral Aid and Migration: The Case of South Korea

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Online-G03-O1 Demographic Change, Population, Migration and Mobility Behaviour, August 22, 2022, 9:15 AM - 10:55 AM

This study examines the determinants of international migration flows in South Korea, focusing on the impact of bilateral aid on migration. Using comprehensive panel data of the past two decades, covering 144 migrant-sending countries listed as recipients of South Korean ODA from 2000 to 2019, this paper finds that bilateral ODA has significantly and positively influenced immigration to South Korea. Major findings include: 1) immigration flows to South Korea are consistent with the prediction of the gravity model, 2) bilateral ODA from South Korea has a positive impact on immigration to the country and have been particularly significant since 2010 when Korea joined the OECD DAC, 3) South Korea's Priority Partner Country is an important determining factor relative to other variables, and 4) examining under-represented countries provides policy implications on the way forward.

Segregation by income – Empirical evidence on mobility patterns of social assistance recipients

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Pecs-G23-O2 Segregation, Social and Spatial Inequalities, B017, August 25, 2022, 4:00 PM - 5:30 PM

Cities aim to prevent income inequality between residents across neighbourhoods since segregation by income is seen unfavourable. Income gap between neighbourhoods has two possible sources. First, the selective migration allocating poor people to low income neighbourhoods and rich people to high income neighbourhoods. Second, the growth rate of residents' income differs between neighbourhoods. In addition, income gap between neighbourhoods is also related to segregation by employment and health. Aim of this study is to provide new knowledge on segregation between neighbourhoods.

This study focuses on social assistance recipients in 14 cities in Finland. Social assistance is a last resort social security benefit that guarantees minimum income level for low income households. In addition, it covers reasonable housing costs in full. Social assistance recipients are mainly long-term unemployed or young people who are not entitled to unemployment benefits.

We analyse the spatial concentration of social assistance recipients. We have divided neighbourhoods into four categories: 1) city centre, 2) blocks of flats dominated area, 3) small-house area and 4) sparsely populated area. We describe where low income households are located and we examine moves between these areas. We also analyse how housing costs are related to mobility. The micro-level data from the registers of the Social Insurance Institution of Finland (Kela) contain detailed information on income and housing of social assistance recipients in 2017-2020.

Decomposing the local public fiscal response to resource windfalls

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Pecs-YSS4, B314, August 25, 2022, 11:15 AM - 12:45 PM

This paper empirically estimates the fiscal response of local governments to natural resource windfalls. The fracking boom in Texas is used to specifically identify how local governments in a developed country allocate local government windfalls. We use difference-in-difference estimations to identify impacts for both local general purpose governments, as well as local single purpose school districts. This distinction is important because of how both types of local governments are differently affected, both in terms of their revenues as well as their responsibilities with regards to (possible) negative externalities from the fracking-boom. We find that general purpose governments receive a property tax windfall, and only a very small sales tax windfall. These governments expend a considerable share of their new resources on coping with changes caused by the boom. Specifically, we see increased spending on police, judicial administration and roads. These extra expenditures however, do not exhaust the extra resources. We observe a large build-up of cash balances, and as well a reduction in the issuance of new debt. School districts appear to be following a different path, consistent with their different institutional context. Despite their reduction in state aid, we find that school districts receive a serious property tax windfall. These windfalls are used to increase capital expenditures on education. Unlike general purpose governments, we find school districts in treated counties have added on substantial new debt. This debt has the result that school districts are allowed to charge higher property tax rates than otherwise would be permitted without debt.

Beyond Lost Earnings: The Long-Term Impact of Job Displacement on Workers' Commuting Behavior

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Online-S49-S1 Drivers and impacts of migration: new insights on the role of local labour markets, human capital, personality and (family) networks, August 22, 2022, 2:00 PM - 3:35 PM

We study the long-term impact of job displacement on workers' commuting behavior. Our measures of commuting exploit geo-coordinates of workers' places of residents and places of work, from which we calculate the door-to-door commuting distance and commuting time. Using German employee-employer matched data and an event study design, we identify the causal effect of job loss on workers displaced during a mass layoff. Conditional on finding a new job, workers' commuting distance and commuting time rise sharply after displacement and gradually decline in subsequent years. The recovery is due to employer changes rather than migration, and a larger increase in commuting would mitigate the wage loss due to job displacement. To rationalize our findings, we build an on-the-job search model with heterogeneous firm productivity and commuting distances. Our model predicts a joint recovery of wages and commuting despite a static tradeoff between the two attributes. Keywords: commuting, mobility, displacement, job search.

Is there a double gap? Urban-rural differences in the gender gap in commuting

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Online-YSS2, August 22, 2022, 9:15 AM - 10:45 AM

It is a stylized fact that women commute shorter distances to work than men. Several determinants have been brought forward to explain this gender gap in commuting. Among individual and sociodemographic factors, differences in age, education, or household responsibilities play a large role. Likewise, job-related factors such as working part-time or in sectors located close to home or earning low wages make commuting long distances less attractive for women. In regional respect, urban structure and geographic characteristics also constitute important determinants of commuting. Due to their lower spatial mobility, women cannot benefit from better job and career opportunities or higher wages in other regions to the same degree as men. This is especially the case in rural regions, where individuals have to commute longer distances to their workplace than in urban regions.

Although much is known on the gender-specific determinants of commuting, the lack of comprehensive data in spatial and temporal respect represents a major limitation. To our knowledge, existing studies focus only on a specific region or a specific time span or do not specifically consider rural-urban differences. Thus, they cannot explain the long-run evolution and determinants of the gender gap in commuting on a small-scale spatial level in a comprehensive way. This may be particularly important given that over the past decade, for example, better childcare has made it easier for women to work and increase their labour market supply, which might lead to a decrease of the commuting gap.

We expand this limitation by investigating the gender gap in commuting for the years from 2000 to 2017. We use a unique dataset for Germany that contains geocoded information on the place of residence and work for each employee. Route-planning algorithms allow for a precise measurement of daily commuting distances and times. Besides a detailed analysis of the gendered commuting patterns and their change over time, we investigate commuting in the urban-rural setting. Results show that commuting time has increased more for women than for men, leading to a decreasing commuting gap. However, there are large differences as to commuting between or within urban/rural regions. Further analyzing the individual, job-related and regional determinants of these gaps with the help of Oaxaca-Blinder decompositions reveals significant variation in their explanatory power.

Regional Interdependence of Moroccan Foreign Exports: Labor Market Indicators

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Pecs-G36 Trade and Global Value Chains, B314, August 25, 2022, 4:00 PM - 5:30 PM

This work analyzes the interdependence of Moroccan regions assessing the employment generation related to each region's foreign export composition. We use the interregional input-output matrix for the year 2019 to calculate employment multipliers (by gender, skill, age group, and occupation) for regional-level standard export units. The degree of intra- and inter-regional employment generation is revealed using decomposition techniques. The analysis of regional impacts on the generation of employment from regional exports points to a concentration of skilled labor in Moroccan core regions. While the more developed regions benefit from Moroccan exports, responding, directly and indirectly, to the demand for more qualified workers linked to the export sector, the geography of production reveals a more dispersed pattern for other labor market indicators.

JEL: R1 General Regional Economics

Keywords: generation employment, regional impacts, export sector.

Area: G36

Interregional Direct Investment Flows in the EU: Relations of Dependence?

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Online-G21-O1 Regional Finance, Fiscal Issues, Investment or Capital Markets, August 23, 2022, 11:15 AM - 1:15 PM

The EU has been transforming from a “space of States” to a “State of spaces”. The emaciation of the artificial impediments of cross-border interaction – the structural element and the pure essence of the EU (economic) integration process – generates (releases) spatial dynamics that relate to the allocation of capital (i.e. physical and human), to productivity gains, to technology importation, to the realization of agglomeration economies, to access to foreign markets, and to import competition. The EU regions have thus been experiencing a period of unprecedented change. The EU economic integration process has progressively transformed regional economies into integral parts of the emerging European economic space, exposing them to the benefits and the costs of a more competitive environment. The paper aims at unveiling relations of dependence among the EU regions in terms of direct investments flows. To this end, the paper utilizes firm-level data, obtained from AMADEUS database, and introduces the Dependence Index, providing a novel perspective to the direct investments empirical literature. The Dependence Index is estimated separately for the incoming and the outgoing direct investment flows as the ratio of the Network Selectivity Index and the External Influence Index. The Network Selectivity Index is the ratio of the maximum incoming (outgoing) direct investment flow to the destination (origin) region under consideration and the corresponding total incoming (outgoing) direct investment flows. The External Influence Index is the ratio of the maximum incoming (outgoing) direct investment flow to the destination (origin) region under consideration and the corresponding total outgoing (incoming) direct investments flows of the maximum origin (destination) partner. There is a twofold rationale for the Dependence Index. This is so as when the region under consideration does not depend on a particular regional partner: (a) it is “easier” either to change investment partner or to impose its conditions to an investment partner, and (b) there is a “lighter” impact when an investment partner either decides or is not able to retain the same level of investment activity. The analysis covers the period 2010-2018. The clear-cut findings of the paper offer valuable insight to both academia and policy-making.

The role of agglomeration dynamics in the (extensive-form) growth process: Evidence from China

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Online-G01-O3 Regional and Urban Development, August 22, 2022, 2:00 PM - 3:35 PM

The paper discusses whether – and to what extent – sub-national population change responds positively or negatively to agglomeration dynamics (i.e. population density), in ways that reinforce or, instead, equalize population concentrations across space. Examining processes of concentration and de-concentration of population goes beyond the demographic interest per se, as it may, also, shed light on questions concerning economic convergence and divergence in the more general sense of understanding wider economic processes. To this end, the paper presents evidence from China. Under the conditions of the rapid market liberalization process that China has been experiencing, questions of spatial cohesion – and thus of convergence and divergence – even though are still, rather, neglected, become increasingly salient. This is so as the elimination of spatial imbalances is both a pre-condition and a core objective of the reforms aiming at market liberalization. Scholars both in the urban economics and the growth economics tradition have well-recognized that studying population growth offers a window through which to study the process of economic growth as the latter is systematically related to population growth through the trade-off between agglomeration economies and urban (i.e. commuting, housing, land use, environmental, inter alia) costs. This is especially so in China given that productivity levels, capital deepening and levels of technology are still low, and thus economic growth is still very much of the extensive (i.e. increase in inputs, including labor) than the intensive form (i.e. increase in the productivity of each input and in total factor productivity). Moreover, given that China is still at low levels of economic development, spatial productivity differentials are predominantly along the lines of urban-rural (i.e. core–periphery) dichotomy, and thus very much related to patterns of population agglomeration (i.e. urbanization). In these conditions, measures of spatial disparity in population concentration act as a lower bound indicator of spatial disparities in terms of economic development, and this may be of acute analytical and policy interest. If patterns of population growth are found to be cumulative across space, this could be taken as a signal of a wider spatial disequilibrium, representing spatial inequalities in economic opportunities more generally. This may, ultimately, raise concerns as regards the success of the market liberalization process in itself (given the corresponding EU benchmark).

Remote Working in Public Utility Educational Sector Groups

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Online-G30-O2 Innovation and Regional Development, August 23, 2022, 4:00 PM - 5:45 PM

The globalizing world and the increasingly competitive environment are enhancing the importance of human resources and working systems, which are the most valuable assets of public institutions to provide economic effectiveness. Remote working, which has been among working systems for many years, has been preferred by many public institutions since COVID-19 has shown its effect. Therefore, the aim of the research is assessment of the economic effectiveness of remote work in organizations of the public utility sector in terms of system preparation and a purposeful approach. From this point of view, a study was carried out on 140 academic employees (head of departments) working in public educational services in Poland. The results of the conducted research confirm partially or entirely the assumptions that when implementing remote work in public utility organizations, the direct control system changes to task control and the organizational structure of such entities becomes flattened and more flexible.

Economic impact of hotels and similar establishments in Veszprém District

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Pecs-G32 Tourism and Culture, B316, August 26, 2022, 9:15 AM - 10:45 AM

This study measures the economic impact of hotels and similar establishments on the overall economy of the Hungarian Veszprém District. It is considered to be an individual part of the total hospitality sector. The Local Multiplier is utilized in the study from three perspectives: direct, indirect and induced effects. Both secondary public data as well as primary data sources, merely questionnaires, were used to collect data. The resulting score for the induced impact (LM3) is 1.96, meaning that for every forint brought into the economy of the district of Veszprem by the hotels and similar establishments, another extra forint is generated. The study also finds that revenues of the Veszprem district as share of the national figures have shrunk significantly and development has stagnated in absolute terms over the past four years.

The role of local network embeddedness in creating resilience in tourism

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Pecs-S44 Assessing tourism sustainability and resilience: new data, methods and tools, B019, August 25, 2022, 2:00 PM - 3:30 PM

Facing the Covid-19 pandemic and related Government measures, hotel managers of quite different types of hotels share the very same mechanisms in their response. A nine month four wave panel study used a sensemaking approach applying grounded theory. The narratives resulting from the 47 interviews revealed that (1) managers show isomorphism in sharing the same topics, themes and underlying dimensions on their path to find an adequate answer to survive; (2) the way they implement their response in more detailed policies however shows significant differences. This more idiosyncratic behaviour by top decision makers can be explained by different background characteristics – size, multi-site, market segment, location, ownership and in particular leadership style given specific local network embeddedness. Anchoring control is the key; creating adaptability in employment, operations, marketing and supplier relations provides the means to secure financial and mental health. Successful implementation creates relief; inability to negate events leads to anxiety. Flexibility and rapid decision making are considered essential to meet daily changing challenges; decentralised decision authority proves an advantage. Smaller hotels prove to be more flexible, especially when they are well connected with local networks; hotel chains may offer financial security at the one hand, but may lead to complete closure in favour of other chain members on the other hand.

Geography of innovation and new firms in Turkey: Evidence from local and firm level data

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Online-G30-O1 Innovation and Regional Development, August 23, 2022, 11:15 AM - 1:15 PM

Among different factors shaping local economic growth, innovation and technological advances stand as core dimensions for policy makers. Actions and tools to promote more innovation, adjusting local labor force in terms of skills and education are key elements of the long lasting territorial cohesion debate within the advanced countries. Naturally, nation-wide and local policies are in effect to boost innovation and realize a more equal regional distribution. That said, we have relatively less talk for the developing world, where regional disparities play a crucial role in terms of growth and development. Besides, our knowledge for the locality of innovation and assessment of the factors shaping formation of innovative regions is extremely limited. Motivated from this gap, this paper aims to examine the geographical and firm level distribution of innovation in Turkey by exploring the spatial distribution of patent registrations. Within this setup our main interest is the possible influence of new start-ups as a key tool to promote innovation. The empirical strategy of the paper rests in a two-stage framework. The first stage aims at examining the geography of innovation at aggregate level. Using a panel data from 1997 to 2019 at the NUTS III level we hypothesize that regions with more new firm formation are going to be more innovative. In the second stage, we focus on firm level data for the year 2015 that is representative at the NUTS II level. We hypothesize that controlling for a host of firm level determinants, firms that locate in regions with more new firm formation will be more innovative. Our first set of evidence from regional analyses confirms that regions that host more new firms are on average more innovative compared to the other regions. These results are robust to controlling for certain regional characteristics, structural transformation, historically heterogeneities and a host of model specifications. Our second set of analyses from firm level data show that, after controlling for firm level heterogeneities the likelihood of being innovative is higher for those firms that locate in regions with more start-ups which we measure by the formation of new firms. These results confirm that territorial cohesion in innovation and firm level promotion of new ideas can be achieved by following territorial policies that ease the formation of new firms and that allow for an egalitarian competition at the local level.

Implementing accrual accounting in the public sector of Greece for strengthening transparency, accountability and audit

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Online-G21-O1 Regional Finance, Fiscal Issues, Investment or Capital Markets, August 23, 2022, 11:15 AM - 1:15 PM

In Greece, with the Presidential Decree 54/2018, the introduction of the accrued base was legislated for all the entities of the General Government according to ESA 2010 from 1/1/2023. The aim of this research is to investigate the effects of the introduction of the accrual base on enhancing the transparency, accountability and control of the General Government entities as well as the prospect of transition on 1/1/2023.

The research was conducted using the qualitative method and the structured interview protocol was the data collection tool. The protocol was based on the bibliographic review of international research and the provisions of Decree 54/2018, and is divided into four main axes. The population of the research consists of the employees of the 3rd department of the Accounting Plan of the General Government of the Ministry of Finance, as in the current period they are the only ones who apply the accounting of the accrued in the light of 54/2018 for all entities of Central Government according to ESA 2010.

The findings of the research showed that the accounting of the accrued base in the General Government entities will reflect reasonably and truthfully the financial operations, financial performance and assets of an entity. Participants believe that the needs for objective financial information are covered, tangible and intangible assets, financial instruments, liabilities, cash, depreciation and provisions are more accurately reflected. In addition, the comparability of accounting information between General Government bodies and between Greece and other countries is supported. Audit mechanisms is simplified and more effective control is exercised over public finances. As a result, transparency and accountability are enhanced, corruption of public officials is reduced, and money mismanagement is tackled. However, the transition to 1/1/2023 is not an easy process as there is an insufficient number of employees, lack of know-how of those already employed and the absence of a unified accounting information system. These factors and in combination with the covid-19 pandemic, led the participants to believe that the implementation process towards the transition to accrual accounting from 1/1/2023 for all General Government entities was negatively affected, proposing an extension of the transition date.

The findings of the research contribute significantly to the scientific dialogue on the need for convergence of accounting on an accrual basis to General Government bodies, as this will improve the quality and reliability of their financial information.

Comparing the Effect of Targeted Research and Innovation Measures on Local Bioeconomy Employment in Rural and Non-rural Areas

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Pecs-G38-O2 Smart Specialization, B019, August 26, 2022, 2:00 PM - 3:30 PM

European Union (EU) policymakers support the bioeconomy to promote the development of rural areas, among other goals. An essential objective is to offer more and higher value possibilities for biomass processing locally while involving primary producers. The bioeconomy is partly seen as a means to decrease the disparity between rural and non-rural areas in the context of growing inequality. One way of promoting the deployment of local bioeconomies is to implement regional strategies and measures to promote research and innovation (R&I) targeted at the bioeconomy. EU regions already must have Smart Specialization Strategies for their planned innovation measures to receive EU financial support through the Structural Funds regulations for 2014-2020. This paper aims to investigate whether research and innovation strategies and measures targeted at the bioeconomy have led to increased employment compensation in rural areas and non-rural areas. Haarich et al. (2017) 's bioeconomy R&I maturity index, which is based on an analysis of smart specialization strategies of 210 EU regions and countries, allows us to distinguish between regions with high, middle, or low R&I bioeconomy maturity. We use panel data from Eurostat's 'Regional statistics by NUTS classification' ranging from 2008 to 2019 for 261 NUTS 2 regions. Our empirical strategy consists of the Propensity Score Matching method combined with Difference-in-Differences to estimate the impact of a high bioeconomy R&I maturity index on bioeconomy employment compensation in the NUTS2 regions. Our analysis aims to empirically assess the effect of bioeconomy research and innovation strategies and measures on employment compensation in EU regions. We investigate the determinants of an EU region's high bioeconomy R&I maturity, the effect of a high bioeconomy R&I maturity index on growth in bioeconomy employment compensation, and the difference of this effect between rural and non-rural regions. The deployment of local bioeconomies might be a helpful policy instrument to ensure skilled jobs in rural regions and decrease disparities with non-rural regions. Our results might also be used for developing national and supranational bioeconomy research and innovation strategies because estimating the effect of these strategies and measures on a national or higher is unfeasible.

Agricultural land: from an economic asset to a common resource for local food supply. Insights from the Isère County, France.

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Pecs-S22 Commons as enablers of territorial transition: evidences, assessment and theoretical perspectives,
B316, August 25, 2022, 9:15 AM - 10:45 AM

See extended abstract

Capturing the social fabric: Population-scale socio-economic segregation patterns

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Pecs-S19-S2 Networks, Interaction, and Inequalities in Cities, B311, August 25, 2022, 2:00 PM - 3:30 PM

Segregation is a widely studied issue traditionally explored from the point of the spatial distribution of different groups as defined by any individual attribute such as race, religion, social class, etc. Nevertheless, we argue that the issues of persistent segregation, specifically socio-economic segregation, are networked phenomena and should be studied as such. In this paper, we make a methodological contribution that would allow the scholarship and policymakers to move away from a traditional spatial understanding of segregation that ignores interactions beyond neighborhoods and shift the focus of segregation measurement to the social network aspect applied to a diverse set of previously unexplored distinct social contexts.

The study is based on the Dutch population register data sourced from multiple existing sub-registers that contain information on formal ties and affiliations of ~17 million legal residents in multiple social contexts such as kinship, household, neighborhood, school, and work. With the multiplex network of geospatially embedded formal ties in hand, we aim to observe to what extent areas of social segregation are clustered in geospatially embedded social networks, and how each network layer contributes to the issue. More specifically, we measure to what extent Dutch residents in different municipalities are exposed to individuals of different socio-economic statuses in diverse social contexts and what social contexts provide diverse social contact opportunities with respect to the socio-economic status and, on the contrary, what social contexts play a role of socio-economic bubbles. Our findings suggest great heterogeneity in socio-economic assortativity between different social contexts (the layers of the analysed network) as well as different municipalities.

Moving Upwards on the Labour Market: gender and geography

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Pecs-S17 The new geography of labor market inequalities, B323/2, August 25, 2022, 9:15 AM - 10:45 AM

See extended abstract

Understanding Public Sentiment on Toll Road Development in Indonesian Regional Areas: Evidence from Local News and Geotagging Twitter Data

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Online-G17-O1 Transport and Accessibility, August 23, 2022, 9:15 AM - 10:55 AM

This study explores public opinion observable on news sites and Twitter regarding the development of the Trans-Sumatra Toll Road (JTTS) and identifies the factors influencing public opinion on Twitter concerning the JTTS. Applying a lexicon-based approach to calculate sentiment scores and multinomial logit estimation to examine the determinant factors, we found that news and tweets about the development of the JTTS contained more positive opinions. There was no specific relationship between JTTS segment completion and the public opinion visible on news sites and Twitter. Nonetheless, the association changed and was noticeable after controlling for socioeconomic characteristics toward the sentiment scores on Twitter. Positive sentiment was higher in regions with more cars, working-aged people, and educated people, thus indicating the group set to benefit more from the new toll road. The development status of a JTTS segment, in terms of whether it was fully operational, considerably influenced public opinion. The study recommends that the government is sensitive toward how different community strata and regions have different sentiments concerning the development of the new major infrastructure.

Regional Fiscal Policy for Electric Vehicle to Support Carbon Emission Reduction: A Cost and Benefit Analysis (CBA)

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Online-G21-O1 Regional Finance, Fiscal Issues, Investment or Capital Markets, August 23, 2022, 11:15 AM - 1:15 PM

The Government of Indonesia has issued various policies to reduce CO2 emissions of the energy-producing from industry and transportation sectors to achieve the COP 21 target. These policies include providing incentives for vehicles and urging environmentally friendly technology industries. The Central Government also encourages Sub-national Governments (SNGs) to support the electric vehicle(x-EV) conversion program by giving discounts on local taxes, Motor Vehicle Taxes (PKB), and Motor Vehicle Transfer Fees (BBNKB) for battery-based electric vehicles (BEV). Nonetheless, it is feared that such incentive support will reduce the SNG's own source revenue (OSR) for local governments, considering that PKB and BBNKB are the main contributors to provincial tax revenues. Therefore, it is necessary to innovate fiscal policy to anticipate the potential reduction of OSR. These innovations can be in the form of allocation of incentive funds of the Central Government, Carbon Taxes received by Regional Governments, and BBNKB based on carbon emissions. This study aims to conduct a policy analysis to evaluate various fiscal policy choices that can be applied by the central government (intergovernmental fiscal transfer) and local governments (tax incentives) regarding electrification-based motorized vehicles. These policy options support carbon emission reduction policies, taking into account economic, social, and environmental impacts. The evaluation will overview the potential, opportunities, and challenges of developing electrification-based vehicles in Indonesia as an industry with environmentally friendly technology. This study will also provide evidence from emerging economies about the optimal solution of the various central and local tax rates on the car to increase market demand for x-EV.

How to make use of rural digitalisation for territorial development? A view from Latvia

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Online-G20-R Cities, Regions and Digital Transformations, August 22, 2022, 11:15 AM - 12:55 PM

A birds-eye view of the changes introduced by digitalisation and the vulnerabilities of rural areas is readily available in research and policy arenas. However, the possibilities and threats attendant to the implementation of digital technologies and digital infrastructures in rural areas are invariably contextual and local, highlighting the importance of micro and meso level analyses of digital ecosystems. In view of this, this paper considers the process of rural digitalisation in Latvia from the perspective of sustainable territorial development and urban-rural linkages, with a focus on maximising the socio-economic benefits of the digital transformation in rural areas.

Latvia is currently in a good position with respect to digital infrastructure and digital public services. However, the population has comparatively poor digital skills, especially in rural areas. Likewise, despite overall coverage being high, there are pronounced differences in internet accessibility between rural and urban areas, largely determined by low population density and low business activity. Furthermore, despite the creation of numerous public platforms for the provision of digital services, and policy measures and support programmes aimed at facilitating digitalisation, many rural inhabitants do not benefit from these developments. In conjunction, these factors can hamper the capacity of rural communities to make use of the opportunities offered by digitalisation, while simultaneously making them more vulnerable to the risks associated with the digital divide.

Based on consolidated findings from multiple H2020 and national projects, expert interviews and multi-actor-workshops, this paper argues that several aspects should be borne in mind when countering the digital divide and fostering sustainable territorial development. Specifically, we contend that successful local digital solutions require a good understanding of the regional socio-digital ecosystem. We suggest that special attention should be paid to the role and enrolment of local mentors and knowledge brokers. In addition, investments in digital solutions should take a long-term view, as their impact on territorial development and urban-rural linkages may not be immediate. Furthermore, we argue that digital solutions do not always entail radical departures from the mundane. However, this does not preclude them from having a transformative impact on communities and producing a more equitable and sustainable distribution of digital benefits. Policy interventions oriented towards infrastructure development, digital ecosystem design and skill enhancement should, therefore, be attuned to the practical realities in which digital tools are employed, while supporting initiatives that seek to introduce novel solutions for integrating the digital into everyday practices in rural areas.

Social Welfare of the Fuel Cell Electric Vehicles and Infrastructures

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Pecs-S14 Electrification of transport in cities and regions: deepening spatial disparities or an opportunity for economic growth?, B310, August 25, 2022, 2:00 PM - 3:30 PM

This study analyzes the demand system and social welfare for electric vehicles and determine the appropriate subsidy amount for fuel cell electric vehicles to achieve the goal of the “Hydrogen Economy Revitalization Roadmap” announced by the Korean government. The demand system was analyzed by applying the nested logit model. The price elasticity of each automobile model was examined from the estimation results, and the demand and supply functions of the automobile market were derived to obtain the amounts of consumer surplus, producer surplus, and government tax revenue in a new equilibrium state. The data used for the analysis include sales volume, price, vehicle specifications of the model sold from January 2016 to May 2020, the number of charging stations, subsidies for purchasing eco-friendly cars by year, and consumer price index. All coefficients derived through the nested logit model were statistically significant, and the price elasticity and the differences in markup by group also reflected logical result as expected. However, the achievement of the goal for “Hydrogen Economy Revitalization Roadmap” seems not possible to achieve through changes in purchasing subsidies due to the low-price elasticity of fuel cell electric vehicles. On the other hand, the social surplus, based on the newly adjusted target value, was found that the “Hydrogen Economy Revitalization Roadmap” policy still had a positive effect in terms of overall social welfare, despite the large subsidies for hydrogen refueling stations. This suggests that, in addition to the purchase subsidy support policy, the government's active policy promotion such as the steady promotion of electric vehicles and the establishment of charging infrastructure should be consistently considered for the positive social welfare effects.

Exploring Behaviors and Satisfaction of Micro-Electric Vehicle Sharing Service Users: Evidence from a Demonstration Project in Jeju Island, South Korea

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Online-G17-O2 Transport and Accessibility, August 23, 2022, 2:00 PM - 3:40 PM

This study investigated the participants of a demonstration project of micro-electric vehicle (micro-EV) sharing services on Jeju Island, South Korea. This demonstration project has been conducted jointly by the Ministry of Trade, Industry and Energy of Korea and SOCAR since 2019. The project aims to verify the impact and business feasibility of micro-EV sharing services using micro-EVs. Their usage patterns and satisfaction levels were thoroughly explored by analyzing multiple data sources collected via an extensive travel diary survey, in-depth interviews, satisfaction and importance surveys, and real-time micro-EV usage records. We employed various measures to investigate users' behaviors and satisfaction using the micro-EV sharing service. The results demonstrate that micro-EVs tend to be chiefly used for short-distance trips; the average travel time per trip was approximately 9 min, and the spatial distribution of trips was highly concentrated in areas where houses and workplaces are located. According to the quantitative and qualitative analysis of user satisfaction, the most important factor affecting this limited range of usage was the physical anxiety of using the vehicle because of its size and mechanical quality. We expect our results to contribute to widening the knowledge on the possible coverage of micro-EV sharing services in daily activities and factors affecting this coverage.

Creative industries, business innovation and regional dimensions

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Online-G37 Technological Change and Diversification, August 23, 2022, 9:15 AM - 10:55 AM

We study the impact of creative industries on business innovation and its variation by region. Beyond their intrinsic value, creative industries have a range of economic benefits at the local and national level. These can be direct such as growth in Gross Value Added (GVA) and employment multipliers or indirect via their impact on other businesses.

We focus on the latter and build on previous studies to identify whether there are positive effects from creative industries to business innovation. These influences are expected to arise from business interactions in the form of input-output relationships. We also expect that the degree of creative influence on business innovation will depend on the characteristics of the input-output linkages from one region to another.

To examine the above relationships we use a Multi-Regional Input-Output (MRIO) model for NUTS2 regions in the UK and combine it with innovation data. We expect significant variation in the regional effects of creative industries on business innovation based on the type of backward and forward input-output linkages and the local business base.

The analysis will shed light to the indirect impacts of creative industries as a catalyst of business innovation and their variation by region. This becomes particularly pertinent at crisis periods, assisting the resilience of individual firms and regional economies as a whole.

Impact of the implementation of Integrated Territorial Investments on strengthening municipal cooperation and development of urban functional areas in Poland

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Online-G08 Cooperation and Local / Regional Development, August 22, 2022, 11:15 AM - 12:55 PM

Functional urban areas (FUAs) are identified as a driving force for socio-economic development and building competitive advantage of regions and countries. Supporting the sustainable development of FUAs is one of the priorities of the EU Cohesion Policy, and a tool dedicated to this goal is the Integrated Territorial Investments (ITIs). Implementation of ITIs intends to strengthen the mechanisms of territorial coordination of intervention through the realization of integrated projects comprehensively responding to the needs, problems and development challenges of FUAs, as well as to promote a culture of partnership and cooperation between local government units in the management of EU funds. Therefore, the implementation of ITIs was of particular importance in Poland, where the mechanisms of supra-local coordination of intervention and inter-municipal partnership were poorly developed. The aim of this paper is to assess the impact of ITIs implementation on strengthening municipal cooperation and development of urban functional areas in Poland. The analysis was conducted for 17 FUAs of voivodship centers and focused on three dimensions: formal-legal, cooperation and implementation. The first part presents the ex-ante conditions for the implementation of ITIs in Poland and discusses the delimitation of FUAs. The second part demonstrates the process of formalization of FUAs management structures, i.e. ITI unions, in the aspect of building coalitions of local government units and the role of the core city in this process. The third part presents the thematic and substantive scope of integrated projects, support areas and a catalogue of dominant investments and their beneficiaries. In addition, the process of implementing the ITIs in the context of the COVID-19 pandemic was traced. The research has shown that coalitions of municipalities managing CP funds contribute to strengthening the economic potential of FUAs in terms of the development of technical infrastructure and energy efficiency improvements. In addition, the COVID-19 pandemic has had not a significant impact on the implementation process of ITIs and the current works of preparing for the 2021-2027 programming period. This may indicate the advancement of inter-municipal integration processes and the emergence of permanent territorial governance structures. This represents a large contribution of ITIs to improving cooperation and development of Polish FUAs.

Collaborative Non-formal Educational Projects in Portugal will be Compared/Contrasted through Two Case Studies

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Online-S43 Community resilience and social vulnerability, August 23, 2022, 4:00 PM - 5:45 PM

The paper will compare and contrast two case studies involving non-formal educational programs in low density rural areas. These programs were evaluated in different time periods in Portugal. The two educational models involve a project with gender/family concerns in a rural village setting within Sever de Vouga and rural governance participative decision making through representative advisory councils. These rural advisory councils at the county level (Macedo de Cavaleiros and Vinhais) have shown to strengthen rural and community development for these municipal governments.

The paper will compare these two models oriented by a governmental organization and a non-governmental local development entity. The general objectives of the case-study evaluation process were to assess: 1) participative decision making and 2) educational life improvement programming for low-income and disadvantaged women in the areas of personal and professional growth within their rural community.

The inclusive concerns for both projects and their organizational philosophy will describe the importance of inter organizational communication activities, the facilitation process and building partnerships to assist engagement of the project facilitators' to their planned interventions. Recommendations will consider the strengths, weaknesses, opportunities and threats in the implementation of the two case-studies. The conclusion will consider the merits of a collaborative social action process and identify the essential capital components for each case.

Subjective well-being and elections in Europe

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Pecs-YSS4, B314, August 25, 2022, 11:15 AM - 12:45 PM

Over the past decade, populism has expanded, especially radical right and left parties and their respective voter bases. Oftentimes, voting patterns are unevenly distributed over space, which makes it very relevant to explore, along with other relevant factors. This will increase our understanding of the rise of populist parties, its spatial pattern and policy implications accordingly. While previous research on populism is traditionally focusing on developments of socio-economic conditions and value-change as the main explanation, we link these determinants in contemporary European democracies to lower levels of subjective well-being (SWB), and ultimately, to higher likelihood of voting for the radical right and left parties. In particular, this study proposes a holistic framework to explain regional variations in voting for radical right and left parties by exploring how socio-economic insecurities and tensions caused by changing societal value structures within society are likely to provide a fertile ground for part of the electorate to indicate a lower level of subjective well-being.

The empirical evidence for our research is supported by using comparative survey data, such as the European Social Survey (ESS) data collected between 2010-2018. In addition to examining the link between subjective well-being and political preferences, contextual factors at the regional level across Europe are considered as well. Methodologically, we adopt a multilevel modelling approach to analyse voting behaviour and to also examine subjective happiness indicators in relation to factors of political geography.

Examining consumer behaviour through a new type of tourism service

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Online-S08 Regional Disparities in the post-COVID Tourism Industry of East-Central Europe, August 23, 2022,
11:15 AM - 1:15 PM

Strict restrictions due to the COVID-19 pandemic forced some tourist services to new, alternative programs. In our research, we examined what effects on consumers can be observed for a new type of service. This service was called Flight to nowhere, which meant air travel within the borders of Hungary. It was the first flight in Europe in October of 2020. This service gave people the illusion that they had actually travelled somewhere during the COVID-19 pandemic closures. In our research, we conducted an analysis of the experiences of the participants during consumption by asking the questionnaires of the 130 people who participated in the program, and how they evaluated the performance of the service and whether they would repurchase another similar program. We also examined the junctions of mental problems related to the confinement caused by the COVID-19 pandemic. We tested our results with a CB-SEM model. The results show that respondents typically experienced esthetic and escapist experiences. The degree of experience increased the higher intention to repurchase. In the case of negative emotions, which measured the sense of continuity of life, living escapist-type experiences could alleviate the disadvantages caused by confinement to a small extent. The effect of esthetic experience on repurchase intention was significantly moderated in a negative direction by negative affect. This means that the more traumatic the experience of confinement, the more the positive effect of the esthetic experience on repurchase was reduced. The research helps to understand what the experience of a new, illusionary tourism service is and how the experience of all this is related to the personal effects of the COVID-19 pandemic-induced confinement.

COVID-19 and horticulturalists: a minor impact or resilience?

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Pecs-G07-O1 Global Warming, Health and Environmental Issues, B316, August 25, 2022, 2:00 PM - 3:30 PM

The COVID-19 outbreak and its rapid spread caught many governments and agricultural producers by surprise. Many of the initial measures to contain its spread impacted negatively on the agricultural sector. Administrative measures (border closures, additional procedures and checks) unintentionally disrupted the agricultural input supply chain and negatively affected the supply of casual labour in the second quarter of 2020. In the case of the European Union, disruption of the food supply chain proved to be temporary thanks to rapid governmental interventions.

The hopefully temporary shock of the COVID-19 pandemic is not the only pressing challenge for agriculture and especially the various branches of horticulture. Greenhouse and open-field vegetable growing, fruit growing and viticulture are characterised by labour shortage and climate hazards of increasing frequency and severity. In order to assess the negative effects of the COVID-19 pandemic and link them to the challenges of climate change and labour shortage, a computer-assisted telephone interview (CATI) was carried out among Hungarian horticulturalists in August of 2021. The results of this survey (N=214) made it possible to gain information about perceptions of climate change, planned mitigational and adaptational actions and perceived barriers. Despite the negative effects of climate change, the main concern of horticulturalists remained the deepening labour shortage, as the cross-border mobility of seasonal agricultural workers had been interrupted by the pandemic. While the COVID-19 pandemic poses serious challenges for horticulturalists, it also represents an opportunity to accelerate adaptational processes in the face of climate change and labour shortage.

Akaike Information Criteria (AIC) in testing optimal spatial neighbourhood

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Pecs-G14-R Spatial Econometrics, B316, August 24, 2022, 11:15 AM - 12:45 PM

Akaike Information Criteria (AIC) is the most common metric to assess the quality of econometric models. It reacts to changes of variables in models and sample size. However, until now, there have been no studies to explain how much AIC responds to changes in a number of spatial neighbours indicated by spatial weights matrix W . W impacts the spatial lag – the average value in the neighbourhood, calculated with less or more observations depending on neighbourhood structure. We find that in spatial econometric models for point-pattern, AIC depends functionally on a number of k nearest neighbours (knn) selected for W and that the optimal number of k nearest neighbours knn included in W can be chosen by minimising AIC. This implies that AIC may serve as criteria for model selection and also to determine the neighbourhood structure. This opens the path to select in a non-arbitrary way the range of neighbourhood knn , which is absent in the literature. We use simulation to answer a few questions. First, we check the features of this functional relationship and try to generalise this pattern. We assess the monotonicity of functions and point of maximum. Secondly, we test how the structure of the dataset impacts this relationship by analysing the influence on AIC of proportions of different point patterns and density of points as well as the sampling from the bigger dataset. We are to detect how AIC reacts if the point pattern is a mixture of different spatial distributions overlaid on the same surface. In simulation and empirical data, we prove that AIC is a non-linear function of knn and reaches its minimum for a given knn . This is an important aspect in deriving W for efficient modelling. Solution of AIC-based selection of knn in spatial models will be especially helpful in modelling regional concentration of economic activities and local real estate / housing markets.

The experiences of the young farmer support in South Transdanubia

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Pecs-G04-O1 Urban-Rural Relationships, B019, August 24, 2022, 11:15 AM - 12:45 PM

One of the comprehensive aims of rural development, as the 2nd pillar of the Common Agricultural Policy, is maintaining the retention capacity of the rural areas. To make these areas at least as attractive as the more urbanized parts of a region several important things are needed: fair income opportunities, available services, convenient environment. Agriculture can be obviously a key factor in rural employment. It is also clear that in population retentions younger generations are the most important target group. According to Eurostat data only 11% of farmers are under 40 in the EU member states. That is why supporting young farmers and promoting generational change can be measures of keeping the rural population in place. In our study we introduce the development of young farmers support in Hungary. Based on empirical data the study analyses the results and successfulness of the program within the timeframe of 2014-2020. The data of the examined timeframe is compared with the results of the previous programming period. Thanks to these calculations the progressive effects of the changes in the EU programming and policy making can be detected. For the analysis primary data are provided by the Hungarian Ministry of Innovation and Technology which maintains the web-based database of project calls and results for the development operational programmes of Hungary.

Experiments for urban sustainability transition and causal inference

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Pecs-S10-S3 Counterfactual methods for regional policy evaluation, B311, August 24, 2022, 4:00 PM - 5:30 PM

In the recent years, urban experimentation in its diverse forms has become popular among both researchers and policymakers in search of new insights for sustainable urban development. Real-world labs, community-based initiatives, innovation experiments, and pilot projects have attracted a lot of public attention and produced active local and international discourses. However, simultaneously, a number of methodological issues arose that sparked a debate on suitable experiment design. In this paper, we aim at addressing one particular aspect of that debate, which in our view currently remains understudied, namely the issue of (possibility of) causal inference through urban experiments as well as challenges and risks related to the quest for distinguishing cause and effect in this context. We start by carefully examining the concept of causality, in particular from the points of view of the variance theory and the process theory. We then carry out a review of a selection of widely cited examples of urban experimentation (especially in the energy, transport and resource management domains), and categorize them with respect to their approach to causal inference. We also review examples of field experiments in the domain of urban economics. Based on the review, we gather the common features of experimental design that allow various studies to come up with statements related to effectiveness of urban experiments in terms of certain outcomes or outputs. Particular attention is drawn to the aspects of complexity and uncertainty. We conclude with recommendations regarding scientific experimental design and the role of causality in it.

E-learning during the COVID-19 pandemic in Wielkopolska (Poland). Spatial heterogeneity in survey results of students and teachers

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Pecs-G39-O2 Regional Consequences of the COVID-19 Pandemic, B016, August 26, 2022, 11:15 AM - 12:45 PM

Unprecedented events on a global scale, including in Poland from the beginning of March 2020, related to the COVID-19 pandemic, to a varying extent, influenced educational services, particularly the functioning of primary and secondary education together with their direct stakeholders, i.e. teachers and students. Forced e-learning (in Poland without any previous experience in this field) has changed the entire education system. Imposed top-down (centrally) rules had to be implemented in all schools with very different resources, both technical base and human resources. Wielkopolska, as one of the largest regions in Poland, is, therefore, a sufficiently large area to study the spatial differentiation of the effects of e-learning concerning countries that had no experience in distance learning in compulsory education and which suddenly had to switch to this system. The effects, positive and negative, will be studied more carefully (objectively) after a few years. The current effects can only be investigated through surveys. The analysis in the presented study is based on research-based responses from over 3,300 students and over 700 teachers from all counties (31) in Wielkopolska. Geographically Weighted Regression modelling was used to analyze spatial heterogeneity. Among the dozens of models built, only a dozen of them presented a sufficiently high (in terms of statistical significance) level of explanation of the dependent variables (selected survey questions). The substantive analysis of these models is the basis for the conclusions presented in the paper.

Refugee integration in Greece post Covid-19: Prospects and challenges

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Online-G03-O2 Demographic Change, Population, Migration and Mobility Behaviour, August 22, 2022, 4:00 PM - 6:00 PM

Since the start of 2020, glaring headlines have called attention to the situation at Greece's borders. For years, Greece has hosted large numbers of asylum seekers and refugees fleeing conflict and poverty. In 2015, it was the main entry point for the more than 1 million people who sought safety in the European Union that year. Most individuals reach Greece from Turkey, risking their lives in dangerous sea crossings to Greek islands in the northern Aegean Sea. Although the number of arrivals has fallen significantly since the height of Europe's so-called "refugee crisis," thousands of people continue to arrive in Greece. Today, Greece has become something like a holding pen for people seeking asylum. The 50,000-plus refugees in Greece can no longer legally travel deeper into Europe; most will likely remain in the country. Integration is key to ensuring that they build successful lives in what is their new home, a challenging task in any country but exacerbated in Greece because of its ongoing financial difficulties. The COVID-19 pandemic has set back years of progress in advancing children's health, education, and protection. These and other socioeconomic impacts have stretched country capacities to sustain and respond to the humanitarian needs of refugees and migrants.

People who have been awarded refugee status in Greece are forced to stay in refugee camps because the lack of substantial integration support means they have no way to make a living or rent their own accommodation. Withholding support to refugees, especially without providing measures to guarantee their basic needs are met and they can access services, is unlawful and undermines integration.

Examining Greece's response to the coronavirus pandemic and specifically the way their integration and settlement is handled, is essential to understanding the government's approach to asylum and migration and to assessing the integration focused measures that are being taken regarding the below-mentioned categories.

This research aspires to provide an outline of the approaches for and challenges to integration of international protection beneficiaries and applicants in Greece. It is based on emerging research findings and focuses on three policy areas, which are key to social and economic integration:

1. labour market,
2. healthcare and social welfare services,
3. education and training.

Comparative analysis of regional and municipal level factors of COVID-19 mortality

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Online-G39-O2 Regional Consequences of the COVID-19 Pandemic, August 23, 2022, 9:15 AM - 10:55 AM

This study aims to identify the key factors of COVID-19 excess mortality at a municipal level across Russia and compare them to the factors in the European countries.

We have previously identified excess mortality factors at a regional level in Russia. However, the results were not directly comparable to similar research in Europe, as the average size of the regional units in Russia is significantly larger than in Europe. The modifiable areal unit problem and excessive averaging of the factors across urban and rural municipalities within larger regional units lead to weak explanatory models.

Full 2020 mortality data at a municipal level in Russia was published at the end of 2021. There is no official spatial data source with municipal level borders for Russia, and the GADM (Database of Global Administrative Areas) is outdated. We combine the OpenStreetMap data on municipal borders with official municipal level statistics from Russia's Federal State Statistics Service. This unique data set enables us to consider the spatial component of the spread of COVID-19, which is much more appropriate at the microgeographic level of municipalities than the regional level analysis.

We consider the previously identified factors at a regional level: share of the elderly population, the share of workers in manufacturing, humidity, number of retail locations per capita). We also revisit the factors identified by other researchers, such as transport connectivity, migration, income inequality and healthcare provision. We use the ordinary least squares model as a baseline. Using queen contiguity neighbourhood for the municipalities, we also employ spatial econometric extensions to the OLS to estimate spillover effects of individual factors.

Our findings suggest that in contrast to the regional level, at a municipal level, the factors of COVID-19 excess mortality in Russia are mainly similar to those in European countries.

Post-Covid Tourism Perspectives in Hungarian National Parks

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Online-G19 Tourism and Overtourism Issues, August 22, 2022, 2:00 PM - 3:35 PM

COVID-19 pandemic dramatically hit the tourism sector and has brought about huge changes. This phenomenon opens up new opportunities in national parks. In this work, we examine domestic recreational opportunities, sectoral partnership and the paradigm shift of tourism in Hungarian national parks. Based on interviews, document review, and analysis of tourism-related data, our research proves that tourism could play an essential role in the environmental conscious social dimension, but this possibility has not yet been exploited. Our empirical results demonstrate that sectoral partnership is inadequate, and there is no effective policy coordination between spatial development, nature conservation and travel industry. There is a lack of multiday tourism programs, and the currently available tourism infrastructure is insufficient. Initiatives such as the national park product trademark exist but are not well managed, so they do not have a meaningful impact. The results point out that cross-sector collaboration must be strengthened after the epidemic to provide a basis for policy coordination and joint planning.

Experiencing and adapting to climate change in the fruit and vegetable sectors. Examples from Hungary

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Pecs-S07 Researching Vulnerability: Spatiality and lived experiences to climate change, B313, August 24, 2022, 11:15 AM - 12:45 PM

Based on the results of an H2020 research update (RELOCAL- Grant Agreement 727097) and an ongoing NKFIH project (132975), the paper discusses the lived experience of climate change and reactions / defence strategies in the face of it. The two projects encompassed a representative survey on adaptation to climate change and qualitative research in four agricultural areas of intensive fruit, vine or vegetable production situated in North and Central Hungary, the Southern Great Plain and Southern Transdanubia (the Mátra vine-growing area, the Nagykőrös district, Szentes and its close vicinity and the Kisvejke fruit-growing area respectively). Our paper presents the first results of the qualitative elements of this ongoing research. All sites have been highly affected by climate change but to different degrees, depending on the topology of the area (plain, hilly), the dominant product (vegetables, fruit, vines) and technology (open field or under plastic or glass). Producers responded within their budgetary resources to the challenges of increased pest infestation, heatwaves and draughts during the summer period, and repeated frosts in the spring. Willingness and ability to adapt have depended on affordability of course but also on a number of other factors. These included farm size, age of the farmer and family labour, whether or not new technologies countering climate change were subsidised by the CAP or other bodies, success or failure of previous experiments/investments, and knowledge / knowhow transmission. The latter could be random and informal as well as organised and formal, provided, for example, through Producer Organisations (PO-s). (Such organisations operated in two of our research sites.)

Research results so far indicate that producers have reached a stage where ceasing intensive fruit or vegetable farming is sporadic and not directly related to climatic conditions. Most farmers seem to be determined to face climate change and defend their farms from its impacts. Vulnerability, however, is growing, financial reserves are being exhausted, and pressure towards a radical break with current farming patterns is increasing. These circumstances might accelerate the probable reshaping of the local agricultural profile, and, in a broader sense, push towards a new round of social and economic restructuring in the Hungarian countryside.

Assessing the impact of human capital on economic development: the case of Russia's heterogeneity regions

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Pecs-G30 Innovation and Regional Development, B019, August 26, 2022, 9:15 AM - 10:45 AM

Assessing the impact of human capital on economic development is an urgent research problem. Its solution makes it possible to determine the optimal levels of state social expenditures that ensure maximum indicators of economic growth of territories.

The purpose of this work was to assess the contribution of human capital to the economic development of heterogeneous regions of the Russian Federation. The authors tested two hypotheses. Firstly, the assumption of the presence of spatial heterogeneity of the contribution of human capital across the regions of Russia was tested. Secondly, the presence of differentiation in the levels of human capital contribution to the economies of developed and developing regions was checked.

Spatial regression models based on panel data were used as methodological tools. The basic model for modification was the MRW-model. The statistical sample included data on 78 regions for 2010-2019.

In the course of the literary review, it was selected nine variables most frequently used by the authors in similar studies. Those variables characterize the level of education, health and culture in the regions of Russia as indicators of human capital.

In the process of testing the first hypothesis, Moran indices were calculated based on a binary neighborhood matrix. It has been proved that spatial effects are significant for human capital. At the same time, the estimates of regression models did not give clearly interpreted results. This is logically explained by the heterogeneity of the RF regions. To account for territorial differences, the clustering of regions by the level of innovative development was carried out. The main conclusions are as follows. Firstly, the maximum contribution to economic growth relative to other factors of human capital is provided by the level of healthcare. This means that in order to increase GRP in all types of regions the most effective strategy in Russia is to invest in improving the quality of public health. Secondly, a significant heterogeneity of the levels of the contribution of education to the gross products of different types of regions was revealed. According to the estimates, the contribution of education for developed regions is three times higher than in developing regions. These results are consistent with the previously obtained estimates of scientists analyzing data from developed and developing countries.

The study has clearly illustrated the heterogeneity of the influence of human capital on heterogeneous territories. This necessitates the creation of various mechanisms for managing territories of different types.

Examining the factors influencing air pollution in the extractive and energy industries in the sparsely populated regions of Russian Arctic

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Pecs-G07-R Global Warming, Health and Environmental Issues, B323/1, August 25, 2022, 9:15 AM - 10:45 AM

NO₂ is high toxic air pollutant, due to its short lifetime it strongly correlates with local emission sources and is a good tracer of human activities over urban or industrial areas. The relationship between NO₂ concentration and major industries output among the regions shows the contribution of economic development to air pollution over time. Satellite observations provide information on NO₂ concentration on global scale, also where ground-based measurements or other information on air polluting emissions are not available. In this work, the NO₂ tropospheric columns derived from the TROPOMI satellite instrument are used to evaluate the spatial distribution of polluting emissions over the three areas of the Sakha Republic (Yakutia), the largest north-east region of Russia: diamond-extractive industrial hub of Aykhal and Unachny urban-type settlements, the coal-mining complex in the southern part of Yakutia, located in the territory of city of Neganry, Chulman and Serebryany Bor urban settlements and Yakutsk city, heat and energy generating center of the Yakutian division of the United Energy Systems of East of Russia. The territories dominated by anthropogenic NO₂ are revealed and the positive relation between NO₂ and coal consumption, industrialization, urbanization and cross-regional transportation are proved. The environmental policy measures influence on spatial NO₂ distribution is shown

European farm structural change: A novel spatial econometric framework

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Pecs-G14-O1 Spatial Econometrics, B016, August 25, 2022, 2:00 PM - 3:30 PM

In this paper, we examine the drivers of farm structural change in the EU27, using a novel framework using a spatially augmented multinomial logit model (MNL), which features spatial dependence in the log-odds. The decision theoretic analytical model relies on a multiplicative competitive interaction (MCI) model, from agricultural economics. The proposed modelling framework additionally allows for state of the art features, such as uncertainty over explanatory variables and spatial dependence structures. Within our empirical application we analyze farm group shares at the NUTS-2 level taken from the Farm Structure Survey (FSS) using socio-economic variables from the Farm Accountancy Data Network (FADN) and other databases for the period 2007–2017. We demonstrate the importance for accounting for spatial spillovers, particularly in terms of agricultural funding and employment.

Spatio-temporal localisation pattern of technological startups – RNN in predicting intra-urban startups' clusters

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Pecs-YSS3, B311, August 25, 2022, 11:15 AM - 12:45 PM

The location decisions of the technological startups at the urban level are still not well investigated. The gap in the literature is huge – especially compared to the amount of research regarding location decisions and their effects on more traditional businesses. Taking a sample of startups from the up-and-coming market in Central-East Europe in Warsaw, Poland their spatial organisation across the years will be tracked to investigate whether there is a defined pattern of behaviour and how it evolves in time. It will be also shown how recursive neural networks (RNN) may help in predicting the locations of technological startups' clusters. It will be shown that the model can be successful even for short spatial panel data. It will be presented how to include the spatial dimension in the model in a computationally-effective way and how this augmentation improves the results, allowing the network to “understand” the spatial relations between neighbouring observations.

Spatial vote spillovers for Populistic Radical Right Parties due to university educational attainment: The Case of Slovakia

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Pecs-G25-R Institutions, Political and Decisional Processes, B020, August 25, 2022, 2:00 PM - 3:30 PM

see extended abstract

Assessing the strategic significance of country geographic locations via cooperative game theory: The Case of European Union

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Online-G25 Institutions, Political and Decisional Processes, August 22, 2022, 4:00 PM - 6:00 PM

Beyond the national leaderships and visionary profiles, each the European Union (EU) countries have certain weights in the union. These weights, on the one hand, can be attributed to the size and scales of countries' economies, on the other hand, can be attributed to the strategic geographic locations and their neighborhood connections in the EU geography. In this research, the strengths and weaknesses of the EU countries originated from geography are measured by means of spatial cooperative game theory applications. Study measures the benefits of geographic continuity as an outcome of coalition by making larger scale and more productive union economy and creating "home market effect". Geographic connections between the countries are the necessary condition for setting extensive and ultimately comprehensive coalitions. In other words, geographic continuity is necessary condition to fulfill the economic flows in the EU geography. In this respect, the more spatial connections with the neighboring countries has the more potential to form productive coalitions with the others. Besides, when the size and scale of economies are large, the established coalitions become more productive as compared to the isolated countries or partially small country sub-coalitions. In the developed linear programming based optimization model, which is adopted from urban development/regeneration model allocating density bonuses provided in order to reach extensive and ultimately grand coalition, selected 24 the EU member states are evaluated via spatial cooperative games considering all forms of benefit generating subgroup and grand coalitions among each other at the international level. Coalition benefits are hypothetically derived from trades and flows of goods and services providing consumers and producers surpluses, scale economies and home market effect in the union geography. Results have shown that some the countries at the core of the union have significant economic contribution to the Union. These indispensable countries are Germany, France, Poland, Hungary. When the size of country economies are considered, Germany is the geographic and economic engine of the Union. Finally, these contributions also becomes as a source of expecting, requesting, and extracting more benefits from the Union economy.

The effectiveness of policy induced gentrification: Evidence from large-scale urban renewal projects in the Netherlands

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Pecs-YSS1, B017, August 25, 2022, 11:15 AM - 12:45 PM

In this paper, I examine the causal impacts of large-scale urban renewal projects in the Netherlands that aim to induce gentrification in low-income neighborhoods. I specifically focus on the impacts of these renewal projects on the socioeconomic composition of the targeted neighborhoods. Using parcel level registry data from 2013 up to 2020 and a novel clustering methodology, I identify the universe of urban renewal projects in which at least at least 50 housing units were demolished and constructed. I use a difference-in-difference approach combined with propensity score matching to estimate the causal impacts of these projects at the neighborhood level. Preliminary findings suggest that the renewal projects change the socioeconomic composition of the neighborhoods in which they are located. Average income in the targeted neighborhoods increases, as well as the percentage of high-income households. Simultaneously, the percentage of low-income households seems to decrease. The total number of residents and households in the targeted neighborhoods does not seem to change. This could indicate that low-income residents are displaced from the targeted neighborhoods.

New drivers of return migration during the COVID-19

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Pecs-S49-S2 Drivers and impacts of migration: new insights on the role of local labour markets, human capital, personality and (family) networks, B323/1, August 26, 2022, 11:15 AM - 12:45 PM

In the last two years, the global frameworks of international migration have completely changed. In a European context, Brexit has previously reshaped the migration networks within the European Union, but the COVID-19 pandemic brought unknown effects in migration in 2020. Those involved in international migration had to deal with new challenges, not just physically (e.g., restrictions on the borders, cancelled flights) or administratively (e.g., compulsory quarantine after arrival), but emotionally (e.g., collective stigmatisation, see O'Brien and Eger 2021), as well. All these barriers and negative prejudices outmigrants received in the host society can result their return to the home country, partly driven by these kind of push factors. Though, the most of these obstacles seem to be temporary, as the vaccination programs continue gradually worldwide, some of them could stay longer, mainly in the micro- or individual level. These new drivers of migration could influence the migration decisions in a short- and medium-term. The aim of this presentation is to highlight the newly created drivers of return migration caused by the COVID-19 since 2020, with a special attention to the East-Central-European countries. During the research, these pandemic-related drivers in the migration decision making process will be analysed through a literature analysis, and the results will be compared with a previous empirical analysis (Lados 2018) from the pre-COVID era.

Local currencies as a development tool for businesses ? Findings from an econometric analysis on french firms enrolled in CLC

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Online-G30-O2 Innovation and Regional Development, August 23, 2022, 4:00 PM - 5:45 PM

Over the last decade, the socio-economics of monetary alternatives carried out an important census work and classification of these currencies (Seyfang and Longhurst 2013). They highlighted the multiplication of a third generation of local currencies, which aim to contribute to the regulation of market relations by enrolling companies in a monetary network and creating or densifying localized economic relations (Blanc and Fare 2012).

To this generation belong a specific kind of currencies, called convertible local currency (CLC) due to their means of issuance (Marshall and O'Neill 2018). Indeed, CLC are managed by NGOs and issued by the change of national currency into CLC by their users. Once the CLC unities are obtained, the consumers can use them with firms or organizations affiliated to the scheme. It is an exchange intermediary which enable to circulate value inside a network of participants. The number of CLC has increased rapidly in France over the last fifteen years, such that there are currently over 90 CLC in France (Blanc, Fare, and Lafuente-Sampietro 2020).

As the stated objectives of CLC are to promote the development of local exchanges and of an territorialized economic community (Fare 2016), I investigate whether membership to a CLC has an effect on enrolled firms' economic activity. Therefore, I measure the impact of the use of a CLC on their turnover. I make the hypothesis that, by orienting the expenses of the user's community towards affiliated businesses, the enrolment in a CLC should result in an increase in demand addressed to them and thus in an increase in their turnover. Krohn and Snyder (2008) have tried to measure the effect of CLC on economic development, but their analysis has been carried out at the level of communal territories. However, as Michel and Hudon (2015) point out, the communities using local currencies are currently too small to observe any impact at such wide territorial scales.

We therefore submit here an econometric study at the micro level of firms. To carry out this study, we have obtained the list of member companies of 9 French CLCs, and have access to their fiscal data, from 2009 to 2019. As their first years of membership range from 2012 to 2019, we used a panel within model to determine the effect of local currency acceptance on turnover. Our preliminary results indicate, a positive effect of enrolment, at least for establishments with less than 5000 employees.

Territorial aspects of the weight of social and solidarity economy in France - A spatial statistical and econometric analysis

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Pecs-G14-O1 Spatial Econometrics, B016, August 25, 2022, 2:00 PM - 3:30 PM

The importance of organizations belonging to the social and solidarity economy (SSE) has been re-emerging nowadays in relation to the recent pandemic situation. Indeed, these organizations have always played an important social role, especially in times of recessions and systemic crises. In France, under the law of 31st July 2014, the SSE represents an official sector which is statistically measurable. The objective of the current research is to analyze the spatial features of the sector within the continental territory of France. For this objective, I apply spatial regression analyses in departmental breakdown. The results show a statistically significant spatial concentration of SSE in terms of the number of organizations, belonging to the sector, per population. Besides, this concentration shows only partial overlap with the formal regional economic structure within the country and stochastic relationship with certain socioeconomic indices.

Exploring the nature of social exclusion of the Spanish population: the scenario previous to the COVID-19 pandemic

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Online-S54 Income distribution and individuals' perceptions of inequality, August 23, 2022, 9:15 AM - 10:55 AM

With the COVID-19 pandemic, the Europe 2020 Strategy approved by the European Union in June 2010, in particular, the target that by 2020 there should be at least 1.4 million fewer poor people in Spain, is not being achieved. On the contrary, social exclusion and vulnerability increase as the number of reported confirmed COVID-19 cases continues to rise.

In this scenario, the present study is meant to analyze the risk for vulnerability to social exclusion. More specifically, this article investigates the severe deprivations that people face before the health and economic crisis derived from the pandemic in the different Spanish regions. To do so, the last available wave (2019) from the Spanish Living Conditions Survey is used. It is necessary to highlight that social exclusion covers several items. Therefore, in this paper, six deprivation domains have been distinguished to examine the vulnerability to social exclusion: economic, housing, environment, education, labour, and health. For this purpose, households and adults who suffer from lack in any of the domains mentioned have been considered. In terms of methodology, the multidimensional statistical technique of Factor Analysis is considered, and the sum-score approach is used to construct the social exclusion index.

The results revealed that there was a population group who presented a large number of vulnerability factors and, therefore, these individuals had greater risk of social exclusion. When comparing social exclusion severity distinguishing between geographic areas, the findings corroborate that regions from the South of Spain present worse outcomes - higher risk for vulnerability to social exclusion -. In addition, more than 40% of individuals in these regions are in social exclusion. Looking at the Northeastern Spain, less than 20% of individuals are living in social exclusion – lower risk for vulnerability -.

In this context, policy makers need to design and establish social public policies focused on reducing social exclusion in terms of economic, housing, environment, labor, education, and health fields, especially, now, due to the COVID-19 pandemic.

Corporate Territories and Structural Poverty: the search for a developmental agenda for Brazil in the post-pandemic period

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Online-G01-R Regional and Urban Development, August 22, 2022, 4:00 PM - 6:00 PM

Starting from the concept of corporate territories and structural poverty, this article aims to analyze the effects of neoliberal policies of the last 40 years in Latin American and Brazilian economies as well as to propose a developmental agenda for Brazil, in the post-COVID-19 pandemic, for generations to come. The new post-Covid division of labor, which is imposed by innovative elements (technoscience, information technology, capital profitability, consumption, finances), has been spreading all over the planet in a relentless and violent way. The COVID-19 pandemic has shown the incessant strength of the market, science and technology and the need to rethink the new International Division of Labor and its repercussions on the territorial division and on the urban environment. The current technical informational system reaches everyday life in an extraordinary way. This expansion has been exerting great impacts on the reorganization of territories, where companies start to take advantage of data and information production through algorithms via an increasingly ascending and dominant Artificial Intelligence-AI, deepening and diversifying the territorial division of labor, accentuating the inequality to a higher extent in the most diverse territorial scales, especially in peripheral countries, with their even more fragile peripheries. It is urgent to search for an inclusive developmental agenda, with the effective participation of the State in the sense of mitigating these effects and building national and regional integration policies.

Examining the Effect of Technological Similarity on the Regional Occurrence of Innovations in ESG areas

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Online-G37 Technological Change and Diversification, August 23, 2022, 9:15 AM - 10:55 AM

Environmental, Social and Governance (ESG) is one of widely interested and rapidly emerging areas. While the concept and practice of ESG are actively being established, it is necessary to have the relevant and appropriate technological innovations for effectively pursuing ESG. Indeed, the technological innovation has been influencing the economy and society. Particularly, it can be effective to pursue the technological innovation in emerging areas. The emerging areas, such as ESG, have experienced the evolution, such as the co-existence, competition, or extinction. One can emphasize the importance of regions and its sustainable growth in such evolutionary process of technological innovations for ESG area.

In this research, the city could be considered as an important unit of innovation. The occurrence of technological innovation in ESG might vary by cities, since ESG focuses on the balanced and sustainable development of diverse regions. The spillovers of technological innovation among regions have become more important and have spread in the open innovation system. Then, how could the diffusion of innovations in ESG occur? In order to answer this question, the deep learning based embedding technique is applied for extracting the technological flows from the entire triadic patents. In addition, ESG innovations and their emerging issues are further identified by the application of LDA in the regional contexts. Finally, the technological and regional proximity of cities in EU are investigated in terms of ESG innovations. The structure of spreads of ESG innovations and regional occurrence are analyzed to provide a better understanding on fostering ESG innovations and their exploitation. The results could imply that the policy effort for facilitating the global spillover of ESG innovation and its contributions to regions. Also, findings implies that such effort needs to be in proper manner for globally profiting from innovation.

Universal patterns of long-distance commuting and social assortativity in cities

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Pecs-S19-S2 Networks, Interaction, and Inequalities in Cities, B311, August 25, 2022, 2:00 PM - 3:30 PM

'see full paper'

The unknown variable – integrating intra-urban migration into demographic projections

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Pecs-S30 Suburbanization, urban sprawl, and their impact on the environment in Central Europe, B313,
August 25, 2022, 4:00 PM - 5:30 PM

A large portion of internal migration of Hungary is happening between urban centres, their commuting zones and remote areas, and can be described as flows of suburbanisation, amenity migration, economic outmigration and reurbanisation. These processes significantly changed the demographic profile of the affected areas, increased the demographic imbalance of Hungary, and also made an impact on land cover changes. These topics are frequently researched. Naturally, the future outlook of these processes is also at the forefront of interest. Most demographic forecasts give projections at country or regional level, but some methodological approaches enable reliable forecasts in microregional or municipal level too. The demographic forecast I prepared in a preceding research also aimed for high spatial resolution.

However, this preceding projection, as well as similar others, has a shortcoming: they take only migration crossing municipality boundaries into account. The main reasons for the neglect of intra-urban migration are the methodological hardship and lack of useable original data source. However, with an update of my earlier projection methodology, I make an attempt to overcome this shortcoming.

I use agent-based modelling method for demographic projections. To reach my research goals I created an own agent-based model coded in Python language. In order to integrate intra-urban migration into demographic projection, my methodology have to meet certain key criteria. Most importantly, the agents representing the Hungarian inhabitants must have an attribute, which describes the location of their household within a municipality. Moreover, pull and push factors of the migration (attraction for different social groups, accessibility) also have to be determined under city level. This is especially true for dwelling prices, which is a key factor in managing intra-urban migration flows.

To meet these criteria, different components (individual inhabitants, household and family connections, dwellings, plots of land, labour markets) have to be integrated into a unified model. The model requires detailed agent attribute values to be determined. The publicly available aggregated data tables of the population census are used, and an iterative statistical matching procedure has to be utilized.

With the integration of intra-urban migration into the model, I am able to provide a more refined picture not just about the processes of the fringe of the urban cores, but the demographic outlook of the Hungarian agglomerations as a whole as well.

The modern Solow paradox. In search for explanations?

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Pecs-S25-S1 The spatial dimensions of productivity for regional growth, B323/1, August 24, 2022, 11:15 AM - 12:45 PM

More than 30 years ago, Robert Solow provided the first evidence of the paradoxical low return of technological progress on productivity. Today, in an era of radical technological changes, characterized by disruptive socio-economic transformations in businesses and society, the puzzle is far from being solved. This paper offers a contribution in this direction. Stemming from the recognition that in European regions a productivity paradox still persists, this study systematically defines and empirically tests some of the sources that could explain the weak association between the adoption of new technologies and the growth of regional labour productivity. Our findings indicate that, in general, new technologies do have a positive impact on the productivity of the sectors of adoption. The propagation of this effect to the whole regional economy, however, is mitigated by reallocation effects towards less productive sectors.

Is the High-Speed Rail delivering on its promise? the intermodal competition with motorway transport in Spain

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Online-G17-O1 Transport and Accessibility, August 23, 2022, 9:15 AM - 10:55 AM

Spain has the largest High-Speed Rail (HSR) network in Europe, and in per capita terms, the largest in the World. The deployment of such a network was aimed to increase social cohesion across mainland Spain through enhancing access to their province's capitals. Thousands of millions of euros have been invested so far, however, for this policy to work, there should be an actual inter-modal substitution from more polluting modes of transportation (e.g. cars) to the HSR. This paper sheds light on this relation by analyzing the impact of HSR on motorway transport. We analyzed this relationship in a quasi-experimental setting using information from the whole HSR network in Spain, and with annual information that covers the period 1988-2019 (i.e. few years before the opening of the first HSR line in 1992/3). We used a generalized difference in difference approach to assessing the impact of the openings of new lines in the motorway's traffic. The analysis is strengthened by following the new literature in econometrics techniques that correct potential biases induced by the different timing in the treatment (e.g. Callaway, B. and Sant'Anna, P., 2021), that is, the different timing in which new HSR lines open. Although with few exceptions, on average, the HSR has not induced a shift from cars to trains, which makes us wonder if the high cost in deploying new HSR lines in the near future is justified by the results.

Energy transition based on effective energy use in rural China

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Online-G22 Energy and Ecological Transition, August 23, 2022, 4:00 PM - 5:45 PM

To reveal the futures, trends and main drivers of rural energy transition has an important implication for building up a clean, efficient and sustainable energy system. Based on the physical energy consumption, we measured the effective energy consumption and established a provincial panel data of rural China from 1990 to 2017. The results show that the energy transition is not only reflected in the growth of fuel consumption and the change of fuel structure, especially the growth of high-quality energy, the diversification of service functions and the convenience of use. The term of effective energy can more accurately measure the level of energy consumption per capita than that of the physical energy. The income per capita, urbanization level and annual average temperature are three main factors of impact on energy consumption. For every 1,000 yuan growth in per capita income will increase the consumption of 6 kgce physical energy and 4 kgce effective energy, respectively. Every 1% rise in the urbanization rate of the population can bring a growth of 4.86 kgce physical energy and 1.83 kgce effective energy. 1°C of rise in average temperature may decreases by 22.3 kgce physical energy and 2.8 kgce effective energy. There are roughly three levels of transition, the slow transition in the northeast, the forefront transition in the eastern coastal areas and the intermediate level transition in vast central and western regions. Focus should be on increasing the share of renewable energy, improving energy infrastructure and energy efficiency in the future.

The research of transport-related social exclusion in Hungary

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Pecs-G17-O2 Transport and Accessibility, B018, August 25, 2022, 2:00 PM - 3:30 PM

This paper tries to identify the connection between social exclusion and transport-related social exclusion.

The definition of social exclusion has abundant literature. The most accurate definition is given by the researchers from the LSE (London School of Economics): an individual is considered to be socially excluded if (s)he does not participate in social activities from time to time but at the same time (s)he wants to join them, however something prevents her/him from participating in them.

The transport-related researchers – carried out mainly by engineers and transport economists – neglected the social aspect until the beginning of 2010. At the same time – as part of social exclusion – traffic-based exclusion at the public policy level has been dealt with since the late 1990s (first in the United Kingdom to government order).

Transport related exclusion can be briefly identified by saying that the person does not have the suitable access to any means of transport to reach the place where important social activities are taking place in which (s)he would participate in. One of the crucial bases of transport exclusion is the possibility of access to car concerning the individual, which can be structural or comfort. A specific group of structurally dependent individuals is the "constraint car owners", who are mainly the residents of low-status households – especially in rural areas – with no adequate public transport. These households would not otherwise maintain a car, but they have to – due to public transport being unusable – and this is a tremendous financial burden for them. Those social groups are concerned in transport exclusion who have reduced mobilities because of various reasons. These groups can be classified in lots of ways (e.g. age, sex, income status).

As part of my PhD research on transport related social exclusion in rural areas, this analysis aims to apply the Zimpel index to evaluate settlement accessibility in rural Hungary and introduce a new method (points system) to classify microregions. These methods are based on a dataset including public transport supply (no. of services in a working day, average journey times) between rural settlements and microregion centres for all microregions in Hungary.

Spatial Effects of Transportation CO2 Emission Control Policy in the U.S. States

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Pecs-S14 Electrification of transport in cities and regions: deepening spatial disparities or an opportunity for economic growth?, B310, August 25, 2022, 2:00 PM - 3:30 PM

According to the U.S. Energy Information Administration (EIA), U.S. carbon dioxide emissions from energy sources hit their 25-year low at 5,134 million metric tons in 2017. However, for the first time, the total metric tonnage of CO2 emissions from transportation exceeded that from electric power. Each state in the U.S. has a different set of policies to meet the tailpipe emission standards. In 2004, CARB (California Air Resources Board) approved the nation's first GHG (Greenhouse Gas) emission standards specifically for cars. There are 13 other "CARB states" that follow California's more restrictive standards with the aim to control CO2 emissions specifically from vehicles. The purpose of this paper is to examine the impact of CARB's tailpipe emission standard policy on the reduction of CO2 emissions emanating from the transportation sector. This policy is controversial and creates a conflict between the Trump administration's EPA and the CARB states. Using a spatial panel dataset for 49 U.S. states over 1987-2015, we estimate both a Spatial Lag Model (SAR or SLM) and a Spatial AutoRegressive with additional AutoRegressive error structure (SARAR or SAC) as the latter captures the effect of omitted variables from the former. The estimation results of SAC indicate the expected effects of all three policy-related variables. CARB's stricter standards have the largest effects among the alternative policy approaches tested in this study. Local spatial effects of CARB's standards show the presence of spatial effects among neighboring states. All three policy approaches (CARB's emission standard, gasoline price policy, and fuel efficiency) should be combined to reach the CO2 emission reduction goal set by these CARB's states. Evidence of interstate spillovers indicates that a state needs to collaborate with its neighbors as envisioned by the partnerships among EPA, NHTSA, and California. This approach provides a viable path to achieve the ambitious but still feasible CO2 reduction goal set by CARB and adopted by EPA in 2012.

Helicopter View on Post-Corona Space Economy: Modeling Tourism Impacts

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Pecs-S59-S6 Spatial Coronometrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 25, 2022, 4:00 PM - 5:30 PM

This paper suggests the broad view on Post-Corona Space Economy with the modeling tourism impact with the growing uncertainty. It argues that health risks and perceptions may induce a more deconcentrated pattern of mass tourism, with more geographical dispersion to rural and natural areas. Facing the Corona pandemic, tourists prefer individual tourism deconcentration to high tourism concentration. Also, the attractiveness of tourism destinations can be drawn from two contrasting perspectives: specialized tourism amenities and rich tourism attractiveness. Based on these two factors, tourism destinations can be classified into the following four types: (1) Tourism Hotspots; (2) Mass Urban Tourism; (3) Lonesome Tourism; (4) Tourism Dispersion. The analytical framework is modeled and applied to extensive data on Las Vegas tourism and its surrounding regions in the U.S. The proposition on deconcentrated tourism concentrations is confirmed during Corona Pandemic. Pre-pandemic outer-inner city complementary relations between “Outdoor Activities” in 11 surrounding national parks and the “Gaming Industry” in Las Vegas have transformed into outer-inner city substitution relations in the COVID-19 pandemic. This represents the evolving deconcentration of tourism concentration facing the growing uncertainty in an inner-city due to health risks in a pandemic. Availability of diversified tourism resources may dampen the shock to a concentrated tourism destination such as Las Vegas when effectively linked to the decentralized but easily accessible tourism resources in dispersed rural and natural areas. However, what draws more attention is how the tourism behaviors are affected and the associated destination choices are made in Post-Corona spatial choice models with the tourism impact under consideration. This paper analyzed if the confirmed deconcentration of the concentrated tourism activities is just a temporary change or a new direction for tourism modeling.

Spatial and Racial Group Disparities of COVID-19 Mortality: Exploring Dimensions of Structural Barriers

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Pecs-S59-S2 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 24, 2022, 2:00 PM - 3:30 PM

see extended abstract

Multicriteria systems in cultural heritage for the sustainable development of a place

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¹Dr.

Online-G15 Cultural Heritage and Regional Development, August 22, 2022, 2:00 PM - 3:35 PM

The research project refers to cultural heritage, both tangible and intangible, and attempts to broaden the current knowledge about decision-making multicriteria systems and especially multicriteria systems in cultural heritage, as recently become a vital factor in cultural heritage. This paper aims to develop an innovative decision-making method which evaluates the cultural significance of the cultural assets of a place. In this framework, other criteria—such as social or even environmental criteria—are excluded. As the literature shows, previous studies failed to address a common evaluation framework and a holistic approach in multicriteria evaluation of cultural assets of a place. These new findings reveal the national and international research gap, and the emergence of a new innovative approach for the protection, recording and evaluation of cultural heritage. Multicriteria decision-making systems have become important in this field in terms of protection and conservation. Especially for intangible cultural heritage, due to the fragile nature of its assets (oral, folklore, etc.), recording and evaluation are the first steps which could ensure conservation and the protection. After an extended literature review, the paper proceeds to the construction of the multicriteria decision-making system and provides the framework for a new way to classify and rank the cultural assets of a place by their cultural significance.

Mapping competitiveness policy during 2021-2024 and the 2019 VET EU countries Systems with the SDGs to identify gaps in implementation

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Online-S12-S2 Multi-Level Governance through the Core Network for Sustainable Development –Building Green and Digital Skills for Sustainability, August 22, 2022, 4:00 PM - 6:00 PM

The sustainable competitiveness requests a new VET system tailored to the UN 2030 Agenda for Sustainable Development. Green and digital transformation brings social, economic, environmental and governance "transitions to fair and prosperous sustainability. (European Commission. Directorate-General for Research and Innovation. 2020). Prosperous sustainability is on the path to recovery driven by research and innovation. (European Commission. Directorate-General for Research and Innovation. 2021) Following the approach of (Borchard et al. 2020), on the Know SDGs Platform, we use the text mining tool SDG Policy Mapping to search the "competitiveness" keyword across the relevant legal policy documents. We estimate the gaps in implementation by comparing the national SDGs spectrum from the VET system with the normative SDGs spectrum. The VET SDGs gap in the VET system is a useful tool to adjust VET systems' VET strategies to contribute to "transitions to fair and prosperous sustainability fully". On the edge of sustainable recovery for the EU, competitiveness must change the approach to create and deliver new skills. Digital transformation offers unique opportunities to overcome the Covid Crises only if sustainable multilevel governance policies implement the 2030 Agenda coherent with VET policy.

Strategical reflections regarding convergence toward the connection of the Occupational Standards with Sustainable Development Goals

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Online-S12-S1 Multi-Level Governance through the Core Network for Sustainable Development –Building Green and Digital Skills for Sustainability, August 22, 2022, 2:00 PM - 3:35 PM

Digital transformation affects work and labour market. New radical and disruptive technologies brings complex, ample, and profound changes are not reflected anymore by the present occupational standards. Job classifications systems and their Occupational standard are the Labour market nexus. The new strategical framework is multilevel global, regional (EU27), national, local and individual level. Phenomena are simultaneously and highly complex. We analyse this new strategical framework and its linkages with SDGs with direct relevance to the labour market focused on upgrading and adapting the occupational standards according to the new framework. Our conclusion state that, the natural evolution of the Agenda 2030 implementation is at the level of occupational standards, the real nexus of the labour market. Job classification systems in the 2030 Sustainable Agenda is the digital transformation process toward universal classification occupational standards by the SDGs relevant criteria.

Effects of Regional Weather and Air Characteristics on Pneumonia - Examining the Interaction of Individual, Weather and Air Characteristics

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Online-G07 Global Warming, Health and Environmental Issues, August 22, 2022, 11:15 AM - 12:55 PM

It is well studied that especially extreme weather and air characteristics, the latter including air quality and wind conditions, have an impact on the number of people hospitalized for pneumonia (Onozuka et al. 2009, Liu et al. 2014, Wang et al. 2021). Climate change itself is associated with both increases in the frequency and intensity of extreme weather events not only in the future but already nowadays. Therefore, it is important to understand the effect of extreme weather events on pneumonia cases and courses of disease more deeply. A special focus of this study is placed on how these effects interact with personal characteristics and other circumstances, such as air characteristics. This is important since research has so far overlooked these interactive influences on pneumonia cases.

We close this research gap by analysing data of patients who have been hospitalized for pneumonia from 40 European hospitals with a focus on German pneumonia patients. The dataset contains individual and health information for more than 10.000 patients. The patient data will be matched with daily weather and air data considering not only the day of hospitalization but also the conditions of previous days. Regional weather and air characteristics will be both spatially- and population-weighted to represent the catchment area of the hospitals. A logistic regression approach is applied to analyse the separate and, especially, the combined impacts of the various individual and regional variables on pneumonia events and their severity.

Furthermore, various patient groups, such as female/male, age groups, and groups with different pre-existing illnesses are examined separately for identifying differences in the impact of weather and air characteristics on the aforementioned groups. This research is valuable since quantifying the relationship between weather events and pneumonia occurrences and the course of the disease helps hospitals to better prepare staff and treatment during periods of extreme weather and air characteristics.

Spatial planning, natural capital and public land. International trends and national policy for the capitalization of state-owned property in Greece.

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Online-G26-R Human - Environmental Interactions, August 22, 2022, 4:00 PM - 6:00 PM

Under the global ecological crisis and economic recession (after 2008), land management regimes and particularly the development of public land assets in protected areas are affected by policies reform and prevailing practices. Socio-economic phenomena and neo-liberal politico-administrative tendencies at a wider scale give rise to key issues of privatization process in Greece and put emphasis on simplifying procedures for building permits and environmental licensing; challenging the role of spatial planning. An allegedly “flexible” spatial planning system, aimed to put exploitation of public sector’s private property on fast track, facilitates large-scale investments as “a driver of sustainable growth”. This spatial organization model provides special plans as institutional alternatives to traditional land-use planning with no regard to translate the abstract concept of sustainability into tangible actions. The transfer of Greek public land in PAs to the Hellenic Republic Asset Development Fund (HRADF) and later to the Hellenic Corporation of Assets and Participations (HCAP) for privatization remains a controversial issue of great importance, since it stimulates a development model shift into economic growth with short-term benefits but long-term costs; producing extensive territorial restructuring and deep spatial transformations at a national/ regional/ local level. Having in view the foregoing, such policies consider public property as "dead capital" threaten to transform public goods into rivalrous and excludable private goods. The rapid urbanization of land resource areas in PAs affect adversely the natural heritage reserves, imposing unreasonable limitations on alternative and more profitable future uses of a highly-valued natural capital asset.

Strategically deployed, spatial planning of investments in PAs can be a determinant for public land’s sustainability in generating sustainable outcomes within market and society; iff turning strategic and regulatory plans into actions to (re-)generate consensus-based decision-making and public leadership in a more operational and effective way. Within that framework, establishing an optimal equilibrium among the allocation of natural resources, broader conservation goals, sustainable development and (multi-level/actor) governance modes becomes a prerequisite in qualitative and quantitative terms. Thus, it is critical to develop specific criteria and indicators in order to evaluate the spatial impacts of privatization at different spatio-temporal scales and various consecutive stages of implementation, with a view to outperform conventional coordination and to reconcile the sometime conflicting conservation goals with development objectives. Natural capital can operate as an essential economic factor, being a major comparative and competitive advantage-privilege that triggers development initiatives; optimizing the socio-economic and environmental characteristics of the affected areas in Greece.

Geographical patterns of adoption in the emerging ICT Technologies.

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Online-G20-O2 Cities, Regions and Digital Transformations, August 23, 2022, 2:00 PM - 3:40 PM

The recent literature on emerging ICT technologies estimates that by 2030 there will be between 26 and 30 billion devices located in homes and businesses, equipped with sensors, processors, software which will be connected to what is known as the Internet of Things. This technology along with other new ICT technologies such as cloud computing or artificial intelligence, can reach the complete automation of production processes. Furthermore, the implementation of these technologies will favor cost reduction as a result of predictive maintenance, as well as greater speed and intelligence in operations, thanks to the machine to machine (M2M) communication, and a more efficient interaction between humans and smart devices.

The aim of this research is to identify the most relevant factors that favor cutting-edge ICT technologies adoption in firms, belonging to sample of countries. Accordingly, a literature review was conducted to find previous research work on ICT adoption in firms, identifying two main models: the TOE and the DOI models. Next, a sample was built with aggregate information at the country level on the resources of the companies, the accessibility to cutting-edge ICT technologies, the effectiveness of the institutions in their assistance to the business activity, the sophistication of the demand, and the degree of global integration of the companies. Thus, the sample consisted of 136 observations from developed and underdeveloped countries and was obtained from four sources: The World Competitiveness Report, The Global Information Technology Report, The World Bank, and the database of the European Patent Office (EPO). The estimation method consisted in a PLS-SEM analysis, which allowed to study the analyzed phenomenon in an integral way, and also to evaluate the possible mediation between the explanatory factors.

" * This presentation is part of the results of the R+D+i PID2019-107993GB-I00 funded by MCIN/AEI/10.13039/501100011033"

Socioeconomic deprivation and Covid-19. Evidence from small areas in Catalonia.

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Online-G39-O1 Regional Consequences of the COVID-19 Pandemic, August 22, 2022, 4:00 PM - 6:00 PM

This study analyzes the effect that the socioeconomic deprivation of the population has had on the incidence of the Covid-19 pandemic in small geographic areas. To do so, it uses daily information about the cases reported in the basic health areas (ABS) of Catalonia from the first to the sixth waves of the pandemic and combines them with an indicator of the degree of socioeconomic deprivation of the population of each ABS. The analysis controls for a set of local factors and characteristics that may also have affected the incidence of Covid-19 and in turn correlate with the degree of socioeconomic deprivation. Likewise, the general results for the case of Catalonia as a whole are complemented by a specific analysis of the ABS of the city of Barcelona, given that in this case the heterogeneity due to some confounding factors, such as density, weather, and atmospheric pollution, is much smaller.

The results confirm that the incidence and rate of spread of the pandemic was higher in geographic areas with populations with a higher degree of socioeconomic deprivation. In addition, they suggest that the strict confinement implemented during the first wave contributed to slowing down the impact of Covid-19 more intensely in the areas with the highest degree of deprivation. On the other hand, the preliminary results suggest that the impact of the socioeconomic conditions would have been decreasing in the successive waves.

The results allow us to draw lessons that may be relevant for other economies with still low levels of vaccination, in the face of possible variants of the Covid-19 virus and, especially, in the case of the initial phases of future pandemics caused by respiratory viruses.

Emergence and maintenance of business transaction ties: The role of business and ownership connections

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Pecs-S15-S1 Supply Chains, Production Networks and Regions, B310, August 24, 2022, 2:00 PM - 3:30 PM

The web of relationships between companies is essential for markets, as they convey information, resources and knowledge within a social structure. The embeddedness of firms in these relational structures partly arises from pure business interest and partly from social connections, such as ownership relations or the geographical proximity of companies. However, studying the interplay between such relationships is rare at large-scale, because of their significant data demand.

In this project, we search for the determinants of business tie creation and tie persistence. We combine administrative datasets on firms to uncover the evolution of inter-firm business connections in Hungary between 2016-17. We connect firms through their co-ownership ties, and business transactions. This allows us to show how direct and indirect connections in this multiplex network influence the creation and persistence of business transactions together with geographical proximity. We find that both direct and indirect connections contribute to creation and maintenance of business transactions together with geographical and industry proximities. Further, we observe a diminishing effect, i.e. an additional positive effect of such a connection is decreased if they appear together with another connection.

Has COVID-19 made rural areas more attractive places to live? Survey evidence from a U.S. region

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Pecs-S59-S3 Spatial Econometrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of
Pandemics, A308, August 24, 2022, 4:00 PM - 5:30 PM

COVID-19 disruptions encouraged some rural regions to think about proactively attracting newly footloose residents---but would the pandemic make rural areas seem more attractive to potential return migrants? Using econometric analysis of survey data, we do not find evidence of this. To natives who had left the study region, attitudes about living in rural areas during COVID were lower on average than for those who stayed. We find, however, that owning a business and a stronger sense of belonging are both associated with positive attitudinal shifts towards rural living, which has practical implications for rural migration policy.

The Growing Rural Health Disadvantage: Labor Market Consequences of Rising Rural Prime-Age Mortality

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Online-G05 Mountain, Rural and Marginal Issues, August 22, 2022, 4:00 PM - 6:00 PM

In rural America, age-adjusted, natural-cause mortality rates for working-age individuals have been skyrocketing relative to urban areas over the past 20 years. The U.S National Academy of Sciences suggests that both long-term economic changes and social changes may be driving higher prime-age mortality rates, but the precise mechanisms are not understood.

Prime-age mortality leads to fewer adults in the labor force, exacerbating existing labor shortages. Post-pandemic, concern exists that labor force participation will drop permanently as jobs that require low levels of education are affected by COVID-induced disability, not to mention pre-pandemic issues such as opioid addition. Ultimately, rural economic development and growth is tied closely to the presence of prime-age workers – indeed, even population growth and the presence of children - future workers - will be related to prime-age population.

Using mixed-methods – three case studies plus exploratory spatial data analysis – we are examining how rural prime-age mortality increases are affected by local context, particularly factors we cannot measure with survey data or publicly available secondary data. Further, we are also examining the rural labor market impacts of continued prime-age mortality rate spikes.

We are conducting our case studies in Missouri, which is largely average (mean) America, geographically, socially and economically. However, the state's geography, culture and economy is tremendously heterogenous and our case studies will exploit this heterogeneity.

Preliminary results identified two hot-spots for prime-age rural mortality and two cold-spots, one which one was rural. We are conducting case studies and focus groups in these three communities to gain insights into the causes and labor market consequences of prime-age mortality. Preliminary results suggest stress – particularly lack of leisure time – may be driving the mortality spike and this stress, concentrated in women who have duties at home and outside the home, may exacerbate the decline rural labor-force participation rates.

Smart Urban Mobility: from digital divide to Social Integration

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Pecs-G17-O2 Transport and Accessibility, B018, August 25, 2022, 2:00 PM - 3:30 PM

Many cities have been implementing digital systems, including in transportation, in order to improve their mobility systems. The process of digitizing services has generally resulted in exclusion of digital illiterate populations. Most of the previously studied determinants of the digital divide are related to socio-demographic attributes. Some studies, however, indicate a correlation between habitus and digital divide. None of the studies have modeled habitus in relation to the digital divide in mobility and its effect on accessibility and social integration. This study aims to explain the relationships between habitus, smart mobility and digital divide and their reflection in space and society. Therefore we developed a conceptual model, which based on three hypotheses: First, we expect the digital divide in Smart mobility to be a result to a habitual mechanism. This mechanism includes, besides the socio demographic factors, the attitudes, perceptions and travel habits of individuals. Second, we hypothesize that the digital-mobility divide is an accessibility barrier for marginalized social groups. The digital-mobility divide is the combination of mobility and digital skill disparities, and accessibility refers to the capability of reaching destinations. These destinations provides opportunities such as employment and education. Third, we hypothesize that high or low level of accessibility may cause social and spatial integration or segregation in accordance. The model will serve as a basis for an empiric research. We presume that it would provide new insights of how to increase mobility capacity and accessibility of marginalized groups. The insights can be used for policy making regarding the implementation of digital modes and the empowerment of disadvantaged groups. This kind of policy might contribute to a better socio-spatial integration, and eventually it might progress a more equitable and just society in urban spaces

Post-Industrial Development and Manufacturing on the Periphery: The Case of Pécs, Hungary

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Pecs-S12 Multi-Level Governance through the Core Network for Sustainable Development – Building Green and Digital Skills for Sustainability, B312, August 24, 2022, 2:00 PM - 3:30 PM

This paper takes a look at the evolution of manufacturing industries of Pécs, a shrinking regional centre in Southern Hungary. Industrialisation and de-industrialisation processes are considered in the context of the city's peripheral geographic position, and its aspirations to abandon its mining and industrial heritage in favour of becoming a cultural city. The paper contests the reality of these plans, drawing attention to how a simplified understanding of economic restructuring encourages the formation of "hidden sectors", important secondary and tertiary activities which can get caught in vicious circles of decline, policy neglect, and network disintegration. It examines the transformation of the city's industries, and the divergent evolutionary patterns they form in a city characterised by industrial decline. FDI-based, endogenous and knowledge-based industries are examined, along with the institutional background which influences their evolution, and gives rise to hidden sectors. The paper aims to highlight the importance of diversified industrial structures, the relevance of localities, and the role institutions play in influencing the future of manufacturing in the post-transition era.

Upgrading behaviour, internationalisation, and growth strategies among medium-sized Hungarian family firms: Varieties of endogenous capital accumulation

Dr. Gabor Lux¹

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Pecs-S46 Long-term Development Perspectives, Barriers, and Challenges in Central and Eastern European Regions: A Survey of the Next Decades, B312, August 26, 2022, 11:15 AM - 12:45 PM

This paper is concerned with the varied development paths undertaken by Hungarian-owned family firms in the manufacturing sector. Whereas large, FDI-based industrial projects have received preference by economic policy, there is a growing realm of evidence suggesting that medium-sized, usually family-owned enterprises play a similarly vital role in regional development. Academic papers on the German Mittelstand model and its generalised variants contend that mid-sized family firms have a special capability for exploiting scarce, locally embedded resources to undertake “high-road” growth strategies combining high value-added production with localised social advantages, i.e. reinvestment into local human capital, industrial networks, and knowledge sets.

This paper summarises the results of multiple research efforts into understanding how such firms grow, internationalise, innovate, and upgrade their activities in the context of Hungarian regions characterised by a peripheral geographic status, uncertain business environment; and until relatively recently, strong resource constraints. It is proposed that while family firms possess certain core values and growth behaviour which make them similar to the German Mittelstand companies, they show substantial difference along upgrading and growth paths.

One strategy type relies on increasing integration into global value chains (GVCs), although with varied levels of added value: some of these firms undertake substantial process innovation and some product innovation to exploit the benefits of export-based learning, while others have become stuck in contract manufacturing based on external knowledge sets, and specialising in labour-intensive activities. Very few of these firms have, so far, progressed beyond Tier 3 supplier status, and their status comes with both benefits and considerable shortcomings/risks.

Other firms, partially out of a desire to avoid or diversify away from FDI dependency, have increasingly focused on own product development, engaging in intensive “seeking behaviour” to find and exploit a product niche they can excel in. Few of these firms have, so far, benefited from cooperation with local universities or R&D centres, demonstrating the weakness of Hungary’s regional innovation systems; this is all the more problematic when considering the counter-examples, where spinoff innovations have generated substantial strategic advantage for family enterprises. It is also an open question to what extent local or national-level excellence allows firms to compete on the international level: while many of them show strong and successful export activity, significant barriers stand before strong internationalisation and a breakthrough success on European and/or global markets.

Understanding the '2020 Shock' in the UK's Automotive Sector

Dr. Matthew Lyons¹, Prof Raquel Ortega Argiles, Dr Magda Cepeda Zorrilla, Dr Deniz Sevinc
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Pecs-S59-S5 Spatial Corometrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of
Pandemics, A308, August 25, 2022, 2:00 PM - 3:30 PM

The automotive industry is an important part of the UK national economy with an estimated £78.9 billion in turnover and £15.3 billion in GVA and supporting over 800,000 jobs in 2019 (SMMT, 2021). Both Covid-19 and Brexit implementation have disrupted production, demand and trade for industries throughout the automotive supply chain. In the UK new car production is down -29.3% in 2020 and -28.7% in 2021 compared to 2019. Representing the lowest levels of car production since 1984 (SMMT, 2022).

This paper uses a hypothetical extraction method in a multi-region input-output (MRIO) model to estimate the economic impact of the so-called '2020 shock' in the automotive clusters in the Midlands and the North of England in 2020. Initial findings show that the shock in the Midlands cluster was more pronounced leading to a fall in output of £10.9 billion compared to the North £4.9 billion. The regions in the South East of England were found to be relatively insulated to the shock.

As UK policy shifts automotive production towards EVs there are systemic risks to the future of the sector and in turn the economies of the West Midlands and North East. If levelling up is to succeed in these regions there must be a broad understanding of how these can be supported through public investment in manufacturing and the local skills pool.

A Tale of Two Cities: Communication, Innovation, and Divergence

Professor Stefano Magrini¹, Dr. Alessandro Spiganti¹

¹*Ca' Foscari University Of Venice*

Online-S25-S2 The spatial dimensions of productivity for regional growth: A broad view on productivity,
August 22, 2022, 4:00 PM - 6:00 PM

We present a two-area endogenous growth model where abstract knowledge flows at no cost across space but tacit knowledge arises from the interaction among researchers and is hampered by distance. Digital communication reduces this “cost of distance” and reinforces productive specialization, leading to an increase in the system-wide growth rate but at the cost of more inequality within and across areas. These results are consistent with evidences on the rise in the concentration of innovative activities, income inequality, and skills and income divergence across US urban areas.

Fiscal Federalism During Unexpected Fiscal Shocks: Revisiting Fiscal Federalism Precepts in the U.S. and Lithuania

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¹*University of Nebraska at Omaha*, ²*Mykolas Romeris University*

Online-S02 Building Resilient Public Sectors, August 22, 2022, 4:00 PM - 6:00 PM

There are basic norms we consider when examining local government revenue systems, perhaps the two most important are efficiency and effectiveness. It is most often from these perspectives that scholars have considered intergovernmental aids negatively. For instance, there is an extensive body of literature on the effects of intergovernmental aids to local governments, coined the “fly-paper effect” by Arthur Okun in the 1960s. The empirical evidence quite often supports the proposition that “money sticks where it hits” meaning that intergovernmental aid payments increase expenditures and are, therefore, inefficient. Similarly, the financial management literature generally views intergovernmental aid payments as inefficient as it is a revenue source over which local officials have no control.

With this context, we propose to examine the question of whether sudden, episodic fiscal shocks such as COVID-19 force us to reexamine some of these perspectives on fiscal federalism. For instance, Park and Maher (2020) assert that it was the differences in intergovernmental structures that enabled South Korea to react more effectively to COVID-19 than the U.S. We propose to build on Park and Maher (2020) by empirically examining the effects of fiscal structures on local government fiscal condition during the COVID-19 pandemic. We propose to test the hypothesis that local governments with greater reliance on intergovernmental aids fared better than these local governments that were more reliant on own-source revenues.

Methods:

The period of study will be 2015-2020, thus providing several years of data leading up to the pandemic. The units of analysis will be cities. The analysis will focus on the financial condition of these local governments in the two countries. Panel data on fiscal and socio-economic facts will be collected on the 50 U.S. cities and 8 largest cities -municipalities in Lithuania for 5 years. The U.S. and Lithuania have very different central-local fiscal relationships, thus enabling us to study within-country effects as well as cross-national effects.

The tentative results are that cities with greater reliance on intergovernmental aids fared better than these cities that were more reliant on own-source revenues. Furthermore, cities in Lithuania overall, fared better than cities in the U.S. due to a greater central government support.

This article contributes to the existing literature on fiscal decentralization by re-examining the precepts on the efficiency of intergovernmental aid and the sustainability of local government finance when confronted with unexpected shocks.

Regional science teaching and research in times of COVID-19 - The faculty's view

Prof. Gunther Maier¹, Dr. Sabine Sedlacek¹

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Pecs-G39-O2 Regional Consequences of the COVID-19 Pandemic, B016, August 26, 2022, 11:15 AM - 12:45 PM

The Covid-19 pandemic has seriously disrupted our way of teaching and of doing research in institutions of higher education. Many of us had to teach remotely or hybrid, had to organize and manage exams over the Internet, and supervise student research through video conferences. Similar problems arose with the usual research activities. Since travel was restricted, many conferences and workshops were either cancelled or moved to electronic media. While distance friction became less important for cooperation in established contacts, informal exchange and meeting new colleagues at events largely vanished.

The pandemic led to a flood of Covid-19 related research with many articles published on – often newly established – preprint servers. University administrators, policy makers, and the public press are speculating about the long-term implications the pandemic will have on universities and the higher education industry. These two years have led to an accumulation of anecdotal evidence, speculation, and a few hypotheses about the future development in higher education. Some argue that the sector will quickly return to the pre-pandemic mode once the pandemic is over. Others predict higher education will be torn apart by the fundamental disruptions caused by the pandemic. Relatively little, however, is known about the experiences and the expectations of the main actors in higher education, the faculty members. In our paper, we will present the results of a systematic questionnaire survey of faculty members in Europe about their academic experience during the pandemic and about their expectations for the near future. The purpose of the paper is to identify patterns of reactive and proactive behaviour of lecturers and researchers and to investigate differences in their perceptions.

Since it became obvious over the past years that disciplines were affected and also reacted very differently, it is important to investigate academic disciplines separately and to compare across disciplines. Our investigation will focus on regional science and on real estate economics. These disciplines are thematically quite close, but differ in the types of students they attract and in the segment of society that is interested in their research results and alumni. In our paper, we will show differences between these disciplines as well as differences by country or region, by gender, by academic status, by age, etc. Our survey deals in a systematic way with the experiences during the pandemic as well as with the expectations about the near future in terms of teaching and research management.

Analysis of land-use change in a development of residential real estate market context

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Pecs-S30 Suburbanization, urban sprawl, and their impact on the environment in Central Europe, B313,
August 25, 2022, 4:00 PM - 5:30 PM

The research focuses on the assessment of land-use changes in the urban areas in the context of investment processes in the primary residential real estate market. Investment processes are a determinant of the city's development and reflect the bottom-up market process, pointing to the attractiveness of urban space. The way of using urban areas is the result of the policy implemented by cities. In this context, an important aspect of the study is to verify whether the needs in the primary residential real estate market are met by the changes in the way land is used. The research covers the years 2000-2021 for the six largest cities in Poland.

Development of shopping malls in Poland

Ms Agnieszka Majorek¹

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Pecs-S09 Structural transformation of retail chains in the outer zones of urban agglomerations. The quantitative changes and new location patterns., B310, August 25, 2022, 9:15 AM - 10:45 AM

The first shopping mall in Poland was opened in Warsaw in 1993. In the following years, their number systematically increased. The analysis of conducted so far confirm that the shopping mall market in Poland is characterized by an increasing level of competitiveness. Currently, they constitute an important element of urban space, and social galleries (departing from the dominant function of traditional trade) are becoming a new trend in their offer. The presentation focuses on the analysis of shopping malls operating in Poland, with special regard on their location and the possibility of playing the role of an urban public space.

Local responses to global challenges. How transformative governance pursues a just and sustainable transition. Comparative analysis between two approaches.

Dr. Federica Mangiulli¹

¹*Università Mediterranea Di Reggio Calabria*

Online-G22 Energy and Ecological Transition, August 23, 2022, 4:00 PM - 5:45 PM

This paper aims to offer a conceptual framework for understanding the elements characterizing the transformative dimension of urban governance policies and strategies towards a just and sustainable transition, breaking down the obstacles and enabling the response of local systems to global challenges. . It is in the transition towards sustainability that the European Union sees the solution to the environmental, economic and social crisis. The member states first declined the global agreements, the national governance strategies and after the urban experiments, adopting different methods to decline the transition towards sustainability. Transition initiatives often not adequate to the expectations for which they were launched and their short duration makes it impossible to measure their impact. Urban governance, paying little attention to local characteristics, does not react effectively to the obstacles to the transition process towards sustainability. The result is an expansion of the pre-existing imbalances and inequalities. A comparative analysis is proposed between the approach developed by the Driving Urban Transition and that proposed by the Wuppertal Institute to understand which local elements define the transformative dimension of urban governance, in order to stimulate the city to a change that increasingly tends towards a transition. fair and sustainable, limiting its impact on the quality of life.

Access to Credit and Economic Complexity: Evidence from Italian Provinces

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Online-G21-O2 Regional Finance, Fiscal Issues, Investment or Capital Markets, August 23, 2022, 4:00 PM - 5:45 PM

This paper contributes to the empirical literature on the relationship between ‘urbanization economies’ and access to bank credit. In particular, we further exploit the linkages between urbanization economies and access to credit by focusing on two specific channels through which the impact of urbanization economies percolates. The first channel is related to the “portfolio effect” of greater industrial diversification, typical of higher urbanized areas. The second channel is related to a more “qualified” concept of diversity, corresponding to the notion of economic complexity (ECI). Using a panel of Italian provincial data from 2008 to 2018, we consider the impact of industrial diversity and economic complexity on a credit crunch indicator for the manufacturing sector. We first use maximum likelihood methods to estimate spatial dynamic models which account for time persistence and weak cross-dependence and provide evidence for both temporal persistence and lagged (but not contemporaneous) spatial autocorrelation. Moreover, we also provide estimation results based on an application of (spatial) dynamic common correlation effects techniques, which simultaneously account for both cross-sectional dependence and endogeneity biases. The estimation results provide robust evidence of a negative effect of economic complexity on the credit crunch. The estimation results also reveal the relevance of long-run spatial spillover effects of economic complexity on the credit crunch.

Mass gathering events and the spread of infectious disease: Evidence from the early growth phase of COVID-19

Dr. Miriam Marcen¹, Dr. Rafael González-Val¹

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Online-G39-O1 Regional Consequences of the COVID-19 Pandemic, August 22, 2022, 4:00 PM - 6:00 PM

This paper studies the impact on reported coronavirus 2019 (COVID-19) cases and deaths in Spain resulting from large mass gatherings that occurred from March 6 to March 8, 2020. To study these outcomes, the geographic differences in the planned pre-pandemic major events that took place on these dates were exploited, which is a quasi-random source of variation for identification purposes. We collected daily and detailed information about the number of attendees at football (soccer) and basketball matches in addition to individuals participating in the Women's Day Marches across Spain, which we merged with daily data on reported COVID-19 cases and deaths at the provincial level. Our results reveal evidence of non-negligible COVID-19-reported cases related to the differences in the percentage of attendees at these major events from March 6 to March 8. In a typical province, approximately 31% of the average daily reported COVID-19 cases per 100,000 inhabitants between mid-March and early April 2020 can be explained by the participation rate in those major events. A back-of-the-envelope calculation suggests that this implies almost 5 million euros (169,000 euros/day) of additional economic cost in the health system of a typical province with 1 million inhabitants in the period under consideration. Several mechanisms behind the spread of COVID-19 are also examined. Results are robust to endogeneity checks.

Social capital and regional innovation in the aftermath of crisis: Evidence from Italian provinces

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Pecs-G33 Innovation and Entrepreneurship, B018, August 26, 2022, 11:15 AM - 12:45 PM

Social capital has been proved to be an important factor that stimulates regional innovation in different contexts. However, there is scant systematic evidence on the specific role social capital can play in restoring regional innovation outcomes in the aftermath of economic crises. This paper aims to fill this gap.

From a theoretical point of view, we draw on previous studies in maintaining that: (i) social capital can contribute to restore the climate of trust and confidence, which is necessary for knowledge exchanges, collaboration contracts and risk-taking behavior; (ii) through local social capital, agents can return to get access to valuable information and external resources, which help them facing the uncertainty inherent to innovative activities. We expect that such an innovative restoring effect should be higher for bridging than for bonding social capital, given the importance of the local inclusiveness with respect to incoming diverse ideas (bridging) and the risk of lockiness entailed by an excessive social cohesiveness (bonding).

We test for these predictions with respect to the Italian provinces (NUTS3 regions) in the aftermath of the global financial crisis of 2008. We combine data retrieved by the Italian Statistical Institute (ISTAT), Eurostat and European Value Survey (EVS) to build up a proxy of bridging social capital following Guiso et al. (2004), and of bonding social capital as in Antonietti and Boshma (2021). We define provinces with high bridging and high bonding social capital as those with related pre-sample value falling in the upper tercile of the respective distribution.

Considering the year of the burst of the crisis, we run a diff-in-diff estimation controlling for unemployment rate, population density, the number of big banks, newspaper circulation, and the degree of trade openness to the global markets. We use both linear fixed effect regression model and the Conley spatial HAC standard errors (Conley, 1999; 2008) approach to consider both spatial and serial correlations of errors.

In line with theoretical predictions, we find evidence that provinces with higher pre-sample levels of bridging social capital perform better in terms of innovation outcomes after-crisis compared to their sample counterparts. This result is significant, sizeable and stable across specifications and estimation methods.

Interestingly, also higher pre-sample levels of bonding social capital appear to foster innovation activities.

This result is however weaker and less stable than the one found for the complementary dimension of social capital. A number of robustness checks confirm and corroborate our main findings.

Barriers and Impacts of digital transformation actions in the agricultural setting of Trilofos village in Pieria (Greece).

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Online-S56 Assessing the socio-economic impact of digitalization in rural areas, August 22, 2022, 2:00 PM - 3:35 PM

The deployment of new innovative technologies, systems and routines that facilitate the integration of Sustainable Development Goals (SDGs) and the enhancement of sustainable growth in rural-agricultural areas play a crucial role for inclusive digital agricultural transition. Precision agricultural systems, remote sensing, big data, GIS and IoT technologies are providing a valuable toolbox for tackling challenges and reaching desired goals that are linked with the food-water-energy nexus as well as biodiversity protection and citizen's wellbeing. However, the digitalization process can create pitfalls of 'self-reflection' focusing on the sole adoption and utilization of digital advancements and loosening the ties that stipulate it as a mean towards the goal of sustainable development transition. A sustainable digital technology diffusion demand from rural, agricultural communities and farmers to assume a new role that will differentiate them from being perceived as mainly direct payers of service beneficiaries and will transform them into information and data collectors-processors and generators that help in conducting a sustainable digital transformation process. This paper presents work from one of 20 LLs run by the H2020 project DESIRA. Located in Northern Greece, the multi-disciplinary LL is built around a group of farmers that plan to gradually transition from traditional tobacco crops to other types of cultivation while utilizing for the first time new agricultural digital tools and services. The LL aims in monitoring the farmers engagement with new digital agricultural methods and providing them support in integrating the new digital tools and infrastructures to their agricultural business routines to strengthen their position in the local agri-food value chain. Local market players and extension service providers factor in data processing and decision support routines and contribute to the alleviation of the last-mile barrier of applying new agricultural technologies while also help in fully understanding the needs, capacities, and concerns of farmers practices. However, the lack of in-parallel development of farmer's digital skills that could enable meeting the technical demands of digital agriculture, as well as the low level of market-oriented interventions and lacking governance support to institutionalize sustainable agriculture in policy making, hinder the reformation of agriculture and sustainable rural transition.

The implementation of EU-funded innovation policy at the regional level: an analysis of Italy, France and Portugal

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¹*Ingenio*

Pecs-G38-O1 Smart Specialization, B019, August 26, 2022, 11:15 AM - 12:45 PM

Innovation policy funded by the EU has undergone a significant transformation since the beginning of the decade. After the Barca report (2009), which argued that intangible resources such as knowledge and human capital should be prominent in EU cohesion policy, and the emergence of the concept of smart specialisation, a significant effort has been made to improve the design of innovation strategies across all European regions. However, as demonstrated by political science several decades ago, implementation, and not design, is the key stage of policymaking. Moreover, implementation is not only dependent on institutional quality or the interests of the public sector, but on the interaction between state and non-state actors. The strategic interests and capabilities of the latter are as important, if not more important, for the successful implementation of policy. This paper will use a consolidated database of all innovation projects funded by cohesion in France, Italy and Portugal, for the period of 2007 to 2020 to analyse policy implementation. It will use text-mining techniques to assess and categorise different types of projects at the regional level, and statistical analysis to assess the importance of institutions, economic structure, human capital or other variables in explaining the characteristics of innovation projects across these three countries.

Technical efficiency and contextual factors: the case of public universities in Italy

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Online-S58 University impacts on the local and regional economy, August 23, 2022, 4:00 PM - 5:45 PM

The paper contributes to the current debate on the assessment of university performance, which is becoming crucial as universities' financial revenues come from the taxpayers and require a substantial degree of accountability, especially when the public budget constraint is binding. We analyse public universities' productivity levels in Italy in the years 2010 and 2017, using a two-stage procedure. In the first stage, we use the nonparametric bootstrap Data Envelopment Analysis method to calculate universities' internal technical efficiency score in a model with two outputs (teaching and research) and four inputs (students, academic staff, technical staff and financial resources). In the second stage, we employ linear and fractional responses econometric models to evaluate the impact on the internal efficiency generated by the socio-economic characteristics of the region in which the university is located. First stage results indicate a general increase of relative technical efficiency from 2010 to 2017, coupled with a remarkable reduction in dispersion mainly attributable to Southern universities efficiency improvements. This finding could be interpreted as a signal of the ability of universities to respond to the specific incentives brought about by recent reforms. The second stage provides convincing evidence on how the level of per capita income, students competences and the quality of local institutions affect universities' efficiency. The paper, by suggesting to decision-makers and practitioners an easy procedure to calculate the universities' internal efficiency and the impact of contextual factors, offers valuable tools and insights to inform the design of more balanced policy measures to finance the public university system.

The uneven geographic impact of COVID-19 on the economic crisis and the recovery. The case of Spain

Alberto Hidalgo, Dr. David Martín-Barroso, Dr. Juan A. Nuñez-Serrano, Dr. Jaime Turrión, Dr. Francisco J. Velázquez

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Pecs-G39-O1 Regional Consequences of the COVID-19 Pandemic, B016, August 26, 2022, 9:15 AM - 10:45 AM

This paper analyses the regional economic impact of COVID-19 in Spain using employment growth as a proxy of economic activity. To this end, we propose a theoretical framework that differentiates between the sources of the effects derived from COVID-19, i.e., the intensity of the pandemic on the one hand, and on the other, the set of public policies aimed at mitigating the effects on public health (restrictions, nonpharmaceutical interventions) and economic activity (furlough schemes and firm support). Furthermore, by formulating a regression model that introduces term interactions, we also analyze the channels through which the effects are transmitted towards the dependent variable, i.e., employment growth (direct, provincial, sectoral and the type of employment contracts). The data used is based on information on social security contributors and their characteristics. We also use Google Trends to measure both the intensity of the restrictions in each region and the public support to companies.

The main findings can be summarized along the following six points: (i) The regional effects are more intense and diverse at the beginning of the pandemic and when the pandemic intensifies, and tend to be offset over time; (ii) There is clear evidence that the negative effects are caused to a greater extent by the restrictions than by the intensity of the pandemic.; (iii) Furlough schemes have fulfilled the function of allowing the early incorporation of workers to economic activity, as well as their social role. Nonetheless, they have been less effective for the economic recovery than other kinds of public support to firm, such as the state-backed loan schemes to firms, which were rapidly granted and posed accessible conditions regarding their loan terms and repayment possibilities; (iv) Amongst the transmission channels, the role of temporary hiring is evidenced as one of the mechanisms, together with furlough schemes, to reduce effective employment, nonetheless associated to higher social costs and no guarantees of workers return to firms. (v) There is also evidence of the greater relevance of sectoral effects than the idiosyncratic regional ones. Part of the total regional effects results from the productive structure, especially those-dependent tourism regions. (vi) Finally, there is no evidence of changes in regional dynamics along the whole period of analysis since the regional divergence observed at the beginning of the pandemic is eventually offset once the economic activity is reactivated.

Evolutionary Economic Geography: Including Gender into the Analysis. A three-stage decomposition of Related and Unrelated Variety

Prof. Barbara Martini¹

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Pecs-G13-O1 Methods in Regional Science or Urban Analysis, B019, August 24, 2022, 4:00 PM - 5:30 PM

Evolutionary Economic Geography (EEG). EEG aimed to understand why industries concentrate in the space, how networks evolve, and why some regions grow more than others using three key concepts: proximities, capabilities and routines, and industries relatedness. This literature does not consider gender even though gender can play an important role. Gender differences in social behaviour can impact knowledge's proximities and diffusion, especially when females and males are not equally distributed between industries and firms. Industries relatedness and knowledge spills-over are captured through the Related and Unrelated Variety. The Variety index will be decomposed into Related and Unrelated Variety using a three-stage decomposition to consider gender. The properties of these measures will be investigated using a theoretical approach. The results highlight that RV and UV measures have different behaviour when females' (males) employment increases. Furthermore, RV and UV will depend on the females' (males) share in the industry, and they exhibit increasing returns to scale when females' share in an industry is lower than the males' share. This finding has significant consequences in terms of policies. Increasing females' participation in the labour market is essential, but it is also crucial in which industries females will be employed. Increasing females in industries in which the females' share is already high are less effective for labour growth than increasing females' share in industries in which the females' share is low.

Is there more resilience amongst regions with more gender equality? An analysis for the Italian regions.

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Pecs-S24-S2 Structural Change and Resilience in Local Labour Markets, B311, August 26, 2022, 11:15 AM - 12:45 PM

Gender is acquiring an interest in economics, but regional science still neglected the topic. Our contribution aims to contribute to the limited debate by merging three strands of literature. The first one regards regional specialization, the second one concerning gender segregation, and the third one about resilience. Females and males are not employed in the same industries, and regional specialization can be advantageous for only one gender. Our first goal is to explore the relationship between gender segregation and regional specialization.

Furthermore, we aim to explore the relationship between gender segregation and resilience. Our results highlight a positive relationship between gender segregation and regional specialization. The higher is the regional specialization in sectors in which the females' share is low, the higher is the dissimilarity. Moreover, our findings show a positive relationship between resilience and gender equality. The higher is the gender equality in a region the higher is the resilience. A *ri-equilibrium* in terms of gender between sectors is desirable to reduce the dissimilarity.

Nevertheless, tackling sectoral occupation is not an easy task. Regional specialization and sectoral occupation result from a process involving social values, cultural components, education, and soft skills. Policies should also address their effort to enhance the social component and break down gender stereotypes. Gender equality enhances social inclusion and enhance resilience

Public investment, convergence and productivity growth in European regions

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Online-G12-O1 Regional Competitiveness, Innovation and Productivity, August 22, 2022, 9:15 AM - 10:55 AM

This paper estimates an augmented growth model to analyse the contribution of public investment to productivity growth for European regions. The empirical model accounts for the accumulation of public capital, the stock of infrastructure and the creation of public knowledge, alongside other growth determinants, as institutions, education, and business R&D. Findings suggest that public investment is positively associated with productivity growth and complementarities with business investment are in place. Returns on both types of investments are larger in the regions of the Southern periphery, flagging policy space for further productive spending. Public R&D has an indirect impact on productivity growth through the mediating effect of business R&D, while institutional quality is a horizontal determinant of growth.

The engine of persistency: Quantifying regional variation in the quasi-periodicity of institutional change in Europe

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Online-G25 Institutions, Political and Decisional Processes, August 22, 2022, 4:00 PM - 6:00 PM

Underlying the recent interest in historical persistence is the promise that careful statistical methodology may make the effect of the past on present outcomes observable. A typical approach is to concentrate on a specific outcome (e.g., perceived corruption) near a geographical discontinuity in past institutions, such as a historical border.

However, institutions changed multiple times in the past, due to regime change with or without a corresponding change of state boundaries. Moreover, such boundaries are often endogenous, depending, for example, on defensible geographical features such as rivers or mountain ridges. As a result, clear cut quasi-experiments are hard to come by.

A complementary approach is thus to ask which set of historical institutions and corresponding borders matters the most for today's observable and quantifiable outcomes, and why.

We rely on historical atlas data to quantify institutional instability as a function of time in Europe in terms of the fraction of area that changes institutional set-up every 5 years over the interval from 1000 AD to 2000 AD. Averaging over time, we obtain a global indicator of institutional instability. It is immediately clear that geography plays a crucial role in instability, with rugged terrain and high-altitude regions experience less instability.

We study the time series of institutional instability through dynamical system methods. We find that its autocorrelation properties are non-trivial, suggesting long-term memory and possibly an underlying low dimensional dynamic rather than mere noise. This is qualitatively compatible with a simple model, where institutional instability acts as a catalyst of transition between equilibria.

See extended abstract.

Functional structure in production networks

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Pecs-S15-S1 Supply Chains, Production Networks and Regions, B310, August 24, 2022, 2:00 PM - 3:30 PM

Production networks are integral to economic dynamics, yet dis-aggregated network data on inter-firm trade is rarely collected and often proprietary. Here we situate company-level production networks within a wider space of networks that are different in nature, but similar in local connectivity structure. Through this lens, we study a regional and a national network of inferred trade relationships reconstructed from Dutch national economic statistics and re-interpret prior empirical findings. We find that company-level production networks have so-called functional structure, as previously identified in protein-protein interaction (PPI) networks. Functional networks are distinctive in their over-representation of closed squares, which we quantify using an existing measure called spectral bipartivity. Shared local connectivity structure lets us ferry insights between domains. PPI networks are shaped by complementarity, rather than homophily, and we use multi-layer directed configuration models to show that this principle explains the emergence of functional structure in production networks. Companies are especially similar to their close competitors, not to their trading partners. Our findings have practical implications for the analysis of production networks and give us precise terms for the local structural features that may be key to understanding their routine function, failure, and growth.

This presentation will focus on the implications of functional structure for regional industrial clusters that rely on energy-intensive production processes. Our climate is changing at an alarming rate due to the greenhouse gasses released during economic activity, and policymakers in the Netherlands and elsewhere are tasked with facilitating the transition to a carbon-neutral economy. We highlight several network-structural features of functional networks in the context of industrial clusters, and draw attention to implications of particular concern for policymakers.

Circulation of a digital community currency

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Online-S35 Complex Networks in Economics and Innovation, August 23, 2022, 4:00 PM - 5:45 PM

see extended abstract

Workplace allocation policy evaluation with dynamic scheduling

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Pecs-G17-O4 Transport and Accessibility, B018, August 26, 2022, 9:15 AM - 10:45 AM

The City of Stockholm anticipates substantial new office space will be needed over the next 20 years to accommodate population growth, and is currently developing a plan to guide new office development. This paper describes a scenario planning exercise conducted in collaboration with the City of Stockholm using a work location and dynamic scheduling model to simulate and analyse scenarios for the spatial distribution of new office developments from a transportation perspective.

Scenarios are developed using a four-quadrant matrix with one axis corresponding to concentration of new development (concentrated vs. dispersed) and the other to distance of new development to the city centre (central vs. peripheral). The dispersed-peripheral quadrant is determined to be politically and economically infeasible. For the remaining three quadrants, realistic numerical scenarios for the zonal distribution of new jobs are created with input from City planning officials.

We have developed a dynamic discrete choice activity-based model, SCAPER, in previous work, which we apply here to each scenario using a simulated 2040 population. The model includes a work location choice component which uses the scheduling model to create an accessibility measure feeding into the work location model, so agents working in newly developed areas have a geographic distribution of home locations that respects both travel time to work and opportunities for doing free-time activities. The travel behaviour model is iterated with a traffic simulator to produce a stable travel time/demand result for each scenario.

The model produces disaggregate results that can be analysed on several geographical levels. The scenarios produce marginally divergent effects on transportation (e.g., mode share, travel times) at the city-wide level; differences for workers in the newly developed areas are more substantial. We analyse our results from the perspective of social welfare, environmental effects and spatial segregation, which are policy impacts important to the City that we have developed analysis tools for. We also exploit the advantages of SCAPER as a scheduling model that endogenously considers trip-chaining and activity durations, for example examining differences between scenarios in trip-chaining behaviour.

As well as examining the base scenarios, the paper explores potential scenarios in which many more Stockholm residents work from home, resulting in depressed work-based travel and less need for new office development. The paper will offer input to the City's planning process and serve as a case study in how dynamic scheduling models can integrate with evaluation processes in planning policy.

Dynamic & marketing capabilities in times of crisis: The interactive impact of online activity and business association membership

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Online-G33-O2 Innovation and Entrepreneurship, August 23, 2022, 2:00 PM - 3:40 PM

Dynamic capabilities (DC) are established on unique firms' routines that emerge from their specific resource stance and are shaped by their innovation trajectories (Teece et al., 1997; Khan, 2018; Landoni, 2020). DCs let firms renew and effectively utilise their resources (Khan, 2019; Hou, 2008; Teece et al., 1997) in times of crisis, eventually transforming their performance (Schilke, 2014a). The ubiquity and diversity of knowledge explain its dynamism amongst firms. While knowledge integration might be complex in times of crisis, its integration through different mechanisms, such as skills, market capabilities, education attainment, can allow firms to surmount its complexity. Our set of DCs includes human capital, ICT, leadership, and interpersonal skills. Firms can navigate the hurdles of producer-customer relations if they possess unique capabilities to survive in the marketplace in turbulent times. One fundamental attribute of successful firms is building a network of knowledge and capabilities that can extract value from their productive activities and connect with their market base (Bartoloni & Baussola, 2020). ICT offers firms the leverage to connect with customers in different markets with employees' interpersonal, leadership, or technical skills.

In this paper, we integrate the dynamic capabilities perspective, knowledge-based view, and human capital theory to link a distinct set of skills and innovation performance in times of crisis. The study principally examines the link between business association membership (BAM), a distinct set of dynamic capabilities, COVID-19 support services and innovation performance. We employ the Netherlands' World Bank Enterprise Survey dataset collected between late 2020 and early 2021, modelling the number of innovations introduced in processes and products as a function of firms' dynamic capabilities. In examining this nexus, we estimate econometric models for count cross-section data, which deal with the count nature of innovation and firm-specific unobservable arising from the data. First, we find that being a business association member and engaging in online activity matter for innovation amid the pandemic. Second, firms' dynamic capability explains the intensity of firms' innovation activity. Third, we also find that business association and online activity moderate the link between COVID-19 business support packages, dynamic capabilities, market heterogeneity and innovation performance. Finally, these relationships tend to matter for SMEs and large firms. Our predictive margins also show the relationship as captured in the regression output to a more considerable extent. Generally, online activity and belonging to a business association matter for firms survival during the pandemic.

Building a from-work-to-work infrastructure - sustainable and innovative cooperation within the social enterprise ecosystem

Dr. Erzszi Meerstra¹, Dr.mr. Petra Oden¹

¹*Hanzehogeschool Groningen*

Pecs-G18-O2 Regional and Urban Labour Markets and Entrepreneurship, B020, August 25, 2022, 9:15 AM - 10:45 AM

SMEs have a substantial role in employment opportunities within regions. However, the possibilities for employees with special needs or in vulnerable positions remain limited, especially in terms of long term employment. Social enterprises often step into this gap providing job opportunities for these specific employees. Despite displaying personal development and ambition within the social enterprise, the transition to other or regular employers is difficult, often resulting in returning to social welfare funds and lower levels of self-worth.

In the Northern Netherlands, social enterprises aim to facilitate employment possibilities for this group of employees. Besides providing job possibilities and personal development trajectories; these enterprises aim to work together, with other social enterprises as well as regular employers and local governments, for long-term solutions in employment. Through four case studies and (duo)interviews with (social enterprise) employers, vulnerable employees, social welfare agencies and local government policy makers this issue will be researched. With this study we focus on what factors influence a successful infrastructure for long-term and inclusive job opportunities for vulnerable employees. Also, the different roles of stakeholders within the ecosystem, such as local municipalities, will be analyzed. The research will result in practical implications and tools for both (social) entrepreneurs and policy makers and will provide insight in how these kind of infrastructures can be designed for long-term continuity.

The gradient of Life Satisfaction in urban and rural areas

Dr. Marta Meleddu¹, Professor Bianca Biagi

¹*University of Sassari and CRENoS*

Pecs-G04-O2 Urban-Rural Relationships, B019, August 24, 2022, 2:00 PM - 3:30 PM

The paper investigates the urban-rural dichotomy in life satisfaction explicitly disentangles the role of quantity and accessibility to services/amenities and social relations. Using surveys data for 2013-2018 on self-reported life satisfaction in Italy, findings indicate that people in urban contexts are less satisfied. However, it is not going rural to guarantee a higher life satisfaction but living in rural areas with specific features: wealthier in income, services and amenities.

Regional income convergence and conditioning factors in Turkey: Revisiting the role of spatial dependence and neighbor spillovers

Prof. Carlos Mendez¹, Ugur Ursavas

¹*Nagoya University*

Online-G23-R Segregation, Social and Spatial Inequalities, August 23, 2022, 2:00 PM - 3:40 PM

This paper studies regional income convergence and its conditioning factors across 81 provinces in Turkey over the 2007-2019 period. Through the lens of a non-linear dynamic factor model, we first test the hypothesis that all provinces would eventually converge to a common long-run equilibrium. We reject this hypothesis and find that the provincial dynamics of income per capita are characterized by multiple convergence clubs. The identification of these clubs and their spatial distribution provide a detailed characterization of the regional east-west divide of Turkey. Next, we evaluate the conditioning factors behind club formation and pay particular attention to the role of spatial dependence and geographical spillovers. Our results indicate that spatial dependence and spillovers across provinces play an important role in the formation of convergence clubs. The spatial distribution of the convergence clubs has a clear spatial pattern, and the dynamics of the provincial income distribution appear spatially integrated. That is, in the evolution of the income distribution, there are significant synchronous co-movements between a region and its neighbours. These spatial co-movements are more frequent in middle-income provinces. Finally, we show that the performance of geographical neighbors affects the probability of club membership not only through income spillovers but also through regional investment and net migration.

The Survival of Spanish Video Game Firms: Negative location externalities after all?

Prof. Josep-Maria Arauzo-Carod¹, Prof. Miguel Manjón-Antolín¹, **Prof. Carles Méndez-Ortega²**

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Pecs-G37 Technological Change and Diversification, B316, August 24, 2022, 2:00 PM - 3:30 PM

This paper analyses the survival of the Spanish video game firms during the period 1980 to 2018. This means that we observe the survival process of these firms through different life cycle stages and practically the whole life period of this industry. We analyse the role played by firms' location, firms' strategies and industry structure on survival to find that both internal and external firms characteristics influence the survival probability of these firms. In particular, we find little evidence supporting the hypothesis that positive locational externalities exist in project-based industries at the local level (De Vaan et al. 2012).

Location patterns and drivers of coworking spaces in European regions

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¹*Open University Of Catalonia*

Pecs-S26 The Spatial Reorganization of Working and Living: New Opportunities for Peripheral Regions?, B020,
August 25, 2022, 4:00 PM - 5:30 PM

Location patterns and factors behind the emergence of new working spaces have been widely studied in European countries. However, they have been mainly investigated in a national context and at very local scales. Hence, in the paper, we widen this perspective to a regional one and conduct a cross-country study of location patterns and determinants of the main form of new working spaces, specifically coworking spaces (CSs) that facilitate collaboration and knowledge sharing. These CSs are traditionally associated in the literature with vibrant urban places, but they are also encountered in peripheral regions. Based on a unique dataset on CS locations in four of the larger European countries (Spain, France, Germany and Poland), we test how demographic, economic, structural, technological, and accessibility-related determinants affect the location of CSs. We then investigate whether the identified determinants vary between urban and peripheral regions, and between countries, controlling for spatial effects.

Scaling of intra-urban travel time profiles in European cities.

Dr. Estelle Mennicken^{1,2}, Prof. Geoffrey Caruso^{1,2}, Dr. Rémi Lemoy³

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Pecs-G17-O1 Transport and Accessibility, B018, August 25, 2022, 9:15 AM - 10:45 AM

In this research piece, we study the spatio-temporal distribution of congestion on road networks at the internal city scale. We identify the radial profiles of travel times by car with the aim of challenging transportation costs hypotheses in the urban scaling literature. Describing the profiles for an entire continent is completely innovative since it will show which function is best suited but also how it changes with city size. Scaling laws have already been established between average transport properties and city size but not yet on intra-urban radial profiles. Our radial-scaling perspective has the strong advantage of not summing up a spatial pattern into a single aggregate value but use a profile more directly related to the behaviour of people within cities.

In this study, urban form is described in accordance with the Alonso-Muth-Mills mono-centric city model. The radial profile of 303 European cities from the Urban Atlas, in terms of the Euclidean distance from all populated residential areas to the centre of the city, is examined and related to time distances after applying the Google Directions shortest path algorithm. We compute more than 7.5 million of simulated trips in total.

First, we build radial travel times profiles using the minimum average trip time at optimum traffic conditions to study the evolution of transport costs as we go further or closer to the city centers and to examine the best possible driving speed in European cities. Then, we account for traffic around-the-clock and build profiles for inbound and outbound congestion peaks during a typical weekday. We reveal a global travel time profile for Europe by estimating a concave power function that fits the relation between the travel time and the Euclidean distance to the city centre of European cities. This non-linear relation questions the persistence of linear transport costs in a majority of urban economic models.

Second, we compare cities and observe that the congestion effect is very likely linked to city size, population involves a dis-economy of scale in terms of time spent travelling on the road network, even a stronger one with the congestion considered. This scaling relationship still needs to be unveiled.

In conclusion, our very information-rich congestion database along with our empirical investigation linking the study of the internal city structure and the study of systems of cities allows a deeper understanding of road network travel times inside European cities.

The potential of a digital matchingtool in the swift to an skills-based system for regional labour markets

Mr Erik Merx¹

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Pecs-G18-O2 Regional and Urban Labour Markets and Entrepreneurship, B020, August 25, 2022, 9:15 AM - 10:45 AM

The purpose of this article is to explore innovative ways of matching people and jobs while reinforcing lifelong learning decisions. This article is written in the context of a Dutch initiative aimed at reducing labour market mismatches. Reducing mismatches is important because of the many challenges which labour markets are facing now and in the future. Technological innovation, ageing, globalization, migration and challenges around the energy transition are expected to further change the content of jobs and therefore affect the future demand for skills at regional labour markets. If this leads to more mismatches, an increase in costs for individuals, organizations and society can be expected. Due to innovations in digital technology and data-driven approaches, opportunities to design a 'fine-grained' skills matching system for regional labour markets are gaining momentum. In such a system, a digital matchingtool can be designed in order to register skills and algorithmically match suppliers and demanders of labour based on their level of skills similarity in a skill taxonomy. Next to that, aggregated labour data generated by this tool can be combined with personal skills data. With that tailor-made information, (re)schooling and HR-decisions can be enriched with more and better information on wages, career prospects and re- and upskilling opportunities. In this paper we will explore the theoretical potential of such a matching in a skills-based system. For these purposes, we first review literature on information asymmetries at regional labour markets, person-job fit and human capital theory. We then conceptualize the labour market with the purpose to provide insight in the interdependence between the diverse aspects that determine actor behaviour at regional labour markets. At last, we formulate hypotheses which we use to theoretically discuss how the introduction of a digital matching tool can potentially benefit employers and workers, leading to a reduction in mismatches. New insights on this subject can potentially benefit organizational productivity, individual skills utilization and policy makers concerned with improving regional labour markets and lifelong learning.

Economic Development Zones in Hungary: A New 'Growth Pole' Programme?

Dr. Peter Merza¹

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Online-G01-O2 Regional and Urban Development, August 22, 2022, 11:15 AM - 12:55 PM

In September 2020, the Hungarian Government issued an act in which government commissioners were appointed to implement a new economic development programme for the Hungarian regions, the 'Economic Development Zone' programme was launched. The legislative act described general tasks both for the zones and for the commissioners, however the objective of the programme was ambitious and unique compared to the last 15-20 years government initiated programmes: the aim was to support lagging behind regions in their process of economic renewal, in the process of FDI attraction and to dinamize their local economies'.

Since the 1990's numerous programmes and bodies were launched and formed with similar mission in Hungary and practically all of them dissolved in the course of time, not just without sustainable results, but without any results at all. The most successful predecessor of the zone programme was the eastablishment of the 'regional development councils and agencies' in the early 2000's and the most ambitious was the launch of the 'growth pole programme' in 2005.

The central aim of the paper is to compare this new programme with the previous attempts and to show, that the success of economic development (on the NUTS 2 level) requires much more resources, more systematic-planning and a ometely new attitude, which the programme lacks at present.

As a conclusion, the paper gives detailed recommendations on how to continue the programme, (if the new parliament after the April 2022 elections in Hungary decides so).

Patent analytics as a tool for development of resource-type regions

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Online-G30-O2 Innovation and Regional Development, August 23, 2022, 4:00 PM - 5:45 PM

The lack of up-to-date analytical information on technological trends and research in the use of minerals in many respects hinders the formation and development of growth points of the high-tech sector of the economy in resource regions. According to the authors, application of patent analytics tools in the resource region and models of risk insurance in the field of economic circulation of rights to the results of intellectual activity will solve this problem. The scientific significance of this problem lies in a systematic approach to research, development, formation of the organizational, methodological and regulatory framework for the functioning of intellectual property subjects (copyright holders, banks, insurance companies, support funds, appraisers, authorities). New forms and approaches to the development of the resource region are possible only if the direction related to the sphere of intellectual activity is developed. There is an obvious need for a thorough study of risks in the field of intellectual activity, identification of factors affecting the development of the insurance market in this area. It is required to systematize the existing in international practice, available organizational and methodological approaches to the organization, coordination of all subjects of the field of intellectual activity on the basis of the existing organizational and economic tools in the resource mining region. The practical significance of the authors' research is determined by the possibility of replicating the formulated program recommendations to other resource regions of Russia and countries of the world. On this basis, sustainable development of the resource region and socio-economic stability is possible. The scientific novelty of the research consists in the development of a new comprehensive approach to solving the problems of the development of the resource region based on the results of patent analytics and systemic solution of issues in the field of intellectual activity (insurance, appraisal, pledge of rights). The authors have experience in developing methods, regulations governing specific aspects of the development of the sphere of intellectual activity.

Thus, combining the strategic targets of the resource-type region, the industrial potential of enterprises and research competencies of universities, we can state that the research model presents a comprehensive picture of the challenges and opportunities of the resource region in terms of science and technology management. This research was supported by Grant No. 22-28-20513 of the Russian Science Foundation, <https://rscf.ru/en/project/22-28-20513/>.

Survive The Crisis With Urban Gardens: Overcome Social Inequalities, Recover Public Space, Provide Healthy Lifestyle After Pandemic.

Ms Margherita Meta¹

¹*Università Degli Studi Di Roma La Sapienza*

Online-S45 Ecological Transition: Planning Strategy for Scenarios and Emblematic Cases, August 23, 2022,
4:00 PM - 5:45 PM

see extended abstract

Reduce poverty through the application of social protection measures in urban welfare: introduction of housing policies within urban regeneration strategies.

Ms Margherita Meta¹

¹*Università Degli Studi Di Roma La Sapienza*

Online-S45 Ecological Transition: Planning Strategy for Scenarios and Emblematic Cases, August 23, 2022,
4:00 PM - 5:45 PM

The research analyses the issue of housing policies inside the programs of local planning institutions and the complex structuring of Italian and European legislation, and theorizes an innovative proposal of tools, strategies, rules and mechanisms to define new regulations that can constitute an opportunity for the future of the communities and rethinks the governance of contemporary territories, linked to the new economic and social dynamics, and to the transformation processes of the city. New references are theorised through an inductive and multi-scalar approach, supported by the analysis of examples of case studies, to identify possible strategies, rules and tools to make the housing issue becomes a central theme of every intervention concerning the planning and regeneration of urban spaces and cities. The study aims at defining a planning model that, in contrast to the phenomena of abandonment, degradation or gentrification of the contemporary city, can introduce a systematic method of implementing housing policies within urban regeneration strategies, to ensure that even the most fragile sections of the population can take advantage of quality living spaces, guaranteed by socially inclusive, supportive institutional mechanisms capable of resolving their needs.

What emerges from the research is multiple economic and social factors, typological and morphological characteristics of cities following their different historical phases, and the complexity of the legislation, as well as the extreme dynamism of the different contexts in which the aforementioned instances are placed: through the awareness of this complexity, the need of an innovative local plan in which housing policies can have a central position and a pivotal role is highlighted, and it is intended to put in place some initial references for a new sustainable and inclusive planning and government of territories.

Digitalisation and on-farm diversification

Mr Matteo Metta¹

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Online-S33-S2 Local Rural Perspectives on Disparities in a Digitalising (Post-COVID) Europe, August 23, 2022,
11:15 AM - 1:15 PM

On-farm diversification activities are a way to look at digital agriculture from the rural perspectives. While digitalisation is becoming an imperative for the future of agriculture, the impacts and relationship with on-farm diversification activities remain overshadowed by the specialization and modernisation trajectories of digital agriculture. In this paper, we review the existing literature to bring insights for setting a responsible research and innovation agenda for (studying and steering) digitalisation in the specific circumstances of agritourism, social farming, food processing, direct selling, as examples of on-farm diversification.

From brownfield to business: Regional effects of brownfield land on firm performance

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Online-G31-O2 Location of Economic Activity, August 23, 2022, 4:00 PM - 5:45 PM

In the European understanding, the concept of brownfield land refers to any previously developed land area that is not currently in use, whether contaminated or not. Many of these sites have nevertheless great potential for redevelopment and could become sustainable solutions to counteract urban sprawl; on the contrary, if left unutilized, they might instead negatively impact the surrounding environment. In our paper we investigate how exits of large businesses that result in brownfield land (both with and without pollution issues) impact the economy of the exit and the neighboring areas and to what extent cleanup and redevelopment have the power to induce a positive trend in these regions.

To answer these questions, we use as natural experiment the exit of large businesses (with and without pollution issues) from the Swedish market and apply a difference-in-difference (DiD) regression model to compare the levels of firm performance within the exit regions after exit with the levels before exit, and with the levels of firm performance in carefully chosen control regions that have not experienced any large closures, while we control for space and time-related heterogeneity. We divide the analysis in three stages: the effects of all large closures; the effects of closures with pollution problems; and the effects of closures with pollution problems where cleanup/redevelopment actions are ongoing or completed.

The estimated coefficients indicate that large closures have a negative and statistically significant effect on the real revenues of incumbent firms in the exit area. Robustness checks show that the trends in the 'exit' and 'control' areas are parallel before the year of the large closure, and negative and significant in the years following the large closure. The effects on employment are similar to the effects on the real revenues, indicating that many firms move out of the area due to a weakening in the 'clustering' effect. The difference in the estimated coefficients for our treatment variable in the three stages of our analysis offers an indication about the size and significance of the effects of all business closures (regardless pollution issues) versus effects of large exits with pollution issues, and, most important, versus the effects of large closures where the pollution issues are dealt with through cleanup and redevelopment.

This methodology allows us to highlight how closures of large businesses that result in brownfield land impact the economy of the exit regions and identify the role of cleanup and redevelopment.

Just Transition in the framework of European Union Green Deal: Environmental Taxes and their impact in the European households' inequality

Ms Sara Miranda-Buetas¹, Dra. Rosa Duarte Pac¹, Dr. Klaus Hubacek², Dra. Cristina Sarasa Fernández¹

¹Universidad De Zaragoza (uza), ²University of Groningen

Pecs-G07-O1 Global Warming, Health and Environmental Issues, B316, August 25, 2022, 2:00 PM - 3:30 PM

The main driver of the Green Deal is the just transition to a European Union climatically neutral by 2050. The Green Deal is a new growth strategy to transform the European Union into an equity society, with a modern economy in which people make efficient use of resources. Within its different goals, there is a claim to not leave anyone behind in this economic transition, and pay special attention to the households that suffer energy poverty.

The European Union holds that the environmental tax is one way to reduce environmental impacts. However, the literature has demonstrated that these kinds of measures used to be regressive, being the most vulnerable households the ones who suffer the most these taxes. Nevertheless, some studies have shown that the lump sum of the tax revenues could be a way to solve this obstacle to achieve at the same time a just and sustainable economy.

In this context, using an environmentally extended multiregional and multisectoral input-output model for the EU countries (EU27+UK), plus the rest of the world, we evaluate different carbon tax scenarios that affect the European households and different environmental impacts. In this way, we consider different quintiles to evaluate how these measures affect each of them, paying special attention to those that live under energy poverty. We wonder which is the best way to establish an environmental tax. So, we analyse if an environmental tax that affects directly the income is better than one that influences the households' consumption. Our preliminary results demonstrate that a lump sum of the tax revenues could be the solution to move towards a sustainable and just European Union.

Rail Infrastructure Investment and the Effects of Regulatory Change

Dr. Fumitoshi Mizutani¹

¹*Kobe University*

Online-G21-O1 Regional Finance, Fiscal Issues, Investment or Capital Markets, August 23, 2022, 11:15 AM - 1:15 PM

This study aims to identify the determinants of investment behavior in the railway industry. In particular, it seeks to clarify how investment is affected by regulatory factors such as entry regulations, vertical separation, private provision, and market structure, as well as governmental and management conditions influencing issues such as train safety. To conduct the investigation, this study uses more than 500 observations from 29 OECD countries in Europe, North America, and the Asia-Pacific region, from 1995 to 2013. After a review of previous literature on the investment function is presented, a theoretical investment function on rail infrastructure is constructed. Then econometric models are estimated based on the data set. Due to data availability, data collected for the estimation is not on a firm-basis but on a country-basis. As for key variables for regulatory changes, the OECD's regulatory index variables are considered. As estimation methods, the Pooled OLS, the Fixed Effect, the Random Effect, 2SLS, and GMM models are considered. The expected results will answer the following questions: (i) What factors positively or negatively affect rail investment? (ii) Does liberalization of regulation promote more investment? (iii) Does vertical separation promote more investment? (iv) Does a government's financial condition matter in investment behavior? (v) Do safety conditions affect the amount of investment? (vi) Does high-speed train construction increase investment? This study will contribute both to the existing literature on this academic field and to policy making.

Inter-regional migration and employment flexibility in the EU

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Online-S49-S1 Drivers and impacts of migration: new insights on the role of local labour markets, human capital, personality and (family) networks, August 22, 2022, 2:00 PM - 3:35 PM

Does employment flexibility facilitate cross-regional adjustments via the inter-regional migration of labour (labour mobility)? Or does it instead constitute a hinderance to inter-regional migration (and thus also to cross-regional equilibration in the labour market)? We examine this, drawing on a sample of 11 European countries (10 European Union countries plus the UK) belonging to different 'varieties' of European capitalism. We identify two opposing potential effects of employment flexibility on out-migration (a negative necessitating effect, linked to flexibility as a demand-side factor; and a positive facilitating effect, linked to flexibility as a supply-side factor) and provide original evidence on the ways in which employment flexibility impacts of the responsiveness of inter-regional out-migration to regional unemployment. We find that employment flexibility is at large associated with less cross-regional adjustability. This is especially so for numerical aspects of flexibility (non-standard forms of employment contracts) and more true for countries in the European south and Scandinavia; while for internal aspects of employment flexibility (irregular hours and patterns of work), as well as for countries of the Continental 'variety' (coordinated market economies), employment flexibility appears to be more synergetic to cross-regional adjustability (via outmigration). We draw implications for our understanding of cross-regional equilibration and for labour market and wider EU policies.

Uneven geographies of pay inequality across tasks and jobs

Dr. Vassilis Monastiriotis¹

¹*London School of Economics*

Online-G23-O1 Segregation, Social and Spatial Inequalities, August 23, 2022, 11:15 AM - 1:15 PM

The study of the geography of (labour market) inequality in the field of economic geography (and related fields) has for long concentrated on aggregate area-level outcomes, concerning mainly wages/remuneration (including returns to skills or education) and employment/unemployment (including under-employment), and comparisons across (groups of) local or regional labour markets. In the spatial economics literature, the focus is more on individual-level outcomes (and drivers of inequality), with emphasis on issues of spatial sorting and agglomeration or spatial equilibration dynamics (MAR externalities, transport costs, congestion diseconomies, etc). In this paper we focus at the meso-level of jobs (defined as fine occupational classes within sectors of economic activity) to examine (a) how the geography of wage inequality varies across tasks (and, inversely, how occupational pay inequality varies across space) and (b) how this has been affected over time by two major sets of 'disruptions' related to the processes of automation and digitalisation (as these have been accelerated by the COVID pandemic): ones relating to the functional organisation of production [shifts in the content (tasks), industrial organisation (flexibilisation) and relative importance (occupational hierarchies) of jobs]; and ones relating to the spatial organisation of production [with new forms of remote work and tele-working altering the importance of location, agglomeration and spatial proximity, potentially reconfiguring the geography of employment at various scales (urban-suburban, regional / core-periphery, national, global)].

Givers or takers?: The roles of tourists in urban crime

Dr. Magdalena Domínguez², Dr. Miquel-àngel Garcia-López³, Dr. Rodrigo Martínez-Mazza², Dr. Daniel Montolio¹

¹*University of Barcelona*, ²*Uppsala University*, ³*Universitat Autònoma de Barcelona*

Online-G20-O3 Cities, Regions and Digital Transformations, August 23, 2022, 9:15 AM - 10:55 AM

The economic literature has vastly shown a positive correlation between tourism and crime in different settings. Most of this analysis focuses on how the presence of tourists attracts pickpockets and increases money-driven crimes in touristic areas, making touristic hot-spots to be crime hotspots too. However, recent voices have highlighted how tourists themselves can also be the doers of crime in touristic areas, through their involvement in uncivil behaviors. This paper addresses both points and their potential coexistence. To do so, we analyze Airbnb deployment in the Metropolitan Area of Barcelona and its impact on criminal activity. By accessing the administrative data set of the local police, we can identify global effects, as well as those derived from tourists being the victims or the offenders.

The effect of gender norms on gender-based sorting across occupations

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Online-G32 Tourism and Culture, August 23, 2022, 11:15 AM - 1:15 PM

Despite the notable progress in bridging the gap between women and men in the world of work, women are still underrepresented in several occupations. In this paper, we analyze the effect of gender norms on deterring women from male-dominated occupations using differences on gender equality among early-arrival migrants. We exploit the variations in the cultural backgrounds of those migrants by country of origin to identify the role of gender norms on occupational choices. Using data from the American Community Survey (ACS), we find that more gender equality in the country of origin reduces the gender gap in male-dominated occupations. We further show suggestive evidence on the role of job flexibility and women's relative preference for familyfriendly jobs in shaping culture. (See full paper attached)

How does the severity of pandemic lock-downs affect personal wellbeing? Auckland vs Rest of New Zealand.

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Online-G39-O2 Regional Consequences of the COVID-19 Pandemic, August 23, 2022, 9:15 AM - 10:55 AM

As COVID-19 (Delta and Omicron) continue to disrupt the lives and livelihood of millions across the globe and there remains controversy over the effect of lockdowns on people's wellbeing. Both negative and positive effects of lockdown have been documented within and between countries using a range of measures.

In 2020 New Zealand introduced different lockdown levels in the Auckland Region compared to the Rest of New Zealand. We take advantage of this 'natural experiment' to assess the effect of differential levels of lockdown severity on people's subjective wellbeing. Using a difference-in-difference methodology we compare average levels of wellbeing based on sentiment analysis which synthesizes wellbeing emotions from hundreds of Tweets from the two regions on a daily basis.

Please note. I've attached a closely related paper in place of an extended abstract - due to delays in preparing the latter. We are continuing to work on the extended abstract. Apologies.

Knowledge Diversity, Economic Complexity and Income Inequality

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Pecs-G37 Technological Change and Diversification, B316, August 24, 2022, 2:00 PM - 3:30 PM

Complex technologies rely on a diverse set of capabilities and relatively few countries around the world are able to specialize in them. Complex economies host a broad set of capabilities and specialize in such technologies. The Smart Specialization Strategy (RIS3), EU's Innovation policy, calls for countries to expand their knowledge core into more complex technologies. As RIS3 gains more political and monetary support across the EU, it becomes essential to study what type of growth do more complex nations witness. Thus, this paper studies the mutually reinforcing relationship between knowledge accumulation, measured through economic complexity, on the local inequality of a country. Due to the policy relevance, and the context-specific nature of inequality dynamics, the paper focuses its analysis on EU countries. By measuring complexity using patent data, the paper finds that more complex nations across the EU are more equal. Furthermore, by implementing a System of Equations (3SLS) model, the paper additionally finds a the mutually reinforcing relationship between the two dynamics: more complex nations are more equal, and more equal nations have a higher capacity to produce more complex economies.

Regional Analytics to Support COVID-19 Physical Distancing Needs

Prof. Alan Murray¹, Ms Susan Burtner¹

¹*University of California at Santa Barbara*

Pecs-S59-S9 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 26, 2022, 2:00 PM - 3:30 PM

It is well established that a variety of physical distancing measures are invaluable as part of the overall response to coronavirus spread. This respiratory disease is transmitted through interaction, necessitating steps to minimize or eliminate the potential for exposure. Of course this is driven by a desire to keep the economy moving, allow for social activity, continue education, support the livelihoods of individuals, etc. Regional science and supporting analytics have an important role in managing activity through the development and application of methods that enable spatial interaction that mitigates transmission. This paper details methods that have been developed and applied at micro-scales, enabling the return of activities through measured responses in the context of physical distancing. Geographic information systems combined with spatial optimization are utilized to balance risk. Applications detailing office space occupancy and travel along with room seating are highlighted.

Cultural heritage sites, tourism and regional resilience

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Pecs-G32 Tourism and Culture, B316, August 26, 2022, 9:15 AM - 10:45 AM

The paper explores the role of tourism demand and cultural World Heritage Sites on the economic resilience of the regions of European Union countries in 2008–2016. The results pinpoint to the importance of cultural World Heritage Sites in keeping the regional economic resilience. In contrast, the results on tourism demand are not unambiguous – domestic tourist arrivals play a significantly positive role while the inbound tourist arrivals negatively affect regional economic resilience. However, culture tourism, defined as the joint effect of tourism and cultural World Heritage Sites, decreases the negative effect of inbound tourism, pinpointing that the cultural sites play an essential role in attracting the inbound tourists in the less prosperous periods.

Entrepreneurship ecosystem and regional development in Kenya: post Covid-19 economic recovery

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Online-G33-O2 Innovation and Entrepreneurship, August 23, 2022, 2:00 PM - 3:40 PM

Kenya has been fronted the Silicon Savannah owing to its leadership position in digital economy within the East Africa Community (EAC) region. Facilitated by the government policy of access to universal broadband, build ICT infrastructure, entrench ICT institutional framework in business and government transactions Kenya's economy has more than doubled in the last decade. As more and more services were digitized, new digital platforms emerged revolutionizing the interaction of government, businesses, civil society and citizens not only in Kenya and the East Africa regional integration. Internet adoption aided innovations, access to services, reduced transaction costs, expanded markets and financial inclusivity of communities. However, job creation and entrepreneurship did not grow in tandem. Kenya's estimated 138,000 formal establishments where only 3% have 50 or more employees and 7.4 million micro, small and medium enterprises where 94 % are unlicensed micro firms points to scaleup bottlenecks in entrepreneurial digital platform economy (DPE) ecosystem. Spatial and sectoral disparities abound with most of the businesses being skewed to Nairobi where over 80% are in service sector despite government adoption of manufacturing as one of the Big Four policy agendas. The Covid-19 pandemic and the attendant measures to save lives and livelihoods widened inter and intra-regional inequalities in Kenya with worsening national and rural / urban poverty. However, World Bank and other official documents have indicated that Kenya's economy remained resilient and shown signs of recovery to the pre-Covid 19 levels. This study examined the entrepreneurial ecosystem factors supporting the economic recovery and identified the constraints of digital DPE in comparison to other benchmark middle income countries by evaluating it against the 12 pillars of Digital Platform Economy (DPE) Index and augment with administrative data from Kenya National Bureau of Statistics. Policy recommendations are discussed in the study.

Commuting to university in times of Covid-19. Changes in travel behavior and mode preferences

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Pecs-YSS4, B314, August 25, 2022, 11:15 AM - 12:45 PM

See extended abstract

ABSTRACT

This study aims to understand and analyze the effects of the Covid-19 pandemic on transport mode choices. The focus of the paper is on university commuting, and it concerns the determinants of the propensity to change modal choices with respect to usual transport means used to reach the college. The data used have been collected through a national survey on university mobility at the time of Covid-19, carried out from July to September 2020 by the Italian Network of Universities for Sustainable Development (RUS). The final sample is composed by 114,000 observations (students: 79.4%; faculty: 11%; technical-administrative staff: 9.6%). The respondents were asked to express their choices and travel habits pre and post-Covid, considering two alternative pandemic scenarios, i.e., optimistic or pessimistic with respect to the risk of contagion.

The study presents two research questions. The first concerns the propensity to change the habitual commute mode used before the pandemic. Consequently, by estimating a probit model, we investigated the direction of the change of the chosen means of transport. To answer to the second research question, we developed a multinomial logit model, analyzing the transitions from PT towards private cars or active mobility (biking, walking). Both the analyses were compared in the two pandemic scenarios, mainly to understand the perception of the risk of Covid-19 contagion, as it might conceivably affect the commute mode choice.

First Steps in Understanding the Importance of the Responsible Innovation Approach to Autonomous Vehicle Deployment of Cities

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Pecs-G20-O2 Cities, Regions and Digital Transformations, B314, August 24, 2022, 4:00 PM - 5:30 PM

Autonomous vehicles (AV) will bring about a tremendous change in the everyday life and routine of everyone participating in traffic – be it a driver, a cyclist or a pedestrian – in the civilized world. This change may not only result in the disappearance of the steering wheel in cars: the system of self-driving vehicles opens a new perspective affecting almost all aspects of our lives: new daily routine, new travel habits, new business models, new connection networks, new urban structures etc. Although the overwhelming majority of research AVs is technological and natural-scientific in nature, more and more social-scientific researches are conducted. These researches, however, are designed with a narrow focus and are mostly centered on technology acceptance. Few researches point to the crucial role of cities in establishing the infrastructural, land-use, legal and regulatory conditions needed for the technology's safe operation. The critical mass and spatial concentration of autonomous vehicles will emerge in urban areas, and it raises a complex issue which requires the outmost planning and preparation. At city level, the real change will not be the autonomous technology itself, but its integration into different vehicle uses and people's lifestyles. All of this predicts a large-scale change that – by its nature – bring about a number of uncertainties, concerns, open questions, ethical problems, and often fears in society that hinder deployment. The responsible innovation approach provides an excellent opportunity to address these concerns.

Present paper aims to highlight that AV development is not only a technological issue but it also requires an integrated study of the receiving environment (individuals and cities). We are handling the AV-readiness levels (individual, territorial unit) and its factors (technology, infrastructure, regulation, consumer acceptance) in an integrated way and are examining a complex system using the logic of socio-technical integration, from a responsible innovation perspective. However, this requires careful planning, development and preparation on part of cities and on the part of individuals, economic and social actors, and in this process the flexibility and willingness to change is essential. Our research will bring results on the urban level of the receiving environment, with the help of which AVs can fit into our everyday lives with the biggest possible advantage and the smallest disadvantage possible.

Trump digs Votes - The Effect of Trump's Coal Campaign on the Presidential Ballot in 2016

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Pecs-G14-R Spatial Econometrics, B316, August 24, 2022, 11:15 AM - 12:45 PM

In this paper we investigate the effect of Donald Trump's campaign for coal in his successful race for the White House in 2016. Using a spatial Durbin model we estimate the effect of coal production on the Republicans vote share in the US Presidential Election of 2016 on the county level. To avoid biased estimates we take spillover effects into account and use spatial clustering. We find a significant positive effect. The effect becomes even more pronounced when we use the vote-share difference between Mitt Romney in 2012 and Donald Trump in 2016 as the dependent variable. The positive effect of coal production on the Republican vote share are retained after allowing for non-linear effects of coal production and using coal production per worker and per working hours as main explanatory variable.

The role of security and the permeability of borders in Danube cruise tourism

Mr Dávid Nagy¹, Ms. Ildikó Egyed², Mrs. Patrícia Spiegler³

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Pecs-S27-S3 Borders and Borderlands – Integration and Cohesion in (Central) Europe, B312, August 26, 2022,
9:15 AM - 10:45 AM

Cruise tourism has witnessed dynamic development over the last twenty years, which was only disrupted by the Covid-19 pandemic. This trend is the reverse of the observed decline in freight transport, which has mitigated the low rate of waterway utilisation. The Danube-Main-Rhine is the most important route for European river cruise tourism. Danube river cruise traffic doubled between 2002 and 2011, and has been growing steadily ever since. In 2020, the pandemic triggered a 90 % drop in passenger traffic, due mostly to the overwhelming share of guests belonging to the senior citizen category and many overseas passengers traveling to Europe by air.

The steady improvement of the security situation in the region and European integration have been the key underlying conditions for the development of Danube navigation. The changes implemented from 2019 and their effects reveal the critical role of the freedom of entry and movement between countries in the sector. The goal of the presentation is to demonstrate this last assertion.

The challenges of climate change for Danube navigation

Mr Dávid Nagy¹

¹*Cers Irs*

Pecs-G07-R Global Warming, Health and Environmental Issues, B323/1, August 25, 2022, 9:15 AM - 10:45 AM

Sustainability has become a key aspect of the analysis of the development of transport, as indicated by the rising societal demand for the reduction of carbon dioxide emissions, noise and air pollution. Transport is currently undergoing a revolution with a globally transformative impact on shipping. One such sea change is the replacement of conventional internal combustion engines and energy resources. Although the capacity intensity of Danube freight transport has not increased over the last two decades, the reduction of carbon dioxide emissions and congestion on road networks points to growing demand for efficient and competitive inland waterway transport of goods.

Another major challenge is the impact of climate change on Danube navigation. Water level fluctuations are the combined effect of the decreasing amount and extreme distributions of precipitation. The growing frequency of extreme weather events hampers navigation and damages inland waterway navigation infrastructure. Besides waterway development and its adaptation to the changing circumstances, the resolution of this problem requires the introduction of new types of vessels and fleet renewal.

Form lock-in to recovery – The limits of local agency in (semi)peripheral industrialization

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Pecs-G08-O2 Cooperation and Local / Regional Development, B017, August 24, 2022, 4:00 PM - 5:30 PM

A number of old industrial towns of CEE emerged as scenes to FDI-driven industrial restructuring and thus, spaces of the encounter of global production networks, governmental development policies and local society from the late 1990s. Such spaces are considered as champions of economic recovery in national and European policy discourses nevertheless, discussed also as vehicles of new dependencies and inequalities in critical political economic writings. Relying on the latter, critical stream of thinking we aim to unpack, how urban spaces were transformed by entangled and rivalling strategies of local and external agents, and highlight the contested relationship of peripheral reindustrialization and urban restructuring. In this paper, we place municipal agency in focus, and analyse such strategies in two 'model towns' of industrial recovery in NW Hungary, struggling against lock-in position while also addressing needs, expectations and conflicts of the local community. Starting from Lefebvre's critical concept of social space and state agency in the production of space, we discuss how changing municipal roles and practices reflected and (re-)produced both class politics and the relationships of state/capital and local/central state after the post-socialist transition in the re-designation of urban space. We grasp such relations by introducing two local projects. One is the local industrial park project in Tatabánya that was a municipal institutional experimentation to put forward industrial recovery, resulting a new narrative of local state agency, and naturalizing neoliberal, competition-centred development institutional strategies beyond the local context. The other (Győr) case exhibited an attempt to get rid of the current trajectory (strongly dependent on automotive industry and a single, powerful investor) by consumption-centred re-designation of urban space through large scale commercial developments and mega-events. By drawing the lessons local cases we highlight, how municipal strategies raised social conflicts and legitimation crisis, and in what ways local state agency was limited by centralisation and rescaling of state power after 2010, that trapped them in the double grip of global investors' interests and central governmental strategy rested on peripheral industrialization.

Geographical aspects of the impact of the economic development support provided by Hungary in the Vojvodina region of Serbia

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Pecs-S27-S2 Borders and Borderlands – Integration and Cohesion in (Central) Europe, B312, August 25, 2022,
4:00 PM - 5:30 PM

One of the key tasks of the National Strategy of the Government of Hungary is to support the economic development of Hungarian communities abroad from 2015, in addition to the previous cultural and educational subsidies. The support of the Hungarians of Vojvodina started between 2015-2018, which was followed by the 2018-2022 support period, but the same process started in the direction of the Hungarian communities of the other states neighboring Hungary, in addition to Serbia, in Romania. In Slovakia, in the Hungarian-inhabited areas of Croatia and Slovenia, and in Ukraine. The outline of the support system started on the basis of development strategies based on the economic needs of the region, but it was implemented differently everywhere, depending on the receptivity of the neighboring country in question. In many cases, the success of the implementation and its implementation depended on the central institutions of the states, and it was also slowed down in one state.

A significant part of the support focused on the development of agricultural, micro, small and medium-sized enterprises. The under-planning of resource allocation pointed to strong application activity. The concentration of applications was observed in the area of the Hungarians and in the environment of the more developed urban areas.

In addition to the economic subsidies, the Hungarian subsidies can be used to support the activities of students studying at different levels of education, cultural life, non-governmental organizations and churches through the Hungarian National Council.

Digital Cities Challenge initiative – a good experience on the road to the Intelligent City

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Online-G20-O2 Cities, Regions and Digital Transformations, August 23, 2022, 2:00 PM - 3:40 PM

As a participant in the Digital Cities Challenge initiative, the City of Arad has shaped its digital strategy that reflects the community's development needs, vision and ambition.

Arad's Digital Transformation Strategy is oriented towards education in digital technologies, accessibility to digital services and skills for the population. The three dimensions of the strategy – open data, education and innovation – are the local priorities. Due to the social-economic impact of COVID-19 outbreak, large budget amounts and human efforts have been redistributed towards health and online school education, some of the planned activities have been delayed. Nevertheless, the process of digitalisation met an unprecedented acceleration, the community as a whole acknowledging the vital importance of digital transformation.

The local administration is committed to modernise its services and improve urban environment through the use of technology, in collaboration with the community. Open data, digital education and innovation would represent a step-change in Arad's identity and performance.

Under the Intelligent Cities Challenge initiative, Arad has selected six city goals as top priorities for short and medium term, according to the strategic orientation defined in the Digital transformation Strategy and other strategic documents developed by the City. The paper presents the steps of implementation for the prioritized actions in order to achieve the re-invention of the City through innovative use of data and technologies.

The Evolution of Technologies: Does Government Support Drive Complexity or does Complexity Drive Government Support?

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Pecs-G38-O2 Smart Specialization, B019, August 26, 2022, 2:00 PM - 3:30 PM

Research shows that innovation processes increasingly rely on state intervention and support. A possible explanation for this trend is that innovations are more difficult to make, and greater efforts are needed for their realization. That is, total factor productivity in R&D appears to be on the decline. Consequently, public support is demanded and utilized to a greater extent.

So far, it is not well understood what causes the shrinking productivity of R&D efforts. However, it matches well to the observation of growing technological complexity, which in turn is associated with a demand for larger R&D efforts. Put differently, growing technological complexity requires firms to invest more into R&D to maintain the same level of innovation and to compensate for this, they rely increasingly on public support. This leads to the question of why technological complexity is growing and what the role of the growing (public) investments into R&D is therein, which potentially allow companies to explore more risky but potentially more rewarding technologies, which are two features of more complex technologies.

The present paper seeks to disentangle the relationship between public support for R&D and technological complexity by empirically assessing the two complementary hypotheses: (1) Additional public support for R&D allows R&D actors to push technological complexity; (2) Increasing levels of technological complexity induce higher requirements of public research support.

The empirical study utilizes patent data of the United States Patent and Trademark Office (USPTO) between 1980 and 2016 that are matched with information on governmental support and technological complexity. In total, we collect information on 630 technologies. A VAR-LiNGAM indicate that the government is having neither an enabling, nor a succeeding role concerning the enhancement of technological complexity. We can assume that the US government is not able to compete with the private market in terms of inventing highly complex technologies. Nevertheless, private companies do increasingly rely on government funding and research in inventing complex technologies. Potentially, the government is indeed funding and owning basic research, on which private companies later build on (visible in them citing government research).

Determinants of scientist's involvement in the region: Individual choice or predetermined by institutional structures?

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Pecs-G38-O1 Smart Specialization, B019, August 26, 2022, 11:15 AM - 12:45 PM

This paper investigates the location pattern of (top) scientists and the degree and intensity of knowledge-sharing activities performed by the scientists in their regions. More precisely, we focus on the contribution of scientists to regional Smart Specialization. Smart Specialization is a policy approach of far-reaching importance in the European context, requiring the involvement of, among others, universities and scientists.

We know from previous literature that world-class researchers (identified by the number of citations they generated in journals) strongly concentrate in a few major places and are linked to academic, industrial, and policy actors. However, to what extent do top scientists' activities align with regional Smart Specialization priorities in their research and regional engagement? Using a unique dataset of 11.000 Spanish scientists, we explore the extent to and why Spanish scientists are involved in regional knowledge-sharing activities to varying degrees. The survey of Spanish scientists includes information on scientists' research university, publications, and their involvement in collaborative scientific and non-scientific projects. We connect this information with regional Smart Specialization priorities to determine to what extent scientists' research activities align with the regional priorities. Our main interest is to disentangle the influence of individual and institutional characteristics on scientists' regional engagement.

The results of our study are of great relevance for achieving an increase in the engagement of universities and scientists in regional economic development and Smart Specialization in particular.

Impact Evaluation of European Structural and Investment Funds - Firm Support in Slovakia

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Pecs-S10-S2 Counterfactual methods for regional policy evaluation, B311, August 24, 2022, 2:00 PM - 3:30 PM

The promotion of innovation in SMEs is an important element of economic growth and also it is an objective of the European Union's economic and regional policy. Therefore, it is essential to evaluate the effectiveness of this support. The main goal of the presented research is to evaluate the support in selected companies in Slovakia through counterfactual impact evaluation method. The evaluated projects were financed from the European Union Structural Funds under priority axis 11 Strengthening the competitiveness and growth of SMEs, Operational Program Integrated Infrastructure. There was a total of 634 supported projects in 17 sections implemented in years from 2016 to 2021. We examine the projects of applied companies and try to determine the impact of support through selected financial indicators of companies which were compared before the implementation of support and in the period after implementation, while we evaluated the impact through an analysis of supported and unsupported companies.

Cost and profitability of Coffea arabica L. (cv. Obatã IAC 1669-20) for the midwest region of São Paulo State, Brazil

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Online-G01-O4 Regional and Urban Development, August 22, 2022, 4:00 PM - 6:00 PM

The Brazilian coffee occupying a prominent place in the world scenario for its high production, with the use of technologies, with emphasis on the launch of new cultivars, grafted seedlings, mechanization, irrigation and used of good practices harvesting and post-harvest, with positive impacts on productivity, competitiveness and final product quality. As it is a product with economic relevance, the objective of this study is the production cost and its economic indicators, of the cultivar Obatã 1669-20 grafted on Apoatã IAC 2258, being the cultivar most planted by regional coffee growers. The agronomic data were obtained from a field experiment whose production system effectively represents the reality of the central west region of the state of São Paulo, Brazil. Were raised the effective and total operating costs (CARP) and productivity were for the period from 2016 to 2021. The data used for the structuring of technical coefficients were collected from the producer. At the same time, a scientific experiment was carried out, simulating a production system to verify production rates at Fazenda Recreio, in Vera Cruz – SP. The concept of effective and total operational cost and profitability used by the Instituto de Economia Agrícola - IEA was used. The coffee biennial and a very evident distinction in the Obatã 1669-20 cultivar, it is observed that the 2017/2018 and 2019/2020 harvests were of high productivity with 70.2 and 95.2 bags per hectare respectively. In the 2018/2019 crop, profitability was negative at -18.1%, as there was a break in the crop due to weather problems, mainly lack of rain and high temperatures in the most important periods of the culture, as such flowering and graining. The prices obtained by the producer are one of the most important items to be observed, as in 2019 the value was US\$127.25 with the emergence of the COVID-19 pandemic in 2020 causing the price to rise in 2021 reaching US\$189.47. The estimate of the effective operating cost for the year 2021 it arrived 21.3% more compared to the year 2020, and the total operating cost to 19.6%, this was due to the significant increase in the prices of inputs as a result of the global economic instability and the COVID-19 pandemic. The best profitability was in the 2019/2020 crop, reaching 73.74%, in the six the crop years studied.

Measuring the Effectiveness of the Austrian Anti-Eviction Response during the Start of the COVID-19 Pandemic

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Pecs-YSS2, B020, August 25, 2022, 11:15 AM - 12:45 PM

During the first wave of COVID-19, numerous OECD member states introduced short term tenant protection policies, including Austria. The COVID-19-Justiz-Begleitgesetz enacted in early 2020, allowed for deferral of housing rents due between beginning of April and the end of July up to the end of December. Furthermore, the short-term extension of contracts expiring in that period as well as a moratorium on evictions for up to six months were also possible. This paper investigates whether the measures taken succeeded in retaining eviction rates at pre-crisis levels and whether there is significant variation across Austria.

Although, we saw a clear drop off in the number of evictions from 4208, to 3094, there has also been a strong downward trend in the number of evictions since 2006. Additionally, the most common cause of evictions are arrears in rent payment which are directly linked to disposable income of households. Thus, both long term trends in evictions as well as underlying economic drivers need to be considered. Using panel data on evictions observed across 85 court-districts we estimate a Bayesian Poisson-Panel Model with Stochastic Search Variable Selection to formally test the hypothesis of the prevention of rising eviction cases across Austria in 2020. We find that not only did eviction rates not increase during 2020 but reduced significantly compared to previous years.

Household location in the face of diverging job perspectives – evidence from Germany

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Online-G23-R Segregation, Social and Spatial Inequalities, August 23, 2022, 2:00 PM - 3:40 PM

see extended abstract

FDI promotion and regional competitiveness: The case of Vietnamese regions

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Online-G36 Trade, Global and Local Value Chains, August 22, 2022, 4:00 PM - 6:00 PM

The empirical literature suggests that FDI plays an important role in supporting the economies of developing countries, but it faces an intensely competitive environment. The question is what makes regions attractive to foreign investors. The purpose of this paper is threefold: first, to assess the impact of FDI at the subnational level in the Vietnamese economy; second, to econometrically test the Provincial Competitiveness Index (PCI) from the point of view of investment promotion in the Vietnamese regions; and third, to further examine the index in terms of regions' ability to attract FDI inflows and the spillover effects of FDI in different sectors. The specific case analyzed is Bac Ninh province, one of the largest hubs for FDI inflows in Vietnam. Using data on the Provincial Competitiveness Index (PCI), provincial-level time-series data on the Bac Ninh index will be compiled from 2006 to 2020. Using the generalized method of the moments model, the results show that there are sub-variables of the index that positively affect FDI inflows and some that do not. Finally, recommendations for investment promotion policies at the regional level are formulated.

Upgrade of value chains and the effect on resilience of coal industry regions on the path of energy transition

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Online-S24 Structural Change and Resilience in Local Labour Markets, August 23, 2022, 2:00 PM - 3:40 PM

Coal is a traditional energy resource that is quite common in many countries of the world and plays a significant role in the global energy balance. With the transition to renewable energy sources (solar, wind, bioenergy, etc.) and the beginning of the development of alternative energy, the role of coal as an energy source began to decline, the coal industry faced instability in world markets, extreme volatility in coal prices, and the formation of a "seller's market" oriented to coal with strictly specified properties. Everything set the task of choosing between the closure of some companies and the transition of the industry to a new stress-resistant development model.

The purpose of the article is to identify segments of the coal industry with the help of the stress resistance index and evaluate their prospects for the transition to a new development model.

The object of analysis was 92 companies that operated in Russia during the period 2011-2020 and "survived" two deep "stresses" in 2015 and 2020. The study is based on the concept of resilience adapted to the conditions of the coal industry. It involves the division of the coal industry into separate segments depending on the level of stress resistance and the type of value chains that have developed in the segment. Based on the analysis of the sequence of stages of value creation and the nature of intra- and inter-company interactions within the value chains, the authors identified the strengths and weaknesses of each of the segments and assessed the prospects for a potential upgrade of VC in the direction of flexibility and stress resistance.

How much do households value the avoidance of prolonged outages due to natural disasters?

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Online-G06 Adaptive and Resilient Cities and Regions, August 22, 2022, 9:15 AM - 10:55 AM

The increase in natural disasters such as typhoons and floods due to climate change causes damage to power distribution networks and other systems, resulting in power outages. These outages, unlike normal power outages, tend to be longer in duration. For example, in Japan, the average number of power outages per household/company per year from 2000 to 2018 was 0.22 per year, and the average duration of power outages per outage was 18.9 minutes in 2000~2017 excluding years without major disasters (the Great East Japan Earthquake and large typhoon attacks). On the other hand, for example, the average duration of power outages per outage in 2018 was 225 minutes, since big earthquakes and large typhoon attacks occurred. In the Great East Japan Earthquake, 2011, the outages continued for more than three months in some areas.

Power outages affect not only the use of various electrical appliances but also the supply of water and the usage of elevators in housing complexes. In particular, power outages in summer and winter make it difficult to use air conditioners and heaters, and the high temperatures in summer and low temperatures in winter have a significant adverse effect on health.

In this study, we implemented the internet survey to the households to ask the willingness to pay (WTP) a storage battery to reduce the hours/days of the outage under the several outage scenarios and explore the determinants of the WTP. Our main findings are (1) more risk-averse individuals are likely to pay more for a reduction in hours/days of the outage, (2) the value of lost load is about 196 billion yen.

Competitiveness of various infrastructure elements in the countries of the Western Balkans and CEE compared to other EU countries

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Pecs-G17-O1 Transport and Accessibility, B018, August 25, 2022, 9:15 AM - 10:45 AM

Tourism in the countries of the Western Balkans and Central and Eastern Europe could face a major boom if the sector, which has been severely damaged by the epidemic crisis, is developed with an optimal combination of past experience and new opportunities. To this end, the relationship between transport and tourism in these countries should be re-launched. Using the results of the recent World Economic Forum study on the competitiveness of travel and tourism and the results of my own research, as well as the analysis of secondary data from scientific publications and journals, the presentation aims to assess the current level of infrastructure (aviation, land and port and tourism service infrastructure) in the countries of the Western Balkans and Central and Eastern Europe compared to other EU countries. Furthermore, this presentation also aims at the extent to which the development of transport infrastructure has contributed so far and could contribute in the future to the strengthening of European integration, the promotion of regional integration in the Western Balkans and Central and Eastern Europe and convergence with the European Union. How can the development of low-cost airlines (LCCs), super-railways, seaports and multimodal hubs promote mobility and regional cooperation and, ultimately, deeper integration?

Self-presentation and personal features: a systematic analysis of hiring outcomes in an online labor market

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Online-S24 Structural Change and Resilience in Local Labour Markets, August 23, 2022, 2:00 PM - 3:40 PM

Obtaining a job requires complex efforts from jobseekers. Several studies have reported on the importance of cultural signaling as a form of impression management in the selection process. It implies that jobseekers cannot merely rely on their skills, credentials, and expertise, but need to engage in a convincing self-presentation when one can give an account of their cultural capital, signal their status, group membership, style, character traits, etc. This cultural component is a well-documented mechanism in the process of social allocation, and as such, in hiring decisions. Although there are studies investigating how self-presentation affects hiring outcomes, only a handful of research has dealt with this topic in online platforms despite their increasing importance in job seeking. In this work, we address this gap by making a systematic analysis of the facets of self-presentation and their impact on successful job applications in Freelancer, one of the biggest online labor markets. Besides investigating skills, credentials, geographic distance, job category, gender and ethnicity, we seek to understand the role of impression management in online hiring outcomes. Addressing these matters, we use natural language processing, image recognition and fixed effect regression models to analyze more than 100000 job seeker applications. Relying on scraped, online data and conducting a systematic exploration of these complex mechanisms, our work provides valuable insight on the functioning of online labor markets and hiring outcomes.

Allocation of Grant Aid Scholarship and Regional Mobility in Higher Education: The Case of South Korea

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Pecs-G03-O1 Demographic Change, Population, Migration and Mobility Behaviour, B018, August 24, 2022,
2:00 PM - 3:30 PM

Whenever South Korea's Official Development Assistance (ODA) is criticized as fragmented or "thinly spread" disbursement, "selection and concentration" are suggested as a solution. Using a comprehensive panel dataset that covers the past three decades of South Korea's inbound education ODA, this study examines whether these critiques are still valid. Applying the gravity model with distance and population as major variables, it finds a limited concentration ODA disbursement pattern; the country's inbound education ODA is basically consistent with the gravity model's estimations when all the countries are considered, but the "distance" factor loses its explanatory power when major countries are taken into account. In addition, analyses addressing geographic concentration using a dummy variable for the New Southern Policy (NSP) and the New Northern Policy (NNP) also show a lower significance level, although it would be premature to draw conclusions from these findings due to the short duration of these policies. Based on these findings, this study recommends further "selection and concentration" in Asia consistent with the NSP and NNP as a long-term blueprint for South Korean ODA policies.

Impact of the Information and Communications Technology on Regional Development in Southeast Asia

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Pecs-G30 Innovation and Regional Development, B019, August 26, 2022, 9:15 AM - 10:45 AM

This study investigates the role of the information and communications technology on the regional economic development amongst Southeast Asian countries. The research utilizes panel data of the Association of Southeast Asian Nations (ASEAN) over the span of two decades (2000-2020) to measure the impact of the ICT sector indicators, together with control variables related to poverty, governance, education, and industry structure. The main findings are (1) ICT-related factors positively contribute to a country's GDP; (2) ICT positively impacts a country's growth under particular conditions such as good governance, reduced inequality and poverty, and presence of lower value-added sectors; (3) when independent variables interact with income dummies (lower and higher income countries), medium and high-tech exports had a significant negative effect on the GDP per capita for higher income countries. In light of the new ASEAN Digital Master Plan 2025, the study provides insight into the current academic discussions as well as the practical field in terms of policy implications to stimulate development of the ICT sector both within the individual countries and the Southeast Asian region.

Requirements for Establishing a Community-based Renewable Energy Project

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Online-G08 Cooperation and Local / Regional Development, August 22, 2022, 11:15 AM - 12:55 PM

For the purpose of beautifying area, mowing of grass in river embankments and district parks and collection of fallen leaves in streets and parks are being carried out in various places in Japan. Mowed grass and fallen leaves are collected each time and incinerated at the incinerator, but transportation costs to the incinerator and incineration costs are required. On the other hand, if the mowed grass and the fallen leaves are left as they are, fermentation by microorganisms progresses with the passage of time, and methane is generated. Therefore, if local residents mow grass and carry out biogas power generation projects, they will be able to save on outsourcing costs to specialists, reduce greenhouse gases, obtain electrical energy, and reduce administrative spending and increase income for administrative services. Here, in order for such a community-based project to be established, collaboration between the government and local residents is indispensable. In this study, we propose a benefit evaluation method for the participation and co-operation of local residents, and clarify the requirements for establishing the project by conducting a cost-benefit analysis for the community-based renewable energy project.

Resident-participation-type projects rely on the voluntary activity of local residents, and outsourcing costs are saved. In addition, from the viewpoint of welfare of residents, public support is often received, and the project cost is further reduced. On the other hand, for community-based projects, local residents require value commensurate with voluntary activity, and the government does value commensurate with public support. Therefore, one of requirements for establishing a community-based project are considered to be the cost-benefit standard in ordinary public works evaluation. In this study, the cost-benefit analysis of the resident-participation-type renewable energy project will be carried out, by using the WTW (willingness to work) function and the SV (social value) function estimated in our previous study. And other requirements are various personal conditions for participating in volunteer activities, which will be clarified from interview surveys.

The project envisioned in this study is a renewable energy project that incorporates not only energy supply but also energy utilization. Specifically, focusing on the activities of local residents to mow grass and collect fallen leaves, the biogas power generation business using the grass cut and collected by the activities as the raw material, and the elderly welfare taxi business using the electricity supplied by the business as the energy source.

Incorporating Related and Unrelated Variety into Firm Dynamic Interrelationships

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Online-YSS3, August 22, 2022, 9:15 AM - 10:45 AM

This paper uses an incredibly novel dataset from the Central Statistics Office (CSO) of Ireland concerning business demography data at the NACE 4-digit level with over 100,000 observations pertaining to 34 Irish regions between the 2008-2016. The paper seeks to advance knowledge concerning firm dynamic interrelationships (relationships between firm births and deaths over time) by developing related and unrelated variety firm birth and firm death variables. To the best of the authors knowledge, these variables have never been applied before by any other paper examining this topic. The utilisation of these related and unrelated variety firm birth and firm death variables will allow for not only the examination of the relationships between aggregate firm births and firm deaths over time, but also the relationships between firm births and firm deaths in related sectors and unrelated sectors over time. This will provide further insight into the workings of competition and multiplier effects originally tested for by Johnson and Parker (1994). Results for related variety based firm dynamic activity measures show the multiplier effect is present as firm births in related sectors seem to positively influence future firm births and firm deaths in related sectors appear to negatively impact future firm births. Additionally, results for unrelated variety-based variables indicate presence of the competition effect as firm births in unrelated sectors negatively impact future firm births while firm deaths in unrelated sectors positively influence future firm births. In the case of determining firm deaths, unrelated variety measures provide mixed results. These findings have considerable implications for Irish policy concerning entrepreneurship. For example, the Enterprise Ireland organisation, who offer several grants and investment schemes for Irish firms and start-ups with the aim of fostering and developing Irish entrepreneurship and approved spending of €43 million to start-ups alone in 2020 (EI, 2020).

Enabling long term protection of biodiversity improving spatial models of ecological connectivity: the experience of the DINALPCONNECT project.

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Pecs-G07-O2 Global Warming, Health and Environmental Issues, B316, August 25, 2022, 4:00 PM - 5:30 PM

With their rich biodiversity and vital ecosystems, mountains play a key role for the well-being of people worldwide and for the protection of biodiversity on a global scale. However, these precious environments are strongly exposed to climate change, pollution and land use changes that threaten their flora and fauna as well as local mountain communities. Effective tools and mechanisms are needed to protect mountain biodiversity.

The Mediterranean Mountains covers about 1.7 million km². Part of them, the Alps and Dinaric mountains are physically connected, but need to deepen their relations strengthen transnational and sectoral cooperation enabling long term protection of biodiversity in view of current and future climatic changes. In particular, the rich biodiversity in the Alps and Dinaric mountains are threatened by fragmentation and habitat loss. Additionally, current political and economic circumstances in the Balkan Peninsula are leading to transboundary barriers causing challenges for humans and for the general landscape connectivity of the area.

Ecological connectivity (EC) enables processes like gene flow, migration and dispersal of living organisms thus counteracting negative effects of habitat fragmentation and climate change. A generalized approach, methodology, and investigation based on GIS technologies on the state of ecological connectivity at the Alpine/Dinaric conjunction and of the Dinaric mountains at macro-regional level is still missing. Furthermore, transboundary linkages between Natura2000 sites and protected areas where ecological connectivity need to explored and consolidated.

Authors will present and discuss the results of a recent European project, the Central Europe DINALPCONNECT project, that addressed this issue from the perspective of trying to find and to improve spatial models of ecological connectivity in these areas.

In the project, at the macro-regional level, spatial data have been collected to analyse current EC and identify EC hot-spots (corridors or stepping stones) and barriers. These include spatial analysis, implementation of measures to reduce the negative impacts of grey infrastructure, social conflicts related to ecological connectivity, and the role of protected areas. Combining analytical results with expert knowledge exchanged during an international scientific conference and other local technical meetings, spatial models improvements of ecological connectivity have been tested. Success examples and problems encountered in the pilot application of the models in specific project case studies will also be highlighted.

Mainstreaming Open Spaces functions in Spatial Planning: a priority criteria list for harmonised transnational open space planning in the Alps

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Pecs-G26 Human - Environmental Interactions, B018, August 26, 2022, 2:00 PM - 3:30 PM

Near-natural open spaces are the basis of human well-being, biodiversity and the livelihood of future generations (i.e. all spaces outside of settlements free from modern technical development, extensive traffic, noise). These essential spaces are decreasing in the Alps due to raising human impact and landscape fragmentation. To maintain these open spaces, coherent transnational cooperation of spatial planning is highly necessary to avoid a race to the bottom regarding minimum standards. This fits the EU-goal of an alpswide network of near-natural areas as part of the EU Strategy on Green Infrastructure (GI) and the EU Urban Agenda.

According to Knight et al. 2006, in terms of spatial planning or nature conservation planning multiple approaches have been developed to identify priority areas, but implementation of various techniques has been lacking. Based on the results of a dedicated Alpine Space project called "OpenSpaceAlps", authors want to present and discuss a first list of criteria for landscape permeability/ ecological connectivity, for the preservation of agricultural areas, and for near natural and recreational areas, which can be a starting point for harmonised intermunicipal and transnational "open space" planning.

The list is the result of an analysis of the literature with a focus on current governance and planning systems for open spaces (with an in-depth analysis of the situation in six pilot areas) and on the main spatial strategies and plans in the Alps. Results of technical local / transnational project workshops with experts and stakeholders were also capitalised. The primary target of the list are policy makers at local level but also for the EUSALP area to enhance preserving open spaces for different intended purposes. The authors intend to question both the selected criteria and the methodology used for their selection.

The qualitative results of the LEADER program in Romania in the view of the LAG representatives

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Online-YSS3, August 22, 2022, 9:15 AM - 10:45 AM

see extended abstract

Building impact pathways for digitalization in agriculture and rural areas: the case of hydrogeological risk management in North of Tuscany

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Online-S56 Assessing the socio-economic impact of digitalization in rural areas, August 22, 2022, 2:00 PM - 3:35 PM

Digitalization is considered as an opportunity to enhance sustainability in agriculture and rural areas by several international institutions and policies. However, this approach risk underestimating the possible undesirable effects due to the social complexity of digital technologies and the need to take into consideration contextual specificities. Digitalization is increasing the flows of information from the field to the decision-making levels and vice-versa with different purposes (e.g., policy monitoring, environmental performance evaluation, improved management, e-governance, etc.). Policies and institutional structures represent important factors to address the diffusion of such technologies, especially if such diffusion should contribute to broader sustainability goals. Different public investments are needed to address the digitalization process in each context.

The present research wants to explore the connections between digital solutions and impacts in a specific application scenario, considering contextual specificity.

The research has been carried on in the framework of one of the H2020 DESIRA project Living Labs.

Engaging relevant stakeholders in a participatory process anticipating future impact pathways trajectories is the method applied in DESIRA Living Labs in order to contribute to the reflection on digital transformation in agriculture and rural areas. The Living Lab Toscana Nord has been organized around the activity of land and water management carried on by the local public authority Consorzio Toscana Nord with the aim of looking at how digital technologies can improve ordinary land management in order to reduce the hydrogeological risk.

Qualitative in-deep interviews with experts and stakeholders have been carried on in order to define the SCPS and the functional use of each technology mentioned by local actors. For each functional use identified in the application scenario, considering contextual specificities, impacts have been identified on the basis of the interviews and the taxonomy proposed by Rolandi et al. (16). Identified impacts have been then clustered and connected to the SDGs.

Long-distance travel behaviour in Hungary - Regional differences among public bus and railway passengers

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Pecs-G17-O3 Transport and Accessibility, B018, August 25, 2022, 4:00 PM - 5:30 PM

During the nationwide “Origin-Destination” travel survey carried out during autumn 2016 in Hungary over 100 thousand of railway and bus passengers were interviewed about their travel patterns. Combining with relational ticketing statistics the flow of passengers is known more precisely than ever before. Travel demand data is generally hard to access due to business privacy issues or it is often treated as a black-box derived directly from population number or income. Research is generally focused on daily regular and predictable trips which is the major challenge for planners and operators. Therefore there is an abundant research available about commuting statistics around daily catchment areas but less attention has been paid in Hungary for long-distance, interregional trips. Their share is lower but since travel distance is significantly longer their environmental impact per trip is obviously higher. By determining the travel intensity taking into account regional statistic indicators a better understanding of travel flows and the Hungarian Urban Network is expected. The relationship between places (nodes) measured by the flow of people (bus and rail passengers) for longer-distances shows heterogeneity between the different settlements not just by its population size and location but the social structures of their average age, economic activity, unemployment rate, income and education level. Due to privacy issues the travel survey wasn't able to record all of the above indicators but with a combination of regional statistical data and ticket type statistics several travel clusters have been identified.

A country of waiters: the consequences of specialization in low skill sectors

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Pecs-G01-O4 Regional and Urban Development, B016, August 25, 2022, 9:15 AM - 10:45 AM

Tourism industry is a major source of income for many countries and is often put forth as a potentially important source of economic growth for others. In Spain, it accounts for a large share of Spanish employment. However, it is not obvious whether and to what extent may represent an effective tool to boost socio-economic development. Some argue that tourism activity tends to bring with it unwanted negative economic impacts as, for example, low wages, low investment in human capital, displacement of other more productive sectors, or demand volatility (e.g., due to terrorist attacks or pandemics). The objective of this project is to study the long-term effect of tourism dependence on welfare. Specifically, I aim to provide empirical evidence on the localized effects of tourism specialization on the long-term levels of employment, income, and education of Spanish municipalities. And the same time, I also study the effect of tourism on non-touristy economic sectors and municipalities, which allows me to assess the aggregate impact of tourism in the economy. I develop a quantitative spatial equilibrium model to investigate these cross-sectoral interactions and quantify their implications both at the local level and in the aggregate. In terms of methods, I will look at the effect of cross-sectional variation in tourism attractiveness prior to the tourism boom (of the 60s and 70s) on the value of the above-mentioned outcomes more than half a century later. I use aerial photos (PNOA histórico 1956-57, Instituto Geográfico Nacional) to measure the surface of sandy beaches and other attractiveness features. At a basic level, my treated municipalities are those with a substantial beach surface and the control ones are either those without beach or those located inland. Preliminary results seem to indicate a negative relationship between tourism specialization and economic growth. I find low income and employment levels and high school dropout rates compared to non-tourist municipalities.

Exploring Digital Divide Influence on Regional Development Differences in Turkey

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Online-G20-O1 Cities, Regions and Digital Transformations, August 22, 2022, 2:03 PM - 3:30 PM

The “Digital Divide” differs between countries as well as between regions, even between individuals. While many indexes have been formulated for detecting transformations at an international level, there are limited studies at a regional level. Considering the multi-scale dimension of the digital divide, a main research question is addressed in this paper: How does the digital divide affect the development disparities in different regions of Turkey? To do so, firstly, the ICT Development Index is used to compute the digital divide within different regions of Turkey (Nuts1 and Nuts3). Using QGIS software and the ICT development index, the result maps reveal regional differences by visualizing them. The first calculations allow us to analyze the correlation between the ICT Development Index and Socio-Economic Development Ranks of Provinces and Regions. In this context, Spearman Rank Correlation is used. The preliminary findings of the two indexes expose significant differences between the east and the west regions of Turkey, both in Nuts1 and Nuts3 scales. In the light of the correlation analysis, it can be said that there is a positive relationship between the ICT Development Index and the Socio-Economic Development Ranks of Provinces and Regions. However, the gap is lessened in the ICT Development Index compared to the Socio-Economic Development Rank. The top score (TR1 Istanbul, 4.05) is more than double the lowest (TRB Middle East Anatolian, -0.96) in the Socio-Economic index. On the other hand, the ICT Development Index gains closer values to each other, TR1 Istanbul, 8.10 and TRC Southeastern Anatolia, 5.00, respectively. In Turkey's case, it is evident that digital technologies are diffused faster, although their socio-economic benefits have been absorbed slowly. The results can be a guide for the future digitalization policies of Turkey.

Digital Divide from the Regional Perspective: The case of Turkey

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Pecs-S21 Regional inequalities and digitalization in less developed European regions, B313, August 25, 2022,
2:00 PM - 3:30 PM

Developments in information and communication technologies (ICT) cause changes in the economic and social structure of countries, regions and cities. While the COVID-19 process, which affects the whole world on a global scale, accelerates the digitalization process, this process has revealed the importance of access to ICT tools. In addition to the economic and social inequalities between developed and undeveloped regions, the digital divide that has been on the agenda since the 90s is defined by whether individuals have access to ICT or not. However, the competence of individuals using ICT tools are not the same, which leads to the digital divide. The necessity of accessing and using ICT in remote working and education conditions during the pandemic period has made digital inequalities even more visible. The previous spatial studies in Turkey explained the differences between regions with topics such as unemployment, income level and education.

The aim of this paper is to analyze the digital divide brought more important in the COVID-19 period at the spatial level. Spatial analysis was conducted to evaluate the impact of the underdeveloped provinces on the neighboring provinces and the inequalities that caused the negative situation created by this effect. For this purpose, the ICT development index (IDI) produced by the United Nations organization International Telecommunications Union (ITU) and used to detect the digital divide in the literature was calculated for the years 2012 to 2020 for 81 provinces in Turkey. Analysis of spatial dependence at provincial level with IDI values was made using Global Moran's I and Local indicators of spatial association (LISA) test statistics.

According to the findings of the study, it is observed that the provinces with high IDI are mostly clustered in the west, while the low values are clustered in the east. In addition to the economic inequality between the provinces in the eastern and western regions, the existing digital inequality has deepened during the pandemic period. It has been seen that the ICT access rates of the provinces are higher than the ICT usage rates and that both the access and usage rates of Istanbul are in an outlier position.

As a result, this study contributes to alleviating the existing spatial inequalities in Turkey, as well as the negative political, cultural and economic consequences that the digital divide may cause, especially during the epidemic period such as COVID-19.

The effect of migration on local productivity in Australia

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Pecs-G03-O1 Demographic Change, Population, Migration and Mobility Behaviour, B018, August 24, 2022,
2:00 PM - 3:30 PM

The paper analyzes the impact of international migration on local productivity. Using individual-level administrative data and applying a two-step estimation strategy, it estimates the impact of migration on local productivity through human capital externalities and agglomeration economies. The analysis employs two identification strategies to address endogeneity concerns caused by the non-random settlement patterns of migrants. First, it exploits a plausibly-exogenous change in policy which has increased the migrant population from non-European countries. Second, it uses the well-established shift-share instrument relying on the past settlement patterns of migrants across Australia using previous census years. The analysis reveals individual and local drivers of productivity differences across Australian labour markets and whether migration contributes to reducing these differences. Moreover, it examines whether the effect of migrants on the local productivity of workers varies depending on the educational attainment of the natives and migrants.

The impact of public capital on regional productivity

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Online-G29-O1 Regional and Urban Policy and Governance, August 23, 2022, 11:15 AM - 1:15 PM

This paper investigates the role played by public capital on the production level of Italian regions by specifically accounting for the quality of institutions. Our analysis, carried out over the period 2000-2019, benefits from the use of a rich dataset on public expenditures which allows us to build the regional series of public capital stock by distinguishing among public institutions in charge of the investments and sectors of intervention. While controlling for several contextual variables (human capital, social capital, technological capital, population density), main results show that public capital has a positive and significant effect on production. Most interestingly, looking at the Mezzogiorno's regions, public capital carried out by local institutions turns out to have a lower impact than in the rest of the Italian regions. On the other hand, central bodies in the South exhibit an impact higher than the average. Moreover, institutions' quality exhibits a positive and significant effect on regional economic performance. These results cast serious doubts about the actual capacity of the local Southern administrations to effectively manage the enormous resources of the National Recovery and Resilience Plan and of the new European Union cohesion framework 2021-2027. Our results are also relevant for other European regions that, featuring structural traits similar to Southern Italian regions, are expected to face the same difficulties in managing public funding.

Some Spatial Characteristics of the COVID-19 Pandemic Waves in Hungary

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Pecs-G39-O1 Regional Consequences of the COVID-19 Pandemic, B016, August 26, 2022, 9:15 AM - 10:45 AM

The COVID-19 pandemic triggered health crisis all over the world. Current challenges on health and healthcare are long-term, and their all socio-spatial impacts remain unpredictable. This presentation reviews spatial features of the pandemic waves to discover how restrictions and mitigation interventions influenced the spatial distribution of infection in Hungary.

Our research is based on a statistical analysis and a content-analysis to make a deeper understanding of the connection between space and health. It examines the regional distribution of the novel coronavirus pandemic in Hungary related to its morbidity and mortality data. The examination also presents a comprehensive review of the COVID-19 pandemic waves and their changes in terms of space and time. There is a comparison of the growth rates of infection and death numbers to explore the spatial pattern of each pandemic wave.

Among the most important results can be highlighted that there is a marked transformation of the spatial characteristics during the pandemic waves within the country. While geographical hotspots influenced the first wave in 2020, newly confirmed coronavirus cases in the second and third waves were due to community-based epidemic spreading in 2021. Furthermore, the western-eastern spatial relation and the core-periphery model also affected the regional distribution of new cases in the fourth and fifth waves in 2022. However, a spatial pattern based on the northern-southern spatial orientation appeared during the third wave, but it remained relevant also during the other waves.

According to our findings, it is also worth mentioning that the most developed and urbanised centres in Hungary are significantly influenced by COVID-19 cases, while peripheries are primarily affected by COVID-19 deaths. Poor health conditions have a more substantial role in the number and rate of deaths with the most disadvantaged areas experiencing the highest COVID-19 death rates. National level mitigation measures play the primary role in the anti-epidemic approach in Hungary.

The outputs of this paper offer feasible suggestions for evidence-based policymaking in future pandemic waves prevention, mitigation, and preparedness.

The possible effects of FDI companies on the regional entrepreneurial activity

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Pecs-S46 Long-term Development Perspectives, Barriers, and Challenges in Central and Eastern European Regions: A Survey of the Next Decades, B312, August 26, 2022, 11:15 AM - 12:45 PM

Entrepreneurship is widely believed to be an essential driver of economic development, employment, and productivity growth at the national and regional levels. Several studies proved that new firms positively affect economic development; however, the magnitude of the impact varies significantly over regions. The context has an important role, as it regulates the quality and outcome of the entrepreneurial activity. New entry firms result from the interaction between individual attributes and the context. Entrepreneurial behaviour and attitudes, together with the context, could lead to an increased level of new startups.

FDI companies have essential contributions to economic development and the domestic stock of new knowledge and regional R&D. However, their effect on entrepreneurial activity is somewhat ambiguous. On the one hand, FDI has a positive impact on entrepreneurial activity through the context, increasing demand, and knowledge spillovers. But on the other hand, the presence of FDI may crowd out local firms from the local markets, attract scarce local resources from domestic firms and influence the level of competition and wages. Previous studies revealed a somewhat positive effect of FDI on the entry of new firms, but the extent of this effect was varying.

Examining the effect of FDI companies on firm entry is an emerging field within entrepreneurship literature. This study contributes to this field by investigating how the presence of FDI influences entrepreneurial activity in Hungarian agglomeration areas. Building on a panel dataset of Hungarian firms provided by the Databank of the Centre for Economic and Regional Studies, the paper analyses whether the effects of the presence of FDI companies on firm entries is negative or positive. In the frame of this investigation, we attempt to reveal both the cross-sectional (region, industry) impacts and the time effects.

Knowledge creation in a nascent biotech innovation system: the case of Pécs city region

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Online-G33-O1 Innovation and Entrepreneurship, August 23, 2022, 11:15 AM - 1:15 PM

This study addresses the issue of knowledge creation in a less favored region where the university sector is relatively strong, but the related industry is left behind. The EU's Smart Specialization Strategy (S3) aims at strengthening the innovation capacity and competitiveness of structurally disadvantaged regions. However, political decisions on local or regional priorities often lack a sound scientific basis provided by economic modeling. In this research, we focus on the Pécs city region in southern Hungary. Here, an S3 strategy is being implemented and cutting-edge technologies including industrial biotechnology are one of the eight national priority areas. The region of Pécs is considered a knowledge region, where strengthening the university-centric innovation ecosystem is a policy objective. In this region, the university has outstanding educational and research activities in the field of biotechnology, but the related industry is still underdeveloped.

We build an empirically guided agent-based model (ABM) of new regional knowledge creation to explore different policies with scenario simulations. Focusing explicitly on the knowledge flows between the scientific and industrial domains, this kind of model can demonstrate how the actions and interactions of heterogeneous agents lead to the emergence of complex phenomena like new pathway creation. This ABM describes how the actors of the biotech innovation system individually and jointly create new knowledge while they are embedded in their regional and region-external context. Compared to previous models of knowledge creation in the biotech sector, it provides a balanced level of detail for the university and the industry sectors focusing on the links between scientific and technological knowledge. The agents – industry firm agents and university institute agents – have individual characteristics, are enacted to engage in independent as well as collaborative research, hereby changing their knowledge profiles and innovation outputs, and giving rise to innovation pathways at the system-level.

To underpin the model with empirical data, different data sources are tapped. On the one hand, personal interviews were conducted with representatives of 14 biotech-related firms and 16 university institutes in Pécs to gain information for region-specific model features. On the other hand, we use patent data from PATSTAT, publication data from the Web of Science, and a recent ontology of industrial biotechnology for initialization, calibration, and validation of the model. We will apply the model to analyze S3 policy scenarios by showing how the prioritization of different fields of biotechnology would affect the dynamics of knowledge creation.

Comparison and territorial patterns of cross-border cooperation in case of Hungary-Croatia and Hungary-Slovenia in the 2014-2020 period

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Pecs-S27-S1 Borders and Borderlands – Integration and Cohesion in (Central) Europe, B312, August 25, 2022,
2:00 PM - 3:30 PM

Cross-border cooperation has a long history along the border of Hungary with Croatia and Slovenia. Slovenia joined the EU, along with Hungary, in 2004, while Croatia followed them later, in 2013, however institutionalised cooperation existed even before, thanks to various pre-accession instruments. The 2014-2020 has been the first full programming period when all three countries have been inside the EU, having bilateral internal cross-border programmes. Besides increase of funding the new period brought a more standardised framework, making cross-border programmes comparable.

The paper aims at presenting similarities and differences of cross-border cooperation in case of the two analysed relations. After outlining a quick retrospective look on the preludes, major improvements in the legislative and institutional framework will be presented, comparing the 2007-2013 and 2014-2020 periods. Then thematic (priorities) and territorial preferences of the two programmes will be presented: identifying the most important nodes of cooperation. Distribution of activity and funding will be presented in regional breakdown, as well as focusing on various levels of the settlement structure. Special attention will be given to distribution of funding targeting physical investments.

Centres and peripheries reflected in distribution patterns of EU Cohesion policy funding in Baranya county, Hungary

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Pecs-S13 Governance challenges in the periphery of European Union, B312, August 24, 2022, 4:00 PM - 5:30 PM

Cohesion policy of the EU plays a key role in balancing territorial disparities, particularly in least-developed countries. Hungary has been a positive example of newly setup regional development institutional systems in Eastern Central Europe since the end of the 1990s (Pálné Kovács, 2021): EU accession brought establishment of regional institutions, however decentralisation and centralisation have been observed as parallel processes. The institutional and financial framework for the 2014-2020 programming period provides considerable funding for catching up of peripheral counties, with rather centralised decision making: county administrations and the responsible ministry-hosted managing authority shall make joint decisions, however the county has room for manoeuvre to promote their preferences (Pámer, 2021). As the programming period is approaching its end, it is possible to provide a territorial and quantitative analysis of territorial distribution of this funding instrument.

First part of the papers aims at providing a brief overview of the policy framework for EU funding management in the 2014-2020 period in Hungary, highlighting competences allocated to subnational levels. The paper is methodologically divided into two parts. First, on basis of online questionnaire and semi-structured interviews it will be presented how key levels of decision-making on funding is perceived by key stakeholders in peripheral areas of Baranya county. In the second part a quantitative territorial analysis will be provided, how funding is distributed territorially and thematically in central and peripheral areas within Baranya, as part of one of the EU twenty most undeveloped NUTS 2 regions. The analysis will be based on primary data on funding decisions within the Regional and Settlement Development Operational Programme funded by the European Regional Development Fund.

References: Pálné Kovács I. (2021): A centralizáció és a perifériák fejlődési esélyei [Centralization and the development potential of peripheral areas]. *Tér és Társadalom*, 35. évf., 4. szám, 2021.

<http://doi.org/10.17649/TET.35.4.3372>

Pámer Z. (2021): Pámer Z. (2021): A területi kormányzás és a területi integráció vizsgálata Baranya megye fejlesztési dokumentumaiban az uniós csatlakozástól napjainkig [Overview of territorial governance and territorial integration in development documents of Baranya county, since the EU accession to date]. *Tér és Társadalom* 35. évf., 3. szám, 2021

<https://doi.org/10.17649/TET.35.3.3337>

Does Migration to Urban Area Make Elder Parents Happy? An Empirical Study on China's "Drifting Elderly"

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Pecs-G03-O2 Demographic Change, Population, Migration and Mobility Behaviour, B018, August 24, 2022,
4:00 PM - 5:30 PM

The "drifting elderly"(or trailing elderly) in China is composed of elder parents who migrate with their adult children from rural to urban in their later life. Due to China's rural-urban dual system and urbanization, this special migration group has recently been growing rapidly. They move to the urban area where their adult children live to provide family support (e.g., taking care of grandchildren and doing housework). The migration pattern has been examined with a focus on the great contribution to the work-family balance of the young generations. However, there is a paucity of knowledge on the impact of this migration on the happiness and well-being of these elder parents. There has been evidence showing the impact of social integration and improvement of quality of life on the happiness of migrants. However, how the factors affect drifting elderly's happiness remain unclear. This study intends to fill in this gap.

We will explore the following hypotheses. First, we assume spatial inequality in the happy ratio of elderly migrants (HREM). Particularly, the HREM is higher in southeast provinces than in other regions of China. Second, we hypothesize that the improvement of quality of life positively impacts the elderly's happiness while the lack of social integration shows a negative impact. Third, we have the hypothesis that there is a significant interaction effect of social integration and the quality-of-life related factors on affecting drifting elderly's happiness.

Using the data from 2015 and 2018 China Health and Retirement Longitudinal Study (CHARLS), we will first conduct a spatial analysis to explore the geographical patterns of HREM in China. Then a logistic model will be employed to explore the impact of social integration and quality-of-life related factors on drifting elderly's happiness as well as their interaction effect. The potential contribution of this study is as follows. First, by empirically examining the role of social integration and quality-of-life-related factors, we shed new light on the happiness study of a special group in contemporary China (i.e., the drifting elderly). Second, our expected findings may suggest that social integration and quality of life both are important for the happiness of the drifting elderly. Therefore a more inclusive social policy should be adopted for improving the special group's happiness.

The effects of holiday vouchers on domestic tourism: evidence from mandatory voucher provision for public sector employees in Romania

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Pecs-G19 Tourism and Overtourism Issues, B323/1, August 25, 2022, 2:00 PM - 3:30 PM

Voucher programs have emerged as key policy instruments for supporting sectors hit by the COVID-19 crisis, like tourism, and for addressing a range of emerging social issues. Despite high policy interest, there is limited econometric evidence on their effectiveness in addressing these problems. We provide evidence on the impact of holiday vouchers on the development of the domestic tourism sector, based on a legislative change which made mandatory the provision of holiday vouchers for public employees in Romania in 2018. Public sector employees represent 19% of all employees and, for the most part, had not received holiday vouchers since 2009. This provision led to a sudden, eight fold, increase in the value of holiday vouchers issued. We estimate the effects of this policy on firms in eligible accommodation and travel agency sectors using difference-in-difference methods and data on holiday voucher payments from the three issuing units and administrative data on the balance sheets of the firms in eligible sectors. We find that this program had large effects on revenues and smaller, but significant effects, on employment of the exposed firms. The benefits were widespread in the economy, but differed across regions. In the most touristic regions, the provision of holiday vouchers mainly increased firms' revenues, while in the other regions it increased both revenues and employment.

Local Cultural Heritage and Tourism: an empirical investigation of their controversial relationship

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Online-S44 Assessing tourism sustainability and resilience: new data, methods and tools, August 23, 2022,
11:15 AM - 1:15 PM

Cultural heritage and local attractiveness entertain a substantial and inextricable relationship. Cultural visitors and tourists are willing to discover and admire different, unique and outstanding forms of culture and local inhabitants recognize themselves in the symbolic meanings and values carried by their heritage that, also through its powerful role as a touristic attractor, inspires proudness and sense of belonging. Furthermore, cultural tourism represents an evident contributor to local economic conditions and a viable and effective resource to support cultural heritage maintenance and preservation costs. However, concerns related to excessive flows of tourists towards cultural destinations have been raised from many parts. In fact, overtourism might generate social, cultural, environmental, and economic costs, mainly affecting and damaging local communities. This paper aims at econometrically investigating the nexus between cultural tourism and regional economic development. A structural equation model is applied to Italian regional data in the attempt of simultaneously identifying the direct effects of cultural tourism on economic conditions as well as its indirect and potentially controversial effects.

The rise of the digital service economy in European regions

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Online-S51 Digital platforms, servitisation and local labour markets, August 22, 2022, 11:15 AM - 12:55 PM

A great interest was devoted to the rise of the Industry 4.0 production model and its impacts. Far less is known about the so-called digital service economy, a multifaceted phenomenon made of a sprawling range of businesses based on digital platforms and redesigning the boundaries of manufacturing towards services. The net socio-economic effects of the digital service economy at the local level are not known yet, and difficult to be measured unless the different value creation models it entails – each involving different players and different sources of value creation and distribution - are not identified. This paper fills such a gap by separating out, on conceptual grounds, specific value creation models within the digital service economy, each presenting distinctive growth opportunities and threats, and, empirically, measuring their spatial diffusion and co-existence in each European region. The taxonomy of European regions obtained serves future research purposes to assess the expected heterogeneous regional socio-economic effects of the digital service economy and its value creation models.

The impact of the European Structural and Investment Funds on regional well-being in Europe.

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¹*Panteion University*

Online-G29-O2 Regional and Urban Policy and Governance, August 23, 2022, 2:00 PM - 3:40 PM

To what extent has well-being in European regions been influenced by the European Structural and Investment Funds (ESIF)? Using regional European funding data for five programming periods, from 1989 to 2020 (1st: 1989-1993, 2nd: 1994-1999, 3rd: 2000-2006, 4th: 2007-2013 and 5th: 2014-2020), combined with a sub-national Human Development Index (HDI), an empirical model is proposed that captures the impact of public policies on the human development of the European regions. This study uses descriptive statistics, to offer quantitative insights across the large database and information about the distribution of the data, mapping and geovisualisation in order to depict the spatial relationships of the data and, finally, panel data econometric analysis in order to investigate the impact of the ESIF on regional well-being.

The results of the analysis aim to shed light on whether and to what extent the quest of regional and national policymakers for European funding, through ESIF, is fundamental to well-being. This subject meets the needs of contemporary European societies for higher standards of living of the European citizens. However, some European regions have higher well-being levels than others. This gap could be reduced through ESIFs. We hope that this study will shed lights on how the European Union could face the problems of socioeconomic division and inequality and how a balanced human development among territories could be achieved. Well-being measures can raise broader awareness of policy objectives by highlighting how policy might improve social and economic outcomes and improve policy coherence by emphasising complementarities of different forms of public action.

A preliminary study of donors-recipients interaction on foreign aid distribution mechanism in Indonesia: A study-based on network analysis

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Online-G01-O1 Regional and Urban Development, August 22, 2022, 9:15 AM - 10:55 AM

The purpose of this study is to analysis the extent to which the engagement of actors in Indonesia's foreign grant network. The data for this paper is obtained from Ministry of Finance of the Republic of Indonesia since semester 1 of 2011 to semester 1 of 2021. This paper examines the pattern of grants made by individual donors to recipients, either planned or unplanned channels. This paper employs a weighted matrix in conjunction with an undirected network. The institutions participating are referred to as nodes. The analysis utilized in this study includes several assessment criteria of network approach. Fruchterman Reingold is used to visualize networks. The undirected graph has 89 nodes. There are 957 foreign grant interactions occurred in Indonesia during this period. Two institutions namely Ministry of Public Works and Human Settlement and Ministry of National Development Planning play a central role. Most of the grants distributed by the two multilateral donors, namely the World Bank (WB) and the Asian Development Bank (ADB). There is difference in the composition of actors in betweenness and closeness centrality. The role of WB is prominent in betweenness centrality. Meanwhile, in closeness centrality, ADB takes an active role in the distribution of foreign grants in Indonesia. The obtained modularity value of 0.310 is acceptable. This number indicates that Indonesia's foreign grant network is well-structured. The data processing yielded a density value of 0.244. These findings show that the density of nodes is quite solid. The triangle approach generates 1431 paths. The clustering coefficient has an average value of 0.1516. Cooperation with foreign donors is a major hope for the regions to grow quickly and catch up, yet it has created its own set of difficulties for the regions.

Keywords: Donors, Recipients, Foreign grants, Network approach, Indonesia.

Political decentralization, jurisdictional fragmentation and voter turnout

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Pecs-G25 Institutions, Political and Decisional Processes, B017, August 26, 2022, 11:15 AM - 12:45 PM

This article is intended to fill a gap in the emerging literature on the political consequences of decentralization by investigating the determinants of voter turnout at the municipal level. While the literature

has mostly focused on the determinants of voter turnout at the aggregate level, less attention has been paid to sub-national elections (Blais et al., 2011). Most theories of voter behavior predict that electoral participation will be higher in elections where more is at stake such as in national ones (Anderson et al., 2014). However, one cannot simply assume a strict equivalence of turnout determinants irrespective of the type of election (Cancela and Geys, 2016).

Many countries in Europe have tried to

solve the excessive number of subnational jurisdictions and the resulting inefficiency by implementing institutional agreements for the joint delivery of local public services (Lago-Penas and Martinez-Vazquez, 2013). This variety of institutional arrangements ranges from complete mergers or amalgamations to "functional" cooperative agreements between independent municipalities, such as inter-municipal cooperation (DiPorto et Paty, 2020; DiPorto et al., 2018).

Where functional cooperation between municipalities is implemented voluntary or not, municipalities may end up in two possible situations: i) a highly integrated case where municipalities lose most of their competencies and the associated fiscal revenues, or ii) an isolated or a low integrated situation where most competences and taxation revenues remain in the hand of the mayors. Since less remains at stake at the municipal level to the benefit of the inter-municipal jurisdiction in the first case, one could expect that municipal voter turnout is lower than where low or no integration is chosen.

We therefore address a new institutional determinant of electoral participation - i.e. jurisdictional fragmentation - using French experience over the last decades. First, we address a new institutional determinant of electoral participation; second, we study the effect of the combination between the institutional context and the electoral system on local voter turnout using an exogenous variation in the French case. Whereas inter-municipal councillors were elected by an indirect suffrage before 2014 in France, citizens got the opportunity to vote directly for them at the same time as municipal elections. We find that this direct suffrage had a positive effect on turnout only in municipalities that have transferred their competencies to the inter-municipal level while the effect would be not significant on those, which are less integrated.

Mafia and Health Outcomes: evidence from Italian provinces.

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Pecs-S54 Income distribution and individuals' perceptions of inequality, B323/2, August 26, 2022, 11:15 AM - 12:45 PM

This paper contributes to the literature on socially responsible behavior and health outcomes by providing unprecedented evidence on the effect of mafia pervasiveness on pre-pandemic child mandatory and non-mandatory vaccine coverage, Covid-19 cases and deaths among Italian provinces (NUTS-3 regions).

Our interest in the pervasiveness of mafia has roots into its historical role of social entity offering private protection to individuals and firms in lawless areas as documented in Gambetta (1993). Acting as an alternative provider of capital and jobs, mafia has de facto filled the vacuum left by the authority of Italian state in certain territories (Gambetta & Reuter, 1995; Bandiera, 2003). Moreover, the power and social influence of mafia has expanded beyond the historical regional boundaries (Pinotti, 2015; Buonanno & Pazzona, 2014) by corrupting public officials, by weakening and infiltrating local government (Daniele & Geys, 2015; Di Cataldo & Mastrococco, 2016), and by financing and appropriating private enterprises especially during the recent downturns (Le Moglie & Sorrenti, 2020). Obstructing the access and provision of public goods (Acemoglu et al. 2020), mafia-type criminal organizations fueled the resentment, skepticism and distrust in the central and local government, enlarging thus their social consensus in segments of the population more likely to obey to mafia's social norms, often contrasting with legal and socially desirable behavior. Consistent with the aforementioned arguments, we hypothesize that the observance of mafia's social norms has lowered people's adherence to strict hygiene and distancing recommendations, and in getting vaccinated.

To proxy mafia pervasiveness, we use the 2009 transcrime mafia index: a composite indicator that includes convictions for mafia-type organization crimes, murders committed by mafia members, city councils dissolved because of mafia infiltration, and assets seized due to organized crime (Le Moglie & Sorrenti, 2020). In addition, we control for pre-determined levels of trust and "bridging" social capital, being both key determinants of socially responsible behavior as confirmed in the literature (Guiso et al., 2011; Rocco et al, 2014; Bartscher et al., 2021).

Relying on both panel FE and DID estimation approaches, we find evidence of a significant and sizeable negative relationship between high mafia-intensity provinces and pre-pandemic child mandatory and non-mandatory vaccine coverage. Furthermore, we find significantly higher Covid-19 cases and mortality rates in provinces more affected by mafia pervasiveness. Several robustness checks corroborate our main results. We deem our study may stimulate further analysis on the nexus between mafia and health-related outcomes.

Identifying Agglomeration Spillovers: New Evidence from Large Plant Openings

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Pecs-G31-O1 Location of Economic Activity, B020, August 26, 2022, 9:15 AM - 10:45 AM

Abstract:

We use confidential U.S. Census microdata combined with three different datasets of U.S. counties that attracted highly-incentivized large establishments. Further, we employ a dataset that includes random counties that "win" a large establishment. We compare outcomes for plants in U.S. counties that "win" a new plant to plants in similar U.S. counties that did not to receive the new plant, providing empirical evidence on the economic theories used to justify local industrial policies. We find little evidence that the average highly-incentivized large plant generates significant productivity spillovers in contrast to Greenstone, Hornbeck, and Moretti (2010) assessment of the openings of highly-incentivized plants.

Our semiparametric estimates of the overall local agglomeration function indicate that residual TFP is linear for the range of "agglomeration" densities most commonly observed, suggesting local economic shocks do not push local economies to a new higher equilibrium. Examining changes twenty years after the new plant entrant, we find some evidence of persistent, positive increases in winning county-manufacturing shares that are not driven by changes in the pattern of establishment births or establishment deaths. Nonetheless, we find little evidence that supports using local industrial policies that consist of large tax-incentive packages to attract big firms to a particular locality.

KEYWORDS: local economic development, agglomeration externalities, persistence

Assessing the Contribution of Tourism to European Economies: Status Quo and Pandemic Evaluation

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Pecs-S44 Assessing tourism sustainability and resilience: new data, methods and tools, B019, August 25, 2022, 2:00 PM - 3:30 PM

The measurement of the economic contribution of tourism in national and regional economies is often left to superficial back-of-the-envelope calculations or is constrained to simply assessing the amount of tourist expenses or tourism employment. Recent research has instead called for a more in-depth analysis of the role of the tourism industry, in particular with regard to its extensive production links with many non-tourism industries. To this aim, this paper aims to analyse the economic contribution of tourism to production, income and employment for a fairly large sample of European countries, by making use of standardized economic reporting tools such as the tourism satellite accounts (TSA) and input-output tables (IOTs). Connecting expense data from TSA to the inter-industry dependencies structure imposed by the IOTs allows us to evaluate the indirect contribution of tourism to the economy by computing production, income and employment multipliers. Multiplicative effects can then be computed also by industry, to evaluate which non-related industries are most influenced by tourism expenditure. We apply our TSA-IOT computation procedure to both pre-COVID tourism data and to (estimates of) pandemic expenditures, in order to assess the extent of income and employment losses, and where these losses are located in terms of tourism and non-tourism industries, in order to guide policymakers in both pre-emptive and ex-post (compensative) policies.

The importance of bio-innovators for an emerging bioeconomy strategy: A Romanian good practice

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Online-S12-S1 Multi-Level Governance through the Core Network for Sustainable Development –Building Green and Digital Skills for Sustainability, August 22, 2022, 2:00 PM - 3:35 PM

Covasna County is one of the top Romanian promoters of bio-based industries and has been involved in many related EU projects. In the concrete case of efforts for building green skills, in order to integrate SDGs in local / regional economic activities, the boundary between good practices and bio-innovators is quite sensitive. If good practices have already become a concept / term or even a method of achieving goals, / bio-innovators could be considered an example of good practice.

The objective of this paper is to reveal the importance bio-innovators have in designing the roadmap for the development of a regional bioeconomy strategy.

The contribution of the paper to this special session's topic refers to documenting the influence / complex role attributed to the local bio-innovators, who managed in an inspired way to weave the tradition of certain activities with innovative elements.

The adopted method is a combination of qualitative and quantitative analyses and a broad stakeholder consultation process is used, with the aim of promoting, supporting and further developing regional bioeconomies. It involves a mix of means / elements: defining the topic, identification of subjects, distribution of questionnaires according to the exact field of their activity, processing their answers, the conceptualization of the economic phenomena found in the investigated local economic practice, and the drawing up of small-scale business models dependent on bioeconomic activities.

Covasna County's bioeconomy roadmap was the result of combining the outcome of the logical matrix with the current situation of the circular bioeconomy in the county. It outlines the action plan for the achievement of the goals as well as the monitoring and governance.

The paper draws an important conclusion, that Covasna County represents the case of a nodal involvement of bio-innovators in the local economy and it represents a case study for a competitive framework combined with inter-human and institutional solidarity, based on common values and a common vision of the potential for local bioeconomy strategy development.

The acceptance of transport policy bundles aiming at climate change mitigation: evidence from a citizen choice experiment

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Pecs-G17-O2 Transport and Accessibility, B018, August 25, 2022, 2:00 PM - 3:30 PM

Transport-related measures that are effective in reducing CO₂ emissions however often suffer from a lack of public acceptance. In this paper, we investigate, which bundles of measures fulfill the climate goals and at the same time have high levels of public acceptance. Our aim is thus to better understand the determinants of the acceptance of specific policies as well as policy bundles, in particular the trade-off between private costs and social benefits (most importantly, lower CO₂ emissions).

For this purpose, we introduce a novel online tool in which citizens can select between 11 different policy measures and between 3 to 5 different intensity levels for each measure (e.g. different fuel tax levels). The measures include push measures such as fuel taxes, road pricing, or a limitation of parking spaces, as well as pull measures like increased investments in public transport, cycling, and e-mobility subsidies. When selecting between measures and intensities, respondents see a real-time visualization of the expected consequences of their choice in terms of CO₂ emissions, public revenues and expenditures (including penalty payments for missing the climate goal, if applicable), as well as personal monetary consequences (based on his/her indicated current mobility behavior). In a second step, also the expected effects of the chosen bundle of policies on specific population groups (the rich, the poor, people strongly dependent on car ownership, etc.), on the quality of specific transport modes, noise, public health, public space, and the economy are shown.

Besides the personalized changes in monetary transport costs, which are computed based on the information provided by each respondent on their current mobility behavior, all other effects of the different policy measures (and their different intensity levels) have been derived from relevant scientific studies, policy documents, and a Delphi survey among experts.

The tool has been filled in by more than 1500 respondents. Besides a rich descriptive analysis, we present advanced choice models that capture the trade-offs faced by the respondents when filling in the tool. In line with the descriptive analysis, we find that personal benefits and costs are weighted highly in the decisions.

Trade, Labour Market Frictions, Unemployment, and the Wage Differential

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Pecs-G18-O1 Regional and Urban Labour Markets and Entrepreneurship, B020, August 24, 2022, 4:00 PM - 5:30 PM

This research examines the interaction of (de)unionization and trade liberalization in shaping firm productivity, market structure, trade flows, unemployment, and functional distribution (changes in the wage difference and labour income share). It introduces unemployment to the Melitz-Ottaviano model (2008) by considering unionism in the differentiated manufacturing sector and searching frictions in the homogeneous service sector. In the closed economy, we show that unionization has a selection-softening effect, leading to a non-monotonic relationship between unionization and the number of firms and unemployment. In the two-country equilibrium, unilateral unionization in one country gives rise to a selection-softening effect for domestic-only firms and a selection-toughening effect for exporting firms in this country. With international trade, unionization is more likely to increase unemployment relative to autarky. In response to the unilateral unionization, the average wage difference for this country compared to its trading partner country rises if openness to trade is low, but it declines if openness to trade is high. Under unionized labour markets, trade liberalization does not necessarily reduce unemployment, depending on the relative degree of unionization between the two trading countries. In sharp contradiction to the conventional notion, deunionization can increase, rather than decrease, the labour income share of unionized workers, provided that openness to trade is sufficiently high.

Subnational fiscal accounts under pressure: the effects of COVID-19 in a developing country

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Pecs-S59-S6 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of
Pandemics, A308, August 25, 2022, 4:00 PM - 5:30 PM

Please see extended abstract

Transfers to riverside regions: their effects in a developing country

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Pecs-G01-O1 Regional and Urban Development, B016, August 24, 2022, 11:15 AM - 12:45 PM

See extended Abstract

Spatial Lag of Economic Structures: Do They Provide Evidence of Technological Convergence across Countries?

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Pecs-G13-R Methods in Regional Science or Urban Analysis, B312, August 24, 2022, 11:15 AM - 12:45 PM

Regional input-output (IO) analysis is often anchored under national input-output systems. Despite recognizing that regional production recipes differ, researchers assume, without any embarrassment, that national technology prevails everywhere. In a world of limited information, the usual justification considers that the lack of appropriate data at the regional level can be surpassed by the assumption that the available technology for regional firms is given nationally. From a practitioner's perspective, it translates into the assumption of national sectoral technology at the regional level leading to the prevalence of the same input mix for a given sector everywhere with differences only in the degree of interregional dependence on input sources.

Shared technology is a plausible working assumption for practitioners dealing with isolated or integrated subnational systems. Technological convergence in input-output technical coefficients, defined as high similarity between \mathbf{A} matrices, is more likely to be observed across regions within a country than across different countries, given the existing relative homogeneity in sub-national economic spaces. Input-output practitioners also face conditions of limited information when dealing with national input-output models for countries with poor statistical institutions. Although many countries produce their supply and use tables (SUT) with different publication frequencies and levels of details, there are still many countries for which SUTs are dated or not available. To circumvent this problem, researchers adjust existing input-output tables from elsewhere to one or various of such countries by estimating or inferring the parts of the system that are undetermined – usually the technical coefficients (\mathbf{A} matrix) –, or even replicating the structure of a “similar” country.

Different experiences (e.g. GTAP, EORA, WIOD) with developing multiregional input-output (MRIO) share the common challenge of estimating individual country IO tables based on a limited set of information. We can cite the experiences of

We explore in this article the relationship between geographical proximity and technological similarity at the country level. Using a set of national tables extracted from the OECD MRIO database, which provides for each of the 43 countries in the sample a reconciled common sectoral classification, we first identify dimensions of proximity associated with countries' similar technologies. We also check whether contiguity (i.e., sharing a common border) matters for the technological similarity between countries and whether nearby countries are more technologically similar than distant countries. We finally assess the effects of geographical proximity on technological convergence over time.

Spatial Generalized Entropy

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Pecs-G09 GIS and Location Modelling, B020, August 24, 2022, 2:00 PM - 3:30 PM

A number of entropy measures have been introduced for spatial data. Entropy in Shannon's formulation indicates the degree of heterogeneity in data where one end-point is the uniformly distributed observations, and the other end-point is where observations degenerate to a single value that corresponds to no heterogeneity. Spatial phenomena are characterized by different degrees of heterogeneity, and in this aspect, entropy is a relevant measure for spatial data. However, entropy by itself says nothing about associations between locations which is a crucial aspect of spatial data. The focus, when constructing spatial entropy measures, is therefore to introduce spatial association in entropy. For the existing measures, this has been solved, for example, by computing the entropy of a spatially weighted distribution. Another way of introducing spatial associations has been to first construct a distribution for the so-called co-occurrence of pairs of observations and then compute this derived distribution's entropy.

This paper presents an alternative approach where the entropy is generalized from Shannon's approach by allowing a different functional form of the surprise part of Shannon's entropy. This form of entropy has been termed generalized entropy. In this application of generalized entropy, a spatial surprise function utilizing the adjacency matrix is used to construct a generalized spatial entropy. This entropy is a LISA (Local Indices of Spatial Association), which can be additively summarized to a global measure. By appropriately setting global parameters, it can be specialized to the ordinary Shannon entropy of the outcome variable.

A comprehensive study on the quality of life of the Hungarians in the Carpathian Basin

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Online-S29-S1 National Regions in regional development – National, ethnic, cultural, religious, and linguistic renaissance of European regions and identities, August 23, 2022, 2:00 PM - 3:40 PM

This study introduces the first comprehensive and representative survey on the socioeconomic position of ethnic minority Hungarian communities. Collecting data was implemented along a standardized methodology in Hungary as well as in the four biggest Hungarian minority communities; among Hungarians living in Slovakia, Ukraine, Romania, and Serbia (these communities in the so called 'Carpathian Basin' form one of the largest native minority groups in Europe). Socioeconomic position was approached along a wellbeing concept encompassing features as labour market position, income, education, health status, language skills, social trust, social bonds, religiosity, etc. Summarizing the results, it is important to highlight that there is a positive correlation between EU membership and the quality of life: in Slovakia, Hungary and Romania, the general well-being indicators are higher, while in Serbia, and especially in Transcarpathia (Ukraine), the living conditions are significantly worse. It is also clear that the population of Hungary is generally in a more favourable situation than the minority Hungarians. However, the survey also detected a quite diverse socioeconomic structure, and in the case of some parameters of wellbeing, one of the Hungarian minority communities has the leading position. Relative positions of minority Hungarians comparing to majority population also vary according to countries and factors.

The evolution of digital nomad lifestyle in Central Eastern Europe

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Online-S08 Regional Disparities in the post-COVID Tourism Industry of East-Central Europe, August 23, 2022,
11:15 AM - 1:15 PM

Until the year 2020, it seemed travel had become, almost undoubtedly, an inseparable part of our life. The COVID-19 pandemic raised serious doubts about this development and posed several questions about how we value mobility. As a consequence, severe devaluation of mobility started on international and local levels by closing down national borders, pausing air passenger travel, introducing local lockdowns and standardizing the institution of 'work from home' (Cresswell 2020). Over time, despite the increasing vaccination, companies established novel work arrangements with a focus on social distance utilizing technology-based tools to work remotely. Even though the notion of 'remote work' may not mean work from 'everywhere and anywhere', COVID-19 is still seen as a driver of stimulated interest in experiencing a new digitally enabled nomadic lifestyle (De Almeida et al., 2021).

The spread of the 'digital nomad' concept has started long before the COVID-19 pandemic and appeared from 2008 in the public media, Google Search volumes rapidly increased on this term since April 2012. While as a research category, digital nomads have appeared in academic publications during the last decade with straightforward upward trends only from 2017, 5 years later, based on the number of published titles, abstracts and keywords in Scopus Search. The theoretical framing of the term 'digital nomadism' is still emerging, academic literature approaches this trend from various angles: a new way of work life, a form of tourism or mobility, an economic model, a whole lifestyle, or even a cultural phenomenon. There are five key characteristics of digital nomad lifestyle that are common in previous studies: 1) location independent and 2) technologically-enabled behavior 3) intertwining leisure, work and travel activities that tends to be 4) dependent on employment type and 5) built for purpose.

In the Hungarian academic literature, the subject of 'digital nomadism' is a relatively weakly researched area yet, covered mainly by MSc thesis discussions. However, deeper research is needed on the scope to better understand how digital nomadism triggered in Hungary, and Central Eastern Europe from both inbound and outbound perspectives. To fill this research gap, this study aims at understanding in-depth the digital nomads' travel patterns into and from Central Eastern Europe, with particular focus on Hungary, as well as the drivers in the choice of digital nomad destinations.

Culture and subjective well-being: How culture impacts subjective well-being

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Pecs-G01-O3 Regional and Urban Development, B016, August 24, 2022, 4:00 PM - 5:30 PM

Recently, there has been a growing concern from academia and international institutions regarding the implication of culture on human and social development aspects. In particular, several scholars and policymakers focus on the role of culture in aspects such as mental health and (subjective) well-being. This research aims to investigate the implications of culture on subjective well-being by disentangling the effects of culture on life satisfaction and happiness. Culture is operationalized using measures of cultural consumption and access. Data collection is from the Multiscopo survey from the Italian National Institute of Statistics (ISTAT). The dataset includes information from 2013 to 2019 at both individual and regional levels (NUTS 2). The econometrics models employed in this research are ordered logit, longitudinal, and panel ordered logit models. In addition, for robustness checks, GMM-estimation to control further endogeneity. Preliminary results suggest that cultural consumption and access positively impact life satisfaction and happiness. However, happiness appears to be more sensitive to both types of culture. Instead, life satisfaction appears to be less sensitive to both types of culture.

The Spread of the Covid-19 Pandemic in Russian Regions: Models and Reality

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Pecs-S59-S6 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 25, 2022, 4:00 PM - 5:30 PM

Considering the widespread of Covid-19 and its impact on the population health in Russian regions, it is necessary to examine the impact of the pandemic (as excess mortality) on the regional socio-economic development in 2020. Based on a quantitative and qualitative model, the study explains the process of coronavirus diffusion at the regional level, using information from foreign publications, Russian regional statistics and a database of legal documents «Consultant +». The concept of spatial diffusion, developed in the 1950s-1980s, was chosen as the research methodology. The study methods include a cartographic analysis of the monthly dynamics of coronavirus spread in Russian regions and regression analysis of regional differences in excess mortality regarding the most significant explanatory variables. The developed regression model explains the spread of Covid-19 across Russian regions in 2020, while the proposed qualitative model «network-place-scaling» describes the spatial diffusion of the virus. The conducted analysis confirmed the relationship between the spread of the virus and economic specialisation of regions. Simultaneously, such widely discussed factors as physical density, urbanisation level and per capita income did not show significant correlation with excess mortality. The study revealed the following results. There is a significant discrepancy between the actual situation in Russian regions and expected developments according to the simplified centre-periphery model. The important regression variables, explaining the interregional differences in excess mortality in 2020, include the share of employed in contact-intensive wholesale and retail trade and manufacturing (large production teams); proportion of the population over 65; the number of retail facilities per 1000 people. The qualitative model «network-place-scaling» was deemed suitable for explaining the mechanisms of the spread of coronavirus in Russian regions. Future studies should focus on examining the mechanisms and socio-economic consequences of the pandemic at the municipal level of large cities and urban agglomerations in Russia. The paper has been prepared with the support of the Russian Foundation for Basic Research, the research project No. 20-04-60490 Viruses «Development of territorially differentiated methods of regulating socio-economic interactions, sectoral structure and local labor markets in order to ensure balanced regional development in a difficult epidemiological situation».

Territorial vulnerabilities, pandemic and employment: An exploratory analysis of socioeconomic profiles and impacts of COVID-19 in Portugal 2020-2021

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Online-S33-S2 Local Rural Perspectives on Disparities in a Digitalising (Post-COVID) Europe, August 23, 2022,
11:15 AM - 1:15 PM

The pandemic originated a set of impacts of different magnitudes in the territory. This article presents an exploratory approach to understand how the existence of certain vulnerabilities in the pre-crisis moment led to different impacts on territories in Portugal. Starting from the municipal scale, the analysis defines a typology of vulnerable territories according to the degrees of exposure and susceptibility they present, and compares the different groups of municipalities in this typology with territorial impacts of the pandemic crisis in terms of unemployment dynamics. The results attest to the existence of increased vulnerabilities in territories highly dependent on tourism and those that are part of metropolitan areas, whose socioeconomic structures resulted in situations of higher unemployment growth in 2020 and 2021. The article has implications for reflection on territorial vulnerability, resilience and policies to transform the Portuguese economy in the post-pandemic period.

Sustaining a Wise Use of Geological Resources: Insights from Africa-Europe Cooperation in Higher Education Institutions

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Online-G33-O2 Innovation and Entrepreneurship, August 23, 2022, 2:00 PM - 3:40 PM

There is a gap in terms of infrastructural and human capital resources to achieve a sustainable use of mineral resources while assuring regional benefits in Africa. The need for growth in the industry, while exploring the existent natural resources and promoting regional development and reducing poverty and inequality, may be understood as a wicked problem, with a large number of stakeholders and varying opinions, highly interconnected. Universities and other higher education institutions may play a critical role in this interplay, to break vicious circles of cumulative causation, by linking scientific knowledge, demands for sustainable use of resources, emphasizing population and key actor's expectations in the field, such as the government bodies and the mining industry. This communication is motivated by the SUGERE – Sustainable Sustainability and Wise Use of Geological Resources, a ERASMUS+ project that tries to ensure a deep articulation in this domain of universities from Africa, in particular from Cape Verde, Angola, Mozambique with Portuguese, Italian and Spanish institutions. Based in a series of interviews and a focus group to researchers, professors and other specialists involved in this network, inspired by a complexity theory approach, the study explores the current situation and possible measures to create leverage points. The results emphasize the need for articulation to solve different constraints and the role that capacitation of talent, may have in generating social innovations and achieving sustainable development goals.

A Bayesian approach for estimation of weight matrices in spatial autoregressive models

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Pecs-G14-O2 Spatial Econometrics, B016, August 25, 2022, 4:00 PM - 5:30 PM

In the spatial econometric literature, approaches that directly target estimation of spatial weight matrices are scarce. Our paper proposes a novel and flexible Bayesian approach for direct estimation of spatial weight matrices. Our definition of spatial weight matrices in this study fulfils the typical assumptions employed in the vast majority of spatial econometric literature. The resulting spatial weight matrices are assumed non-negative and requirements to identification of the parameters can be easily implemented. Albeit we focus on row-standardized spatial weights, spatial weights without row-standardization are also implementable. To tackle potential over-parameterization problems a priori, the proposed approach also allows a direct implementation of a symmetric neighbourhood structure in a straightforward way. The resulting flexibility comes at the price that we focus on spatial adjacency matrices which are binary (prior to row-standardization). However, this assumption is widely used in the spatial econometric literature (e. g. spatial weight matrices based on concepts of contiguity, distance-band, or k -nearest neighbours).

Monte Carlo simulations show that our approach is particularly useful in spatial panels where T is small relative to N , which is a rather common characteristic of regional economic datasets. The virtues of the proposed approach are moreover demonstrated using real data on the global outbreak of the COVID-19 pandemic.

Regional Effects Of Climate Change Policies

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Online-G01-O2 Regional and Urban Development, August 22, 2022, 11:15 AM - 12:55 PM

The steady rise in global average surface temperature and the severity of climate shocks—ranging from heatwaves and droughts to hurricanes and coastal flooding—have raised the urgency of national and international policy actions to accelerate the transition to a low-carbon economy (IPCC, 2018; OECD/IEA, 2018; Cohen et al. 2022).

While the economic effects of climate change and related policy actions to contrast its negative consequences have been widely assessed at the national level (see for example Wiedenhofer et al., 2020 and Haberl et al., 2020 for a broad review of studies), existing studies have often overlooked their likely heterogeneous effects across regions.

This intuition is indeed gaining consensus among scholars and policymakers. For example, the IMF (2019) warns that “climate change may further exacerbate subnational regional disparities in many advanced economies by the end of the 21st century. This conclusion is based on two findings. First, estimates of the effect of temperature increases on sectoral labor productivity— agriculture, industry, and services—at the subnational level indicate that agriculture and industry are likely to suffer, even in advanced economies. Second, because lagging regions tend to specialize in agriculture and industry the negative effect of global warming on labor productivity may be larger in lagging regions, therefore pushing them to fall behind even more by the end of the 21st century.”

Moreover, although regional growth and resilience are strictly affected by regional endogenous characteristics (see Capello, 2009, Martin and Gardiner, 2019; Mazzola and Pizzuto, 2020; for a broad review of studies), it is increasingly recognized that the factors determining regional performance, should not be found only in each region’s endogenous endowments but are also associated with some pervasive peculiarities of the national economy and its general performances and policies (Camagni and Capello, 2010; Furceri, Mazzola and Pizzuto 2019; Agnello et al. 2016).

Starting from this intuition, this paper investigates the potential trade-off between reducing emissions and the economic costs of climate change mitigation policies. More specifically, we analyze to what extent policy decisions related to climate change (in terms of carbon pricing, environmentally related tax revenues, emission limit values, and so on) can affect regional economic and green performances and the channels through which this occurs.

Urban commons in practice - case studies of Polish cities

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Pecs-S22 Commons as enablers of territorial transition: evidences, assessment and theoretical perspectives,
B316, August 25, 2022, 9:15 AM - 10:45 AM

The aim of the paper is to present the results of research on urban commoners in action. Selected communities from Polish cities have been examined in terms of governing the shared urban resources, cooperation with local authorities and their impact on local development. The research concerns two cities in Poland, which differ the level of participatory governance. The results of the study show the influence of local authorities' policy on the development of urban commons and the activity of urban communities. The research helps to formulate recommendations on the support that local authorities can provide in creating conditions for urban commons. We point out that the coexistence of urban commoners and local authorities is conducive to the development of urban commons.

How Does Urban Spatial Structure Affect Productivity Growth? Evidence from Italian Municipalities

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Online-S25-S1 The spatial dimensions of productivity for regional growth: Industrial structure, industrial transitions and productivity, August 22, 2022, 11:58 AM - 12:55 PM

This paper analyses the relationship between the urban spatial structure and the productivity growth of 7,272 Italian municipalities over the period 2012-2018. We focused our attention on medium-sized cities, and, specifically, on whether proximity to them has an impact on the productivity growth of neighbouring areas. To capture their influence, we used a spatial lag model, and we built the spatial weight matrix by considering municipalities within a certain distance from them as neighbours. Moreover, in order to evaluate whether agglomeration has an impact on growth, both a spatial concentration measures and spatial autocorrelation measures were included in the model. The results indicate that proximity to medium-sized cities has a positive effect on productivity growth; and that the more monocentric an area, the lower its productivity growth.

What drives commuting between regions in Europe? An inter-regional panel analysis on its spatial effects

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Online-S49-S2 Drivers and impacts of migration: new insights on the role of local labour markets, human capital, personality and (family) networks, August 23, 2022, 4:00 PM - 5:45 PM

Commuting is part of many people's daily labour life and affects their working decisions both at short as well as at long term. Its "geography" varies across cities, regions and at cross regional level, with different dynamics and implications. By studying data from 194 regions in Europe from 2007 to 2017, the aim of this study is to provide insights on the socio-economic drivers of commuting between regions and contribute to current research with a comprehensive spatial analysis at European level. The results of a Spatial Lags of X model (SLX) used in a panel context, selected via a Bayesian comparison approach, show that: i) highly educated individuals are more keen to commute in search for rewarding job opportunities; ii) knowledge sector is an attractor for outer-region workers and relatively an effective retaining factor of the local labour force; iii) the relative lack of job opportunities in the origin region as well as the quality of the transportation system in both residence and workplace locations have positive effects on regional commuting outflows. These outcomes provide evidence on the socioeconomic drivers affecting mobility before the pandemic, which can support decision makers in the design of recovery measures.

International migration and income distribution in New Zealand metropolitan and non-metropolitan areas

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Pecs-S54 Income distribution and individuals' perceptions of inequality, B323/2, August 26, 2022, 11:15 AM - 12:45 PM

For several decades, until the onset of the Covid-19 pandemic, New Zealand experienced rapid growth in immigration. In this paper we analyse the contribution of immigration to changes in income inequality. Using microdata from consecutive population censuses between 1986 and 2013, we apply sub-group and Shapley-value-regression decompositions of inequality to calculate contributions of eight population groups (defined by skill level and migration status) to inequality. However, immigration is strongly spatially selective. While, on average, one in four New Zealand residents is foreign born, in Auckland - the largest metropolitan area - more than 40 percent of the population is foreign born. Hence, when analysing income inequality, it is important to distinguish between metropolitan and non-metropolitan urban areas. We find that increases in the immigrant share of the population have a spatially-universal income-inequality-increasing effect. However, the contribution of change in the immigrant-group-specific income distribution varies across urban areas: it is inequality reducing in non-metropolitan areas and inequality increasing in metropolitan areas. Changes in the skill distribution, including those brought about by immigration, have also important implications for the distribution of income. High-skilled groups (whether New Zealand born or foreign born) have made inequality-increasing contributions to the distribution of income, particularly in metropolitan areas.

Can remoteness and immobility actually lead to superior economic outcomes? Aotearoa New Zealand during the covid-19 pandemic years

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Pecs-S59-S4 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 25, 2022, 9:15 AM - 10:45 AM

Among all OECD countries, aggregate COVID-19-related deaths per million population are in New Zealand the lowest, or at least among the lowest (depending on the measure used). This outcome is generally attributed to strict but effective public health measures that included – besides very high vaccination rates – national and regional lockdowns, as well as total closure of the border except for returning citizens (who were subject to mandatory quarantining). Concurrent fiscal and monetary policies contributed to economic outcomes that remained remarkably buoyant during the two years of the pandemic. One contributing factor has been that the cessation of outbound business travel, tourism and emigration mostly offset the negative impact of near-zero in-bound population flows. It has been generally accepted that New Zealand's small population scale, low population density and remote location contributed to persistently low productivity growth in the long run – despite decades of economic policies that provide favourable conditions for entrepreneurship and economic growth. This paper argues, using a range of data sources and documented evidence on the impact of covid-related public health and economic policies, that the unfavourable economic geography of New Zealand has actually been of great benefit during the pandemic. The paper concludes that the pandemic years in Aotearoa New Zealand provide a counterfactual to the broad consensus that small scale, low density and remoteness contribute to worse economic outcomes and lower wellbeing.

Spatial Distribution of Cultural and Creative Industries in Italian inner peripheries

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Online-G24 Creative Industries and Regional Development, August 23, 2022, 9:15 AM - 10:55 AM

This paper investigates the spatial distribution and agglomeration of Cultural and Creative Industries in inner peripheries, focusing on the specificities of the Italian context and the territorial classification introduced by the Italian National Strategy for Inner Areas (SNAI).

The starting point is the growing interest in inner peripheries and its link with culture, emerged in particular from two main connected dynamics: specific policies at the European level (see the Cohesion Policy 2021-2027) and national level with the SNAI aimed at bridging the economic development and services gap between urban centres and inner peripheries; the depopulation dynamics that are characterising peripheral areas in the last 30 years and the need to understand how to invert this trend; the (temporary?) attention on quality of life and sustainability offered by rural areas and inner peripheries emerged during the Covid19 pandemic and the related questioning of urbanisation in response to the risk of crowding and the need of more green and nice living spaces. These dynamics have in common a strong relation with cultural and natural resources considered as capital for local sustainable economic development for the first; possible strategic field to attract new inhabitants, creating development occasions, for the second; precondition and driver of a good living environment for the third.

The main source of information used for the analysis is the dataset on Italian firms and establishments managed by IRCrES, the Research Institute on Sustainable Economic Growth of the National Research Council of Italy, which contains detailed information on sectors of activity, structure and location of the establishments. The applied methodologies include Local Spatial Autocorrelation Analysis (LISA) and mapping of the establishments and employees at the municipalities scale, drawing a comprehensive picture of the CCIs and their potential role for the development of Italian inner peripheries.

Perceived accessibility and residential self-selection in the Netherlands

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Pecs-YSS2, B020, August 25, 2022, 11:15 AM - 12:45 PM

Self-reported perceptions of accessibility often do not match accessibility as assessed by land-use and transport system data. A common finding is that despite significant spatial variation in accessibility as calculated from spatial data, perceived accessibility is rather even across space. This raises questions regarding the contribution of the built-environment in perceived accessibility. This paper sets out to assess the role residential self-selection plays in the relationship between the built-environment and perceived accessibility. By employing a quasi-experimental design based on survey data from the Netherlands, this study identifies selection bias in the correlation between the number of opportunities provided by the built-environment and perceived accessibility. The main selection effects identified in this paper are car ownership, preferences towards accessibility and transport mode attitudes. Generally, it is concluded that selection effects work to mitigate the effect that lower levels of opportunities provided by the built-environment may have on perceived accessibility.

The impact of cultural events on the image of the city: Historic Urban Landscape of Eleusina, European Cultural Capital 2023

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Pecs-G01-O2 Regional and Urban Development, B016, August 24, 2022, 2:00 PM - 3:30 PM

The European Capital of Culture event is one of the most interesting and successful EU cultural programs, combining the fields of cultural heritage and urban design, while attracting an increasing interest from policy makers, academics, and media. In 2023, Greece will host its fourth European Capital of Culture, after Athens (1985), Thessaloniki (1997) and Patras (2006). Eleusina, differs from the stereotypical image that any tourist or visitor may have (from Greece) since it is a purely industrial city, which in the mid 60s and 70s suffered major degradation due to pollution caused by the industrial infrastructure. The project "Transition to Euphoria" (the official bid of the city as a candidate for the ECOC), aims, among others, to strengthen the rich cultural profile of the city and clarify its cultural identity, (thus) changing its stereotypical image of an industrial city. The plan involves many strategies that are already taking place, including financial, but also physical planning, in order to bring benefits in the fields of transportation, accommodation, tourism competitiveness etc. As the archaeological identity and image of the city seems very strong, in this research the case study is approached through the Historic Urban Landscape concept, which was launched by UNESCO in 2011 and inserted a new perspective to protect and highlight historic heritage areas. In that context, the research questions raised concern mostly on how the historic urban landscape approach is applied in the case of Eleusina, the strategies used to protect the historic/heritage site of Eleusina along with its notion as European Capital of Culture while in the meantime keeping it economically/socially active and how stakeholders are involved and participate in the management and application of the vision presented.

See extended abstract

Planning Strategies for Addressing Climate Change Challenges: Ecological and Digital Transition in EU Rural Areas as Opportunities for Sustainable Development

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Online-S45 Ecological Transition: Planning Strategy for Scenarios and Emblematic Cases, August 23, 2022,
4:00 PM - 5:45 PM

Urban planning affirms the fundamental values and rights of humanity by renewing and revitalizing its role in an incessant theoretical-methodological and operational path aimed at attributing increasing importance both to the social dimension and to the interconnections with the natural ecosystem. Therefore, an integral ecology view is a necessary and inevitable choice to guarantee a sustainable future, attentive to the values of equity and justice infra and intra-generational, without leaving anyone behind.

Urban Planning contribution is crucial in addressing global challenges locally and in achieving the 2030 Agenda Goals, with particular reference to Goal (SDG) 11 "Making cities and communities safe, inclusive, resilient and sustainable". This must remain as the constant object and objective of the theories and practices of urban and territorial planning even beyond the time horizon of 2030, as it synthetically contains, updating them, its founding principles, namely the improvement of living conditions and the regulation of transformations. territorial, for the achievement of which its integration with the objectives concerning water (Goal 6), energy (Goal 7), infrastructure (Goal 9), climate change (Goal 13), ecosystems and biodiversity (Goal 15) is important.

At the EU level, the perspective of ecological, energy and digital transitions highlights crucial challenges of multilevel governance, of links between new technologies and sustainability, of the role of cities and rural areas in the fight against climate change, from a planning coordination perspective. territorial that takes into account urban-rural connections.

In this context - which at national level includes the references SNSviS, PNRR, PNR 2021-2027 and in the context of ongoing research - the contribution proposes a reflection on the theme of rural areas in the light of the EU initiatives on smart villages for a green, digital and resilient Europe, capable of promoting balanced development, increasing connectivity, attractiveness, ecological quality, production of goods and services and reducing urban-rural gaps to strengthen territorial cohesion.

With reference to significant case studies, it questions the relationships between digital and ecological transition and territorial transformations, with results which, although not exhaustive, tend to highlight approaches, innovative tools and open questions for planning cities and territories in line with a vision of the future that integrates social, economic and ecological aspects.

Every ending is a new beginning: The impact of entrepreneurship in socialist Poland on economic growth 1995–2020

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Pecs-S20 Historical Roots of Regional Entrepreneurship and Innovation, B313, August 24, 2022, 4:00 PM - 5:30 PM

See extended abstract.

In this paper we aim to employ a natural experiment in which Poland before and after the introduction of the market economy in the early 1990s is analysed. The aim of the analysis is to determine how the economic situation at the end of the People's Republic of Poland (in 1988) influenced the development of Polish municipalities between 1995 and 2020. This would make it at least partly possible to identify the primary factors initiating economic growth. Considering the above, the aim of the analysis is to determine the impact of the conditions existing at the end of the People's Republic of Poland (1988) on the level of economic growth measured by 1) the change in the level of income per capita, 2) the change in the size of labour resources and 3) the level of start-ups in municipalities in the period 1995-2020.

Since in different periods this impact could have been different, especially in the initial period when the economy was struggling to respond to the shock of political transformation, the magnitudes of the explained variables are calculated for five-year periods. Separate analyses have been prepared for each of these periods.

The factors explaining growth include a number of variables from 1988–89, including the share of the private sector in the economy, the share of manufacturing, investment expenditure in the socialised economy, the share of employees in science and technology development and expenditure in this sector, the share of employees with higher education, as well as the size of the potential market, population density and distance to administrative centres of (former) voivodeships. In addition, growth factors were introduced for neighbouring municipalities, selected according to different criteria, reflecting the varying scale of the effects of growth poles on development.

The study employed a wide range of data sources, starting with 2,939 city and municipality books from the National Census conducted on 6 December 1988 ("Population. Housing conditions"), statistical yearbooks for 49 provinces from 1990–95, as well as data from the Statistics Poland Local Data Bank for 1995–2020. All name changes, mergers, and separations of municipalities during the study period were also tracked to ensure comparability of data. Financial figures were recalculated for 2020 considering the general level of inflation in the country and the denomination of the Polish currency (zloty). Hence, the administrative breakdown and historical financial figures reflect the status as of 2020.

Success breeds inequality: Innovation and income from a micro perspective of cities

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Pecs-S40-S1 Innovation catalysts, regional development and unintended consequences, B313, August 26, 2022, 11:15 AM - 12:45 PM

See extended abstract.

A small extract of the abstract:

The challenge of satisfactory knowledge diffusion is compounded by the increasing complexity of knowledge (Mewes & Broekel, 2020), as has been observed since at least the 19th century (Balland et al., 2020). In fact, it is the increasing number, intensity and uniqueness of knowledge combinations (Broekel, 2019) that causes difficulties for companies to assimilate, process and exploit the knowledge created in value chains or surrounding areas (Yayavaram & Chen, 2015). This process is likely to intensify since there is a constant complexification of knowledge without sufficient support from human resources towards the acquisition of adequate capacity for assimilating and recombining knowledge components.

If, therefore, knowledge is indispensable for economic growth, its spatial scarcity will result in uneven growth in the incomes of companies and consequently of workers and owners. This will continue to be the case until knowledge becomes too complex, as is increasingly evident in developed countries. Despite the observed significant increase in the level of education and R&D intensity, faster economic growth has been increasingly less visible. This can be explained by the level of complexity of technology, which makes passive learning more difficult and increases expenditure on R&D and education, thus causing income growth to decline (Pintea & Thompson, 2007b).

These extremely complex processes of knowledge-based economic development have so far not been studied at the micro scale, i.e., spatially located enterprises. While differences in development levels have been studied in detail albeit at the level of regions or whole cities and their surrounding areas, within cities these processes still remain a mystery. In this study, we seek to explain the impact of emerging innovations on the level of income inequality inside 18 Polish provincial cities. We also consider the volatile impact of knowledge complexity on income inequalities. Deriving possible mechanisms of knowledge diffusion from the above theoretical considerations, we seek to test two hypotheses:

Hypothesis 1. Knowledge sources increase income in their vicinity to a greater extent than outside them, contributing to income inequality regardless of the level of entrepreneurship.

Hypothesis 2. Knowledge complexity from a certain threshold contributes to a relative reduction in the income of knowledge sources and thus a slower increase in income inequality, indicating the inverted-U shape of this relationship.

Persistence and change of regional entrepreneurial activity: Evidence from the United States

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Online-S20 Historical Roots of Regional Entrepreneurship and Innovation, August 23, 2022, 2:00 PM - 3:40 PM

see extended abstract

Endogenous development paths and the role of territorial capital in non-core cities: a case study of Pécs

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Pecs-G01-O2 Regional and Urban Development, B016, August 24, 2022, 2:00 PM - 3:30 PM

The aim of the paper is to examine the relevance of territorial capital for peripheral urban development, which has a particular salience in non-core cities with limited opportunities for FDI-driven economic restructuring. Our case study city, Pécs is the regional capital of South Transdanubia, historically dominated by agriculture, listed among the least urbanized and industrialized regions of Hungary and the EU as a whole. Pécs is not a large city according to European standards but rather an advanced mid-sized city with regional economic functions, acting as a cultural, ecclesiastic and administrative center to its wider hinterland. Due to its size, Pécs is unable to influence international, and even national trends, which has prevented the „fossilization” of structures and encouraged processes of internal adjustment and a proactive attitude to change. Its multidimensional peripherality undermines the city’s integration in the national and international division of labor. While the role of industry has been a major structuring (shaping, developing, crisis generating, and lately vanishing) force in its XXth century urban development, monofunctional industrial legacy has slowed down post-socialist transformation processes and led to the failure of successive diversification efforts in the city. Major disruptions in its industrial base triggered by exogenous factors, a shortage of engineering competences and qualified labor force, and a massive outmigration of the working age population erode the prospects of an endogenous, high skills and high value added path. This exposes the local economy to a permanent risk of capital flight and produces an increased reliance on a small number of strategic sectors (health, culture, environment). In the post-2000 era, three major urban development processes have contributed to a significant mobilization of endogenous capital: the Pécs2010 European Capital of Culture program, the Pécs2020 and 2030 urban development strategies, and the Pécs2020 urban regeneration of segregated areas. In line with new trends of European regional policy, these programs have steered the city’s economy away from exogenous regional development approaches and shown the rising prominence of qualitative, soft factors of territorial capital. This reveals the contours of a slow and endogenous development and transformation process integrating a mix of tangible and non-material components of territorial capital, one that the city has already embarked on.

K-means Cluster analysis of hourly measured power demand.

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Pecs-G13-O1 Methods in Regional Science or Urban Analysis, B019, August 24, 2022, 4:00 PM - 5:30 PM

K-Means is a well known approach for clustering data. The data was provided by the district heating company of Kaposvar. The used data consists of 365 devices, measured hourly for 365 days. With a set of 3.3 million measures the analysis can't be performed on a simple PC any more. But the research did prove - similar results can be achieved using randomized samples of 10.000 sets of data. As only two dimensions were available for public use - the result still will reveal 4 clusters in a 2 dimensional space. Large demand with least operating hours is something probably no district heating company wants. Of course - the method used to analyse the data contained standards like removing unmeasured sets, check if the data is skewed and transforming data.

Smart Cities – Overview of Citizen Participation across Application Domains

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Pecs-G20-R2 Cities, Regions and Digital Transformations, B314, August 25, 2022, 9:15 AM - 10:45 AM

Smart Cities is a widely discussed topic in the social sciences. At first, awareness of Smart Cities in society was based mainly on the fact that these are cities that use modern information and communication technology (ICT) to ensure the provision of public services to their citizens. However, with the development of technology and the growing openness, the role of citizens in the city administration is changing. Thanks to the day-to-day use of ICT to communicate with the city administration, citizens are gradually becoming from ordinary consumers of public services to their co-designers and co-authors. The existing body of literature has so far focused mainly on describing examples of forms of involving citizens in the design and creation of specific public services in selected application domains. However, a comprehensive overview and comparison of citizen participation between different application domains is lacking in the literature. Therefore, the aim of this article is to provide an overview of the development of citizen participation in the concept of Smart Cities and its various application domains. Our research has shown that the topic of Smart Cities is a widely discussed topic in society, especially over the last 10 years. At the same time, our findings confirmed that there exist differences between application domains in citizen participation. From an analysis of published scientific articles on Smart Cities, we found that most of the articles on Smart Cities deal with the fields of natural resources and energy, transportation and mobility, and living. However, from the perspective of the participation of citizens, there are other application domains at the top of the number of publications.

Perception of Pandemic in Rural Hungary

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Online-S33-S1 Local Rural Perspectives on Disparities in a Digitalising (Post-COVID) Europe, August 23, 2022,
9:15 AM - 10:55 AM

Perception of Pandemic in Rural Hungary

Problems and Solutions in minor Settlements of Sellye district

Sellye district in South Transdanubia in Hungary is one of the country's marginalised regions characterised by small villages far from economic centres. The number of local workplaces has dropped dramatically following the change of the political regime, and the opportunities of commuting have become limited as well. The structure of village societies has changed: the educated and young residents have moved away, the proportion of disadvantaged population has increased. There is a significant ethnical segregation of the Roma population and an increasing marginalization of the rural underclass. The majority of inhabitants perceive their dwelling space as a trap situation because of the big distance from services, educational, social and healthcare institutions and workplaces.

During the pandemic in 2020-21, habitual ordinary frames of life changed drastically and social traps deepened in rural Hungary. Some of the rural social integration projects stopped or were reduced by social workers complying with the governmental regulations of social distancing.

This presentation aims to introduce the outcomes of a survey carried out in three minor settlements of Sellye district in 2021. Subjects of the research were families living in disadvantageous status. Our questions focused on the most pressing problems they had to face and the attempts they made to solve them during the pandemic. We were primarily interested in the changes of living conditions, family relations and labour status in connection with the changing conditions of everyday life.

The main focus of research was family life. The presentation offers an overview of the following questions and topics: Which are the major problems in the life of families? How can people solve these problems? Which are the supporting factors in the life of inhabitants? What were the most pressing problems of families in everyday life, work and social connections in the pandemic period? In what sense has life changed in families during the pandemic?

The findings of our research project are hoped to contribute to providing a more effective and complex social care in rural Hungary.

Keywords: marginalized families, minor settlements, pandemic, perception of problems, rural Hungary

Measuring investment readiness: a tool for the evaluation of policies for social firms

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Pecs-S10-S1 Counterfactual methods for regional policy evaluation, B311, August 24, 2022, 11:15 AM - 12:45 PM

This paper presents an organized system of indicators aimed at measuring investment readiness, applied experimentally in the context of the evaluation of the SEED2018 call.

This measure, launched by the Compagnia di San Paolo (a bank foundation), aims to strengthen the social cooperatives, triggering processes of organizational and managerial renewal through a two-phase mechanism. The first one is devoted to an analysis of needs supported by a specialist consultant. The output is a renovation plan that is implemented in the second phase. This provides us with three subgroups among the applying companies: excluded firms, firms participating only in phase 1, and firms participating in phase 1 and 2. The 3 groups may be exploited for evaluation purposes. The outcome of the project is identified by the policy-maker in the concept of Investment readiness, and has been measured with a set of metrics collected through ex-ante and ex-post surveys.

In this paper we will discuss the evaluation challenges connected to impact evaluation in the field of entrepreneurial coaching for operators of the third sector. We will propose the use of the concept of investment readiness to this aim and show how it can be operationalized through the calculation of a set of composite indicators. We will test the methodology, by applying it to the three subgroups of firms, used as non-experimental controls, with a dif-in-dif approach. Finally, we will regress the changes in investment readiness over a set of observable variables of the firm, including also balance sheet data.

Unfortunately, the implementation of the first edition of the SEED call occurred in the middle of the period affected by the Covid pandemic, which caused in Italy huge operational restrictions. This may perturbate the values of the observed indicators and reduce the readability of the impact, in the presence of a small number of participating firms in this pilot edition. Nevertheless, we think that this analysis will carry fundamental insights on the possibility to apply the methodology in such a particular field.

The role of information and communication technologies in regional development

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Online-G30-O1 Innovation and Regional Development, August 23, 2022, 11:15 AM - 1:15 PM

It has been empirically proven that information and communication technologies (ICT) make a major contribution to economic growth and can be its consequence. The ICT infrastructure is one of the four bases of the knowledge economy concept. ICTs make it possible to create implicit knowledge and transform it into explicit knowledge, which contributes to better replication and dissemination of innovations and technologies. Through technology transfer, the competitiveness of the nation can be ensured in the long term. Thus, we can justify the indirect impact of the development of ICT on the socio-economic situation and the growth of the national and regional economy.

We propose to use static and dynamic approaches to assessing the impact of ICT factors on the socio-economic indicators of the development of regions and countries. The static approach is based on the use of the Cobb-Douglas production function, which, after some transformation, shows that the volume of output per capita depends on capital per capita and total factor productivity (ICT infrastructure). Similarly, using the neoclassical model of economic growth, we conclude that the growth of production per capita is equal to the growth of capital per capita and the growth of total factor productivity or technological progress (dynamic approach).

The paper shows, when the impact of ICT is on GDP per capita, there is a one-time increase. Then it decreases to the previous level. When efforts are directed immediately at increasing economic growth, stable rates of economic growth are achieved, which leads to a constant and exponential increase in output. The study analyses the impact of ICT on GRP per capita and economic growth rates in the regions of Russia. This factor is relevant for economic development – the ICT infrastructure has a positive effect on economic indicators. Another system of models for comparison is calculated for 27 countries of the European Union. The results obtained indicate that for the EU countries, the period when the development of ICT infrastructure is especially relevant was passed until 2000. A comparison is made with similar studies in African countries, where the impact is also ambiguous. As a result, conclusions are drawn that the development of ICT infrastructure is a necessary, but not sufficient measure for the innovative development of the economy. In the future, the role of information and communication technologies in the development of innovation and the economy is shifting from stimulating to supporting innovation.

Clusters of regions in the innovative development of the European Union

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¹Higher School of Economics

Online-G12-O2 Regional Competitiveness, Innovation and Productivity, August 22, 2022, 2:00 PM - 3:35 PM

Regions do not develop in isolation. It is assumed that there is some influence of neighboring regions on each other, and the strength of such interaction depends on technological, economic and geographical distance. The diffusion and location of innovative activities, new technologies and knowledge have their own specifics. More innovative regions are able not to drag development on themselves, but on the contrary, to spread innovative influence through institutions and information and communication technologies to neighboring regions and further, increasing the level of their involvement in innovative development. At the same time, companies, patenting their inventions, still make a choice between regions, which means that competition factors remain. The spread of innovative agglomerations and the polarization of regions are influenced by innovative ecosystems, clusters, megaregions, large firms, research centers and universities.

We assessed the relationship between the territorial concentration of innovation and spatial dependence and determined how technological innovation activities in one region are related to those in neighboring regions.

We calculated global and local Moran I indices for 169 European Union regions by the number of European patent applications for 2018, 2019, and 2020. There is divergence between EU regions in terms of the number of patents (with $E(I) = -0.005952$ and $I = 0.7704, 0.6564, 0.2544$, respectively). We constructed scatter maps for three years and analyzed the changes in dynamics.

We have identified 4 groups of regions. (1) HL (high-low) – territories that have a high number of patents and are adjacent to regions with low values of the indicator. (2) LL (low-low) – territories not affected, they have a low number of patent applications and are surrounded by neighbors with similar indicators. (3) LH (low-high) – regions with a low number of patent applications, surrounded by regions with high values. (4) HH (high-high) – regions with high indicators surrounded by similar regions.

Most regions in the EU register a relatively small number of patents and are weakly dependent on the influence of neighbors. Among them, we identify those regions that may in the future become core (HL) or create an innovative development cluster (HH). Such regions are clearly visible in Finland, Ireland, Spain and Poland. It is necessary to pay attention to the leading regions, which do not contribute to the development of neighboring territories (HL). They are in France, Austria, Denmark, Sweden, and Spain. Innovative development clusters are becoming more differentiated, and their number is decreasing.

Inter-regional direct investment flows in the EU. Do national borders matter?

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Online-G21-O2 Regional Finance, Fiscal Issues, Investment or Capital Markets, August 23, 2022, 4:00 PM - 5:45 PM

In the European Union (EU), the completely free movement of capital between its member-states is legislated. The only exemptions for capital movements (i.e. capital controls) accepted by the European Union's institutions were those of Cyprus in 2013 and Greece in 2015, due to the destabilization of their economies and the risk of absconding to other countries large volumes of capital and investment. In this context, there have been considerable flows of Foreign Direct Investments between EU regions and countries in recent decades. But which flows are greater, those between regions within the borders of the EU member-states or those between regions outside national borders in the 21st century?

Using aggregated firm-level data for the period 2010–2018, derived from Amadeus database, which present the regional flows of Direct Investments inside and outside the borders of EU member-states, the aim of this paper is to highlight the importance of the border as a means of holding capital within a country or as something which is now obsolete in economic unions, such as the EU. The paper utilizes sophisticated descriptive statistical analysis and visualization techniques. The main findings of the paper point out that flows of Direct Investments between regions within national borders (Domestic Direct Investments) are still exceptionally large and in the majority of the EU countries larger than Direct Investment flows outside national borders (Foreign Direct Investments) and therefore that national borders still matter.

Meeting the Challenge of COVID-19: How American Craft Breweries Responded

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Pecs-S59-S3 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 24, 2022, 4:00 PM - 5:30 PM

The appearance and subsequent diffusion of COVID-19 forced many bars and restaurants across the United States to close their doors and discontinue normal business practices. This included over 8,000 craft breweries. As a result of COVID-19 directives, craft breweries were restricted to curbside pick-up and home delivery of the beer they produced, forcing them to rethink and redesign an important part of their business model. The primary purpose of this presentation is to assess how craft breweries responded to the restrictions placed upon them. A historical review of how the 1918-19 influenza pandemic impacted the brewing industry in the United States is also provided. Similarities between how COVID-19 and the 1918-19 influenza pandemics impacted their period's respective brewing industries are identified.

Innovation Strategies for Sustainability (S4)

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Pecs-S47 Social and business innovations for local and regional development, B017, August 25, 2022, 9:15 AM - 10:45 AM

The European Green Deal and the unprecedented European effort to foster socio-economic transformation and build a resilient and sustainable EU bring to the fore an upgraded role for innovation. In this context, the Joint Research Centre (JRC) is developing a new generation of development strategies fit for the green and digital transition: Innovation Strategies for Sustainability ('S4' in short).

S4 seeks to promote transformative innovation and amplify impact by facilitating coordination across policy silos and identifying missing synergies between the efforts of stakeholders. S4 requires new ways of working across government departments and levels focused on addressing local challenges.

S4 seeks to accelerate transformative outcomes by introducing among others:

- Challenge-oriented innovation (/local missions) as a way to overcome policy silos, engage with underrepresented social groups and deliver impact within pre-defined timeframes;
- Policy mixes for system-level innovation that include interventions from outside the traditional confines of R&I policy but are now crucial for transformation that results in co-benefits (such as employment, social, fiscal policy and also line ministries in charge of environment, energy, health, transport, waste and public infrastructures);
- Regulation as a tool for innovation (such as experimentation in 'regulatory sandboxes' and the strategic use of more stringent regulatory standards for innovation)
- Concerted use of other demand-side policies (such as the creation of lead markets, the creation of innovation spaces during large physical investments, support for innovation for affordability).
- Tools that mobilise multiple sources of funding for the same goal, encourage stakeholders to open up their agendas to facilitate coordination, co-opt stakeholder contributions beyond co-funding, enlist demand-side interventions across domains in strategic planning for innovation and engage with vulnerable social groups.

As S4 is in an exploratory and experimental phase of its development, a S4 Playbook and a pilot exercise have been developed to provide guidance for experimentation, without being prescriptive. S4 is structured around three operational pillars: A Strategic Framework that allows broader and dynamic planning; An Open Discovery Process that allows for engagement and path co-creation with variable sets of stakeholders working backwards from desired societal outcomes; A Policy and Action Mix that goes beyond publicly-funded projects, mobilises the right policy instruments and sequences them against other actions so that they result in synergies by design and importantly, co-opts additional actions by stakeholders.

Inferring supply networks from mobile phone data to estimate systemic risk of an economy

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Pecs-S15-S1 Supply Chains, Production Networks and Regions, B310, August 24, 2022, 2:00 PM - 3:30 PM

National economies rest on networks of millions of customer-supplier relations. Some companies --in the case of their default-- can trigger significant cascades of shock in the supply-chain network and are thus systemically risky. Up to now, systemic risk of individual companies was practically not quantifiable, due to the unavailability of firm-level transaction data. So far, economic shocks are typically studied in the framework of input-output analysis on the industry-level that can't relate risk to individual firms. Exact firm-level supply networks based on tax or payment data exist only for very few countries. Here we explore to what extent telecommunication data can be used as an inexpensive, easily available, and real-time alternative to reconstruct national supply networks on the firm-level. We find that the conditional probability of correctly identifying a true customer-supplier link —given a communication link exists— is about 90%. This quality level allows us to reliably estimate a systemic risk profile of an entire country that serves as a proxy for the resilience of its economy. In particular, we are able to identify the high systemic risk companies. We find that 65 firms have the potential to trigger large cascades of disruption in production chains that could cause severe damages in the economy. We verify that the topological features of the inter-firm communication network are highly similar to national production networks with exact firm-level interactions.

Companies in the society – theory and practice

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Online-G37 Technological Change and Diversification, August 23, 2022, 9:15 AM - 10:55 AM

Companies are the main actors in the economy, they employ people, they pay tax and they produce and provide services. Their operation is so complex with different kind of approaches, factors which influence them that it is not easy to find such kind of method which can reflect to this complexity. It depends also on whether the focus is on economic or social issues. Companies are often analysed with economic, financial or market approaches, the social focus appears only rarely.

In my presentation I would like to show this social aspect of companies. I used Porter and Kramer's (2006) idea as an initial point that the economy and the society need each other: a well-functioning economy needs a healthy society and a healthy society needs a well-functioning economy.

The aim of my presentation is to attempt to identify the types of relation between companies and the society from a theoretical and from an empirical view and to connect these approaches to the corporate competitiveness. Between August 2021 and June 2022 I am making interviews with SMEs in Győr, Hungary about their societal role. In my presentation I would like to show the first results of my research. I would like to answer the following questions: What kind of societal factors influence the companies? Which impact have the companies on the society? What is the role of the companies in the society? How these approaches can influence the competitiveness of companies? Interviews are still ongoing at the time of writing the abstract, so I cannot show any results yet.

My aim is to draw attention to the importance of the investigation of the societal approaches of companies. Integration these aspects into the operation of companies can open new dimensions for both researchers and practitioners.

„This presentation is supported by the János Bolyai Research Scholarship of the Hungarian Academy of Sciences”.

'see extended abstract'

The political geography of relations between Hungary and Bosnia and Herzegovina

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Pecs-S27-S3 Borders and Borderlands – Integration and Cohesion in (Central) Europe, B312, August 26, 2022,
9:15 AM - 10:45 AM

In our paper we intend to map and analyse the rapidly increasing Hungarian involvement in the Western Balkans and in Bosnia and Herzegovina in particular. Bosnia and Herzegovina has not been among the top partners of Hungary, but recently several events, meetings, (non-)papers and economic moves have been reported which worth investigating. Since Bosnia and Herzegovina is the most unstable but at the same time a strategically important state it adds to the reasons why the issue should be addressed. On the other hand this increase is not focusing only on Bosnia and Herzegovina, Hungary constantly increases its activity in the wider Western Balkans region, the context of which is the changing global and regional geopolitical conditions of the first decades of the 21st century. In what has been called the 'new Cold War', a multi-player global power struggle between the major powers (US, China, Russia) and the regional powers with interests in the region (Turkey, Gulf states, EU) has also led to confrontations in the Balkans, but none of them has been able to establish a hegemonic role. In this specific state of balance of power, Hungary has increased its presence in the Western Balkans since the 2010s, which can be seen in the political, economic and security spheres as well. Ethnic Hungarian communities beyond the borders also occupy an important place in this system through kin-state politics. We attempt to use a critical approach to explore the (1) background, context, (2) components and characteristics, (3) external drivers, and (4) consequences of the growth of Hungarian activity in the Western Balkans, especially in Bosnia and Herzegovina. We will use literature, media and discourse analysis and statistical data as well as interviews with staff of policy making institutions and think tanks on the Balkans and Hungarian diplomacy organizations.

Senses, emotions, and equipment gaps along the Portuguese's St. James Way

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Pecs-G32 Tourism and Culture, B316, August 26, 2022, 9:15 AM - 10:45 AM

Many studies have been published during the last decades about the Saint James Way (a millenary route) and several on the Portuguese's St. James Way. Nevertheless, in its promotion, little was investigated on its senses potential. Our paper focuses on the way the Portuguese's St. James Way can impact the pilgrim's five senses in its path between Maia and Valença. It aims to capture the association between landscape and the human senses (vision, smell, sound, taste, and touch) when performing a pilgrimage tour, and the main equipment gaps identified along the way that can limit the pilgrims' well-being. A qualitative approach was undertaken between 2020 and 2021, by using primary sources. A grid of 22 variables was built for this purpose. It included the main characteristics of the landscape and, in this paper, the analysis will be centred on 9 variables [e.g., georeferencing of the main points of the route; type of land use; type of landscape along the route; type of pavement; type of noise; type of smell; places for stopping and resting; places more suitable for performing meditation; and type of existing hazards, namely, absence of sidewalks and crosswalks].

The main results achieved revealed that the Portuguese's St. James Way is diverse in its features and can be attractive to potential pilgrims. The green color associated with natural environments is predominant, being interrupted by urban and artificialized areas. Vision is the most intense sense to be experienced, while the smell is the less activated one. Several equipment gaps have been identified, such as the lack of points of potable water. The inventorying of these gaps can be useful for driving policy actions by local and regional actors involved in the planning and management of the route.

Demographic Change & Climate Change: Projecting the Future Health(Care) Burden From Heat Waves in the Metropolitan Area of Vienna, Austria

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Pecs-S06 Climate adaptation challenges on regional and urban scale - the new form of regional inequalities,
B323/2, August 24, 2022, 4:00 PM - 5:30 PM

Extreme weather events such as heat waves are expected to become more frequent and intense as a consequence of global warming. No doubt, this will affect the health and well-being of all populations, including those in regions with moderate climates like Central Europe. Using spatiotemporal meteorological data and an exhaustive administrative database on all hospital admissions from 2009 to 2018 in the metropolitan area of Vienna, Austria, we model the relationship between thermal hazards and hospitalizations. Differentiating by age, sex, socioeconomic status, and degree of urbanization allows us to account for the effects of demographic dynamics, heterogeneity, and agglomeration effects when projecting the future burden of urban heat on health and healthcare. To the best of our knowledge, no other study to date considers climate effects on health in conjunction with the differential vulnerability of the exposed population in an urban environment.

Hospital closures and patient outcomes: Evidence from AMI emergency admissions in Italy

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Pecs-S10-S2 Counterfactual methods for regional policy evaluation, B311, August 24, 2022, 2:00 PM - 3:30 PM

In the European Union, cost containment strategies following the financial crisis in 2008 have been particularly targeted towards reorganization of the inpatient sector given that hospitals account for large shares of healthcare budgets. Despite the increasing numbers of hospital closures and mergers, few empirical studies have provided credible evidence on the consequences for patient health. This paper uses a difference-in-differences approach to study the causal effect of hospital closures on AMI patient outcomes including in-hospital mortality, readmission and length of stay. In particular, the outcomes of all AMI patients in Italy admitted from 2008-2015 that were exposed to a hospital closure are compared with those that were not. We further check two potential mechanisms for the identified effects: increased travel time and hospital bed congestion. Results show that hospital closures increase in-hospital mortality by 1.2% and length of stay by about 0.4 days. There is no statistically significant effect on readmissions, although, home hospital closures increase 30-day and 90-day readmission when considering only small municipalities with a population size less than 50k. The effect of hospital closure on in-hospital mortality and readmission is persistent across the post-closure years indicating that there is no short- to medium-term adaptation. Further, using 2-stage-least-squares modelling we show that hospital congestion is more relevant than travel time in explaining the causal mechanism of hospital closures on AMI outcomes in Italy.

A new-endogenous model enabling the development of the inner area

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Online-G25 Institutions, Political and Decisional Processes, August 22, 2022, 4:00 PM - 6:00 PM

The pandemic situation has highlighted the vulnerabilities and interdependencies between rural and urban communities.

Just think of many cases of citizens returning to inner areas and appreciating more and more living spaces and a cleaner environment, going against the grain and challenging the polarization process.

This social phenomenon is specular to the new political interests which have been focusing on exploring solutions and policies of economic regeneration in these rural areas, as witnessed by the Cork Declaration (2016). It is a fact that the inner areas dually affect the economic territorial reality: on the one hand, inner areas underpin the territorial development thanks to their intrinsic richness of natural resources, community spirit, and the handing down of their values and identity; on the other hand, the inner areas reveal themselves not self-sufficient because of their incapacity to fulfill their internal demands on their own. Considering that, inner areas continuously request exogenous resources from the urban zones, hampering the economic growth of the whole territorial ecosystem.

This vicious circle of the inner center is becoming increasingly harmful also for the dramatic demographic situation. Not by chance, the brain drain is now rife and increases the backwardness of these areas with a multiplier effect. It is easy to imagine that politicians are voted by the remaining people and, even then, are old-age. So that, the political body interested in running after obsolete requests on the other hand and it is not able to be on track with the current tendencies.

The purpose of this research is to support the political and social efforts developing a new theoretical-methodological model of territorial innovation able to trigger territorial, institutional, and community transformative dynamics decisive for regenerating inner areas.

The proposed method is following the neo-endogenous approach in the short supplied chain, and attempts to promote area-based local development through innovation, cooperation, and networking.

The model will emphasize the role of the endogenous resources of the inner areas bringing citizen-consumers towards these areas and favoring their becoming as an experiential milieu where production, consumption, and communities coincide.

The method will be applied to three cases studies to provide both political and economical implications. For the first aspect, the researcher will fit out new insights and suggestions for SNAI application, meanwhile, for the second aspect, the researcher will develop an innovative territorial model propitious to the inner areas development.

Quality of Government and Women's Political Empowerment in European regions: Sorting out the Causality

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Pecs-G25-R Institutions, Political and Decisional Processes, B020, August 25, 2022, 2:00 PM - 3:30 PM

This study investigates the link between women's political empowerment and the quality of government in a sample of 233 European regions. Given that the relationship is highly simultaneous, we use exogenous variation in preindustrial societal traits, legal origins, geographic characteristics, and historical socio-demographic features to construct instrumental variables for the quality of government and women empowerment. A novel aspect of our work is that we use random forests forecasts in the construction of our instrumental variables. This machine learning technique helps build strong instruments given that its predictive accuracy is superior to that of linear regression models. Our IV regressions show that women's political empowerment increases the quality of government and that the quality of government also exerts a positive impact on women's political empowerment. This finding is robust to the effect of influential observations and outliers, the measurement of women's political empowerment, the treatment of other covariates' endogeneity, or alternative estimation strategies allowing for institutional spillover effects across regions.

Climate Change, Water Resources and Economic Impacts: An Analysis for the Brazilian Hydrographic Regions

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Online-G07 Global Warming, Health and Environmental Issues, August 22, 2022, 11:15 AM - 12:55 PM

In the context of global climate change, one of the biggest challenges is water security. In Brazil, the prospect of water scarcity due to long-run climatic anomalies and the regional disparity between supply and demand for water resources point to limitations and risks to various economic and social activities. Given this scenario, analysis integrating climate change, water availability, and economic vulnerabilities is necessary to find and apply adequate adaptation and mitigation instruments. Considering the complexity of the problem, we built an Interregional Computable General Equilibrium (ICGE) model named Brazilian Multisectoral and Regional/Interregional Analysis Model with Water Module (BMARIA-H2O) composed of 67 economic sectors and 12 Brazilian hydrographic regions, all this integrated with hydroclimatic modelling. The results show a drop in real GDP driven by reducing government and household consumption and exports and increased imports. We conclude that the economic losses resulting from the effect of climate change on water availability are considerable and are equivalent to a reduction in GDP of BRL 12.3 billion (or US\$ 5.2 billion) in the realistic scenario and BRL 29.7 billion (or US\$ 12.5 billion) in the pessimistic scenario (year reference 2015). The low substitutability of water (small price elasticity of the water demand) in most user sectors turns price increases into direct shocks to the Brazilian economy. The simulations show that water-intensive sectors, such as water and sewage, forestry production, agriculture, and livestock are the main impacted by climate change.

Decentralization, unfunded mandates and the effectiveness of the response to the Covid-19 pandemic

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Pecs-G39-O3 Regional Consequences of the COVID-19 Pandemic, B016, August 26, 2022, 2:00 PM - 3:30 PM

The Covid-19 pandemic has precipitated a surge in the number and scope of governmental interventions, both in centralised and decentralised states. Theories of decentralisation and recent empirical studies suggest that highly decentralised tiers of government are more resilient to shocks and thus cope better in times of adversity. Yet, little is known about the link between the level of decentralisation and the aftermath of the Covid-19 health crisis. Using an original dataset of 445 regions across 27 OECD countries, this article finds that what lies behind lower or higher Covid-19 mortality rates is not the degree of fiscal and political decentralisation, but rather the mismatch between the two dimensions, also known as unfunded mandates. Whilst higher degrees of fiscal decentralisation may sometimes lead to fewer Covid-19 deaths, the presence of large unfunded mandates shows a positive, statistically significant and robust relationship with Covid-19 mortality rates, thereby offsetting any benefits of greater fiscal decentralisation. Hence, better —not more— decentralisation is needed, as unfunded mandates pose a dangerous threat to the capacity of subnational authorities to address the Covid--19 emergency. In an emergency situation, the dysfunctionality caused by unfunded mandates represent a fundamental threat to the effectiveness of the response of the relevant public authorities to pressing challenges.

Unequal vs. left-behind places: interpersonal inequality, economic decline, and the rise of populism in the US and Europe

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Pecs-G25-R Institutions, Political and Decisional Processes, B020, August 25, 2022, 2:00 PM - 3:30 PM

Economic change over the past twenty years has rendered many individuals and territories vulnerable, leading to greater interpersonal and interterritorial inequality. The rise in inequality is considered to be at the root of the growing discontent fuelling populism and anti-system voting across the developed world. Yet, there is limited comparative evidence as to whether discontent at the ballot box is more a consequence of unequal or left-behind places. In this paper, we assess the link of levels and changes in regional and local wealth and interpersonal inequality with the rise of anti-system voting in Europe and in the United States (US). The analysis —conducted at small region level for Europe and counties for the US— shows that there are similarities and differences in the factors connected with anti-system voting on both sides of the Atlantic. In Europe, left-behind places where income polarisation is greater have heeded the appeal of populism. In the US, the picture is more complex. Although local economic decline and the rise of inequalities cannot explain the support for populism on their own, these factors gain significance when interacted with the racial composition of the area. Declining areas, with a higher share of white people and where inequalities have increased, have embraced populism. Similar counties with a higher share of minorities shunned Donald Trump. This suggests that both factors are forces of political polarization between white and more racially diverse areas.

Assessing existing eco-certifications schemes for the tourism accommodation sector in the EU27

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Online-S44 Assessing tourism sustainability and resilience: new data, methods and tools, August 23, 2022,
11:15 AM - 1:15 PM

With the aim of supporting this sustainable consumption, many Eco-certifications or Eco-labels schemes have been promoted worldwide over the past decades. These schemes are increasingly used to guarantee that goods and services are generated using high environmental standards, while communicating such guarantees to consumers, who, in turn, can make purchases that are more informed. Therefore, eco-certifications can be a potentially interesting market instrument to lower environmental impacts and, more generally, to push towards the green transition. Within the Tourism Sector, Tourism Accommodation Services are responsible for an important sustainable impact regarding aspects such as energy efficiency, water consumption, waste management and recycling, etc. For this reason, Tourism Accommodation Services are the focus of general and specific eco-certifications or eco-labels programs.

To the best of our knowledge, we lack a recent and systematic assessment of the existing eco-certification schemes focused on Tourism Accommodation Services. The main objective of this research is to create an inventory of existing eco-certifications schemes for the tourism accommodation sector in the European Union. The inventory systematically collects information on different aspects and characteristics to be analyzed regarding the different eco-certification schemes, such as date of establishment, service coverage, geographical coverage, scope, criteria considered, number of tourism establishments listed, reliability of scheme, compliance with ISO standards, or transparency. The inventory also includes a geographical database with the number of listings per eco-certification scheme at the highest possible spatial resolution. The purpose of this inventory is to build the bases for a comparative and systematic assessment of existing eco-certification schemes relevant for tourist accommodation services in the EU27, and a preliminary assessment is provided. Eventually, the inventory and the assessment aim to contribute to the development of a new Tourism Dashboard for the European Union.

From overtourism and climate change to recessionary pandemics and resilience: a conceptual discussion on modeling spatial impacts

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Pecs-S59-S5 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 25, 2022, 2:00 PM - 3:30 PM

As an activity strongly relying on mobility and personal interactions, tourism received a strong negative impact from the covid-19 pandemic, with severe implications on local and regional economic performances, with the related social implications. On the other hand, the role of tourism contributing to reinforce the negative consequences of the pandemic is also documented in recent studies. These bi-directional effects have different magnitudes in different locations, thus requiring a comprehensive approach that considers a wide range of factors in order to be quantitatively assessed, both in terms of the past and current negative impacts, and mostly in terms of the potential paths for recovery.

In spite of the limited time passed since the emergence of the pandemic, a large number of studies recently addressed these problems, eventually contributing to support adequate straggles for the resilience of tourism dependent regions. In the case of this activity, it is noteworthy that we could witness a sudden shift from a discussion highly influences by the idea of "over tourism" and the related social and environmental problems on destinations, to a situation of "no tourism", with other type of social and economic impacts. Although the environmental questions related to climate change or the scarcity of non-renewable resources (like fuel, an especially important input for tourism), the economic recession imposed by the pandemic in many tourism-dependent local economies reinforces the pressure for a recovery of mass tourism, rather than a reorientation of tourism activities for less harmful practices.

In this perspective article, I critically assess and systematize the recent contributions on these topics, with the aim of providing relevant insights and inputs for modeling the relations between tourism dynamics, the covid-19 pandemic and the resilience of tourism-dependent regions, in a context where the calls for climate action meet the pressure for urgent economic recovery.

The Rise of Creativity: Analyzing Istanbul's Creative Economy Pattern

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Online-G31-O1 Location of Economic Activity, August 23, 2022, 9:15 AM - 10:55 AM

Between the 19th and 20th centuries, European and American towns developed their economic policies from agriculturally based to industrial-based; however, in the 21st century, they changed their direction from industrial-based to creativity-based. Similarly, creative activities have developed in Turkey since the 1990s, after its acceptance as a European Union candidate. In this process, Istanbul has become a creative metropolis because of high-skilled workers' concentration and supply-demand capacity. Therefore, creative businesses from different sub-sectors started to disperse in Istanbul's districts through their spatial needs and expectations. In this context, this study aims to examine and evaluate Istanbul's creative economy pattern in depth, considering the spatial distribution of 14 creative sub-sectors. The addresses of creative workplaces were obtained from the Istanbul Chamber of Commerce, and they were also digitalized by using the geocoding method.

Additionally, the Quadrat Count Method was used to analyze firms' spatial distribution to determine Istanbul's significant clustering areas. The spatial pattern was also explained in terms of firms' establishing years through Hot-spot Analysis. At the end of the study, results show that creative sectors tend to focus on Şişli, Beşiktaş, Beyoğlu, Fatih, Kadıköy, Üsküdar, and Ataşehir; however, sub-centers such as Beylikdüzü, Avcılar, Pendik, and Kartal have occurred. Undoubtedly, understanding this pattern could be a beneficial source for future urban development policies and guide policy-makers responsible for increasing the competitiveness of Istanbul.

Does it take something extra to work in a large city? Evidence from vacancy postings

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Pecs-S17 The new geography of labor market inequalities, B323/2, August 25, 2022, 9:15 AM - 10:45 AM

This paper explores the relationship between demand for skills and agglomeration economies. We question to what extent a job in large cities are more complex compared to the same job in smaller cities. Most datasets consisting of task and skill descriptions of jobs lack spatial variation in required skills. Using job descriptions from online vacancies, we empirically analyse the spatial variation in skill requirements. The results show that a job in a large city requires more skills than the same job in a small city. Jobs in cities not only require more but also different skills, which indicates a higher level of complexity. In line with a higher specialisation level through a more extensive the division of tasks, workers are expected to master more skills than workers in the same job in small cities.

See extended abstract

Inequality and development: a global view at the broad picture

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Online-G01-O3 Regional and Urban Development, August 22, 2022, 2:00 PM - 3:35 PM

In the last years, there has been an increased interest in the role of inequality in development, especially as inequality has been on the rise within many countries worldwide. In this paper, we reassess the inequality-development relationship paying special attention at i) different measures of development, ii) different dimensions of income inequality, iii) exploring the mediator factor of urbanisation, and iv) exploring the potential mechanism for inequality to have an impact on development. To do so, we i) rely on a large global panel of countries over the last decades including information on economic, social, human and sustainable development, as well as information on the distribution of income within countries, benefiting from recent and detailed data produced by WIID (UNU-WIDER), and ii) complementing our analysis looking at different measures of urbanisation.

We relate to previous studies analysing the complexity of the relationship between inequality and development. First, we relate to papers studying the impact of inequality on economic development (Alesina and Rodrik, 1994; Persson and Tabellini, 1994; Partridge, 1997; Barro, 2000; Forbes (2000); Chen, 2003; Easterly, 2007; Herzer and Vollmer, 2012; Oechslin and Zweimüller, 2014; Ostry et al., 2014; among others). Second, we relate to recent studies pointing to the need to consider the impact of inequality on different dimensions of development beyond income (including Easterly, 2007; Pickett and Wilkinson, 2015; Chetty et al., 2016; Castells-Quintana et al. 2019). Finally, we also relate to papers exploring the different transmission channels for inequality to have an impact on development, and how this impact may therefore depend on the type of inequality (see for instance, World Bank, 2005; Easterly, 2007; Marrero and Rodriguez, 2013; and Castells-Quintana and Royuela, 2017). An overall reading from all this literature is that the inequality-development is complex, and that the impact of inequality is likely to be different depending on different aspects of the distribution of income. Our paper aims to connect these different strands in the literature and contribute to it by exploring in depth i) different dimensions of development, ii) the impact of complementary measures of inequality, capturing diverse aspects of the distribution of income, iii) the role of agglomeration economies, and iii) different mechanisms in the inequality-development relationship.

Car Safety Systems, Government Intervention, and Traffic Violations: Evidence from Police Records in Israel

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Pecs-G17-O3 Transport and Accessibility, B018, August 25, 2022, 4:00 PM - 5:30 PM

Researchers and policy makers advocate the installation of car safety systems as an effective strategy to mitigate the occurrence and consequences of traffic accidents. Indeed, over the past decade, the popularity of installing advanced driver-assistance systems (ADAS) in cars has increased markedly. However, the effectiveness of ADAS is subject to debate, primarily because these systems intervene in drivers' perceptions and actions and could lead to adaptive behavior. Moreover, it is unclear whether adaptive behavior is susceptible to policy measures incentivizing or regulating the installation of such systems. Using complete national data for the installation of safety systems and speeding tickets issued over the course of a single year, we were able to differentiate between the responses of drivers of cars purchased during three policy regimes (before government intervention, incentivized intervention, and mandatory intervention). When disregarding the role of policy, we found that the safety systems do not have a significant impact on driver behavior, as manifested in the prevalence of speeding tickets. However, when we took policy regimes into account, the desired negative association between safety systems and the prevalence of speeding tickets was evident only for cars sold before any policy promoting safety systems was introduced. These findings suggest that adaptive behavior that offsets the benefits of safety systems is accentuated when policy measures are in play.

Temporary Space Analysis of the Professionalization of tourist rental platforms after Covid19 through Markov Chains. Madrid Case Study

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Online-S03 Opportunities, risks and challenges of the digital transformation in tourism. Sustainability, Sharing hospitality and CoVid-19, August 22, 2022, 11:15 AM - 12:55 PM

Through growing rental tourist in Spain, vacation platforms emerged taking advantage of this growth in the sector and as a new business niche. Collaborative consumption and the platform economy, linked to urban tourism, play an important role in reorganizing the daily economic and social life of tourist cities. In this context, Airbnb has been one of the most studied examples of vacation rental platforms.

However, Airbnb's activity has begun to professionalize so much that it has completely abandoned its link with the collaborative economy that it boasted so much about in its beginnings. Thus, the objective of this research is to analyze the professionalization of Airbnb in the city of Madrid from 2015-2021 in the four areas established by the Special Plan for the Use of Lodging in the city of Madrid, and to determine whether the behavior of professionalization of supply behaves in a similar way in all tourist rental restriction zones. We use spatial Markov Chains to model changes in the distribution of Airbnb rentals, this has technically been used before in population growth and wealth distribution models, but has not been used before to model tourist rental growth.

We follow the methodology of Spatial Markov Chains that consist of 6 steps; The first is based on the representation of the distribution of the Airbnb housing supply 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 the effects of spatial and global autocorrelation on the transition probabilities are evaluated. In the fourth, fifth and sixth steps, an in-depth analysis is carried out to detect the existence and interaction of spatial mechanisms in the direction of movements and the classification in the mobility of Airbnb's supply distribution.

However, in general conclusions, we find that the professionalization of Airbnb increases the possibilities of housing speculation and that it has directly lost its social function to become a means of speculation.

Public Expenditure and Unequal Income Distribution in EU regions. Theil decomposition.

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Online-G29-O1 Regional and Urban Policy and Governance, August 23, 2022, 11:15 AM - 1:15 PM

The 2008 economic crisis and the more recent Covid-19 pandemic have increased EU concerns about the effects of unequal income distribution on economic growth and social development and have rendered public economic and social policies unavoidable. The current work studies the relationship between inequality in income distribution and fiscal policies in the EU regions. More concretely, we study the evolution of inequality in wages distribution in the service sector in the European regions between 2005 and 2018. Differences in wages distribution respond to regional differences but also to the dissimilar productive specializations within the service economic sector between EU regions. The choice of the service sector obeys to, first, its important share, approximately around 70%, in terms of both gross value added (GVA) and employment, in EU economies. Secondly, the required data disaggregation is not available for the secondary sector and; finally, the primary sector is not quantitatively important in EU economies in terms of GVA and employment.

We begin by measuring inequality in the wage distribution by using the Theil-decomposition. This methodology distinguishes between intra-regional inequality and interregional inequality. The intra-regional inequality measures, within a region, inequality in wages between the different activities in the service sector (i.e., determined by the productive specialization in the service sector in the region). Interregional inequality measures, within a particular activity in the service sector, inequality in wages between the EU regions (i.e., determined by regional inequality).

Once we have a Theil-measure (Conceição and Galbraith, 2000) of inequality in wages distribution across EU regions, focusing on 2018 and by means of multilevel analysis, we study how this measure of wage inequality is affected by the public expenditure and the tax structure in those regions; as well as by the percentage of population with tertiary education and the political and legal stability in the region.

Preliminary results suggest that crucial disparities in the Theil index are due to interregional inequality. Moreover, increases in public expenditure and tax progressivity; as well as increases in the percentage of population with tertiary education and political and legal stability, reduce wages inequality among EU regions.

References:

Conceição, P. and Galbraith, J.K. (2000). Constructing Long and Dense Time-Series of Inequality using the Theil Index. *Eastern Economic Journal*, 26(1), 61-74.

What helps firms grow in regions? Regional institutions and firm performance

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Pecs-S25-S2 The spatial dimensions of productivity for regional growth, B323/1, August 24, 2022, 2:00 PM - 3:30 PM

This paper aims to understand how the quality of institutions relates to firm performance at the subnational (regional) level, in the OECD and selected non-OECD countries. By combining data on regional institutional quality (from corruption to quality of public services to political instability) and relating it to various measures of firm performance (employment, productivity, business dynamics), the paper aims to go beyond the dictum that (regional) institutions matter and provide a more detailed understanding of which institutions matter and why.

The study modifies a standard framework in the literature (Williamson, 2000[1]) to categorise institutions not only by their timescale (fast, medium and slow moving), but also by their relevance at the regional level. It then proceeds to identify both the direct effect of the various types of institutions on firm performance and the indirect effects, by exploring channels such as innovation (as measured by patents, product and process innovation).

Preliminary findings suggest a positive relationship between stronger institutions, employment and labour productivity. Weaker institutions are associated with more business dynamics, especially business death rates, as well as smaller firms and a lower density of active firms. Conversely, there is preliminary evidence of a positive relationship between weaker institutions and the business survival rate.

Fast and slow moving institutions exhibit stronger correlations with business dynamics, while medium and slow moving institutions play a more important role for economic value creation. The analysis provides evidence that innovation is an important channel through which higher-quality institutions contribute to improved productivity, employment and overall economic activity.

Predicting housing bubbles using machine learning: An optimistic view

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Pecs-G16 Real Estate and Housing Markets Issues, B017, August 26, 2022, 9:15 AM - 10:45 AM

Dwelling units are both consumer and investment products. This double facet view, together with the urban spatial development and the dynamics of consumer's preferences, are among the factors that cause a constant change in urban neighborhoods demand. But sometimes, the demand for some neighborhoods rises more than can be explained as rational behavior or in traditional supply and demand schemes. In some cases, this rise in demand might turn into a price bubble: a situation in which a price of a certain asset (a stock a house or a virtual currency) increases over its real value and eventually 'burst' in rapid and dramatic price decrease. According to the 'efficient market hypothesis' (EMH), the most exactable economic theory to explain assets pricing, in an efficient market, all prices are fully reflect the assets values and expectations for future returns are already included in it. Therefore, since future value expectations are already embedded in current prices, predicting price bubbles in advanced (or any other future price change) is impossible. That unless one can find a new, better and faster, method of market analyzing. This is the main issue of the current research: Most past research analyzed housing bubbles post-mortem or tried to predict it locally and during a short period. The current research aims to find a universal long time prediction tool for change in demand for urban neighborhoods. More specifically, we aim to predict housing price changes in a neighborhood relative to its region. For this task we use millions of housing transactions in 7,195 neighborhoods in England and Wales since 1995, together with hundreds of socio-economic features taken from the UK censuses. We aim to predict future market scenarios, using innovative machine and deep learning methods. We use the data from 1995 to 2011 as a training set, and test whether the demand for a neighborhood rises, declines, or remains unchanged between 2011 to 2016, and then again between 2016 to 2021. This way we get 9 possible tags to classify. Although the obtained results are preliminary and only partially accurate, our conclusion is that we can be optimistic regarding the capability of machine learning methods to forecast future prices in general, and price bubbles in particular.

Evaluation of The Covid-19 Crisis Within the Context of Industrial Flexibility Capacity Through SMEs in Antalya/Turkey

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Online-G39-O2 Regional Consequences of the COVID-19 Pandemic, August 23, 2022, 9:15 AM - 10:55 AM

Although the Covid-19 crisis is widely considered in the economic sense, Small and Medium-Sized Enterprises (SMEs) were the most affected by this situation, most of them experienced a rapid decrease in income or closed. Although the Covid-19 crisis is evaluated on a global scale in terms of its impact, it requires regional thinking in terms of problem detection and solution proposals. The higher the sectoral diversity of the Region, the stronger the economic resilience coefficient or flexibility capacity (Gong, et al. 2020). In this context, the aim of the project is to analyze the effects of the Covid-19 crisis on SME scale in the city of Antalya. Research questions; 1. Based on the four periods (November 2017-November 2020) according to the economic activities in the city of Antalya, Nace Rev.2 code, which sectors are more resistant to the Covid-19 crisis, which sectors are more fragile? Accordingly, what is the economic flexibility capacity of the city of Antalya? What are the Opportunity sectors opened in Antalya during the Covid-19 crisis period? 2. Based on the data of the SGK Antalya Provincial Directorate data (Nace Rev.2 code 2-digit sectors) of the districts of the city of Antalya at the scale of SMEs, based on four periods (November 2017-November 2020). Accordingly, what is the economic flexibility capacity of the districts of Antalya? Within the scope of this purpose and research questions, the flexibility capacity of the Antalya economy will be revealed by analyzing which sectors are resistant to the Covid-19 crisis and which sectors are fragile according to the two-digit Nace Rev. Thanks to this analysis, the sectors that show specialization in the city of Antalya will be determined and the opportunity to compare with the sectors most affected by the Covid-19 crisis highlighted in the literature will be obtained. In the research, Location Coefficient technique, Herfindahl Index, Diversity Index Level-3 (province) scale will be calculated on the basis of employment, the number of workplaces and sectoral patent data. In the next step of the project, in line with this flexibility capacity, it will be determined whether there is a spatial difference between the sectors of the crisis in the district of Antalya province. The Covid-19 crisis differs spatially in the city of Antalya on a sectoral scale.

Simulation Modeling of the Water Environmental Policy Evaluation in Finland

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Online-G29-O2 Regional and Urban Policy and Governance, August 23, 2022, 2:00 PM - 3:40 PM

The purpose of this study is to build the simulation model of the water environmental policy evaluation in Finland. Firstly we quantitatively try to clarify the relationship of economic activity and water pollutant emission in Finland. The economic activity means that the production of some kinds of industry sectors and consumption of household in Finland, and which are the sources of the water pollutant emission. Finland, the target area in this study, has a land area of about 338,000 km², and more than 70% is occupied by forests and semi-natural areas. Nearly 90% of the land, including wetlands and water bodies, has a natural environment. Helsinki, the capital and largest city, is located at the southernmost tip of the city and faces the Gulf of Finland with a population of 653,835 (2019). The economic activity of these cities discharges some kinds of water pollutant such as Total Nitrogen, Total Phosphorus, etc. Part of Finland also faces the Baltic Sea, and water pollutants from activities of land area flow into the sea area through rivers. The surrounding sea areas of Finland such as the Baltic Sea are still evaluated as being in a eutrophic sea. To improve the water quality of inland water area and surrounding sea areas of Finland, it is also necessary to clarify the emission structure of water pollutants from the socio-economic activities and the natural environment, and analyse for evaluation of the water environmental policy using model simulation.

Intra-regional trade in Central America: An exploration using a gravity model

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Online-G36 Trade, Global and Local Value Chains, August 22, 2022, 4:00 PM - 6:00 PM

This article uses three gravity equations to achieve three goals: (1) the first is to explore whether or not there is evidence of trade creation or diversion between the countries that make up the Central American Customs Union, which includes El Salvador, Guatemala and Honduras; (2) the second is to estimate the effects of bilateral non-tariff barriers on intra-regional trade flows; (3) and the third is to examine the relationship between the commercialization of merchandise exempted from free circulation within the Central American territory, with total intra-regional export flows.

First, the article concludes that there is currently insufficient evidence to affirm that trade creation or diversion exists, and any indication of the presence of any of these phenomena is probably the consequence of factors unrelated to the customs union. Second, the article finds an inverse and statistically significant relationship between intra-regional exports and non-tariff barriers for all countries except Costa Rica. Therefore, the hypothesis that the presence of non-tariff barriers in intra-regional trade discourages such trade flows is ruled out. And finally, the article concludes that, due to the low relative weight of goods exempted from free circulation within the general flow of intra-regional exports, no level of exchange of these goods is statistically significant, and, therefore, has no influence on intra-regional exports of countries.

The paper contributes to the collective knowledge about the Central American intra-regional trade dynamics, and supports the work of regional economic integration as it provides evidence that supports the idea that despite the existence of tariff and non-tariff barriers to intra-regional trade, and despite the imperfections of the process of Central American economic integration itself, this process gradually progresses towards more and more mature and complete forms of economic integration, proving that, at least in the commercial area, Central America possesses a unique and attractive resilience and pragmatism.

The role of universities in regional development: the case of the state university of ceará (uece), Brazil

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Pecs-S58-S1 University impacts on the local and regional economy, B314, August 25, 2022, 2:00 PM - 3:30 PM

(See extended abstract)

THE ROLE OF UNIVERSITIES IN REGIONAL DEVELOPMENT: THE CASE OF THE STATE UNIVERSITY OF CEARÁ (UECE), BRAZIL.

Abstract

According to the Times Higher Education through The Impact Rankings 2021, the State University of Ceará (UECE) is ranked 92nd in the world and 4th in Brazil in "Quality Education", besides being indicated as one of the best universities in Latin America and the Caribbean by the Latin America University Rankings 2021. Thus, the purpose of this paper is to discuss the role of UECE in the regional development of the State of Ceará-Brazil. For this, part of the available theoretical referential and secondary data was used, taken from official documents, such as the Institutional Development Plan, the Management Report, and the catalog "UECE in numbers", collected through the institution's website. With the proposed work, it was noted that the UECE has sought to contribute to regional development, by bringing from its mission, principles, and values related to diversity and the environment, and the search to reduce social disparity. It was concluded that the UECE is an entrepreneurial university, as it creates mechanisms to support innovation, technological development, and the entrepreneurial spirit of its students and faculty. Furthermore, it is a fundamental part of the Triple Helix of State of Ceará-Brazil, because through partnerships with the State Government and the private sector it promotes programs and projects for society, through research, incubator development, and inclusive activities.

Keywords: Regional Development. Entrepreneurial Universities. Triple Helix.

Italian small islands: tools for a multi-criteria evaluation of the effectiveness of digital transition

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Online-S37 Disparities in a Digitalising Islands: Networks, Entrepreneurship and Sustainable Development,
August 23, 2022, 2:00 PM - 3:40 PM

The research aims to contribute to the ongoing debate on the challenges and opportunities of the digital transformation accelerated by the COVID-19 outbreak. Specifically, in contexts that are less exposed to global dynamics, disruptive innovations may overlook idiosyncratic forms of cultural, social, economic, and environmental unsustainability, putting social cohesion and people's quality of life at risk.

Based on these considerations, the research examines the case of the Italian small islands. The latter can be seen as a "mosaic" with many qualifying dimensions having a conventional nature that is difficult to quantify in absolute terms. However, some degree of standardization is needed to measure the impacts of the ongoing digitalization process.

Lying on these premises, the research presents a composite index that can be used to evaluate the impact of the effectiveness of the digital transition in addressing socioeconomic insularity. The research also investigates whether, alongside forms of geographical proximity, the development of the Italian small islands may relate to the identification of social, territorial, and economic similarities, along research lines which are not immediately evident. The latter may facilitate the spread of good (not best) practices between different insular contexts. The statistical evidence collected is discussed within a theoretical framework based on center-periphery relations and based on the results achieved a set of policy recommendations is elaborated.

Polishing impurities and generating synergies through cooperation and competition: specialization and proximity at the service of innovation

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Pecs-S40-S1 Innovation catalysts, regional development and unintended consequences, B313, August 26, 2022, 11:15 AM - 12:45 PM

The current high degree of uncertainty and dynamism forces companies to make constant efforts to improve or, at least, maintain their relative competitive position in the markets. In this context, although globalisation predicted a decrease in the strategic importance of business location, the empirical evidence seems to indicate that it has increased, especially in recent years. This paper analyses in depth the effects of business location in specialised environments on social capital and interorganisational cooperation, as well as the impact of these factors on the innovative performance of firms. This study has been carried out on the electricity supply sector. After calculating the agglomeration coefficient in each of the 50 Spanish provinces, using secondary data, the research hypotheses have been tested using the second-generation multivariate partial least squares (PLS-SEM) technique. The results provide empirical evidence of the existence of a positive and significant relationship between industrial agglomeration in territorial clusters and the innovative performance of firms. In addition, it is confirmed that the social capital of firms and their degree of cooperation with entities in their environment partially mediate this relationship. On this basis, it is concluded that business location in specialised environments is of strategic importance for companies. Likewise, organisations should be aware of the importance of building a relational network formed by valuable agents and make efforts to effectively establish cooperation agreements aimed at promoting the achievement of business objectives.

The impact of estimated sub-national purchasing power parity on macroeconomic measures

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Online-G01-O4 Regional and Urban Development, August 22, 2022, 4:00 PM - 6:00 PM

This paper estimates sub-national Purchasing Power Parities (PPPs) for OECD countries. Due to the lack of PPPs at sub-national level, regional Gross Domestic Product (GDP) figures have been traditionally adjusted using national PPPs. The simplifying assumption that there are no regional differences in a country, and implicitly that all regions of a country have the same cost of living, might lead to regional GDP figures (adjusted for national PPPs) that are biased and might limit the design and implementation of regional policies. This paper tries to overcome this problem by estimating PPPs at sub-national level for OECD countries (TL2 regions) and EU-27 countries (NUTS2 regions) for a time series 2000-2018 through an econometric method, which uses publicly available data and is based on the Balassa-Samuelson hypothesis. The method used in this paper consists of three steps. Step one identifies the relationship between price level, income level and composition of the GDP at regional level in the United States. This relationship is used in step two to estimate OECD regional prices. OECD regional prices are then used to estimate OECD regional price parity indices in step three. This paper also presents the implications of adjusting regional macroeconomic figures with sub-national PPPs in terms of economic welfare, regional convergence and the impact on EU cohesion funds.

Businesses, tourism and environmental sustainability in protected areas

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Online-S04-S1 Sustainability, water and energy use in the productive sectors: tourism, services, industry, agriculture and public administrations, August 22, 2022, 11:15 AM - 12:55 PM

In recent years, tourism in natural areas has gained importance in the tourism panorama. Nature tourism is presented as a key factor in the socio-economic sustainability of protected areas. Therefore, this piece of work aims to analyse the relationship between the development of tourism enterprises located in the areas of influence of Spanish peninsular national parks and different aspects related to the perception of the local population.

For this purpose, data were collected referring to the economic evolution of tourism companies and the sustainability of the environment perceived by local agents between the years 2009-2019. Because of the apparent heterogeneity of the data, these indicators were aggregated in clusters by running cluster analysis and then were set as part of a binary regression. The resulting clusters represent the dimensions around which the study question revolves. Besides, once they are obtained, further studies may be performed. These three clusters are (1) the operating income, (2) the economic profitability and (3) the perceived economic development. ANOVA tests were performed to assess whether the clusters were correctly classified.

Afterwards, a binary regression was run using the clusters as independent variables for defining those more profitable businesses and those less profitable businesses. The results draw the following main conclusion: the participation of the local population in the planning and management of the public use of these protected natural areas is essential to achieve sustainable development.

Unveiling the Current Issues in Circular Economy

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Online-S04-S2 Sustainability, water and energy use in the productive sectors: tourism, services, industry, agriculture and public administrations, August 22, 2022, 2:00 PM - 3:35 PM

The circular economy is a top priority issue on the European green agenda. However, despite this topic having been studied for decades, there seem to be no clear ideas about how to carry out the strategies and actions that allow achieving the presupposed objectives. For this reason, this paper aims to offer a systematic literature review that might provide researchers with a synthesis paper on what has been studied so far. To achieve that, descriptive and bibliometric analyses were performed on the bibliographic data obtained from the Web of Science. That, together with the study of the most prominent extant pieces of work in the field, both historical and present, allow offering a comprehensive picture of the state of arts. Thus, the main conclusions are that there is no clear study trend and, consequently, efforts are dissipating. In addition, the problem of the budget limitation is acknowledged since it might prevent researchers from carrying out solid experiments that may allow finding general solutions to the problems derived from the implementation of circular economy strategies or actions.

Teleworking in large cities in times of pandemic: an exploratory analysis of socio-demographic and spatial patterns in Madrid

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Online-G39-O1 Regional Consequences of the COVID-19 Pandemic, August 22, 2022, 4:00 PM - 6:00 PM

Teleworking has been one of the main strategies rolled out by companies and institutions in response to lockdowns and the public health crisis created by successive waves of COVID. Two years after the initial outbreak, we are beginning to gather empirical evidence that enables us to quantify and characterize the phenomenon of teleworking, most notably in relation to its spatial consequences.

Here, we analyze two sets of microdata that have remained largely unexplored to date. One of these sets was obtained from a survey conducted at provincial level by the Spanish Statistical Office (INE) in 2021, and the other from a survey conducted at city level by Madrid city council in the second quarter of 2020. Based on this information, we aim to contribute to debates about the more advantageous position of urban territories as regards teleworking, thanks to specialization in particular economic activities and the higher number of qualified professionals, and to study socio-demographic differences among workers (i.e. age, gender, educational level, income) in relation to how these may affect this phenomenon and generate a new digital divide. The results for Madrid confirm these general trends and indicate that the spatiality of teleworking is shaped by the socio-demographic characteristics of a neighbourhood and the unequal nature of the activities carried out by workers during the pandemic. Furthermore, the teleworking strategy has had a greater impact not only in the central city of Madrid but also in more peripheral but well-connected towns in the metropolitan region.

Smart tourist destinations. The Spanish case: a qualitative leap towards sustainability and economic growth

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Online-S04-S1 Sustainability, water and energy use in the productive sectors: tourism, services, industry, agriculture and public administrations, August 22, 2022, 11:15 AM - 12:55 PM

Smart tourist destinations (DTI) or smart tourism destinations, have their origin mainly in smart cities or smart cities. Currently, Spain is laying the foundations for smart tourist destinations, becoming a pioneer and a global benchmark, and collaborating with institutions both at a European and international level to implement this new tourism management model. For this, it has the help of the State Mercantile Society for the Management of Tourism Innovation and Technologies (SEGITTUR), dependent on the Ministry of Industry, Commerce and Tourism, and attached to the Secretary of State for Tourism. This organization applies a Smart Tourist Destination methodology that is based on the analysis of destinations around five axes: governance, innovation, technology, sustainability and accessibility, promoting an integrating vision of the territory including all management areas and all the actors that influence and participate in their development. The methodological process is divided into two cycles, the first, diagnosis and planning, responds to the need to make a comprehensive diagnosis of the destination, thus knowing the starting point, to go on to design an action plan that integrates the destination's own strategy to its transformation into DTI. Cycle two, execution and monitoring, is in which the necessary actions are materialized to achieve the Smart Tourist Destination distinction through the implementation of the action plan. There are currently 62 recognized DTIs, of which 2 are international (Tequila and Cozumel)

The tourism sector as a source of wealth and employment in Jordan. 2020

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Online-S04-S2 Sustainability, water and energy use in the productive sectors: tourism, services, industry, agriculture and public administrations, August 22, 2022, 2:00 PM - 3:35 PM

Summary

The purpose of this research is to understand and evaluate the role of sustainable tourism in alleviating poverty among the community of Petra province. This study deals with the effectiveness of the contribution of the tourism sector to the local community in Jordan (Petra Governorate) considering the participation of the local population in tourism activities directly or indirectly, especially with regard to poverty alleviation at the family level. and community. Tourism in Petra is growing rapidly but the local community does not take the respectable growth with tourism, the magnificent pink tourist town the local community is suffering from lack of education, poverty, lack of development as well as existence of problems caused by poverty and ignorance lack of education.

Keyword: sustainable tourism, poverty alleviation, Jordan.

Geographies of inequality : children's wellbeing across Europe

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Pecs-G23-O2 Segregation, Social and Spatial Inequalities, B017, August 25, 2022, 4:00 PM - 5:30 PM

In the face of growing concerns about the impact of COVID-19 on children around the world, the impact on their well-being is frequently called into discussion. As such this study reports on the findings of the Children's Worlds survey, an international survey in which children are asked about their views on their lives. The study examines the differences in children's wellbeing across the European countries before and during the COVID-19 pandemic, with a particular emphasis on Wales. Using geostatistical methods, our research seeks to investigate variations in children's wellbeing by linking them to socioeconomic indicators and COVID-19-related variables. The main aim is to see if and how the pandemic influenced the children's wellbeing by age and geography, and if it sustained already existing socio-spatial inequalities. The findings suggest a decline in children's overall wellbeing, with Wales, for example, recording a notable decrease in aspects linked to school, followed by aspects related to family. There were also important differences observed between younger (10 years old) and older children (12 years old), with the latter being less content with their life during the pandemic.

Resource-based industries and emissions embedded in value chains: a regional analysis for the Latin American case

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Pecs-G20-R1 Cities, Regions and Digital Transformations, B314, August 24, 2022, 11:15 AM - 12:45 PM

Regional natural resource endowment has a significant influence on carbon-based pollution embedded in value chains. This article analyses the relative content of CO₂ emissions embedded in regional supply chains in different countries in Latin America. From the perspective of dependence on natural resources, we estimate the contents of natural resource industries value-added and carbon dioxide incorporated in goods interregional and international exports. An inter-regional input-output analysis was applied to trace and map the interplay between resource industries in terms of polluting, revealing a picture of emissions in value chain trade from a subnational dimension. The main result suggests an interregional dependence that implies that resource sectors, generally intense in pollution, generate more CO₂ emissions in proportion to the added value generated in each regional economy, which has considerable implications for the sustainable development of these subnational areas.

Supply and demand analysis of structural dimension on carbon-based emissions in Brazilian regions

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Pecs-S06 Climate adaptation challenges on regional and urban scale - the new form of regional inequalities,
B323/2, August 24, 2022, 4:00 PM - 5:30 PM

We computed the main structural factors associated with changes in total CO₂ emissions in the Brazilian economy, considering both consumption and income sides from 2011 to 2018. The study innovates by incorporating the regional dimension and the perspective of income (value-added) further associated with consumption (final consumption), identifying the main driver-specific factors generally ignored by the literature from an input-output technique. Subnational regions have an important role in terms of the carbon emissions content generated and transferred through the subnational supply chain. For policy purposes, the results shed light on the role of regional disparities in pollution intensity and in identifying the environmental responsibility of the country's domestic supply chain.

A psychological process of senior driver's surrendering of their drivers' license

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Online-G17-O1 Transport and Accessibility, August 23, 2022, 9:15 AM - 10:55 AM

In Japan, the society is rapidly aging, and the population in local area is decreasing. Every year, older drivers made fatal traffic accidents successively in Japan. After these miserable accidents, the number of the surrendering their driver's license were increased in mainly urban area. On the other hands, even those who have the anxiety about driving are yet unable to surrender their driver's license if they are in the poor public transport environment and no support from the others.

Uenohara city in Japan is about 30,000 population and located in the west of Tokyo. The city is covered by mountain and citizens live in the limited area along the river. This city has begun the supportive policy for senior drivers to surrender their driver's license. To make those policies more effective, we started the study on the attitudinal changing process of those who surrendered driver's license. The process of this study is below.

- 1) questionnaire survey on the attitude and behavior before and after surrendering of drivers' license. This survey was conducted to those who use the support policy by the city. The number of respondents is sixteen.
- 2) Supplementary interview survey to the several respondents of the questionnaire survey. This was conducted to understand the process to the decision of driver's license surrender. We selected four respondents as the interviewee.
- 3) Through the questionnaire survey and the interviews, we construct an attitude-behavior model of surrendering the driver's license. Our process model has four constructs. Those are attitude, personal norm, perceived behavioral control, moral obligation and meta-cognition.
- 4) Based on the process model, we conduct a questionnaire survey on the attitude and intention of the drivers who did not surrender their license. This survey randomly included two different stories in the questionnaire. One is about the traffic accident by the senior drivers and another is the physical change by aging. We can compare the effect of these contents on their response. We compared the data and the result shows that, there is no significant difference between them, but these stories are only positively effective in encouraging to think of surrendering driver's license only those who have thought about it. We assumed that these stories will encourage thinking of surrendering driving licenses, but the reality is that they do not.

Economic activities and droughts: exploring the case of the São Paulo Metropolitan Area

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Pecs-G31-O1 Location of Economic Activity, B020, August 26, 2022, 9:15 AM - 10:45 AM

Droughts can lead to severe socio-economic impacts on cities by affecting industrial production, food and energy price, and actual income. As the frequency and intensity of this climatic event are increasing because of climate change, an assessment of cities' vulnerability to drought is essential to develop adaptation strategies. This study explores the economic effects of droughts on the São Paulo Metropolitan Area (SPMA), an area with a high concentration of people and economic activities and frequently hit by droughts. Its method comprises an integrated system of analysis that puts together climate and economic databases. The integrated system modeling divides into three steps: i) calculate a variable to represent drought conditions; ii) estimate the direct impact of droughts on sectorial activities through an econometric model; and iii) estimate the total impact on the economy through a Spatial Computable General Equilibrium (SCGE) model calibrated with municipal data. The results of the econometric model suggested that energy and water-intensive industries are the ones more sensitive to droughts in the SPMA. The results from the simulations in the SCGE model showed that the impact on these sectors could spread to the entire economy, indirectly affecting activities such as land transport, construction, and personal services and decreasing the total production and disposable income of metropolitan municipalities.

FDI round-tripping: what are the main factors?

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Pecs-S52-S2 Foreign Direct Investments, trade and local development: drivers and impacts, B323/2, August 25, 2022, 4:00 PM - 5:30 PM

FDI round-tripping is occurring increasingly often around the world. Round-tripping is defined as an investment in the home country of the multinational company, by use of an intermediary in a foreign country. Round-tripping is important from an economic policy perspective, because it is a way to avoid certain taxes and regulations, and it is important from a business perspective as well, as the “round-tripped” FDI-related company is not foreign-owned in reality. Furthermore, it is relevant in terms of having a distorting impact on “traditional” FDI data and thus our understanding of the geographic breakdown of FDI flows. According to the literature, round-tripping may be motivated by tax differences and preferential treatment given to foreign firms as well as by political and institutional factors such as access to foreign capital markets, to better financial services or concealment of the true identity of the investor. Round-tripping can even serve “system escape” purposes to avoid excessive state control or uncertainties in general. The literature analysed round-tripping motives at an individual country level (country case studies on Russia and China mainly), or econometric studies, where roundtripping is lumped together with transshipment, but little is known about its importance and characteristics from a country of origin perspective.

We present short country case studies in order to find possible explanations for round-tripping for Austria, Czechia and Hungary. Furthermore, our study examines the determinants of round-tripping of FDI using a novel database compiled from BPM6-BMD4 FDI data for 21 OECD-member economies for the period 2013-19. We estimated our models with robust Driscoll-Kraay standard errors. We show that the share of round-tripping related FDI in total inward FDI increases with the level of GDP per capita of the country of origin, decreases with its size (measured by the population). It increases with entry barriers and with tax levels. More restrictive FDI environment goes together with less round-tripping. Our results are novel as they separate roundtripping from other flows of FDI and they show the relevance of taxes, usually not found significant in empirical, but found important in country case studies and theoretical approaches. These factors are relevant for mid- to highly developed countries. In the case of emerging economies, explanatory factors of course may differ from these – this is one possible avenue for further research. See extended abstract.

Tea Tourism: A Review of Literature

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Online-G32 Tourism and Culture, August 23, 2022, 11:15 AM - 1:15 PM

A new sub-type of food & beverage tourism has emerged in the last two decades – tea tourism. From a tourism perspective, tea tourism is an opportunity to diversify tourism and to revitalize tourism. At the same time, tea tourism contributes to the branding of destinations, harnessing authenticity, preserving local diversities and traditions, promoting destinations, and authenticity. The authors define tea tourism, place it among the different sub-types of food and/or wine / beverages, and identify tea tourism motivations and the features of tea tourism destinations – tea attractions, tea ceremonies, tea cultivation and production, tea festivals and events, tea history, tea manufacturing, tea retailing, tea services, and tea traditions – in an attempt to promote this sub-sub-type of cultural tourism in Romania.

Keywords: food tourism, beverage tourism, tea tourism, traditions

JEL Classification: M30, M32

Creative tourism between theory and practice

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Online-G32 Tourism and Culture, August 23, 2022, 11:15 AM - 1:15 PM

This paper focuses on a relatively young sub-type of cultural tourism – creative tourism. The latter is defined and its conceptual evolution, experiences and relationship with cultural tourism are presented in detail. The paper examines, through a collective case study, the way theoretical solutions advanced by creative tourism from a double perspective – supply and demand – can be turned into practical solutions as creative spectacles, creative spaces and creative tourism, while taking into account the different contexts of creativity in tourism – artistic focus, competitive environment, cultural context, development context, engagement on consumption process, geographical scale, heritage, identity, intervention, learning orientation, mode of consumption, reproducibility, spatial context, and timescale.

Keywords: cultural tourism, creative spectacle, creative space, creative tourism

JEL codes: L83, Z30, Z32

The Intercity Impacts of Work-from-Home in a Spatial Hedonic Model with Remote and Non-Remote Workers

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Online-G03-O2 Demographic Change, Population, Migration and Mobility Behaviour, August 22, 2022, 4:00 PM - 6:00 PM

This paper formulates a spatial hedonic equilibrium model that shows inter-city impacts of the introduction of work-from-home. Following Brueckner, Kahn and Lin (2021), the paper attempts to theoretically study how the introduction of work-from-home, which allows workers to relocate across cities while keeping their original jobs, impacts housing prices, population and employment levels. Extending Brueckner et al. (2021), the current paper divides the workforce into two types of workers, remote and non-remote, to allow for a more realistic work-from-home model. Additionally, the model uses explicit functional forms for production and utility, resulting in closed-form equilibrium solutions conditional on the extent of productivity advantages, amenity advantages, and degree of complementarity between worker types. The current paper aims to examine whether the main results in Brueckner et al. (2021) still hold in the modifi

ed model.

The transformative leadership compass: competencies for driving public organisations transformation

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Pecs-S02 Building Resilient Public Sectors, B310, August 25, 2022, 4:00 PM - 5:30 PM

In the context of public organisations that are increasingly challenged to become transformation systems, a critical role as a transformation catalyst is played by people who can exercise a leadership position by activating, facilitating, and supporting initiatives for transformation. In the context of public organisations, a leader can be seen as any professional who is responsible for fostering and supporting an organisational cultural attitude aiming at the development of an existing business, or even contributing to the creation of a new one, by having at the core or embracing transformation as the continuous development and application of knowledge for companies' value creation. This paper aims to analyse the fundamental competencies distinguishing a transformative leader. For this reason, the framework of the Transformative Leadership Compass is introduced as a model for descriptive and normative purposes. It outlines the critical competencies that distinguish a Transformative Leader able to engrain transformation and foster sustainable organisational growth. Specifically, seven critical competencies are identified and analysed. The Transformative Leadership Compass is proposed as a descriptive framework to assess the distinguishing competencies of people that can play a transformation catalyst role in their organisations. Accordingly, the framework can be deployed to assess and define initiatives for developing leadership competencies, organisational culture, and behaviours to support organisational transformation. On the other hand, it can also be used for normative purposes to design and develop management initiatives to develop the essential competencies distinguishing organisations engaged in successful transformation. For developing the transformative leadership compass, we have formulated the hypothesis grounding the framework by a deductive analysis of the management literature. A preliminary assessment tool is proposed to test the framework and make it operative, and some preliminary pieces of evidence of its applications are reported in the paper. The paper concludes with a critical discussion of the limitation of the research and the future development venues.

An Urban Home Office Deficit? Some evidence from COVID-19 disruption based on SOEP-LEE2 Data for Germany

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Pecs-S23 Effects of Digitalization and COVID19 on regional employment, B313, August 24, 2022, 2:00 PM - 3:30 PM

The emergence of the COVID-19 pandemic and global spread of SARS-CoV-2 challenged firms. Some challenges arrived from lockdown policies making possibilities of home office work eminent. First partial lockdowns in Germany occurred as of March 22 2020 and was ended on May 4 2020, but the second wave of infections brought some curfew measures and another lockdown (light) on November 2 2020. More lockdowns were seen in later waves. The use of home office became relevant for some jobs/businesses and depending on firm expectations (e.g., Bartik, et al, 2020; Buchheim et al., 2020; Kelly, 2020; Zhang et al., 2021). COVID-19 is furthermore seen as a disruption factor in terms of propelling digitalization and potentials for home office in firms (e.g., Nagel, 2020; Amankwah-Amoah et al., 2021).

A sudden change to remote work or hybrid remote work following COVID-19 may change the spatial equilibrium. Delventhal et al. (2021) points to a change in cities, as jobs move to the core of cities, residents to the periphery, travel times drop and real estate prices fall in the core. And importantly, remote workers see large welfare gains. Even so, evidence from Brynjolfsson et al. (2020) suggest that switching to remote work is highly related to COVID-19 incidence rates, which questions the permanency of remote work as incidence rates fall or lockdowns are lifted. They also point to a higher prevalence of switching among information workers, which points to possible urban versus non-urban differences.

We provide evidence on three issues related to this literature. Firstly, we ask if there is an urban deficit in the use of home office (remote work) based on survey data among German firms from the new SOEP-LEE2 data. Secondly, we ask to which extent the use of home office is anchored in regulations and agreements in firms and whether the prevalence of such regulations/agreements differs between urban and non-urban areas. A higher prevalence may be interpreted as reflecting a more permanent change to home office in the organization of work by firms. Finally, we also attempt to provide some insights into the extent that the use of home office have different wage effects between urban and non-urban, with the caveat of observing short run wage rigidity differently across geographies. We use new SOEP-LEE2 data linking the SOEP-Core data to firms. We categorize locations of employers into urban and non-urban areas to analyse possible urban home office deficit.

Determinants of Innovation in Shrinking Cities

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Online-G01-R Regional and Urban Development, August 22, 2022, 4:00 PM - 6:00 PM

This paper primarily concentrates on identifying whether innovation activities and differences in economic structure have helped prevent or overcome the economic downturn in German shrinking cities by challenging the widely assumed parallelism between demographic and economic development. Based on the city typology by Bartholomae et al. (2017) who suggest that urban shrinkage is as a combination of both, population and economic decline, while showing that some cities manage to enhance economic growth despite losing population, our estimation is carried out using a probit estimation model. This approach allows predicting the factors related to innovation and economic structure that increase the probability of generating growth in cities with population loss.

Adapting reverse mentoring strategy to SMEs in peripheral areas: a new pilot model implemented in Ceara, Brazil

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Pecs-G33 Innovation and Entrepreneurship, B018, August 26, 2022, 11:15 AM - 12:45 PM

Nowadays innovation is the key driver for economic growth, companies are trying to tune their antennae to new technologies and trends and respond quickly by adapting their business strategy and work plan in the face of rapid changes in the business and technology environment. One of the tools to achieve this that has gained popularity in large companies is the Reverse Mentoring (RM) model.

Although the prevailing RM model- junior mentoring senior employees- benefits both and promotes innovation, small and medium-sized enterprises (SMEs) do not implement it due to the lack of economies of scale, lower organizational capacities, and scarcity of skilled junior employees. This is even more problematic for SMEs in peripheral areas that encounter difficulties in promoting innovation.

This study proposes and examines the feasibility of a new RM Model in promoting innovation in SMEs.

Empirical testing was implemented in the state of Ceara, Brazil.

The new RM Model overcomes the above disadvantages through two major alterations: first, intervention of an intermediate trusted professional entity that initiates and supports the program for several companies; second, the mentors are not junior employees, but external graduate students.

The findings support the new model's feasibility and efficacy for SMEs. It enabled significant innovative ideas and resulted in out-of-the-box thinking, better evaluation of constraints, identification of potentials for innovation opportunities by the company's leaders and adaptation of an open innovation approach, which is important for SMEs with relatively limited financial and non-financial resources.

This study contributes to the literature on SMEs and RM by providing valuable information on the prevailing RM model and offering a new model that can overcome existing market failures experienced by SMEs.

Evaluating of a Person-centred Start-up Accelerator

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Pecs-G33 Innovation and Entrepreneurship, B018, August 26, 2022, 11:15 AM - 12:45 PM

Recent years have seen rapid and extensive growth of business accelerator programmes, both in the UK and in other OECD countries. Such programmes are claimed to have large positive effects on entrepreneurship, innovation and business growth for participating companies. However, there is a lack of robust evidence on actual programme effects and how these are achieved. For example, highly selective programmes may choose firms who would have succeeded without business support. Given that many programmes now benefit from public support, understanding impact is important.

In this paper we report on an ongoing multi-year, mixed methods evaluation of an accelerator programme in London, run by one of the UK's leading providers. The programme aims to support 150 competitively selected start-ups and early stage companies in the creative and tech industries over 3 years. It takes a 'person-centred' approach, supporting new entrepreneurs in their initial journey towards business success through an intensive 3-month programme of mentoring, technical advice, networking and peer feedback tools. It aims to raise participant firms' survival, employment and innovation, as well as raising founders leadership skills and confidence.

We report emerging findings from the evaluation, drawing on rich programme management data, participant surveys, interviews with participants and programme managers as well as secondary data on post-programme outcomes. We focus on 1) participants' experience of the programme 2) changes in their behaviour during and after the programme and 3) changes in business outcomes.

The role of digitization and digitalization in designing and implementing specialized labor market policies for migrants.

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Online-S32 Digital competences in a migratory context: knowledge – attitudes – skills, August 23, 2022, 9:15 AM - 10:55 AM

The standardized active labor market policies (ALMP) have shown to be not effective in addressing the basic cultural, relational and language skills that are crucial for strengthening the social placement of migrants, a pre-requirement for a successful job seeking. These standardized policies fail in the outcome because they fail in the premises, as they don't account for the high heterogeneity of migrants background and conditions, and consequently fail in designing and implementing the services. A claim for the provision of more tailored approach in policy design raised in the past decade, with the aim of implementing specialized services able to jointly assess migrants specific needs and valorize their existing competences as a basis to get the provision of targeted training and supporting activities. A relevant role in this process is paid by a proper digitization and digitalization of the policies at stake. Digitization, that refers to information collection and treatment, should provide the public and private implementers with a proper data management system able to effectively profile the target of the interventions (a pre-requirement for any effective policy design) and to monitor their implementation. Digitalization, that refers to transformation of the processes and services themselves, should enable organizational procedures and practice where an active role has to be played by the migrants themselves, It requires a proper provision of tools (hardware and software) and competencies both for the service providers and the migrants, in order for the process to be properly governed. Digitization and digitalization, that can be conceived as consequent steps of a functional integration of the current labor market policies, can consistently contribute to make these policies more specialized and tailored to the target. This contribution focuses on a few pilot projects developed in Piedmont Region and aimed at experimenting a tailored approach for increasing migrants occupability and more generally to favor their social placement. After a brief description of the projects objectives and main activities, attention is paid to assess, on the hand, the role that the digitization and digitalization played in projects implementation and, on the other, to assess the extent to which and the way through which these digital-shift would need to be fostered. This qualitative assessment takes into account the main criticalities and strengths that might hamper or favor the evolution of ALMP towards a more tailored approach with attention paid to three main aspects: implementation process, the target definition and the outcome evaluation

Central European cooperation between cohesion and fragmentation: the carpathian basin concept as a regional neighbourhood

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Pecs-S27-S1 Borders and Borderlands – Integration and Cohesion in (Central) Europe, B312, August 25, 2022,
2:00 PM - 3:30 PM

Debarbieux, Price and Balsiger (2021) hypothesize that project regions, as flexible actor-based constructions, interact with formal administrative regions in ways that are consistent with re-scalings of territorial governance in Europe. As part of these regionalization projects, they argue that complex multi-stakeholder networks have emerged that link bioregional with formal territorial perspectives. However, the delineation of project regions has not proceeded with equal momentum throughout Europe. The term Carpathian Basin (*kárpát medence*) is presently used in Hungary as an all-purpose geographical idea that represents an obvious regional neighbourhood if only for the cold facts of location: the country shares borders with seven different countries within this space. However, the Carpathian Basin is also a microcosm of contested regional ideas in Central and Eastern Europe (Hajdú 2018), and its failure to be institutionalized as a European cooperation space reminds us of the limits to flexible territorial governance. This paper explores how the geographical idea of the Carpathian Basin has been employed in post-1989 Hungarian conceptualizations of regional development and territorial cooperation across state borders. This involves understanding the tensions that have emerged between different and partly competing notions of the Carpathian Basin as a 'Hungarian neighborhood' on the one hand and as a result of the concerns expressed by Hungary's neighbours on the other. The approach is based on the assumption that links between geography, geographical imaginaries and questions of national identity remain highly salient. More specifically, we will consider the consequences of Hungary-centric neighborhood imaginaries for territorial cooperation as well as the difficulties involved in the institutionalization of the Carpathian Basin as a project region.

Do we learn from errors? The cost of generalized national lockdowns and differentiated policy restrictions

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Online-G39-O3 Regional Consequences of the COVID-19 Pandemic, August 23, 2022, 2:00 PM - 3:40 PM

This paper investigates the economic impact of differentiated policy restrictions against the COVID-19 pandemic. We analyse the extent to which such tailored measures were able to produce stronger contraction of economic activities for higher levels of policy stringency and equal and homogeneous results for territories adopting the same level of containment measures. Exploiting a large-scale dataset encompassing daily credit card transactions mediated by a large Italian bank, we estimate panel event study models to disentangle the economic impact of low, medium and high restrictions levels in Italy during Autumn 2020. We show that differentiated policies tend to produce stronger welfare losses in terms of consumption reduction for progressively stricter regulations in specific sectors targeted by these policies. However, when we compare provinces implementing the same level of policy stringency, we show that territories with higher income per capita and larger concentration of manufacturing and service activities experience simultaneously significantly worse economic and epidemiological performances. Overall, our results suggest that policy makers should properly account for local socio-economic characteristics to produce equal and homogeneous results across territories.

The role of institutional stakeholders in developing sustainable tourism regions

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Online-G19 Tourism and Overtourism Issues, August 22, 2022, 2:00 PM - 3:35 PM

The phenomenon of overtourism has gained interest in the research community, however, without clarifying the perspective of the involved stakeholders in more detail. Regions being exposed to environmental and socioeconomic degradation that originates from tourism, host a broad variety of institutional stakeholders. Not all of the stakeholder groups are involved in tourism but they are either positively or negatively affected by tourism activities. AAs such, they have an interest in providing a more sustainable tourism development which would be more compatible with the overall socioeconomic and environmental conditions. Therefore, the question of initiating effective collaborative processes comes into discussion where all relevant institutional stakeholders need to be included and activated in order to initiate regional sustainability processes which would lead to a better compatibility of tourism activities in the regional environment. Due to complex institutional dynamics, collaboration is often less efficient and effective than postulated.

The paper presents empirical evidence from six selected regions in Slovenia, Italy and Ireland where a participatory process-oriented framework was applied, and experts and stakeholders cooperatively analyze the development of specific tourism destination. The applied methodology follows a step-by-step approach for assessing the destination's carrying capacity and it takes into account tourism intensity and concentration in territorial terms, across time, and through highly heterogeneous destinations. Accordingly, it analyzes tourism flows into (international) and within (domestic) destinations and identifies the consequences in terms of causal loops that indicate user conflicts and the opportunity costs connected to them in economic, social, and environmental terms (regional sustainability).

Especially now, during the current times of discontinuity, lessons learned from the past plus forecasts help decision makers to rethink their systemic structure and integrate these findings into a prospective path of sustainable value creation from a holistic point of view. The methodology is based on a transdisciplinary approach where researchers from various disciplines work closely together with regional stakeholders. An interactive visualization tool offers insights into the development of single destinations, as well as comparative destinations. This allows benchmarking creation based on statistical indicators which are published by official institutions to grasp and interlink the territorial context with the inflow of tourists. This process further includes the analysis of touristic hotspots processing social media data (i.e. Instagram and Twitter), other big data sources (i.e. OpenStreetMap and GoogleTrends), and the identification of interdependencies with the socioeconomic and environmental systems.

Evaluation of occupational safety and health incentives: Preliminary results on the impact of the ISI calls

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Pecs-S10-S3 Counterfactual methods for regional policy evaluation, B311, August 24, 2022, 4:00 PM - 5:30 PM

No one, neither in politics nor in sciences dares to argument against the necessity to fight to reduce the impact of working conditions on worker's health. Perhaps such a wide consensus on the importance of this goal is one explanation for the general lack of evaluation studies (The European Agency for Health and Safety at Work 2013) on occupational safety and health policies (OSH). Nevertheless, acquiring more information on the effectiveness of the different tools available for the policy maker could help to afford those situations that are refractory to change and move towards a more effective policy mix. At present this last is heavily unbalanced, with the greatest majority of interventions concentrated in regulation and related enforcement mechanisms (inspections and sanctions).

The Italian case offers us an interesting case study, because in 2008, a system of economic incentives has been introduced, providing grants to SMEs that invest in the OSH field. This represents a sort of revolution, because it leverages the corporate social responsibility towards their workers. This experimental policy, called the "ISI calls" (bandi ISI) is the most long lasting (12 years), richest in terms of money granted (2 billion euros) and widest in terms of firms involved OHS policy based on incentives. Despite this, at the policy level the balance is still leaning in favor of sticks rather than carrots.

Up to now, the evaluation analyses performed by Inail on the ISI calls mainly concerned implementation processes and performance monitoring, reporting, and accounting. Recently, the need for an ex-post evaluation of the impacts emerged. Therefore, Inail is funding a research project aimed at identifying appropriate models to assess the impact of ISI incentives and to highlight their strengths and criticalities as an economic support to SMEs. The ISI call, implemented through the mechanisms of the click-day, represent a case of natural experiment, nevertheless, many evaluation challenges (previously discussed in Colagiaco et al. 2018) are present for this type of policies, in which the literature is practically non-existent.

In this paper we will present the first results of the impact evaluation of the ISI calls, based on administrative data on participating firms. A profiling of the several subgroups of firms (selected or non-admitted, funded or not funded) will be provided. Moreover, if already available, we will integrate this analysis with data on the safety profile of the firms

Spatial Quantile Analysis of Real Estate Prices in Germany

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Online-YSS1, August 22, 2022, 9:15 AM - 10:45 AM

The aim of the paper is to identify and establish empirical facts on the determinants of the real estate prices by analyzing spatial regional data, considering the price level of the region. We provide empirical analysis on the panel data set of 401 German regions for the period 2004 – 2020 taking into account their relative geographical location and prices. The main contribution of our paper is the analysis of determinants and spatial effects in housing prices, taking into account whether the region belong to high-prices or low-prices clusters using quantile regression analysis.

see extended abstract

Smart specialization for Sustainable Development Goals in Romania. An empirical test

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Online-S12-S2 Multi-Level Governance through the Core Network for Sustainable Development –Building Green and Digital Skills for Sustainability, August 22, 2022, 4:00 PM - 6:00 PM

Conceived with the EU Cohesion framework for 2014-2020, smart specialization (S3) is a place-based innovation policy that prioritizes investments in research, development and innovation based on the countries'/ regions' strengths and unique comparative advantages. For the 2021-2027 programming period, the ambition is to take smart specialization one step further and to thoroughly integrate the imperatives of sustainable development and of the green and digital transition in the new generation of smart specialization strategies for sustainability (S4). Aligning the smart specialization agendas with the UN 2030 Agenda and with the European Green Deal is now a prerequisite to meet the sustainability transitions. The last five years have seen a growing trend towards developing and testing guidelines and methodologies to embed science, technology and innovation into sustainable development approaches or vice-versa. The United Nation's "Guidebook for the Preparation of Science, Technology and Innovation for SDGs Roadmaps" (2021) or the European Commission/ JRC's "Pilot methodology for mapping Sustainable Development Goals in the context of Smart Specialization Strategies" (2021) are some of the most relevant examples in this respect.

Within this frame of reference, the objective of this paper is to map the SDGs in the context of Romania's national and regional smart specialization strategies. We will use a controlled vocabulary defining semantic area of Sustainable Development Goals to identify the scientific, technological and innovative potential thematically related to the SDGs. Our final aim is to enhance understanding on how to create synergies between different innovation-based policy agendas and better support the sustainability transitions.

Propagation dynamics in new innovative specializations in Europe through ICT innovation

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Pecs-G30 Innovation and Regional Development, B019, August 26, 2022, 9:15 AM - 10:45 AM

The paper aims to study the regional propensity to innovate through patents focusing on the intra and extra-regional branching dynamics in the development of new specialization technologies specify the indicator to measure this: measured by a revealed technology advantage index (RTA). Furthermore, we consider the role of ICT technologies as a driver of regions technological diversification. Considering the attributed properties of ICT firms and their technologies – universally recognized as general-purpose technologies – and referring to theories of recombinant innovation, we argue that ICT knowledge and innovation could reduce the constraints arising from natural industrial branching attributable to technological branching, giving regions more room for developing technological diversification strategies. In our analysis we used data provided by the OECD on patent applications and economic taken from large region for the period 2000 – 2015. The aims of this paper are a) to demonstrate the existence of technological branching phenomenon; b) to underline the presence of spatial branching; c) to highlight that ICT affects technological branching. Our results show that the propensity to innovate of the regions considered is influenced by both spatial proximity and technological proximity.

Wind farms development and its impact on municipality finances and public services provision

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Online-G22 Energy and Ecological Transition, August 23, 2022, 4:00 PM - 5:45 PM

The energy transition to a decarbonized paradigm is one of the main challenges society faces today. The development of renewable energies is not only seen as a way to mitigate climate change but also as a form to move toward more distributed energy sources, to decrease energy dependency and to increase employment and rural development. While renewable energies represent an opportunity for stimulating economic growth in rural communities, their development benefits are not automatic. In this context, wind power is of special interest. Wind power plants, recognized to be one of the most environmentally friendly sources of power generation, are often constructed in rural areas. In Europe, Spain is the second country in terms of installed wind capacity after Germany. This project aims at providing a clear causal identification of the effects derived from wind farm development in Spain at the local level in terms of population growth, employment and municipality finances. Furthermore, it moves beyond the default variables explored in the literature by analyzing the pre-distributive effects of such infrastructures in terms of locally provided public services. The identification strategy exploits the variation in the installation of wind farms at the municipality level over time. Furthermore, wind potential at the municipality level is considered to be random and exogenous to the initial path of its local development. We exploit this difference in wind potential to prove the robustness of the estimates. Wind farms present potential positive impacts in terms of employment and economic promotion, nevertheless, the displacement of alternative land uses, the negative visual and noise impacts, as well as the perception of wind as a common good, are reasons behind the demand for local communities for compensation. Regardless of the substantial development of the sector and the relevance of its potential socio-economic influence, there is still very limited causal evidence of its effects.

Firm interconnectedness and resilience: evidence from the Italian manufacturing industry

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Pecs-S52-S1 Foreign Direct Investments, trade and local development: drivers and impacts, B323/2, August 25, 2022, 2:00 PM - 3:30 PM

This paper investigates the role of firm interconnectedness in explaining firm resilience. We focus on the outward foreign direct investment (FDI) and how it affects the firm ability to withstand and recover from the great recession shock of 2008. We also address the role of regional interconnectedness at the NUTS-3 level for firm resilience. Using a fixed-effect panel data model for over 13,000 Italian manufacturing firms during the post-shock period 2008-2011, we provide evidence that firm resilience is positively associated with firm interconnectedness. Moreover, we find that the firms, which operate in more interconnected regions enjoy a better resilience than firms that operate in relatively remote regions. Furthermore, we find that the interaction between firm- and regional-level interconnectedness is positively associated with firm resilience.

Public preferences for redistribution and voting behavior - Findings from OECD countries

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Pecs-G25 Institutions, Political and Decisional Processes, B017, August 26, 2022, 11:15 AM - 12:45 PM

In recent decades, more and more first-world democracies are facing challenges of representation, as growing segments of their population express dissatisfaction with the attention and resources allocated to them by welfare policymakers. The current research attempts to shed light on the issue of representation by focusing on one of its manifestations - the extent to which national election vote distribution reflects public preferences for income redistribution. This was achieved by conducting a comparative study that examined the gap between public preferences for income redistribution and national election votes in 24 OECD countries, between 1998 and 2013.

In the first stage of the study, panel data was used for evaluating the connection between public income-redistribution preferences and election results. Public preferences were evaluated through value survey scores (ESS, ISSP). Election results were analyzed by documenting the votes won by each political party, along with a score that reflected each party's approach towards the trade-off between low taxation and high public spending. In the second stage of the research, panel-regression analysis was employed in-order-to check whether social capital, ethnic heterogeneity, government effectiveness and corruption impact the above-mentioned gap.

The results of the first stage revealed that among the OECD countries investigated, no match was found in any of the years, between public redistribution preferences and voting trends. With regard to the size of the gap between preferences and votes, the smallest gaps were discovered in the Scandinavian countries (Denmark, Sweden, Netherlands, Norway) and in New Zealand. The largest gaps, on the other hand, were found in Greece, Ireland, France, Portugal, and Japan, countries that, for the most part, belong to the Mediterranean welfare model. This model is characterized by the over-use of welfare systems and by Clientelism – politicians' exploitation of welfare systems for political gains. The possible connection between the large gaps found in some of the investigated countries, and the Mediterranean welfare model practiced in those countries, is supported by the results of stage 2 of our research that revealed that only government effectiveness and corruption (but not social capital, ethnic heterogeneity) impacted the size of the gap. Hence, a possible explanation for the gap found in these countries is that public perception of the national welfare system as corrupt, or as a system that serves only certain (political) groups, may cause individuals to become indifferent and consequently less inclined to vote in line with their redistribution preferences.

A comprehensive analysis of the individual and regional factors explaining the success in obtaining European research and innovation funding

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Online-G37 Technological Change and Diversification, August 23, 2022, 9:15 AM - 10:55 AM

Please see extended abstract.

Evaluation of compound disasters using a dynamic input-output model: In the case of volcanic eruption and tsunami

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Online-G06 Adaptive and Resilient Cities and Regions, August 22, 2022, 9:15 AM - 10:55 AM

Mt. Fuji, which is famous as the highest mountain in Japan, is an active volcano with active magma deep underground. Volcanic disasters are caused by large volcanic stones, pyroclastic flows, lava flows, snow-melting volcanic mudflows, small volcanic stones / ash, and volcanic gas. Large volcanic blocks, pyroclastic flows, lava flows, and snow-melting lahars occur with the eruption, and there is almost no time to evacuate. Since they are highly dangerous to life, they are positioned as highly important volcanic disasters in terms of disaster prevention measures. In the case of small fountains and volcanic ash, if the ash fall area is wide, emergency evacuation is difficult, and long-term economic damage and health damage are expected. Regarding the economic damage of volcanic ash, indirect damage may be more widespread. However, the damage to the surrounding area caused by the volcanic ash of the eruption of Mt. Fuji and the recovery process have not been sufficiently investigated.

On the other hand, relatively large-scale earthquakes occur frequently in Japan. In particular, there is concern that a Nankai Trough earthquake will occur in the near future. The Nankai Trough earthquake is expected to cause not only damage from the earthquake but also tsunami that will cause enormous damage to the Pacific coast.

In this study, we assume a tsunami derived from the Nankai Trough earthquake and an eruption of Mt. Fuji. The direct damage rate is estimated with reference to the hazard map, and the impact on the regional economy and its recovery process are analyzed. In this paper, we construct a dynamic interregional input-output model for prefectures and analyze the recovery process of single and compound disasters by simulation.

The evaluation reduced the total travel time of emergency transport by reorganization of fire stations in Kyoto Otokuni Area.

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Online-S10 Counterfactual methods for regional policy evaluation, August 22, 2022, 9:15 AM - 10:55 AM

The population of Japan has been declining since 2004 and the average age of the population is expected to become increasingly older. However, the number of emergency calls in Japan has been increasing every year, and has doubled in the past 20 years. So the following challenges arise: how to respond to the rapid increase in the number of emergency calls; how to ensure the level of residents' services, such as emergency transport, considering the limited number of personnel, facilities, equipment, and vehicles, and the severe financial situation in the case of multiple fire stations. This is important from the viewpoint of risk diversification and as well as to maintain the motivation of those who are engaged in the work.

So, the purpose of this study is to quantitatively discuss the following topics, focusing on the Otokuni Fire Department. Based on the actual data of emergency services in 2016, we quantitatively showed the current status of emergency transport operations, such as the number of emergency transports, travel time from the fire station to the location requested by the ambulance. And, we quantitatively showed how this would affect the "supporting emergency transport ratio," the total travel time for the Otokuni Fire Department, and the total travel time for each emergency team. If the total arrival time is reduced, the burden of each emergency team is reduced. This social benefit is generally referred to as the benefit of increasing the rate of lives saved.

As a result, the current supporting emergency transport ratio is 29.2% and the total travel time of the Otokuni Fire Department is 41,659 minutes/year in the current system of four fire stations. But it increased to 43,896 minutes/year in the integrated system of three fire stations when the ratio of supporting emergency transport was equal to the current system of four fire stations. So, emergency medical evacuation levels could be maintained at the same level as the current situation if the supporting emergency transport ratio in Otokuni Fire Department is 15% or less.

Furthermore, the total travel time can be reduced to 3,144 minutes when the transport is performed by the integrated system of three fire stations. The annual benefit of this improvement in emergency medical services is 279 million yen per year. This value is considerably larger than the annual cost reduction of 27 million yen per year at the time of the reorganization.

Urban redevelopment, Identity and Ethno-nationalism in a contested city

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Online-S29-S1 National Regions in regional development – National, ethnic, cultural, religious, and linguistic renaissance of European regions and identities, August 23, 2022, 2:00 PM - 3:40 PM

The dominant stream of political geography research links ethnic or racial marginalization and class-based marginalization resulting from redevelopment planning, presented sometimes as gentrification. This study presents a new phenomenon of “Minority gentrification:” gentrification led by the minority -Arab entrepreneurs and business owners in the contested city of Acre in Israel, which challenges the dominant research narrative and emphasizes the complexity of the relationship between class and ethno-national identity. Based on a qualitative research method that included in-depth interviews with Arab business owners and lower-income tenants, and analysis of policy documents and press articles, this study offers the term “stratified marginalization” to describe the relative advantage of Arab and business owners over lower-income Arab tenants. Simultaneously, it describes the trap in which they find themselves between their ethno-national and class identities and the explanations they provide for the gentrification process. Finally, the study describes the tension between Arabs from different classes as a result of gentrification. The research findings contribute to addressing questions of ethno-national and class identities, urban redevelopment in minorities neighborhoods. It also contributes to a re-evaluation of class and ethno-nationalism intersectionality in a way that recognizes the benefits of gentrification for the middle-class ethnic entrepreneurs on the one hand, and the multiple margins of the lower-class ethnic tenants on the other.

How does the COVID-19 crisis affect regional labour markets and why do cities suffer most?

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Pecs-S59-S1 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 24, 2022, 11:15 AM - 12:45 PM

The COVID-19 crisis has a far-reaching and possibly persistent economic impact at a global scale. Notwithstanding its global character, the crisis has an important spatial dimension in many respects. There is a current debate on whether cities are hit more severely than other regions by the COVID-19 crisis because the pandemic might reduce agglomeration economies that rely on proximity and spatial interaction. However, findings on this issue are still scarce. This paper investigates the effects of the COVID-19 pandemic on regional labour markets in Germany between March 2020 and October 2021. We combine a shift-share model with a difference-in-difference specification in a two-stage regression approach to examine regional differences in entries to and exits from unemployment that are caused by the crisis. More precisely, we investigate whether the size of the local labour market shock and the recovery after the shock differ significantly between large agglomerations, urbanized regions and small rural labour markets. The results indicate that, in fact, the impact of the crisis differs significantly across region types. While the initial shock in April-May 2020 was largest in rural labour markets, the adverse effects seem to be more persistent in large urban labour markets. We also provide some tentative evidence on different channels that might give rise to the strong medium-term impact of the pandemic on large cities.

Connection between expenditure, revenues and transparency index in Spanish municipalities

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Online-G02 Macroregional, Transregional, Regional and Urban Policy and Governance, August 22, 2022, 9:15 AM - 10:55 AM

Considering the necessity of transparency in public finance, this paper examines the connection between expenditure, revenues and transparency index in Spanish municipalities in the period 2008-2017 for which data are available. The results based on panel data approach (Mean Group and Common Correlated Effects Mean Group estimators; Juodis, Karavias and Sarafidis (2021) causality test) and ANOVA/linear Dependent Dirichlet Process mixture are useful for local policies. The empirical findings indicate a positive impact of direct taxes and unemployment rate on transparency index. On the other hand, there is a direct effect of transparency on direct taxes and personnel expenses and a indirect one on indirect taxes. Fiscal synchronization for direct taxes, indirect taxes and expenditure and spend-and-tax assumption for total revenues are supported. There is a bidirectional causality between direct taxes and transparency index. Political party exerts a causal effect on debt only in the case of mayors that are males, while unemployment rate is cause for deficit only in the case of mayors that are males.

Female labour performance and Local Labour Market effects

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Online-G18-O2 Regional and Urban Labour Markets and Entrepreneurship, August 23, 2022, 9:15 AM - 10:55 AM

This study analyses the effect that the characteristics of the labour market of residence have on female participation and employment rates in Spain in order to identify the regional aspects that favour or hamper the good employment performance of this group, as well as to verify the possible spatial relationships. To this end, the Spanish LMAs are used as the reference territorial unit and spatial econometric techniques are applied to identify the interactions between regions and the influence of their own characteristics and those of neighbouring regions. Specifically, neighbourhood relationships have been considered within a radius of 50 kilometres. The evidence obtained indicates the presence of notable territorial differences in the distribution of participation and employment rates. In this sense, the econometric estimation shows that the female participation rate in a given market is influenced by its own internal characteristics, as well as by a spatial autoregressive process in the residuals. The employment rate, on the other hand, has a pattern of local spatial dependence, being influenced not only by its own characteristics but also by the characteristics and shocks derived from neighbouring regions, thus justifying the good delimitation of the LMAs. It should be noted that extending the neighbourhood criterion to allow the Madrid LMA to have at least one neighbour modifies the conclusions reached. In this case, the employment rate of a market is influenced by its own characteristics, by the characteristics of neighbouring regions and by the employment rate of the latter. Taking into account the economic and political importance of Madrid, considering its spatial relationship with neighbouring regions may hide other relationships of lesser intensity, as well as generate a fictitious spatial dependence between smaller LMAs.

Local economic development in the light of potential legal circulator status during and after crises times from angle of sustainability

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Pecs-G08-O1 Cooperation and Local / Regional Development, B017, August 24, 2022, 2:00 PM - 3:30 PM

Following years of economic upheavals started in 2008 (great economic crisis) and 2020 (COVID-19 pandemic) the European Union and its member states did not find reliable answers to some negative effects of downturns at different spatial levels. This was highly true in East part of Europe, in the ex-socialist countries. Regional differences increased at the expense of rural areas both crisis times. The inefficient efforts to revitalize rural countryside echoes new solutions to be empirical and theoretical bases in the past and present days. The main aim of the presentation is to investigate on the necessary elements of employment sustainability in Hungarian and non-Hungarian rural areas in the light of two different sorts of crises with the help of the potential legal circulator status. Based on an applied research series conducted 2012-2021, the previous publication of the research results and the relevant literature the authors synthesized a general model inspired by geographical spheres for practical use of stakeholders and policymakers after first crisis. The parts of the model, the interrelations, the mechanisms, and the functions between the elements will be refined under the umbrella of new-type economic downturn, nowadays. Hypotheses and guesses will be articulated, which are highly disputable, due to discuss them.

Institutions on the linkages between productivity and well-being: A regional analysis

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Online-S25-S2 The spatial dimensions of productivity for regional growth: A broad view on productivity,
August 22, 2022, 4:00 PM - 6:00 PM

The relevance of the study of productivity and wellbeing is of topical importance. On the one hand, the productivity slowdown has been persistent among developed countries since 2005 and the financial crisis (OECD, 2015; Adler; Duval, Furceri, Koloskova & Poplawski-Ribeiro, 2017; Sprague, 2021). On the other hand, the focus on wellbeing is a clear mandate for regions, whose objectives are beyond the Gross Domestic Product (GDP), creating good conditions and well-being for its citizens. The rising inequality on the well-being part and the productivity slowdown have significant place-based implications (Tsvetkova et al. 2020; Evenhuis, Lee, Martin & Tyler, 2021). In addition, the importance of institutions, norms and culture to influence economic and social outcomes is well documented (Pinto et al. 2019; Boschma, 2015).

Our contribution is directed to include the critical role of the institutional framework and specially, of the quality of the institutions, to affect productivity-well-being debate. We pondered the question of which are the links (or the trade-off) between well-being and productivity and if this relationship is mediated or affected by differences in the regional institutional frames and its quality.

Our objective is to explore the interaction between well-being and productivity among the European NUTS 2 regions, and the institutional frames that underlie such relationship.

Defining the Technical Potential of Rooftop Systems, a case study in Amsterdam

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Pecs-YSS1, B017, August 25, 2022, 11:15 AM - 12:45 PM

Cities face many severe challenges, including improving livability in times of climate change and moving towards the transition to renewable energy. Part of the solution to both can be the use of urban rooftops to facilitate urban green by installing Extensive Green Roofs (EGRs) or by Photovoltaic Panels (PVs). Until recently, EGRs and PVs were competing for space. However, today, it is also possible to combine two systems together on one rooftop (EGR-PVs), which is seen as a promising solution for creating more sustainable cities.

Unfortunately, not every rooftop is suitable for such installations, making it difficult for local and national policymakers to estimate the potential of rooftops for providing green and/or energy.

This paper presents a much needed model that identifies the technical potential of EGRs and PVs at building level, as well as EGR-PVs, which have received less attention in research. For illustrative purposes and due to the urban challenges faced to mitigate and adapt to climate change, we demonstrate the potential use of the model for the city of Amsterdam. The model classifies rooftop areas that are technically possible to install either of the three rooftop systems into suitable and moderate areas, identifying the competitive space relation between EGRs for urban greenery and PVs for energy supply, and the potential synergy. Main results indicate that the total EGR potential is 50%, for PV systems 53%, and for EGR-PVs 39% of the total rooftop area of Amsterdam. The model is applicable to the entire Netherlands.

The COVID-19 pandemic outbreak's effect on digital banking habits in Hungary

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Online-G39-O3 Regional Consequences of the COVID-19 Pandemic, August 23, 2022, 2:00 PM - 3:40 PM

The 2020 COVID-outbreak has dramatically changed the banking habits. This effect of the epidemic has influenced the changes of online banking habits. The aim of the research is to get an answer to how the digital banking habits of Hungarian individuals have changed as a result of the advent of COVID-19. This quantitative analysis summarizes the online individual banking habits changes in Hungary following the COVID-outbreak in March 2020. This research presents the most significant shifts from the traditional banking custom to the online banking habits. Furthermore, this analysis breaks down the results to age groups and place of residence. Additionally, this work delivers the online banking habits trend analysis and forecast. The research was conducted in 2 periods. This work's backbone is the presented quantitative analysis based on 400 returned surveys in the first research and 150 returned surveys in the second research. The first research was carried out until 30.10.2020 and the second research was carried out until 20.11.2021. This research covers the areas of shifting digital banking habits (the shape of mobile banking, cash payment, card payment) generation distribution and correlation between the place of residence and the use of the different banking methods. The two survey was conducted in October 2020 and in November 2021 in Hungary among private individuals.

Do specific entrepreneurial ecosystems favor high-level networking while others not? Lessons from the Hungarian IT sector

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Pecs-S28 Aligning entrepreneurship, sustainability and regional policy, B310, August 24, 2022, 11:15 AM - 12:45 PM

A specific entrepreneurial ecosystem (EE) supporting or limiting entrepreneurial innovation characterizes territorial units. Consisting of several quasi-complementary individual entities and contextual factors, it is questionable whether these elements are of equal importance within a given ecosystem. Access to and mobilization of entrepreneurial resources (information, knowledge) is facilitated by social networks within the EE. Consequently, this study considers networking as a crucial output of EEs: the extent and quality of networking determines various characteristics of the ecosystem itself. Networking works as a cohesive mechanism between actors and institutions at different levels, so its absence or low level has a negative impact on entrepreneurship. Using fuzzy-set Qualitative Comparative Analysis (fsQCA), we explore those configurations of micro, meso and macro elements of the EE of ICT firms in a Hungarian city (Pécs) which result in low or high level networking performance. We find that different networking levels require different conditions. Only those ecosystems show very high-quality networking that perform well in both the necessary and sufficiency components. Also, different ecosystem configurations are required for high informal, formal, or external networks. These results provide policy makers with a more advanced understanding of how EEs work, thereby supporting a more efficient allocation of scarce resources.

Assessing the spatial scale of segregation in the Netherlands.

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Pecs-YSS2, B020, August 25, 2022, 11:15 AM - 12:45 PM

Spatial segregation, defined as the uneven distribution of social groups in space (income, migration background, age...) is a major issue in cities. It can lead to discrimination and inequality when associated with scarce social interaction between the different groups. The geographical scale at which segregation unfolds matters, as large segregated areas reduce opportunities for the different groups to melt. This work presents a method to identify segregated areas in cities, and draws the size distribution of these areas in all municipalities in the Netherlands. The focus is set on segregation of individuals with a non-western migration background, as several studies have shown that it impedes interactions with the rest of the population. To determine the size of segregated areas, we first model the potential to encounter someone with a non-western migration background in each spatial unit (6-digits postcodes), using an accessibility metric. Then, we detect segregated areas in all cities using an agglomerative clustering analysis, and measure their size. After applying this method to all Dutch municipalities, we draw the size distribution of segregated areas, and show that there is no characteristic scale for spatial segregation in the Netherlands. The size distribution per city could then be exploited further by relating it to geographic, demographic, and urban characteristics of cities to determine the leverage of municipalities in reducing the spatial extent of segregation.

The impact of the Covid-19 crisis on Dutch regional labour markets

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Pecs-S19-S1 Networks, Interaction, and Inequalities in Cities, B311, August 25, 2022, 9:15 AM - 10:45 AM

Crises tend to accelerate economic change of which labour polarisation is one of the most relevant trends in urban labour markets. The Covid-19 crisis is very different from previous economic shocks as it not only reduced spending by consumers and investments by firms like previous crises in general do but also through the particularity of the corona measures, which disproportionately affect activities dependent on being close to other persons.

In this paper, the traditional measures of, respectively, manual, routine, or abstract task content of jobs are supplemented with measures on the feasibility of remote work, following (Dingel & Neiman, 2020), and if a job is present on the list of jobs that are allowed to operate during lockdowns by the Dutch government. First, it is shown that essential jobs are roughly equally distributed over the wage distribution of jobs. Remote work, on the other hand, is strongly concentrated among higher incomes. An analysis of employment dynamics during the Covid-19 crisis in the Dutch labour market shows that a strong growth of high income jobs has taken place whereas jobs below the 55th percentile have generally seen a large amount of job loss, although this is smaller for the lowest income groups. This suggests that this crisis has led to a rise in income inequality rather than labour polarisation. The regression results confirm that a higher abstract task content, remote work ability, and essential requirement leads to growth. Whereas manual tasks rather routine tasks are associated with a employment loss. The small employment decrease in routine jobs is due to the fact that some of these jobs are designated as essential for production purposes. I also show that this starkly differs from the financial crisis when routine tasks are a strong predictor of employment loss and remote work and essential jobs are irrelevant. Further analysis shows that the rapid rise in income inequality occurs mostly in large cities and that these new high-skilled jobs are generally taken up by young highly educated workers and expats, whereas older less-educated workers are more likely to exit the work force or move to lower-income jobs.

Digital entrepreneurship: Will digitalization change the location preferences of entrepreneurially prone highly-skilled?

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Pecs-S11 The Relevance of Digitalization for Clusters and Entrepreneurship - Empirical Studies of Processes, Relationships and Policy, B312, August 25, 2022, 9:15 AM - 10:45 AM

Entrepreneurship is mainly interpreted "as an urban event" (Bosma/Sternberg 2014). However, digital entrepreneurship shows that some new ventures become less dependent on physical inputs and more reliant on digital skills. Hence, the relative importance of spatial characteristics for new venture emergence and success has changed. The increase in new firms' digital skill intensity implies that new firms' location choice may become less constrained by the proximate availability of production factors and more indicative of their founders' wishes: the location preferences of the entrepreneurially prone and highly skilled. Little evidence exists on how digital entrepreneurship and founders' location preferences impact the urban-rural divide in firm foundation patterns.

In this paper, we provide a first empirical assessment of the spatial distribution of digital entrepreneurship and its determinants. Combining information on regional characteristics with unique firm-level micro data from Germany, we address four research questions. First, we compare the spatial distribution of digital entrepreneurship in Germany to that of non-digital entrepreneurship. Second, we analyse whether founders of new digital ventures are more likely to start their firms in rural regions when these regions improve their digital infrastructure. Third, we investigate whether increases in the attractiveness of rural regions as affordable and ecologically favourable habitats for highly skilled individuals also apply to firm founders and whether this effect differs by founder age. Fourth, we investigate whether the quality and quantity of digital infrastructure in rural and urban regions influences the location patterns of digital entrepreneurship.

Our empirical paper is conceptually rooted in arguments derived from the knowledge spillover theory of entrepreneurship, classical agglomeration theory and Autio et al.'s (2018) idea of digital affordances (including decoupling, disintermediation, and generativity).

We intend to contribute to three highly relevant areas of research. First, we provide a fresh look into the location preferences of highly skilled and entrepreneurially prone individuals, now during digitalization. Second, we analyze whether digitalization has changed the urban-rural divide in knowledge-intensive start-ups and their founders. Finally, we focus our empirical analyses on the spatiality of these new ventures which we identify using a new definition based on industry classifications and products that are, to a considerable extent, digital. We test whether digital entrepreneurship could occur less frequently in urban agglomerations than other types of entrepreneurship.

This abstract is based on research done in the ongoing research project "EntreLR" funded by the German Federal Ministry of Food and Agriculture, Grant Number 2821LE003

On the spatiality of digitalization: Migration of the highly-skilled and interregional disparities

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Pecs-S23 Effects of Digitalization and COVID19 on regional employment, B313, August 24, 2022, 2:00 PM - 3:30 PM

The COVID-19 pandemic has substantially increased working from home in several sectors. Already existing potential for remote work has been used by many for the first time. An important precondition for successful work from home, however, is a sufficiently fast internet connection and certain hard- and software skills. Both, the infrastructure (first-level divide) and the skills (second-level divide) are unevenly distributed across space. In Germany and Norway, for example, which are the study regions in this presentation, there is (among other spatial disparities) a substantial urban-rural digital divide on both levels. At the same time, housing costs increase sharply in large urban areas and increase the pressure to move into suburbs or rural areas in commuting distance to the urban center. During the course of the pandemic news media has regularly shown anecdotal evidence of relocation decisions of highly-skilled (especially families with children) out of the urban centers. This highly topical issue clearly deserves scientific attention, which is why in this presentation we theoretically discuss the spatial implications of the interplay of the following trends:

1. Increasing potential to work from home in many occupations (particularly for the highly-skilled)
2. Rising housing costs (and other negative externalities of large cities) in the urban centers, and (to a lesser degree) in suburbs and areas in short commuting distance
3. Increasing digitalization of rural areas with, nevertheless, disparities between different rural regions in digital infrastructure and digital skills

4. Increasing potential for digital entrepreneurship outside the densely populated urban centers

Thereby, we will contrast the opposing arguments of the 'death of distance' proponents on the one side, and the proponents of the importance of face-to-face interaction in spatial proximity on the other side. We will support our argumentation in favor of diminishing spatial disparities between urban and rural areas with exploratory empirical evidence using data on working from home potential, digital infrastructure, digital skills, and mobility patterns for regions in Germany and Norway.

Not only an "urban event": on the determinants of rural entrepreneurship in Germany and the UK

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Pecs-G04-O1 Urban-Rural Relationships, B019, August 24, 2022, 11:15 AM - 12:45 PM

Entrepreneurship is more frequent in urban regions than in rural regions. But it is not only because of digitization that new ventures will become less dependent on physical inputs and agglomerations' externalities in the future than in the past. Thus, entrepreneurship in rural areas may gain in relevance - and the old question whether person-related characteristics or attributes of the spatial context contribute more to the explanation of entrepreneurship requires new answers.

Given the paucity of evidence on rural entrepreneurship and its differences across regions, our focus lies on a first empirical and comparative assessment of rural entrepreneurship and its determinants in Germany and the UK. Combining information on regional characteristics with micro data from the Global Entrepreneurship Monitor (GEM, nearly 110,000 cases in total) for the period of 2012 - 2018, we address two research questions:

- How frequent is entrepreneurial activity in rural regions compared to urban entrepreneurship, in both countries?
 - What kind of determinants (person-related, regional, national) explain rural entrepreneurship best?
- Our empirical analysis is based upon theoretical foundations including localisation economies, multi-locality and the spatiality of digitalization, viewed through the lens of rural regions.

We intend to test six hypotheses:

- Rural entrepreneurship rates differ significantly between both countries - and are always below urban rates.
- Relative differences between rural entrepreneurship and urban entrepreneurship are lower in Germany.
- Statistically, the type of rural regions (4 types according EU) is more important than the country context in explaining the entrepreneurship rate of rural regions.
- Regional context factors to explain rural entrepreneurship differ from those that explain urban entrepreneurship.
- Regional context factors of rural entrepreneurship differ by region types.
- In rural regions composition effects are stronger than (regional) context effects.

Our results from multi-level regression models provide clear evidence for the specific role of rural entrepreneurship both in terms of their determinants and their frequency compared with urban entrepreneurship and across both countries.

This abstract is based on research done in the ongoing research project "Entrepreneurship in rural areas: scope, determinants and regional economic effects" (EntreLR) funded by the German Federal Ministry of Food and Agriculture, Grant Number 2821LE003.

Relocation of transnational companies in the automotive sector, its impact on socio-territorial inequalities. The case of the state of Guanajuato.

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Online-G31-O2 Location of Economic Activity, August 23, 2022, 4:00 PM - 5:45 PM

Globalization today articulates different places based on the comparative and competitive advantages they present; it fragments the space because in each place there are peculiar logics from which to articulate to globalism. In fact, we are witnessing accelerated processes of resource concentration, diversification, differentiation and exclusion, both globally and within countries and regions, in other words, we are observing the spatial expression of social and even territorial inequality.

Phenomenon that leads to analyze and understand the processes of social and territorial differentiation that globalization is causing in specific territories, in other words, the forms and degrees in which the territories participate in the new economic dynamics and its effects on their levels of social development and territorial articulation. Hence our interest in studying these processes of social and territorial inequality that occur in the state of Guanajuato, Mexico, particularly based on the relocation of transnational companies in the automotive sector in this geographic space, which is the purpose of this work. The proceeding analysis will consider that these processes occur within the framework of deregulation, opening and economic liberalization implemented by the government, as well as the interaction of globalization with the territories according to their conditions, resources, productive activities, knowledge and capacities of local actors. The method we use is the review of the scientific literature, data collection and statistical analysis to quantify the intensity of the linear relationship by calculating the covariance, the mean and the standard deviation of the variables related to the automotive sector such as number, type and size of companies, their spatial distribution, the number, conditions and type of jobs that these companies generate, in addition to socioeconomic variables such as poverty and marginalization rates recorded by the municipalities where these companies are based, which allows establishing the correlation that exists between the selection of the spatial anchorage of transnational corporations and the economic and social disparities that they foster.

Giving the green light to sustainability - key political factors behind the European Green Capital Award applications

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Pecs-G02 Macroregional, Transregional, Regional and Urban Policy and Governance, B017, August 24, 2022,
11:15 AM - 12:45 PM

Given the increasing role of cities in mitigating climate change, the role of urban climate governance is inevitable. Nowadays, cities' involvement in sustainability efforts is becoming increasingly important. Of particular importance are the horizontal networks and international initiatives that promote them and help the participating cities to exchange knowledge and experience. Participation in such initiatives and the degree of involvement is largely determined by the political leadership of cities. This paper investigates the political determinants of applying for a European sustainability award, the European Green Capital Award, using binary logistic regression with data on the real applicants and a control sample, up to the round of 2023 (for more than 250 cities). The results show that cities with a left-wing leadership and a higher share of Green Party representatives in the city council than the national average are more willing to apply for the award. Furthermore, the political context will also determine the outcome of a successful bid. Cities whose councils have a more favourable score on our environmental index are more likely to be finalists. Successful bids will also be influenced by the experience of previous applications and the innovation that comes with a change in political leadership. Moreover, as the European Green Capital Awards is a competition itself, the outcome of cities can be used to infer the success of sustainability policies in the political context indirectly.

Validating the impact of spatial spillovers on party preference

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Pecs-G14-O2 Spatial Econometrics, B016, August 25, 2022, 4:00 PM - 5:30 PM

Research on the growing support of radical right parties cannot ignore the role of spatial, contextual effects and geographical proximity. The most commonly mentioned spatial factor in the literature is the halo effect, which suggests that a radical right party is more likely to perform well in a homogeneous electoral district, surrounded by ethnically diverse areas. In this paper, I model the 2018 election results of the Sweden Democrats at the level of the 6008 Swedish electoral districts. I define the halo effect as a spillover effect of the ethnic structure of the neighbouring areas using different spatial weight matrices. The spatial models augmented with Durbin components (Spatial Durbin Model and Spatial Durbin Error model, chosen after the Lagrange Multiplier tests) show a better fit and indicate a spillover effect of the level of education, aggregate employment and median wealth in addition to the contextual role of ethnic diversity. Compared to the map of residuals from the OLS model, spatial modelling resulted in particularly significant improvements in some of Skåne County's electoral districts. To validate the results of the spatial modelling, I will carry out a hybrid mail-online survey in the electoral districts with significant improvements regarding the residuals. The survey will be conducted during May or June. The questionnaire survey will aim to verify the role of spatial spillover effects and to explore possible causes (political contamination of social interactions, copy-cat behaviour, the role of media, commuting) that may trigger them.

Cultural Heritage Valorisation for Regional Development – Lessons learnt from Local Flavours Interreg Europe project

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Pecs-S27-S2 Borders and Borderlands – Integration and Cohesion in (Central) Europe, B312, August 25, 2022,
4:00 PM - 5:30 PM

The project “Authentic tourism based on local cultural flavours” was initiated by the Institute of Advanced Studies (iASK) located in Kőszeg, a small historic town on the Hungarian-Austrian border with exceptional yet under-utilized cultural heritage. iASK is a multidisciplinary research institute that runs the Kraft Programme (“Creative City – Sustainable Region”) an innovative, regional development concept that is funded by the Hungarian government. Kraft integrates soft and hard factors and utilizes synergies of interdependencies among rural and urban development. The methodology is also exploited and finetuned in the framework of the Local Flavours (LF) project. As a starting point, LF partners agree that in order to empower and support the participating locations, it is necessary to develop and implement strategies and management tools tailor-made to local circumstances and ambitions; establish and engage a flexible and creative workforce with state-of-the-art digital and interpersonal skills; promote and intensify cooperation between heritage management institutions, private and business stakeholders; and increase individual and mutual visibility by better leveraging targeted locations. To reach these key strategic aims, relevant policies and local/regional institutional, administrative and funding frameworks should be improved. To facilitate this process, Phase 1 of LF (ended January 2022) focuses on the Interregional Learning Process that has resulted in specific Action Plans, elaborated in the framework of the project. From a global perspective, cultural heritage portfolios are upgraded, demanding more systematic and eco-conscious management, as well as region-specific instruments and actions. Most importantly for Local Flavours, authentic tourism is gaining importance, which means that in addition to built heritage and nature, the everyday habits and lifestyles of people and communities are becoming attractions in themselves. The overall objective of the Local Flavours project is to improve policy instruments (PIs) that support the sustainable exploitation of the cultural heritage of small and medium-sized towns with potentially attractive portfolios. The current research aims to evaluate the interregional knowledge exchange process from the perspective of Action Plans and Policy Changes achieved.

The economic impact assessment of entrepreneurial ideas in the Smart Specialisation Policy: illustrative policy simulations in Baranya county

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Pecs-S15-S2 Supply Chains, Production Networks and Regions, B310, August 24, 2022, 4:00 PM - 5:30 PM

Contrary to what is a common practice in the evaluation of traditional cohesion policy instruments (e.g., R&D, human capital or infrastructure investment subsidies) economic impact modelling has not yet found its place in the evaluation of smart specialisation strategies. Though the necessity of economic impact assessment is emphasized in the theoretical contributions of the smart specialisation literature (e.g., Foray 2015) the practical methodology is still an open issue. In this paper, we study the local and national impacts of alternative smart specialisation paths for Pécs, a Hungarian city-region. We follow the steps in specialisation suggested by the smart specialisation literature (Foray et al., 2021). Accordingly, we start with the analysis of the novelty of discoveries followed by the assessment of their embeddedness in the economic structure of the region, their spillover potential, and the likely economic impacts. The comparison of alternative development paths for different transformative activities will lead us to draft some initial policy suggestions.

(See extended abstract.)

The Changing Role of Central Hungary and Budapest in the European, National and Regional dimensions

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Pecs-G01-O1 Regional and Urban Development, B016, August 24, 2022, 11:15 AM - 12:45 PM

For more than thirty years, the capitals and cities of post-socialist countries have been trying to catch up with the cities of Western Europe. Budapest is well on the way to becoming a developed European metropolis. It is modernising, becoming more open and increasingly integrated into the network of cities of Europe and the world, but this has not only advantages but also disadvantages. It can also be seen that, while the capital is becoming a social and economic hub at European level, it is distancing itself from the country's rural areas and absorbing and concentrating valuable domestic resources. The proportion of this becomes critical for some factors. The agglomeration surrounding Budapest, through its proximity to the capital, is growing, benefiting from the capital's weight, while the characteristics of the two areas and their relationship are changing. Overall, the system of functions of the triple role (habitat of the local population, capital city serving the country, European metropolis) does not seem to be fully coherent, as embodied in the debates between the different interest groups. The paper seeks to answer the question of which factors give Budapest and its region a meaningful role in the European urban hierarchy and what advantages and disadvantages this has for the city. On the other hand, how the central role of the capital city in the country is evolving, in which factors and how this is reflected. Thirdly, what are the main processes and relationships that characterise the capital and its agglomeration. Fourthly, which factors strengthen and weaken each other in this complex system. In this work, statistical data (Eurostat, Hungarian Central Statistical Office) will be processed and analysed to show the situation of the capital and its region in terms of society and economy, and the static and dynamic aspects of the processes.

Qualitative analysis of smart city concept in Hungary

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Pecs-G20-O1 Cities, Regions and Digital Transformations, B314, August 24, 2022, 2:00 PM - 3:30 PM

see extended abstract

Top-down meets bottom up. Determinants of RIS3 implementation performance in Romanian less developed regions

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Online-G12-R Regional Competitiveness, Innovation and Productivity, August 23, 2022, 11:15 AM - 1:15 PM

RIS3s were an ex-ante conditionality for financing R&I investments from ERDF during 2014-2020 under Thematic Objective (TO) 1 (Foray 2015; McCann 2015). Their main source of financing, especially in less developed regions is Cohesion Policy (Doussineau et al. 2018). Both RIS3 and Cohesion Policy have the aim to support less developed regions in reducing their disparities. However, the same regions have difficulties in efficiently and effectively absorbing funds, confronting with what has been called the 'regional innovation paradox' (Oughton et al. 2002).

Romania is one of the worst performing Member States both linked to fund absorption and innovation performance (Szabo 2017; Ranga 2018). Until recently the country applied a centralized approach towards Cohesion Policy implementation and had a centralized innovation system (Healey 2016; Ranga 2018). The deployment of the smart specialisation process at regional level connected to the use of ERDF marked the birth of incipient regional innovation systems (Ranga 2018) and was meant to support the effective and efficient implementation of Priority Axis (PA) 1 of the centralized Regional Operational Programme (ROP) 2014-2020 (Szávics 2020). The seven Romanian less developed regions have different levels of experience with smart specialisation (Ranga 2018) and the quality of the RIS3 they have designed for 2014 – 2020 differs, as well (Szávics & Benedek 2020). Considering this background and other determinants the research analyses the RIS3 implementation performance of these regions from PA 1 of ROP 2014-2020.

Findings show that there are sizeable differences in the amounts committed by each region, two of these running ahead by contracting more than 80% of funds committed. The same two regions have more experience in RIS3, better capacities related to RIS3 design and Cohesion Policy implementation, and are thicker in relevant organizations, e.g. universities. However, these differences do not fully explain the variations in the implementation performance linked to PA1 of ROP 2014-2020, nor do those that can be observed regarding innovation performance or other place-based factors that have been taken into consideration.

Results highlight the need to extend the research to other aspects. The quality of governance (Rodríguez-Pose & Di Cataldo 2015; Rodríguez-Pose & Garcilazo 2015), including the quality of cooperation between institutions responsible for implementation and private stakeholders (Radosevic 2017) and the mechanisms and rules that shape institutions and interactions (Rodríguez-Pose 2020) might be necessary to be investigated to better understand and explain the differences in the RIS3 implementation performance of these Romanian regions.

Strengthening the cohesion of cross-border cultural tourism destinations utilising digital instruments in the cross-border region of Komárom-Komárno

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Online-G32 Tourism and Culture, August 23, 2022, 11:15 AM - 1:15 PM

In our research, we examine tourist destinations in the cross-border region of Komárom and Komárno, and hypothesize, that cross-border tourist destinations have many potentials to attract tourists as a single cultural destination. We also hypothesize that, digitalization (and digital devices) may be the number one tool of the 21st century to be used in attracting tourists. In our study, we sought to answer the question of how digitalization can help to bring a large, significant destination falling within the territory of two countries, closer to tourists. To this end, we conducted an empirical survey within the framework of the SPOT Horizon 2020 project (means Social and Innovative Platform on Cultural Tourism and its potential towards deepening Europeanisation) in the case study area, and asked relevant stakeholders, tourists, and residents to complete our survey. We are also looking to answer the question of how European identity can be realized in cultural tourism through the mediation of digitalisation.

The connection of sustainability and economic dimension of smart cities among the European capitals

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Online-G01-O3 Regional and Urban Development, August 22, 2022, 2:00 PM - 3:35 PM

In the global economy, rapidly changing conditions (globalization, industry 4.0, artificial intelligence or the current pandemic situation) are setting new challenges for cities. The cities are the most important hubs of economic activity around the world (concentration of population, enterprises, trade, stock exchanges). These challenges require new and innovative solutions from cities, to which smart cities can give adequate answers. The cities are not only concentrating the economic activity but are responsible for a huge part of environmental issues (energy consumption, greenhouse gas emissions). That is why besides the economic growth approach also sustainability is more and more current in the smart city definitions. The research aims to examine the connection of smart cities' economic and environmental pillars in the example of the European capitals. The results show, that also among the capitals there are some differences in this case as different solutions have emerged in the main geographical areas of Europe, both in terms economic component and in terms of taking into account sustainability aspects. Cities in Northern and Western Europe are the best performing in both cases, although, it is worth noting that among medium-sized cities the connection of the overall position and the role of economic component is not strong as e.g. by the environmental or people pillars.

Comparative analysis of the development paths of the “Europe in between” countries (V4+2)

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Online-G01-O1 Regional and Urban Development, August 22, 2022, 9:15 AM - 10:55 AM

Various surveys show that the citizens of the Central and Eastern European countries, once part of the Soviet zone of interest, hoped for rapid catch-up (in terms of living standards, infrastructure, employment, social, environmental conditions) from the geopolitical changes that took place after 1989. This seems to have been only partially achieved. The post-socialist countries under study, despite their quantifiable achievements, are trapped in development, due to internal (economic history and values, imported institutional structures, lower productivity than the EU average) and external (geopolitical situation, vulnerability of their economies) reasons. It will be particularly interesting to see how the COVID waves started in 2019, followed by the Russian-Ukrainian war, will affect the development prospects of the six examined countries (Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia).

After a brief theoretical overview of development and path dependency, the authors of the present study examine changes in the period of 1995-2020 using an aggregate development index based on forty indicators (economic, demographic situation, employment, human infrastructure, income and environmental conditions). They analyse the similarities and differences in development paths and then summarize the risks expected between 2021 and 2025 and their impact on future development paths.

Measuring environmental impacts of commuting – Greening possibilities from the perspective of SMEs

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Online-YSS2, August 22, 2022, 9:15 AM - 10:45 AM

Urban sprawl, or in other words rapid expansion of residential areas around cities and towns may have significant consequences on environment. Low density residential zones use extensively land, which could be used for food production or as natural habitats, which reduces biodiversity. Suburban lifestyle (e.g., larger dwellings, individual heating, occasionally swimming pools, etc.) has a rather larger ecological footprint than urban (see for example Kovács et al., 2020 or Hardi et al., 2020, 2021).

The paper focuses on environmental impact of Hungarian small- and medium-sized enterprises (SMEs). To measure environmental impacts of businesses activities an online corporate ecological footprint calculator was developed (see Szigeti et al., 2021).

Ecological footprint (EF) indicator represents the size of land needed for humanity at a given level of technological development to satisfy its needs and absorb waste generated (Wackernagel and Rees, 1996). EF can be considered as sound measure of (un)sustainability since it is easy-to-understand and relatively easy to determine the upper limit of sustainable consumption. The sample analysed consists of data on 72 surveyed SMEs classified into five groups based on a preliminary qualitative analysis (see Szennay et al., 2021). groups are different from any statistical classifications (i.e., NACE in the EU or SIC in the USA). The groups are as following: (1) construction; (2) white-collar jobs; (3) production; (4) retail and/or wholesale trade; (5) transportation.

Our results suggest that decisions on site locations may influence environmental impacts of commuting, since emissions are lower when total transport demand is lower (i.e., the workplace is closer) or when the location can be accessed easily by environmentally more responsible transport modes (i.e., public transport, bicycle, etc.). This aspect may be highly relevant in case of green field investments or where public transport does not exist. Secondly, lockdowns after COVID-19 pandemic proved that most white-collar works can be done remotely. In addition, minor business meetings or even conferences could be arranged online. This means, that total transport demand and its environmental impacts can be reduced.

Our results have, however, some limitations. First of all, the analysed sample is small, consists of only 72 SMEs, and not representative.

Development challenges of the inner peripheries in Poland in the post-COVID 19 period

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Online-S26 The Spatial Reorganization of Working and Living: New Opportunities for Peripheral Regions?,
August 22, 2022, 11:15 AM - 12:55 PM

COVID-19 pandemic has brought far-reaching consequences for the economic and social situation in the world. Although the end of the pandemic is increasingly being reported, the consequences of the economic crisis will be appreciable for years to come. To sort out with these effects is the most important and, at the same time, the most difficult economic challenge, both internationally and regionally. In this regard, it is particularly important to reply to the question about the socio-economic consequences of the COVID-19 crisis for the development of the least resilient areas, primarily the inner peripheries, representing lower level of economic development.

The results of ESPON research provide that inner peripheries are common throughout Europe, regardless of the level of development of the country. Inner peripheries are areas affected by a combination of undesirable processes, conditions and evolutionary dynamics resulting in limitations to their developmental potential.

The aim of the paper is to delimit and classify inner peripheries based on a wide range of indicators of quality of life, economic performance and communication accessibility. Functional urban areas (FUA) delimited based on migration, commuting and transport accessibility served as spatial units of analysis. The purposeful choice of indicators was followed by multivariate exploratory statistical analysis. The results point at a wide diversity of the characters of peripherality in various geographic settings. It points to the utility of case study approaches and place-sensitive politics in challenging development issues during the current pandemic crisis. The results presented constitute the first stage of the implementation of the research project TIPERICO (www.tiperico.web.amu.edu.pl) financed by the National Science Centre in Poland (UMO-2020/37/B/HS4/01034): Trajectories and challenges of the development of internal periphery in the new conditions of post SARS-CoV-2 cohesion, whose task is to identify the socio-economic development challenges in selected areas of internal peripheries and their resistance to the effect of the COVID-19 pandemic crisis. This will enable to design recommendations for the changes in development policy interventions.

H2020 research collaboration networks and their inequalities in europe

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Online-G30-O2 Innovation and Regional Development, August 23, 2022, 4:00 PM - 5:45 PM

The Framework Programmes for Research and Technological Development of the European Union have stimulated the establishment of research collaborations for decades to enhance synergies of European academic knowledge production and to support its own policy goals. Although increasing resources and the thematic expanse of the past programme periods have indeed created fruitful co-operations between different partners across Europe, they also contributed to the reproduction of European inequalities in the field of knowledge.

Hence, the goal of this paper is to analyse inequalities in the European scientific field and knowledge production based on information on Horizon 2020 research and innovation collaborations. While this can be investigated from different viewpoints (forms of co-operations, productivity etc.), the main emphasis of this paper is to analyse positions of academic actors in European scientific power relations by exploring different network attributes of institutions participating in H2020 initiatives and their spatial distribution patterns, with special regard to positions of Central and Eastern European countries.

GIS-based analyses presented in the paper use geographical location data of institutions participating in H2020 research and innovation actions from 2014 to 2020 and information on their network characteristics based on their connections and on attributes related to project and institutional characteristics, financial contributions and their roles in collaborations. These types of data on institutional location and project attributes can be retrieved from the CORDIS database, which provide information on projects implemented within Framework Programmes of the EU.

Results of the paper contribute to the evidence-based knowledge of spatial characteristics of research collaboration networks within Europe. Detailed findings on the presumed concentration of analysed attributes within Western countries, the unequal positions within networks between older and new member states and measures on the level of integration of CEE countries into collaboration networks not only could arouse the interest of the scientific community but could also provide important feedback from a policy point of view.

Path-dependence in the location of business agglomeration: The impact of the postwar land requisition in Yokohama

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Online-G31-O1 Location of Economic Activity, August 23, 2022, 9:15 AM - 10:55 AM

Does the temporary lockout of offices from the central business district alter the location of the business agglomeration permanently? This paper investigates the impact of the land requisition by the US Army during the post-WW2 period in Yokohama City, Japan. Using the location information of firms collected from city business directories published before and after WW2, this study asks if the within-city relocation of commercial agglomeration happened. My main finding is that the land requisition reduced the size of the incumbent agglomeration and this negative effect lasted even after the occupied land was retroceded. This result suggests the path-dependence in the location of economic activities within a city.

The voice of monetary policy

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Online-S05 Culture and Narratives through Time and Space, August 22, 2022, 11:15 AM - 12:55 PM

We develop a deep learning model to detect emotions embedded in press conferences after the meetings of the Federal Open Market Committee and examine the influence of the detected emotions on financial markets. We find that, after controlling for the Fed's actions and the sentiment in policy texts, positive tone in the voices of Fed Chairs leads to significant increases in share prices. Other financial variables also respond to vocal cues from the Chairs. Hence, how policy messages are communicated can move the financial market. Our results provide implications for improving the effectiveness of central bank communications.

City networks in short-term rental markets. Evidence from Asian and European cities

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Pecs-G16 Real Estate and Housing Markets Issues, B017, August 26, 2022, 9:15 AM - 10:45 AM

The paper builds the cycles of transactions and prices in the short term rental market from 2015 to 2021 for 46 European and Asian cities to understand how short-term tenants move across the cities. Having the cycles at the city level, the paper builds a panel and estimates a supply-demand model for the short-term rental market and analyses the endogenous relationship and ripple effect among cities using the VECM framework. Results suggest the existence of links between cities, both in short-term rental contracts and prices, supporting the hypothesis that short-term rental market visitors choose cities clustered in networks and that those networks compete with each other as alternative destinations. The evidence suggests that, through the technological platforms and individually, a particular city network is chosen as an alternative to others, revealing tastes changes and inducing segmentation in rental price growth and investment.

Estimation of human capital loss and YLL caused by COVID-19 deaths in the city of São Paulo

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Online-G39-O1 Regional Consequences of the COVID-19 Pandemic, August 22, 2022, 4:00 PM - 6:00 PM

Introduction: By May 2021, the number of deaths caused by the COVID-19 (SARS-CoV-2) pandemic exceeded 40,000 in the city of São Paulo, Brazil. This analysis aims to estimate the economic and social impact by calculation of YLL and the productivity losses.

Methodology: COVID19 mortality data from 1st of March 2020 to 27th May 2021 by gender, age, district of residence was extracted from information system of mortality of São Paulo city. Average income (not only salaries but other forms of income e.g. rents, interest) in each of the 97 districts of the municipality of São Paulo was obtained from the 2010 Demographic Census and adjusted to present value. COVID-19 absolute mortality rate, estimation of years of life lost prematurely (YLL) were calculated based on age at which the person died and the life expectancy at the age of death. Productivity losses were calculated based on YLL and average income of each individual from 18 years to retirement age.

Results: A total of 41,604 deaths by COVID-19 were confirmed, 45.20% women and 54.75% men, which represents 746,992 years of life lost YLL (17.95 YLL per person). 44.38% of the total YLLs are related to the age group between 55 and 74 years old. The estimated loss of productivity is € 647.349.432,53, €202.974.601,99 for women and € 444.374.830,54 for men, an average of € 48.374,64 per deceased person (rate on 27May21 R\$1,000 = €6,444).

For the purpose of this analysis, income data was considered as proxy for quality of life, i.e. lower income areas are related to lower socio-economic conditions.

The simple linear regression performed was:

Total Deaths = 587.8702 - 0.07080 Income + ϵ , R² = 0.193689, Adjusted R² = 0.18520
(14.5587) (-4.7709)

N = 97

Numbers in parenthesis are the t statistics

The regression for Total Deaths indicates that If income increases 10, deaths will be reduced in 0.7080.

Conclusion: It was estimated 746.992 YLL and € 647M in future productivity losses due to the deaths caused by COVID-19. This impact can be higher since when a person dies, all abilities acquired by education or training during life and eventually the productive potential are also lost.

Linear regression result suggests that areas with lower income may be more affected by pandemics. As next step, compare data from slams areas with higher income districts may be done.

Home sweet home? Ethnic inequalities in the German housing market

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Online-G03-O2 Demographic Change, Population, Migration and Mobility Behaviour, August 22, 2022, 4:00 PM - 6:00 PM

Numerous studies have shown that even after controlling for differences in levels, outcomes of migrant minorities lag considerably behind those of natives. These gaps are labelled “ethnic penalties” and reflect the assumption that differences between natives and migrants that can-not be explained by socio-economic variables must be due to discrimination. While ethnic gaps are broadly documented in the labour market, research on the German housing market lags behind. This is surprising for three reasons: First, adequate housing is an important driver for successful integration. Second, affordable apartments, particularly in urban regions, are rarer than job vacancies, which offers even more room for discrimination. Third, by focusing on invitations to flat viewings for predefined applicant profiles, existing field experiments do not examine the actual but rather hypothetical housing outcomes. This paper aims to offer a broader view by expanding ethnic penalty literature to actual housing outcomes, employing an established labour economics method (Oaxaca-Blinder decomposition). Based on pooled data from the German Socio-Economic Panel (2017-2020), I decompose differences in housing outcomes (e.g. m² per person) between natives and three migrant groups (first/second generation migrants, refugees) into an explained part due to differences in observable (human capital) predictors and an unexplained part, interpreted as discrimination. Moreover, I try to challenge this interpretation by looking explicitly at the role of sociocultural variables (e.g. language acquisition). Preliminary results suggest substantial gaps in housing outcomes between natives and migrants, but also within the migrant group. However, taking sociocultural variables into account decreases the unexplained part significantly.

Measuring Broader Welfare At Urban And Regional Scales

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Pecs-G13-O1 Methods in Regional Science or Urban Analysis, B019, August 24, 2022, 4:00 PM - 5:30 PM

Multiple alternatives to GDP has been proposed to measure social welfare, yet surprisingly little is known about how these approaches can be used on the urban scale. Thus broader welfare hints at the concept of quality of life and well-being while going beyond the merely economic production and living standards. This work uses the term welfare in relation to the ability to meet present societal needs without compromising future generations to meet their own needs. This paper aims to create a synthetic theoretical overview of the relevance of these alternatives in an urban context. For this purpose, a literature review about conceptual and non-conceptual approaches to measure well-being has been carried out. The methodology includes analyzing peer-reviewed, special reports published by working groups at the UN, OECD, EUROSTAT and other official reports aligned to producing welfare and well-being indicators to have a representative sample. Overall, this work aims to contribute towards the comprehensive understanding of broader welfare in cities while summarizing the main strategies to measure it.

The effects of social conservation areas in Berlin on the housing market and demographic structure of the neighbourhoods

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Online-G01-O3 Regional and Urban Development, August 22, 2022, 2:00 PM - 3:35 PM

Being a popular city for both enterprises and individuals, certain areas in Berlin are subject to severe revaluation and displacement pressure. To prevent these structural changes and to maintain the social composition of the residents in these areas, as one of the first big cities in Germany, Berlin started to designate social conservation areas in 1991. Consequently, the district council must approve certain changes to buildings or ownership structures in these zones. The number of designated areas has been gradually increasing and currently amounts to 72 zones in 2022. Although this instrument has been effective for more than three decades, there is only some evidence from small-scale studies on behalf of district councils that suggest a stabilizing effect of social conservation areas on the social composition and the rent level within these zones.

This paper analyzes the effects of the designation of social conservation areas on the population and the housing market within and outside of these zones. For this, georeferenced data on real estate offers for rental and sales objects from the internet platform Immobilienscout24 as well as demographic characteristics on the km²-grid level, such as the unemployment rate, age structure and mean purchasing power per grid are used. Utilizing the exact locations of the areal borders, a regression discontinuity design is applied to estimate the local average treatment effect of newly designated social conservation areas on households and the real estate market within and outside of these zones. The effect is estimated in terms of the mean real estate rental and sales prices, mean purchasing power and other demographic characteristics of the neighbourhood, as well as their changes over time. Additionally, potential spillover effects on neighbourhoods close to designated social conservation areas are explored. Estimated effects could be expected to confirm the stabilizing effect of the instrument. However, there might arise unforeseen sorting and spillover effects on neighboring areas or diverging dynamics induced by the designations, such as an increase in purchasing power in the broader area but a stable or decreasing development within the social conservation area. This paper may yield important insights into the effects of the employable and non-employable population.

The role of the space in discrimination and segregation: analysing the Ecuatorian case.

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Pecs-G18-O1 Regional and Urban Labour Markets and Entrepreneurship, B020, August 24, 2022, 4:00 PM -
5:30 PM

"see extended abstract"

Inequality in Europe: Reality, Perceptions, and Hopes

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Online-S54 Income distribution and individuals' perceptions of inequality, August 23, 2022, 9:15 AM - 10:55 AM

Is actual inequality accurately translated into people's perceptions, and what are the genuine hopes of citizens? Our contribution offers insights into how the reality and two subjective dimensions of inequality, namely perceptions, and desires, interact. Using data from the Eurobarometer, we study the main patterns of different "types" of inequality in the European NUTS2 regions. Considering the role of attitudes and beliefs, the residents of the same region are typically found to hold a similar perception of how unequal their society is. Moreover, and somewhat surprisingly, the reality is contrary to people's perception since low (high) actual inequality in the region is often reflected in its overestimated (underestimated) perception. We also show that perceived, and desired inequality are distinct metrics as commonly applied determinants of perceptions are rather weakly associated with desired inequality, probably due to the normative nature of the latter. The evidence presented here implies that objective measures of inequality should be used in conjunction with subjective ones to gain a complete picture of the phenomenon. Our findings may assist policy-makers and other interested stakeholders in designing dedicated policies to counteract inequality in all its forms.

Unequal under disruption: how leisure travel behaviour exacerbates segregation during the pandemic

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Pecs-S59-S5 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 25, 2022, 2:00 PM - 3:30 PM

Daily mobility-related inequalities intensified during the pandemic. Data-driven analyses showed residents in lower-income and lower-educated neighbourhoods being impacted heavier by the pandemic, possibly due to them working blue collar jobs that required physical presence. However, while the more educated and well-to-do neighbourhoods saw reduced mobility during working time, possibly due to distance working and reduced commuting, that did not hold for leisure times. Then, during holidays and weekends, the observed larger differences in mobility might have contributed to the uneven spread of the virus. In this paper we explore the inequalities in geographic mobility opportunities as observed before, during and in the early post-pandemic (current to the time of the writing) stage, combining Swedish mobile phone data with socio-economic characteristics from the population register. While the data are anonymised, ecologically joined and aggregated, preserving privacy of the individuals, the resulting dataset enables us to compare mobility inequality in areas of varying urbanisation, accessibility to amenities, and having varying economic characteristics resulting from residential sorting. We show how the segregation, already present in the different life domains, is exacerbated by the disruption to mobility accessibility added up to the pre-existing variances in recreational activities. The segregation by leisure opportunities in turn affected the businesses, with prices increasing in Sweden for summer houses, caravans, boats, etc., while more group-oriented leisure businesses experienced difficulties and still are having trouble recovering. Understanding of those processes is important for sustainable development, resilient against disruptions. Leisure activities could be used to introduce mixing as a tool to break the vicious cycles of segregation.

Exploring housing rent determinants using novel spatial autoregressive geographically weighted quantile regression: evidence from Warsaw and Amsterdam

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Online-YSS1, August 22, 2022, 9:15 AM - 10:45 AM

In the current scientific literature, the topic of identifying determinants of residential rental prices is rarely undertaken. Therefore, this paper aimed to explore the factors influencing the formation of housing rents on the examples of Warsaw (Poland) and Amsterdam (Netherlands). A novel spatial autoregressive geographically weighted quantile regression (GWQR-SAR) was applied to achieve the research goal. GWQR-SAR takes into account both spatial autocorrelation of residential rents and heterogeneous influences of rent determinants across space and the price distribution. The study results indicated that rental housing prices in both cities are driven by a set of structural, locational and neighbourhood characteristics as well as by the spatial autoregressive term. However, the impact of the identified determinants varies in space and over the distribution of rental price. These new findings helped to propose valid policy suggestions for developing the private residential rental market in Warsaw and Amsterdam. Finally, the paper provided the R package GWQR implementing a geographically weighted quantile regression estimation.

Resilience of entrepreneurial ecosystems during and after Covid19 in three gastro/wine tourism destination – a comparative study

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Online-S33-S2 Local Rural Perspectives on Disparities in a Digitalising (Post-COVID) Europe, August 23, 2022,
11:15 AM - 1:15 PM

The presentation will explore and compare the resilience of entrepreneurial ecosystems in three rural gastro/wine tourism destinations – initiated by lifestyle entrepreneurs - in Hungary. The first part of the presentation will examine the local contexts and particular histories of the locations in becoming gastro/wine tourism destinations. We will present the role of urban incomers in initiating gastro/wine tourism events and business, where did they come from, what skills and capital were needed to succeed? How the local entrepreneurial ecosystem functions, how co-operative and competitive strategies relate to each other, etc. The second part of the presentation examines the effect of Covid19 pandemic and the connected restrictions on the local tourism business, including resilient and adaptive strategies and innovations undertaken by individual enterprises and their networks. We also explore the evolution of Covid19 stricken tourism through following immediate and longer-term effects. Finally, we will compare how local contexts, individual skill sets, capitals and networking cultures are affecting resilience and the success of adaptive strategies of entrepreneurial ecosystems during a significant external shock of the system. We intend to answer questions like: Will after the crisis, rural life return to the pre-COVID rhythm? Will the recent influx of urban migrants ('COVID-gentrificants') and the new life and resources brought by them help to blend rural and urban cultures into a viable basis for local prosperity? How could central and local policies lessen negative and enhance positive effects in the medium-long run?

Investment flows from Greece to Bulgaria and the COVID-19 pandemic: is there a trend halt?

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Online-S27 Borders and Borderlands – Integration and Cohesion in (Central) Europe, August 22, 2022, 2:00 PM - 3:35 PM

This Case Study offers a comprehensive analysis of the investment flows from Greece to Bulgaria through the lens of the current COVID-19 pandemic. Within this context, an assessment of the impacts of the current pandemic on the Greek FDI flows towards Bulgaria and of the countermeasures to mitigate adverse effects is made. The effects of the macroeconomic shock of the pandemic are placed in the context of pre-existing conditions pertaining to the Greek and Bulgarian economy. It is evident that the pandemic further contributes to lower investment, unemployment, and the deterioration of the budget balance, public debt, and global trade linkages in both countries. Nevertheless, it seems that this urgent situation may offer opportunities for governments to redesign their growth strategies and to attract and (re)allocate resources towards higher-productivity sectors, increasing physical and human capital intensity and diversification, expediting technological adoption, and increasing the resilience to such global-scale (health, financial and environmental) risks. Particularly in Bulgaria, the outbreak of the COVID-19 pandemic stopped, rather abruptly, several years of robust economic growth, which had lifted income per capita above half of the OECD average. The COVID-19 pandemic hit at a time when the Bulgarian economy was performing strongly; economic growth had exceeded 3% annually for five consecutive years, real wages had been rising rapidly and unemployment had fallen to historically low rates.

Economic and social convergence trajectories in Romania

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Online-G12-O1 Regional Competitiveness, Innovation and Productivity, August 22, 2022, 9:15 AM - 10:55 AM

The transition from a planned to a market economy after the 1990s has led to the reorientation of the country towards western economies. The main impact of this openness was the improvement of social and macro-economic conditions as well as the rapid economic growth. By the end of 2000, Romania was characterized as one of the fastest growing economies among EU members states: the catching up process also being illustrated by the share of GDP per capita (PPP) in EU 27. This rapid growth and convergence process has also led to a different pattern of inner polarization and the emergence of core-periphery structures. In this paper, we test whether there is a social or economic convergence process towards a homogenous stable state/economy or rather the emergence of several groups of settlements and regions with different growth evolution. In order to depict the social and economic convergence of the analysed territorial units we have applied a four step econometric models. First, we have applied one of the most commonly used methods for estimating convergence, namely the σ and β -convergence statistics, also considering the spatial econometrics estimation method in order to test the existence of spatial dependence. In order to point out that several territorial units tend to show a homogenous growth/development path or form clubs of convergence, we have applied the log t convergence approach developed by Phillip and Sul (2007). The results suggest that economic indicators (GDP/capita, income/capita) tend to diverge, while social indicators (infant mortality rate, life expectancy of birth, gross school enrolment) have a tendency to converge. Further on, the analysis also shows that the formation of convergence clubs is stronger in the middle/average- and least developed regions, the well-developed ones usually having unique development paths.

Heterogeneity behind skill-relatedness

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Pecs-S24-S1 Structural Change and Resilience in Local Labour Markets, B311, August 26, 2022, 9:15 AM - 10:45 AM

The existence of skill-relatedness stems from our labour market behaviour. The nature of the labour flows estimated in this way is crucial to understand in many areas, but surprisingly little is known about the geographical and socio-economic aspects of the formation of the skills network. A deep-rooted social structure underlies the creation and persistence of links between industries, occupations, or technologies. In practice, mainstream estimation methods mask such regional differences. Most research on skill linkages usually aggregate or average data across industries, occupations, and regions. These simplifications, however, hide some critical information about the underlying structure of the skills that the labour flow network is trying to capture. Moreover, simplification is a waste of information and compromises the internal validity of the research by systematically under- or even over-measuring linkages for specific labour market groups or regions. In this paper, we explore the geographical fragmentation and heterogeneity of Swedish labour market regions. The results show significant variance between the different types of regions; the lower the population density of a region, the more it differs from the national pattern. We also find that the differences are even more pronounced when we decompose the patterns by social and economic segments such as immigrant status, gender, and level of education. We believe our findings help calibrate policy interventions better, mainly when they target a specific region or a particular labour market group.

Workplace Innovation, Staff Involvement and Transformation in the Public Sector

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Online-S02 Building Resilient Public Sectors, August 22, 2022, 4:00 PM - 6:00 PM

Public sector organisations face unprecedented challenges in addressing complex social, economic and environmental policy demands within ever tighter financial constraints. Transformation is being discussed throughout the public sector. So why is it so difficult to achieve?

Public sector organisations are often repositories of accumulated practices, traditions, sub-cultures and interests. Inherited structures get in the way of the cross-functional collaboration needed to find innovative solutions to complex policy challenges and effective service delivery.

The challenge is to take a systemic view of organisational structures and practices, aligning them towards common yet fluid ends. Creating organisational and service innovation requires the ability to blend tacit knowledge and reflexivity at the front line with strategic thinking, agility and foresight. It means confronting deeply embedded attitudes and behaviours, and openness to learning from diverse public and private sector organisations.

The concept of workplace innovation offers a practical, participative approach to public sector transformation grounded in a substantial, expanding body of research. Workplace innovation was adopted by the European Commission's EU2020 Strategy, is embedded in the economic strategies of several national and regional governments and is helping to enhance performance and working lives in a growing number of public and private sector organisations.

Methodology. SLR, case study analysis, and two action research interventions co-led by the author, one in an English municipality, the second in a Northern Irish hospital.

Results. Evidence extracted from wide-ranging literature and case studies identified bundles of workplace practices simultaneously associated with high performance and high quality of working life, especially when adopted systematically. Work undertaken as part of the European Commission funded European Workplace Innovation Network (EUWIN) enabled this analysis to be translated into a practically focused methodology for participative organisational change, including validated survey instruments.

A concurrent EU-funded project enabled its testing and further development through extended interventions in two public sector organisations. Results demonstrated the powerful leverage for change generated by reflection on day-to-day work experiences, and by multi-disciplinary, multi-level dialogue. Negative impacts of middle- and senior-management role conflict and status concerns were also demonstrated. Learning from interventions informed the subsequent development of the approach and its successful deployment in other settings.

Originality. Whilst the concept of workplace innovation emerged during the early years of this century, there are few studies of its translation into practical frameworks to support public sector transformation. This study demonstrates an early example of such an approach, and its subsequent evolution and wider dissemination.

Determinants of Foreign Direct Investment Distribution in Vietnam: An Inclusion of Spatial Econometrics Element

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Online-S52-S1 Foreign Direct Investments, trade and local development: drivers and impacts, August 23, 2022, 9:15 AM - 10:55 AM

The study investigates determinants of foreign direct investment (FDI) distribution across 63 Vietnamese provinces. Exploratory Spatial Data Analysis (ESDA) and spatial regressions are employed to analyze cross-sectional data in 2018. Also, a panel data analysis is applied to analyze the data over 2010-2018. The first results show that the spatial distribution of FDI in Vietnam is persistently uneven between 2010 and 2018. While the provinces with a low FDI stock cluster in the Northwest area, the provinces with significantly high accumulative FDI gather in the Southeast region. Secondly, the main results obtained from the spatial analysis for determinants of new-registered FDI in 2018 are as robust as the findings from OLS analysis. However, the role of space is essential to point out the clustering effect of FDI inflows in Vietnamese provinces, helping avoid the estimation bias from the OLS analysis. Thirdly, poverty deters inward FDI from moving into the most underserved areas in Vietnam. The new-registered FDI in 2018 tends to favor the moderate provinces, which do not own a high level of average personal income and a high poverty rate. Fourthly, the results from panel data analysis confirm critical determinants of FDI in Vietnam over the period 2010-2018, including FDI stock, economic agglomeration, market size, income factors, the share of the industrial sector in gross regional domestic products (GRDP), net migration rate, electricity access, and land access index. In addition, new foreign investors pay more attention to the production factors, such as provincial GRDP per capita or labor wage, than the consumption perspective represented by the average personal income. Furthermore, amendment No. 63/2014/QH13 in 2014 in FDI law of Vietnam is found to create an immediate negative impact on new FDI inflows in 2014 but positively support foreign capital inflows into Vietnam for the years after 2014. Regarding policy implications, the study proposes four policy suggestions. Labor mobility and land policy can become practical tools in directing FDI inflows among Vietnamese provinces. Designing FDI policies needs to prioritize the regional development linkage rather than singly promoting FDI inflows into a specific province. It is crucial to develop FDI promotion strategies based on a sub-regional scale by gathering the provinces in each region, especially for the poorest areas in Vietnam. Finally, the government should regularly execute periodic reviews and evaluations on FDI policy to attract more FDI inflows into Vietnam in subsequent periods.

Crisis before crisis, recovery what kind of recovery? The case of Greece

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Online-G06 Adaptive and Resilient Cities and Regions, August 22, 2022, 9:15 AM - 10:55 AM

The concept of economic resilience attracts special attention especially after the recent financial crisis of 2008 and the covid19 crisis as it reflects the ability of national and regional economies to cope with the onset of adverse conditions by absorbing, resisting and recovering from shocks. Moreover, resilience is also associated with the capacity of economies with specific characteristics to withstand and recover better than others from the economic disturbances, a fact that has led to a policy discourse of analysts and policymakers. The economic resilience shows more peculiarity when regards production systems with a deviated behaviour of the European average, regional economies with serious spatial imbalances, or crises that dramatically shift the evolution of economies.

In line with this, the present paper studies the resilience of Greek (NUTS3 level) regions after the effect of a deep and prolonged economic crisis (and before a new crisis follows) which led the economies to significant shifts and rearrangements of their structures. The recovery period of Greece is an ongoing process that was interrupted by the covid19 crisis, for which it is unknown when and if the cycle of rebound (that is the period of full recovery) will be closed. However, this analysis, taking under consideration the protracted period of crisis (2008-13) and the first sub-period of recovery (before the new crisis that is 2014-20), attempts to study the resilience of these regions on this shorter-term time interval covering the need to be highlighted the first-stage responses and bellwether changes of regions.

Under this context, the paper, first, analyses how quickly and how far from the full recovery regions bounces back from the disturbance measuring the level of their (relative) resilience captured by both the part of resistance and recovery which are differentiated timely for each region. Second, it is investigated whether regional growth is more associated with a fast rebound or a slow but sustained recovery so as to emerge the more successful growth scenario of regions. Third, taking regions as part of complex adaptive systems they are investigated by an econometric spatial analysis those factors that led to the adjustment or eventually to the adaptation of regions with higher resilience intending to point out the ways and opportunities that have shown up in this new route identifying whether they are emanated from preconceived paths or from the development of new pathways.

Productivity stagnancy and structural adjustments

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Online-S25-S1 The spatial dimensions of productivity for regional growth: Industrial structure, industrial transitions and productivity, August 22, 2022, 11:58 AM - 12:55 PM

Productivity is historically a core topic in the evolution of economies as it is related to sustained growth and competitiveness. The recent slowdown of productivity growth and the new state in which economies are trapped in an extended productivity stall raises questions stimulating researchers, analysts and policymakers to attempt to explain it. Moreover, the current period having experienced consecutive crises (financial crisis of 2008-09, covid-19 pandemic and the onset of war in the European area) has led to various shocks and economic disruptions.

This analysis aims to investigate the impact of socio-economic determinants on labour productivity of European regions during the period 2000-2020 incorporating factors from the theoretical well-grounded framework (Kaldor, Schumpeter, Baumol) which highlight the importance of innovation, institutions, skills and structural changes as they exert a growth-dampening effect. It will be based on a GMM spatial panel econometric model of which the structural change effect will be a component of the decomposition of productivity growth and the estimation of a shift-share analysis. The goal of the analysis is, firstly to detect the causes of the productivity stagnancy in different sub-periods as well as the degree of persistence of the productivity gap in certain regions. Secondly, to investigate whether a specific form of production (sectoral) transformation, as a corollary of an external shock, functions as a parameter of resilience and constitutes stage of reorientation and adaptation. Thirdly, to explore the existence of regional spillovers through various channels of diffusion or, on the contrary, the formation of spatial clusters in a declining path. The outcomes of the analysis will contribute to the understanding of productivity patterns over time and space, as well as to the provision of policy suggestions.

Business dynamism and regional productivity: Evidence from European regions

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Pecs-S25-S2 The spatial dimensions of productivity for regional growth, B323/1, August 24, 2022, 2:00 PM - 3:30 PM

The strong and positive link between business dynamism and productivity is well-documented in both theoretical and empirical literature focusing on industries or firms. For example, Foster, Haltiwanger and Krizan (2001[93]) estimate that during the 1977-87, net entry accounted for 25% of productivity growth in the U.S. manufacturing. Asturias, Hur, Kehoe and Ruhl (2019[97]) come to a comparable conclusion using manufacturing data for South Korea and Chile. Business entry enhances productivity via several channels. Start-ups tend to bring new technologies and production processes to market driving up the overall efficiency of the economy (if start-ups are more efficient than incumbents). If new firms are indeed more efficient and market reallocates resources to such companies, overall efficiency will increase due to an expanding market share of more efficient firms. Besides, entry (and a threat of entry and exit) imposes competitive pressure that forces incumbents to become more innovative (Aghion et al., 2005[99]) and to improve their business processes and production practices (Nickell, 1996[100]).

The link between business dynamism and productivity at the regional level is less well-understood. Many of the mechanisms postulated in the industry-level literature would apply only to non-tradable sector, where regional competition effects are more likely to be present. In less dynamic places, for example in rural areas, business entry might be predominantly of the necessity type and in lower productivity industries such as services, driving down overall productivity performance of a region.

This paper fills this gap by studying the link between business dynamism and productivity in European regions. Preliminary results point to the negative effect on average but results differ by sector with possible inter-sectoral spillover effects.

Urban labor market resilience during the COVID-19 pandemic – what is the promise of teleworking?

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Pecs-S59-S1 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 24, 2022, 11:15 AM - 12:45 PM

The emergence of the Covid-19 pandemic caused immense turbulences in the labor market and provoked a large-scale turn towards teleworking. This paper contributes to the understanding of how teleworking shapes regional economic outcomes by focusing on labor market resilience in U.S. cities during the 2020 COVID-19 emergency. The paper examines employment and labor demand, proxied by online job vacancy data, and finds that the pre-pandemic share of teleworkable jobs in a city is linked to stronger employment resilience in general and labor demand resilience during the onset of the pandemic and in smaller cities. The paper discusses possible mechanisms behind the link and policies that can help leverage the promise of teleworking for resilient labor markets.

Language and the Regional Economy - Cultural Persistence, Resilience or Path-Dependence Encrypted in Google Libraries

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Online-S05 Culture and Narratives through Time and Space, August 22, 2022, 11:15 AM - 12:55 PM

Local culture (as the local programming of the mind) gets expressed in certain locally specific verbal behavior patterns – i.e. the local language. Our hypothesis is that these linguistic patterns, especially those passed through the verification of local institutions and appearing as printed language, can serve for predicting local economic growth over time. In his seminal work on skewed distribution functions, Herbert Simon (1955) noted that language and economic development both seem to be generated by a similar process. We suggest that this implies language and economic development might have a causal link which can be distinguished based on the temporal element in the process generation. We pose two main questions: (i) how does the programming of the mind through language behaves as a process over time – if language is itself a persistent, path-dependent or resilient process and (ii) what is the direction of the causal link (if any) between language and economic development. We use time series analysis (ARIMA, VECM and Granger causality) to analyze the Google Ngrams dataset representing a 4% sample of the world libraries. Our findings suggest that language and economic development exist largely in a dialectic relationship; the effect of economic processes over language is stronger in the long term, but language does have the power to change economic development in a particular moment in time. The DNA of language, carried in the innovations of language over time, suggests that the errors are indeed not normally distributed, i.e. we have the power to change our language and thus our economic reality but we very rarely use the power of our free will to try change out institutional context and structure and are mostly living in the economic reality determined by it.

Cultural Gravity and Redistribution of Growth through Migration: Cohesion Lessons from Spatial Econometrics and Topological Data Analysis

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Pecs-S19-S3 Networks, Interaction, and Inequalities in Cities, B311, August 25, 2022, 4:00 PM - 5:30 PM

The concept of cultural gravity was coined by Tubadji and Nijkamp (2015), who define it as the power of a cultural-milieu attraction that a locality exerts over migrants from various cultural backgrounds. The main argument of Tubadji and Nijkamp (2015) is that the cultural milieu of a place has a different appeal for equally skilled migrants from different cultural backgrounds (due to cultural distance), and therefore the locality is inefficient in attracting and extracting the full human capital potential from those groups of migrants, who remain culturally distant. The aim of our paper is to test the validity of this effect of cultural gravity on the spatial clustering and productivity of culturally diverse migrants throughout the European Union. We add to the literature in two ways. First, we clarify the position of the cultural gravity notion within the urban economics literature on moving centers of gravity and frictions in the redistribution of economic growth. Second, we use spatial regression methods, and topological data analysis approaches to quantify the relationship between cultural gravity and economic gravity in the EU28 regions. Our findings concord with earlier literature on cultural gravity and advance this literature by geographically mapping the invisible and non-linear cultural friction in the redistribution of growth across the EU regions. Thus, we show how cultural gravity exerts an important impact on the cohesion process in Europe.

European Union countries' performance of skills in the context of green inclusive economy

Dr. Gabriela Tudose¹, Dr. Ghenadie Ciobanu

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Online-S12-S1 Multi-Level Governance through the Core Network for Sustainable Development –Building Green and Digital Skills for Sustainability, August 22, 2022, 2:00 PM - 3:35 PM

European Union countries' performance of skills in the context of green inclusive economy

This paper proposes a cluster analysis, where the clusters are formed using the new indicator European Skills Index (CEDEFOP - ESI), Green Growth Index (GGI) and Gross Domestic Product per Capita (GDP/capita) to show which countries are better equipped to reach what the Sustainability 2030 Agenda aims. The analysis uses data from 25 states members of EU at NUTS1 in the year 2020 from CEDEFOP database (for skills index), Global Green Growth Institute database (for GGI) and Eurostat (for GDP per capita). Using the method of hierarchical cluster analysis, the results organized by groups in a hierarchical order will show us which countries have simultaneously enough capabilities in term of dimensions skills index, like skills development, skills activation and skills matching and in terms of performance in achieving four green growth index dimensions: efficient and sustainable resource use, natural capital protection, green economic opportunities and social inclusion, as well as a good level of GDP per capita. Based on this analysis, four distinct clusters are identified showing similarities and differences and reflecting the true patterns in the data. The analysis allows us to, also, observe the relationship between different sub-pillars of skills index and the green growth index/sub-pillars of the green growth index at level of whole EU or by clusters. The paper conclusions will offer some insights for future green economy growth policies and also for skills transformation, as well as for labour market and future orientation of educational policies. The policy needs to focus on extensive accelerating of up- and reskilling and providing guidance and support to workers who will need to change occupation, sector or geographic location (CEDEFOP, 2021).

E-skills regional variations and the sustainability of European economy

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Online-S12-S2 Multi-Level Governance through the Core Network for Sustainable Development –Building Green and Digital Skills for Sustainability, August 22, 2022, 4:00 PM - 6:00 PM

This paper elaborates an empirical analysis of the temporal and geographical distribution of e-skills and the green economy development. The econometric analysis based on Eurostat data base and the results of Eurofound survey on working condition, and on companies, use a panel of data covering European countries and regions ((NUTS-1 and NUTS-2, (<http://ec.europa.eu/eurostat/web/microdata/european-union-labour-force-survey>)) for the period 2010 – 2020. The first result show a positive relationship between skills linked to ICT and green technology argues that e-skills acquisition is a need of regions' ability to specialise in new technological domains assuring the sustainability of European economy. The results obtained highlight the importance of e-skills development in the context of the transition towards a greener economy and opens up new debates of Smart Specialization Policies.

Factors influencing Tunisian student's intentions to carpool

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Online-YSS2, August 22, 2022, 9:15 AM - 10:45 AM

'see extended abstract'

Changing of retail formats in outer zones of polish cities

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Pecs-S09 Structural transformation of retail chains in the outer zones of urban agglomerations. The quantitative changes and new location patterns., B310, August 25, 2022, 9:15 AM - 10:45 AM

The purpose of the paper is to identify major changes in development of retail formats in outer zones of polish cities. The paper also aims at identification of key challenges for retailers in the sphere of location that retail companies in Poland (especially in in outer zones of polish cities) face nowadays. Location of activity is a very important issue in shaping the strategy of establishment of relationship of retailers with customers. What is more, drawing customers' attention to offered assortment that is supported by actions in the sphere of prices, promotions and other elements that improve the offered product are also significant. Changing of retail formats in outer zones of polish cities

Purpose - The purpose of the paper is to identify major changes in development of retail formats in outer zones of polish cities. The paper also aims at identification of key challenges for retailers in the sphere of location that retail companies in Poland (especially in in outer zones of polish cities) face nowadays. Location of activity is a very important issue in shaping the strategy of establishment of relationship of retailers with customers. What is more, drawing customers' attention to offered assortment that is supported by actions in the sphere of prices, promotions and other elements that improve the offered product are also significant. Structural transformations of organizational forms of retail are an effect of adjustment to the environment of companies. In this environment especially visible become tendencies connected with globalization of customers' preferences, rise of their demands and thus expectations concerning offers presented by stores. These factors entail necessity to diversify the shopping process through creation of more and more attractive shopping centers and the conditions in which shopping is done. In recent years the highest growth dynamics in Poland has been achieved by modern distribution channels, that is hypermarkets, supermarkets and discount stores which meet the requirements of customers through implementation of planned marketing activity.

Trade, Gravity and Cross-Sectional Dependence

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Pecs-G14-O2 Spatial Econometrics, B016, August 25, 2022, 4:00 PM - 5:30 PM

Trade flows tend to exhibit a high degree of cross-sectional dependence (CSD) because they vary systematically over space. This paper first documents that the standard estimation of the log-linearized gravity equation with higher-order fixed effects does not fully account for CSD, as indicated by the CD test developed by Pesaran (2015, *Econometric Reviews*) and the exponent α developed by Bailey et al. (2016, *Journal of Applied Econometrics*). We document this pattern with two panel data sets: one at the country level (306 country pairs) and one at the regional level (70756 regional pairs).

We then propose two approaches to account for the observed CSD in trade flows within a common estimation framework. The first approach follows the literature on dynamic factor models and includes in the specification of the gravity equation unobserved heterogeneous global and local factors instead of time-varying exporter and importer fixed effects. The global factors are approached by the cross-sectional average of the trade flows in each time period and the local factors by the time-average of trade flows of each exporter and importer. The second approach follows the spatial econometric literature and introduces spatial lags of the dependent variable or the error term in the gravity equation. We specifically consider (i) spatial autoregressive (SAR) specifications, (ii) higher-order SAR specifications, and (iii) spatial autoregressive moving-average (SARMA) specifications, which assume that trade flows between two economies depend mostly on the trade flows of their neighbors. The two approaches differ in the extent to which they consider CSD to be of global or of local nature (strong versus weak CSD). We further combine the two approaches to estimate spatial econometric models that include global and local factors.

The results indicate that both approaches can be useful in mitigating the problem of CSD. Yet, the relative merits of the two approaches differ across the two data sets. When using country data, we find that global and local factors are sufficient in filtering out CSD while the inclusion of spatial lags does not seem necessary. When using regional data, the degree of CSD is found to be more localized to be captured by global and common factors. Hence, in this case, the inclusion of spatial lags is more important. Overall our findings suggest that the right approach to deal with CSD in gravity estimation should be based on the nature of data under consideration.

Direct and indirect effects of universities on European regional productivity

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Pecs-S58-S1 University impacts on the local and regional economy, B314, August 25, 2022, 2:00 PM - 3:30 PM

Universities are fundamental actors to enhance regional economic performance since they generate human capital, research and knowledge diffusion. The literature has analysed the universities' impact following the demand-side GDP and the supply-side knowledge production approaches. We propose a novel analysis by investigating the university effects on Total Factor Productivity. We distinguish between direct and indirect effects. The former is due to universities' highly differentiated "third mission" activities. The indirect effects originate from human capital and technology creation. Our analysis provides evidence of sizeable and robust direct effects which complement the traditional indirect ones in enhancing European regional TFP growth.

How networks around internships in healthcare are organized in the Netherlands

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Pecs-S24-S2 Structural Change and Resilience in Local Labour Markets, B311, August 26, 2022, 11:15 AM - 12:45 PM

The shortage of personnel in the Netherlands is expected to increase in the healthcare sector. One of the important ways to diminish this effect is to educate. It is expected that collaboration is needed to organize education whereas an important part of their education in vocational training are internships. Educational institutes and internship institutes have to agree on the terms for internships. The aim of this study is to determine the research question: 'what is a successful way to arrange networks in regard to achieving their goals?'. We know structural collaboration does not come naturally; conditions at start, governance and reciprocal behaviour can be decisive during several stages in the process of collaboration and the outcome of the collaboration. These factors have been taken into account in case studies of these 'internship networks' in four regions in the Netherlands. Structured interviews will be conducted with key figures, documents will be analysed, a questionnaire will be conducted and open source data will be analysed. By comparing the networks in several regions insight will be provided on how this collaboration is organized in several regions of the Netherlands and if there are signs that this is effecting the amount of internship possibilities per student. Results and conclusions will follow after completing this research.

Farmer in the loop – An embodied understanding of precision agriculture

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Online-G20-O2 Cities, Regions and Digital Transformations, August 23, 2022, 2:00 PM - 3:40 PM

Digital agriculture is developing rapidly, with the literature discussing these technologies developing in step. There is a promise that digital technologies will replace farmers in the near future, which is cause for concern in a range of critical agriculture studies. In this article we first aim to show that this argument originates in a disembodied view on digitalisation, which emphasises abstract and universal accounts of digital technologies. We follow this with an argument against this disembodied view, which we base on accounts of embodied digitalisation by farmers.

It is a disembodied view of digital technologies that make it possible to envision a future where the farmer can be replaced by digital agriculture technologies. Digital technologies are often seen as placeless, abstract yet universal. Exactly this universal nature of digital agriculture makes it possible to discuss how digital technologies will replace the farmer, as the farmer as a concept is no longer an actor bound to a specific place and context. To dispute this disembodied account of digitalisation we will use this article to provide an alternative account of using digital technologies that is based on a relational and embodied account of digital agriculture use by farmers.

To provide this relatively novel view on digital agriculture we draw on 26 in-depth interviews with Dutch crop farmers, contractors and ag-tech developers. In these interviews, participants describe how farmers work with digital agriculture technologies, where they highlight the embodied use of these technologies. We develop this argument further by connecting to the field of science and technology studies, mainly drawing on studies that study human-technology interactions. We use the concept of digi-grasping, which has been previously used in order to describe embodied understandings of digital technologies. This account of embodied digitalisation, or digi-grasping, has implications for our understanding of digital agriculture and provides a new view on how digital technologies can be integrated in the socio-material world of farmers.

This provides a concrete example of how farmers integrate digital technologies within existing social-material relations and answers to questions of how farmer work with the socio-cyber-physical systems that are made possible through the digital transformation of agriculture. This is particularly relevant when discussing the potential for farmers in utilising the opportunities offered by digital technologies.

Does cross-border commuting between EU-countries reduce inequality?

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¹*University of Groningen*

Pecs-G13-R Methods in Regional Science or Urban Analysis, B312, August 24, 2022, 11:15 AM - 12:45 PM

Cross-border commuting might be a way to improve an efficient allocation of labour resources, improve the economic performance of border regions and reduce economic and territorial inequality. This study explores the impact of a set of socio-economic, infrastructural or cultural explanatory variables that drive cross-border commuting in the EU and Switzerland for all outgoing commuters from living countries and for all incoming commuters towards their working countries. We find that cross-border commuters respond in general in the theoretically expected way to wages, unemployment, accessibility, language similarity and distance. But besides these general findings we also find that, in the end, cross-border commuting is a result of push and pull factors that seem to work out differently for different groups of commuters. This may reduce the inequality at the region level both between countries and within countries, although the effects are most likely small given the relatively small number of commuters. However, the results by gender, age, education and sector show substantial differences indicating that at the level of individuals and specific groups the reduction in inequalities might be very limited and may even increase.

Local young technology firms: Municipalities' policy on market introduction of sustainable energy inventions

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Online-G02 Macroregional, Transregional, Regional and Urban Policy and Governance, August 22, 2022, 9:15 AM - 10:55 AM

Energy transitions are increasingly supported by municipalities. There are, however, doubts on whether municipalities are an adequate organization and scale level, concerning new technology creation and market introduction. In this context, the paper pictures developments of local young technology firms in bringing energy inventions to market, in particular, how they may benefit from municipalities' support to them. Derived from a sample in North Europe, two findings make a valuable contribution to literature. Firstly, a substantial share of young high technology firms, i.e. almost 40 per cent, fails in market introduction, and if reached the market, a 30 per cent is rather late. Obstacles tend to originate from high creativity and risk-taking in metropolitan area and late (no) collaboration. Secondly, several municipalities' initiatives appear useful in satisfying young technology firms' needs, but the initiatives are fragmented and lack priority. However, partnering in professional start-up organizations tends to improve the situation, indicating that the municipal level is promising in transitional change.

How Urban-Rural interactions impacted regional growth in Europe between 2002-2017

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Pecs-S25-S1 The spatial dimensions of productivity for regional growth, B323/1, August 24, 2022, 11:15 AM - 12:45 PM

Single settlements, being towns or cities, often have their own policies and strategies. However, they cannot and should not be seen as independent economies. Even the largest cities cannot 'single-handed generate agglomeration benefits and endogenous growth' (Partridge et al., 2010). In this study, we consider the relationship between urban-rural interaction and economic performance. Using an explicitly spatial modelling approach, we show that proximity to regions of different nature and degree of urbanity is associated with higher growth rates of GDP, employment, and population. We do this by comparing the effect of different regional neighbouring configurations on the performance of a given area. To gain further insight under which spatial circumstances growth takes place, we also develop bespoke indicators to characterize the landscape at finer spatial resolution than the region. Unlike most of the literature in the field, we take a pan-European (EU27) approach, which allows us to compare different countries and development stages, obtaining a more complete picture that summarizes a large and important part of the World. Our results show that, when only looking at population growth, spread effects from urban to rural regions are significant, but we also find population effects from rural to urban areas. In addition, we find positive effects of having rural neighbours on GDP and employment growth in both urban and intermediate regions.

The impact of peripheralisation on justice and fairness perceptions in Europe

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Pecs-S54 Income distribution and individuals' perceptions of inequality, B323/2, August 26, 2022, 11:15 AM - 12:45 PM

A better understanding of perceived justice and fairness is essential for many reasons, including the enhancement of political legitimacy in different European regions. We adopt a peripheralisation perspective to examine the influence of inequality at the national level and the effects of differences in economic performance and institutional quality at the regional level. We use the European Social Survey (2019) to derive justice components, which serve as dependent variables of the subsequent Complex Samples General Linear Models. We conclude that a favourable (regional) economic climate, next to institutional quality plays a crucial role in tackling the perceived unfairness of peripheralisation.

Exploration challenges of an assessment tool – how to measure the shift towards circularity in six urban regions?

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Pecs-S42 Territorial aspects of circular economy transition, B316, August 26, 2022, 11:15 AM - 12:45 PM

see extended abstract

In general, circular economy is interpreted as an effort to promote better waste management and resource efficiency with the ambition to pursue the transition towards circular economy with a focus on closing the material flow loops, aiming for 'zero waste', generating new business models based on waste as a resource, and deeply transforming society's approach to consumption and disposal of goods and materials. Those ambitions, however, tend to be watered down when confronted with the multiple governance, economic, legal, socio-spatial, socio-cultural, sociological and behavioural barriers (Dąbrowski, Varjú and Amenta 2019). Although sustainable resource management is a global and borderless phenomenon, the actors who participate in resources governance are both governmental and non-governmental institutions and agents from global, national, regional and local levels, each disposing of specific responsibilities and territorial limitations/scope (Bamberg and Möser 2007, Kaiser et al. 2007).

This paper sheds light on an attempt to assess CE transition from 5 point of view: Governance, Waste awareness, supporting tools (e.g. material flow analysis), sustainability assessment and the built environment. The assessment tool - that will be presented - was elaborated in a four-year-long H2020 project investigating resource management in six peri-urban regions and afterwards, organising workshops with relevant stakeholders. Stakeholders were chosen equally from company, civic, governmental, and academic sectors equally by the leaders of peri-urban living labs in the six case study areas. The paper focuses on the elaborated tools and their tests in Amsterdam, Naples, Ghent, Łódź, Hamburg and Pécs, presenting the regional disparities in the circular economy transition. The paper not only presents the cities of different stages in circular transition, but also presents the difficulties of exploration, the different viewpoints of stakeholders in the peri-urban labs and the workshops. The results show that, although the different stage of the peri-urban regions along the five dimensions can be assessed, a rank can be made, the assessment with stakeholders faces several barriers due to the different disciplinary background, hence the different "culture" of the stakeholders.

Smart urbanism and its limits in Central Eastern Europe – the case of Hungary

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Pecs-G20-O1 Cities, Regions and Digital Transformations, B314, August 24, 2022, 2:00 PM - 3:30 PM

The idea of ‘urban smartness’, referring broadly to the use of information and communication technologies for the improvement of urban management, has come to exert considerable influence on contemporary urban policymaking, and there is an expanding body of research discussing how the smart city imaginary has been translated into practice in different contexts. The widely shared starting point in this literature is that one should attend to the variety of logics, interests and power relations that give rise to situated social processes of smart urbanism. Yet, the smart city literature tends to be dominated by accounts of smart urbanism in the Global North and South. The proposed paper has the aim of exploring the distinctive political-economic dynamics and policy discourses shaping smart-city building in the Central Eastern European region. To this end, a case study of Hungary is discussed, based on extensive policy document analysis and interviews with key figures. As the paper will show, post-1990 state spatial restructuring and the uptake of globally mobile policy ideas, both mediated through processes of ‘Europeanization’, have run through and shaped Hungary’s existing smart urbanism as ‘common’ elements, as in other contexts. However, to come to grips with the state of smart urban development in this case, we need to attend to how these tendencies and processes have become entangled with the legacies of postsocialist urban planning, the specificities of Hungary’s historically conditioned state selectivity, as well as with centralizing trends of state-building.

Regional digital divide in Hungary from the perspective of ICT skills

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Pecs-S21 Regional inequalities and digitalization in less developed European regions, B313, August 25, 2022,
2:00 PM - 3:30 PM

The dynamics of the digital economy lead to inequalities and have formed a new type of inequality, the so-called digital divide. The phenomenon appeared three decades ago and was primarily traced back to unequal access to digital technological conditions, however, it has become clear that inequalities can also stem from other sources, like digital skills. The digital divide can be interpreted at the level of individuals, households, businesses and geographical areas. The latter is the regional digital divide, which faces a number of challenges, especially in less developed regions.

The present research seeks to answer the question of how the digital divide between regions has changed in Hungary in the light of the digital (ICT) skills of employees. The identification of occupations according to digital (ICT) skills is based on the OECD (2016) ISCO code-based categorization, which was developed on the basis of the PIAAC (Program for the International Assessment of Adult Competencies) survey. Based on 2001 and 2011 census, and 2016 micro-census data, primary findings highlighted that the digital divide is detectable in Hungary on the level of counties, and it is changing over time. In the perspective of 16 years, the research reveals where digital underdeveloped and developed areas are located; and what kind of dimension of digitalization determines the relative position of counties.

Suburbanization within the city. A discussion of an apparent paradox and examples of its environmental consequences.

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Pecs-S30 Suburbanization, urban sprawl, and their impact on the environment in Central Europe, B313,
August 25, 2022, 4:00 PM - 5:30 PM

Urban sprawl affects the rural-urban fringes of post-socialist cities, which are the most dynamically changing areas of the countryside in the Central and Eastern European countries. 55.1% of the population growth of the suburbs of rural centers of Hungary was realized on administratively non-sovereign settlements. The main elements of these areas are the villages incorporated into urban centers before 1990 and scattered habitats nearby the urban fringe. Thus, a part of suburban ring has been built within the administrative borders of the urban centers. For this reason, the national statistical system focusing on the settlement level partially hides the process, which is significantly differentiated even below the settlement level. According to our hypothesis, due to the unplanned nature of the processes and the lack of management, the environment was severely damaged in these areas, even at this initial stage of sprawl. However, due to the lack of data, the phenomenon has not received enough attention so far.

To test our hypothesis, we investigated two cities from Hungary: Győr, Szeged and Kecskemét. During the analysis, we used qualitative – survey, interview – and quantitative – GIS and statistical analysis of land cover and socioeconomic data – methods to gather key features of the transformation of the fringes.

According to our results, a highly fragmented spatial structure has emerged, due to the lack of local government resources and will. The result of intra-urban suburbanization is environmental degradation and poor-quality living environment and conditions for the new residents.

Wealthy people moving out of the city who wish to live here in a rural idyll. Displaced ones from the city and precariat from rural periphery of Hungary also migrates to outskirts, because low utility costs and gardening are parts of their survival strategy. Thus, the overuse of the landscape by the wealthy families and the harms associated with poverty, such as land-filling and improper land use, simultaneously damage the environment. Segregation is also detrimental to the local community.

The sprawl phenomenon remained partly hidden in previous research due to spatial and statistical peculiarities. The “turn a blind eye” routine of local governments and the legacy of the socialist economy amplify the problems through practically unregulated land-use management. Thus, the issue would require further significant research, see extended abstract.

Channels of political favouritism – What drives grant allocation to local governments in Hungary?

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Pecs-G25-R Institutions, Political and Decisional Processes, B020, August 25, 2022, 2:00 PM - 3:30 PM

Our aim is to give a general overview on current state of political favouritism in financing local governments in Hungary. Based on the fiscal federalism theorem, our general assumption is that the results of shifting from rule-based grants to discretionary transfers may be similar to centralization. However, in this case only unaligned settlements suffer welfare loss, while favoured settlements experience welfare gain. Accordingly, our presentation covers various fields of local financing from this perspective. First, we will show how grant design determined favouring or disfavouring municipalities between 2015 and 2018. We will also provide evidence on the rise of political influence of the MPs in grant allocation, predominantly in EU funds. Second, we analyse how the outcome of the local election held in 2019 affected grant allocation. Third, we will show the preliminary results on local borrowing initiatives, subject to approval of the central government. We found that grant designs reflect political decisions differently. While rewarding is clearly captured in case of targetable grants, transfers that are subject to open calls and application disfavours settlements in opposition. Political bias of EU funds is further strengthened by alignment of the MPs and also contributed to the outcome of the national election in 2018. Regarding the reaction on the local election outcome, we found that changing political sides triggered a strong rewarding policy from the central government towards those municipalities who remained or became aligned after election, meaning an extra 73.5 and 66.5 percent of discretionary funds compared to those who became or remained unaligned. Moreover, the decision on local borrowing show also strong political patterns. According to our findings, political influence in central decisions had continuously increased since 2014, thus unaligned settlements may face welfare losses and possible deficiencies in public services due to lack of funds.

Territorial implications of servitisation and Industry 4.0: reshoring opportunities

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Pecs-G31-O2 Location of Economic Activity, B020, August 26, 2022, 11:15 AM - 12:45 PM

Objective and topic of the contribution: As Kenney & Zysman (2020) state, economic geographers have made great progress in analysing the relationship between space, digitalisation and the role of networks. Regional economic studies have looked at the territorial problems posed by the incorporation of ICTs into the knowledge bases of product fields in manufacturing industry with a view to generating more fabric of production (Bilbao-Ubillos et al., 2021).

From a critical realist perspective, Gong & Hassink (2020) underline the two key concepts in currently economic geography dominant approach—related variety and knowledge bases— and state that it is clear that the two concepts are both influenced by neighboring disciplines—evolutionary economics for related variety and industrial economics/innovation studies for knowledge base. They argue for more careful and reflective theorising and re-theorising in economic geography, paying more attention to the context (Gong & Hassink, 2020).

Regional absorptive capacity and technology-specific dynamics have also been considered as significant variables in the distribution and dissemination of Industry 4.0 technologies across regions (Corradini et al., 2021). Bellandi & Santini (2019) find that the interpretation of changes in local production configurations and the assessment of territorial servitisation trajectories can be explained by observing the multiplicity of know-hows, transaction costs and entrepreneurial drive.

However, the relevant literature has paid less attention to reshoring, i.e. the repatriation of operations outsourced abroad, even though this could also help to consolidate the industrial base of developed economies. Such reshoring might be fostered by the dynamics of servitisation and gradual implementation of Industry 4.0. As De Backer & Flaig (2017) state, the growing digitalisation of production could reverse the importance and length of global value chains and reorient global production and trade back towards developed economies, emphasising that reshoring is expected to become progressively attractive when the activities can be highly automated.

Therefore, in this paper we explore how servitization processes and the implementation of industry 4.0 are promoting a new reconfiguration of the global value chain (GVC), altering the incentives in the geographical location of productive activities and encouraging a dynamic of reshoring in many manufacturing industries.

Method and data: The paper analyses new spatial implications for GVC arising from processes of servitisation and the implementation of Industry 4.0. and reviews the main studies conducted to date in regard to manufacturing industry.

The Geography of housing demand in the wake of COVID-19

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Pecs-S59-S9 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 26, 2022, 2:00 PM - 3:30 PM

This paper analyses the uneven geography of the COVID-19 health impact in OECD and European countries. It first describes the increase in all-cause mortality – i.e. excess mortality – across subnational regions between January and December 2020. Subsequently, it investigates the regional factors associated with higher excess mortality, looking at demographic, socio-economic, institutional and environmental features of regions. Results show that excess mortality has a significant spatial dimension, with the hardest hit regions having excess mortality rates that were, on average, 17 percentage points higher than the least affected regions in the same country. During the first year of the pandemic, lower health system capacity, followed by population density, air pollution, share of elderly population and lower institutional quality were associated with higher excess mortality. While health system capacity and population density have been strongly associated to excess mortality throughout the COVID-19 crisis, trust in government and air pollution showed stronger correlations with excess mortality in the later phases of the pandemic. Finally, prolonged remote working, particularly after two-months, is also associated with lower excess mortality.

Assessing tailored conditions in Social Assistance Benefits and their effect on (non-)economic individual outcomes: a local RCT experiment.

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Pecs-S10-S3 Counterfactual methods for regional policy evaluation, B311, August 24, 2022, 4:00 PM - 5:30 PM

In the Netherlands, dissatisfaction with the current scheme of social assistance benefits (SAB) led various Dutch cities to run randomized controlled trials (RCT) to test out new ways of delivering support for re-integration to its citizens. Among them is the City of Groningen where the study goes by the name 'Bijstand op Maat' (English: Tailored Social Assistance Benefits). The Groningen RCT has a number of unique features. Firstly, the RCT follows a Zelen's design, which allows us to shed light on the internal and external validity of our results. Secondly, besides outflow to work, our study includes outcome measures in the domains of individual wellbeing, health and trust. Third, the Groningen RCT uniquely features a "choice" treatment. For the duration of the two-years trial, job search requirements and SAB sanctions tied to SAB will be eliminated to make room for more autonomy (treatment 1). Other treatments include a more tailor-made intensive coaching approach in supporting SABSAB recipients (treatment 2) and increasing financial incentives to take up paid work (treatment 3). As a final treatment, unique relative to similar RCTs (4), one group may actually choose between the first three treatments which allows us to investigate the effect of freedom of choice on the outcomes. The study is set up as a randomized controlled trial (RCT) with interventions running from November 2017 to November 2019. The RCT includes 900 recipients of SAB, for whom we measure differences in the uptake of paid work (full time and part time) and societal participation and social activation as well as participants' health and well-being. Overall, we conclude that the Groningen RCT demonstrates that there are various work and wellbeing related positive effects among SAB clients that choose and are in a position to comply with options that are available. An overall population effect could not be demonstrated. Considering the substantial heterogeneity amongst SAB clients in terms of skills, personal situation, individual effects could still be a ground to implement policies along the lines of our interventions.

Regional Development of Romania, Measured with a Multidimensional PEESH Index (2000 – 2019)

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Online-G01-R Regional and Urban Development, August 22, 2022, 4:00 PM - 6:00 PM

The controversies on the measurement of regional development span from the selection of indicators to the role of spatial context. Our paper adds to this debate, its main purpose being to elaborate a multidimensional composite index for measuring socio-economic development in Romania in territorial profile. The defined dimensions, comprised each in a sub-index, are: (1) population dynamics, (2) economy and labour market, (3) education, (4) social conditions of housing, and (5) health situation, comprising 18 social, educational and economic indicators. Indicators within each subindex/dimension, depending on their performance, were computed with Principal Component Analysis associated with better outcomes. Subsequent to this, each dimension (sub-index) is weighted, and then aggregated in the final composite index for the years 2000 and 2019. The main results of the paper are represented by a new multidimensional index of socio-economic development that is the Population, Economic, Education, Social and Health (PEESH) Development Index, which was used for determining the development dynamics of Romanian counties (NUTS3 units on EU level).

Scalers on the move: the regional mobility of high growth firms

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Pecs-S25-S2 The spatial dimensions of productivity for regional growth, B323/1, August 24, 2022, 2:00 PM -
3:30 PM

see extended abstract

Spatial and social patterns of the regional revealed competitiveness of Hungary between 2010 and 2020

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Pecs-G12 Regional Competitiveness, Innovation and Productivity, B018, August 24, 2022, 11:15 AM - 12:45 PM

In today's digitalizing global economy, competition between regions and settlements is intensifying across borders. In addition, in the recent period, two world economic crises emerged in different ways. One was the global financial crisis and another was the global social and economic challenges of the Covid-19 pandemic. In the period between the two shocks, the world was characterized by economic prosperity, but it can be stated that the competitiveness of the given regions and its analysis over time play an important role in the issue of post-crisis recovery. This is no different in the United States, the European Union, and, within it, in Hungary. It can be stated that the regional competitiveness in Hungary between 2010 and 2020 showed marked spatial patterns, which needs to be analyzed.

Consequently, the aim of the study is to examine the spatial patterns of competitiveness and income disparities in Hungary for the period between 2010 and 2020 and to shed light on some aspects and their interrelations. To identify spatial and social processes, I formulated research questions and I analysed these questions with mathematical statistics and geoinformatic methods. The study concludes that there is an important geographical difference in the performance of the areas and the income living in Hungary, which was influenced in different ways by different economic, spatial, and social factors between 2010 and 2020. At the same time, a decrease in spatial differences can be observed, as well as a kind of increase in income disparities in societies that are geographically differentiated. In addition, the changes that took place between 2010 and 2020 in the spatial pattern of the regional revealed competitiveness of Hungary were outlined.

Economic restructuring in the CEE regions between 2000 and 2018: the role of the information and communication sector

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Pecs-S21 Regional inequalities and digitalization in less developed European regions, B313, August 25, 2022,
2:00 PM - 3:30 PM

One of the indicators of long-term economic development is that higher value-added sectors, e.g. how the information and communication sector is growing. Economic restructuring is also an essential element of the smart specialization strategies emphasized in EU regional policy, as they aim to promote integrated, place-based economic development programs. In our research, we examine how the economic structure of the NUTS3 level territorial units (counties) of five Central and Eastern European countries (Bulgaria, the Czech Republic, Hungary, Romania and Slovakia) changed between 2000 and 2018. Data on employment and gross value added (GVA) of 11 sector groups per county are taken into account each year. The spatial concentration of sectors and the specialization of each region type are analyzed using Theil indices. Among the results, we can see that there is a strong concentration of modern business services, especially information and communication, as well as the financial sectors in big cities, mainly in capitals, while retail services but also manufacturing are more spatially distributed. Labor productivity in modern business services is improving rapidly, reaching 55% in the 12 older EU Member States, while e.g. the manufacturing industry, which enjoys priority development aid, has been stagnant at 30% for years.

Science Mapping of Interdisciplinary Domains: a Geographical Approach for Smart City Research

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Pecs-G20-R2 Cities, Regions and Digital Transformations, B314, August 25, 2022, 9:15 AM - 10:45 AM

'see extended abstract'

The widespread, networked and ubiquitous use of information and communication technologies (ICTs) in city management paved the way for research about the 'smart city', however, scientific discussion about smart cities is fairly new and interdisciplinary. While there is a strong technological orientation of the research on smart cities, clearly there are social and socio-economic as well as sustainability-oriented components. The vast majority of the population and the researchers-professionals, who need to be involved in smart city development, live in urban areas. As such, concentration and the scientific networks of the broadly interpreted 'smart city professionals' is an interesting field of research enquiry. The overarching research objective is increasing our understanding about the smart city concepts, the knowledge domains comprising it and the scientific networks of the knowledge domains involved. Has the smart city field been integrating and framing its own disciplinary boundaries? Which cities and urban regions are home to smart city professionals? How has the scientific collaboration between smart city professionals evolved? How can the quality of the connections, the communication and the social and cognitive relationships between them be described? How can scientific collaborations be described in geographical space and across cities? Using the Web of Science database, metadata for 'smart city' research articles are used. Three distinct lines of research (based on author-defined keywords, bibliographic coupling, scientific network analysis via cities) is implemented. The highest number of smart city articles are published in computer science journals and the lion's share of smart city articles is published in technology and engineering outlets. Nevertheless, the fastest growing disciplinary areas, which publish smart city articles also include business and economics, public administration and geography as well as environmental sciences. The next steps of research include city-level network analysis of the affiliation of the researcher-authors and potentially the comparison with available smart city rankings or lists.

Exchange Rate Behavior in the BRICS

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Online-G21-O2 Regional Finance, Fiscal Issues, Investment or Capital Markets, August 23, 2022, 4:00 PM - 5:45 PM

This article aims to investigate the behavior of exchange rate in the BRICS countries, with an emphasis on exchange rate passthrough and exchange rate determination empirical models. By applying the ARDL Bounds Testing Approach Methodology, from January 2005 to December 2019. Our main results show that: i) there is a long run cointegration between the variables analyzed for all estimated models; ii) there is a very slow speed of adjustment towards the long run equilibrium; iii) there is evidence of exchange rate passthrough to inflation mainly in the long run, but not as strong as before; iv) there is no evidence of exchange rate overshooting; v) international reserve accumulation can be considered a partial explanation for the evidence of no exchange rate overshooting.

Location and existence of retail centres in cities: a theoretical spatial agent-based experiment

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Pecs-G31-O1 Location of Economic Activity, B020, August 26, 2022, 9:15 AM - 10:45 AM

Recent discussions in urban planning point to the desirable emergence of '15-minutes cities', where citizens can fulfil their needs within a time threshold from their home. In parallel, post-COVID working patterns show a permanent rise in work-from-home, with potential impacts on commercial floorspace in cities. In addition, there are conflicting trends between 'buying-local' tendencies and the rise of online shopping. These 3 changes pose a fundamental question for cities worldwide: what will be of urban retail?

In order to address this issue, this paper proposes a theoretical agent-based model with micro-economic foundations, considering firms and households. The model simulates where retail firms emerge and cluster in a theoretical space and seeks to identify the conditions and forces that lead to the existence of retail and different location patterns. The model is then used to analyse how buying-local preferences and online-shopping behaviour when traded-off against transport costs affect these patterns. Early results show that a minimum preference for deliberately buying locally can significantly change the pattern of location of shops in a city. Citizens deliberately choosing to buy locally tend to lead to a more decentralised shopping landscape, making '15-minute city' goals more feasible from a public policy perspective.

Estimation of the effects of Cohesion policy grants on firm performance in Slovakia

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Pecs-G29 Regional and Urban Policy and Governance, B019, August 25, 2022, 4:00 PM - 5:30 PM

Most approaches evaluating the effectiveness of EU Cohesion policy in the literature focuses on various macroeconomic models. Newer studies point out that the analysis should also be carried out at the micro-level. This paper investigates the impact of Cohesion policy expenditure at the beneficiary level, focusing on companies instead of public entities. Our paper aims to estimate the effect of EU Cohesion policy grants on firms' performance in Slovakia. Our firm-level database is based on Slovak firms' financial statements and business activities combined with a dataset of enterprises receiving EU funding from Cohesion policy grants (excluding financial instruments support). We evaluate the effects of financial assistance from EU structural funds and national co-financing on firm performance measured by profit, labor productivity, fixed assets, and other performance indicators.

Open Source Software Supply Chains

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Pecs-S15-S1 Supply Chains, Production Networks and Regions, B310, August 24, 2022, 2:00 PM - 3:30 PM

Open source software ecosystems consist of thousands of interdependent libraries, which users can combine to great effect. Recent work has pointed out two kinds of risks in these systems: that technical problems like bugs and vulnerabilities can spread through dependency links, and that relatively few developers are responsible for maintaining even the most widely used libraries. However, a more holistic diagnosis of systemic risk in software ecosystem should consider how these social and technical sources of risk interact and amplify one another. Motivated by the observation that the same individuals maintain several libraries within dependency networks, we present a methodological framework to measure risk in software ecosystems as a function of both dependencies and developers. In our models, a library's chance of failure increases as its developers leave and as its upstream dependencies fail. We apply our method to data from the Rust ecosystem, highlighting several systemically important libraries that are overlooked when only considering technical dependencies. We compare potential interventions, seeking better ways to deploy limited developer resources with a view to improving overall ecosystem health and software supply chain resilience.

The impact of municipal characteristics on dealing with farmers' interests in local spatial planning

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Pecs-YSS1, B017, August 25, 2022, 11:15 AM - 12:45 PM

see extended abstract

The COVID-19 pandemic led to an urban exodus, with people from cities seeking housing in the countryside. This movement poses risks for the resident farmers: the influx of new inhabitants increases the demands on land use in the affected municipalities while reducing the share of farmers in the population. Given the democratic approach to spatial planning, this might lead to a decline in the consideration of farmers' interests, bringing up the question: What impact do municipal characteristics have on the integration of farmers' interests in local spatial planning? Via a questionnaire, 428 farmers from 308 of the 2093 Austrian municipalities assessed the integration of their interests in their home municipalities' planning processes. A multiple linear regression set their assessment in relation to their municipality's agrarian, geographical, social, and political characteristics. On average, farmers rated the integration of their interests as mediocre. It turned out that the spatial and demographic presence of farmers in a municipality, such as their share in the population and the share of agricultural area in the municipal area, has no influence on the integration of farmers' interests into local planning processes. What proved to be relevant was the political commitment of local farmers. Farmers see their interests significantly better integrated when a farmer serves as mayor or when farmers make up more than 25% of the municipal council seats. Therefore, a high level of farmer representation in the municipal council is crucial for the consideration of farmers' interests in spatial planning processes. Regarding the fact that agricultural land accounts for an average of 53% of the area of the examined municipalities, this may still seem justifiable. From a democratic point of view, however, such a high number of agricultural representatives can hardly be legitimized given an average share of 6.6% farmers in the working population of the municipalities examined. On the one hand, this work might therefore be seen as a plea for local political engagement on the part of farmers; on the other hand, new models for integrating farmers' interests within local spatial planning, which do not depend on farmers' overrepresentation in the municipal council, are needed.

From Global to Local: Downscaling TiVA Indicators for Morocco using a National Inter-regional Input-Output Model

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Pecs-G36 Trade and Global Value Chains, B314, August 25, 2022, 4:00 PM - 5:30 PM

The recent debate on global value chains (GVCs) has emphasized countries' contributions to value-added creation. From an intercountry perspective, a new body of research is added to this debate on how subnational regions contribute to specific countries' indicators. Proper assessment of economic contributions is important for designing incentive policies. This paper aims to analyze the role played by the main trading partners of the Moroccan regions. We use input-output (IO) analysis to decompose regional value-added based on different sources of domestic and foreign final demand for Morocco, considering the differences in regional economic structures and the nature of systematic interdependence associated with the structure of inter-regional linkages. We estimate, for each flow originating from and into each one of the Moroccan regions, measures of trade in value-added (TiVA). The output decomposition approach of final demand into domestic and foreign demand, where the latter is broken down into the final demand from each trading partner, serves as the methodological anchor for the study. We use an interregional input-output model for Morocco with 2019 data. The measures of trade in value-added reveal different interregional and international trade integration hierarchies, with implications for regional inequality in the country. We try to answer two main questions. How does final demand affect value-added generation? Consequently, what is the value-added content incorporated in the components of final demand by geographical sources? We find an interesting geographical pattern of traded value-added by external final demand sources.

Resources base of dissonant post-socialist heritage in polish third-tier cities

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Online-G15 Cultural Heritage and Regional Development, August 22, 2022, 2:00 PM - 3:35 PM

Cultural heritage, as a civilizational achievement of mankind, means a value that determines the culture and history of each region, country or continent. Recognition of a country's cultural heritage as heritage is discretionary and may also be interpreted in various ways. In the case of undisputed world-class or regional objects, recognition as a monument is not a problem. The recognition as monuments of those that evoke ambiguous emotional associations (resources defined in the literature as dissonant heritage), resulting e.g. from the nation's shameful history, authoritarianism, or fratricidal wars may be difficult to estimate. In the case of heritage of an undisputed position and character, such monuments constitute a significant value for humankind, regardless of their culture, place of residence or professed religion.

This paper focuses on examining the Polish socialist- modernism dissonant cultural heritage. This relatively young resource, created in the times of real socialism, still evokes a lot of emotions in Polish public discourse. Historical impurities mean that for many Poles it is not yet fully qualified as a historical resource (valuable and worth protecting). As a result, many buildings are not properly managed, while others disappear irretrievably from the image of cities. The aim of this article is to identify the potential of the remaining resource from this period in third tier cities, as well as to define the functional and morphological characteristics of these facilities. The classification of this type of objects will be specified in terms of qualitative features, and the general; historical and cultural characteristics of the resource emerging in the times of real socialism.

Considering food as commons : a matrix for territorial transition ?

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¹*Inrae*

Pecs-S22 Commons as enablers of territorial transition: evidences, assessment and theoretical perspectives, B316, August 25, 2022, 9:15 AM - 10:45 AM

Collapse of biodiversity, climate change, soil depletion, drought and pollution of waters: all those elements that once seemed abstract to us and distant are now our daily lives, and the prospects are alarming. Today, the need for a transition from the model agriculture and food is on everyone's mind and in many speeches... but not necessarily in all practices.

The path to agri-food system transition will only be not unique, just like the solutions for a power supply sustainable.

Initiatives for more sustainable food are blooming. CSA, producer shops, social grocery stores, collaborative supermarkets, public action for a more local and sustainable supply of canteens... These steps allow to regain control over the stalls of traders and our plates, in other words to reconstitute a form of food sovereignty, which also involves reconnecting of supplies with local, between producers and consumers.

Food autonomy requires being careful not to fall in the trap of everything local. It's not about drawing food territories cut off from the world: this would make them even more vulnerable to climatic events and epidemics.

In the other hand, interdependence climate, community of resources and mobility of populations argue for a necessarily global response.

Food self-sufficiency is a way to find, at the scale of territories, compromises on an agri-food model that accelerates the transition to more sustainable development sustainable, ensuring the health of populations and ecosystems while promoting access for all to quality food and by allowing actors in the food chain to obtain a fair compensation. In other words, it is making food, and its production system, a common good at the heart of a territorial project.

In this perspective, the French government launched the Territorial Food Projects program in 2014, labeling the first projects in 2016. Today more than 300 projects are listed across France. These projects are diverse in terms of their themes and their governance. The purpose of this communication is 1/ to report on this diversity, 2/ to see to what extent these food projects contribute to establishing food as common in the territories, 3/ to estimate to what extent these approaches contribute to the construction of the transition trajectory of development models in the territories.

The analyzes will be carried out using the databases on the French Networks of Territorial Food Projects, and the more in-depth examination of 3 case studies.

Systems of Innovation in Eastern European countries: Path of Economic Transition

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Online-S20 Historical Roots of Regional Entrepreneurship and Innovation, August 23, 2022, 2:00 PM - 3:40 PM

There are some approaches to discuss the role of historical path dependency, innovation institutions, and economics development. For instance, Ville (2011) analyzes historical approaches to creativity and innovation in the case of Australia. He concludes on the relevance of frameworks for innovation and historical events. Fritsch et al. (2018) elaborate the understanding of the role of entrepreneurial culture and start-up behavior. They combine historical self-employment data (entrepreneurial tradition) with different variables related to entrepreneurial attitudes. Their results show that entrepreneurship is positively related also to the level innovation (activity).

However, in the European Union, the so-called smart specialization plays a special role. Smart specialization and its strategic development were introduced from 2005 by an EU-high expert group to find an innovation policy instrument to close Europe's productivity and innovation capability gap with the US and Japan. The so-called Smart Specialization Strategy (S3) builds on the theory of innovation economics and was introduced as a European policy approach as "Research and Innovation Strategies for Smart Specialization" (RIS3). Moreover, against the background of the national innovation models, but also the regional innovation systems (RIS), in connection with cluster strategies, the smart specialization approach is highly relevant (Asheim et al., 2011; McCann & Soete, 2020).

The approach chosen here first examines the national innovation systems of the Eastern European economies in the context of the political framework. First, a review of the literature should also present the current state of research. The national innovation systems of the Eastern European member states of the EU and their neighboring countries are to be examined. Derived from the literature, second, a current model (growth model) is presented, which represents the basis for the creation of the empirical-econometric analysis. For the purpose of the analysis, third, variables such as R&D, patents, human capital, creativity are taken into account, but also variables of the political system such as openness, corruption and freedom of the press are used to control for the individual peculiarities of the states. The economic development is derived from this system of variables in order to determine various transformation paths. Based on the analysis, the suspected different development paths can then be derived.

From Potential to Reality: Regional Enablers and Inhibitors of Telework across European Regions

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Pecs-YSS3, B311, August 25, 2022, 11:15 AM - 12:45 PM

The advent of the COVID-19 pandemic has largely shifted the work modality across European regions into telework. Utilizing a combination of data from European Union Labor Force surveys, Eurofound Living, Working, and COVID-19 surveys, and the Eurostat database, this paper finds that telework potential and actual telework uptake before and during the pandemic vary both across and within European regions. While no clear relationship was observed before the pandemic, regional telework potential can well predict actual regional telework uptake during the pandemic. Our systematic investigations into driving factors of regional telework uptake during the pandemic suggest that regions with higher shares of teleworkable workers had experienced higher levels of telework uptake during the pandemic. These workers include: those living in urban areas, those in the sectors of financial services, public administration, and education, those with a college degree, middle-aged workers, workers having children aged 0-11, and female workers. In addition, regions more densely populated and with higher shares of households with access to broadband also saw more telework uptake. (see extended abstract)

From Cities to Circular Food Systems: Leveraging Spatial Agglomeration, Centrality and Agency

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Pecs-S53 How to link multiple spatial scales in circularity transitions?, B323/2, August 26, 2022, 9:15 AM - 10:45 AM

As cities form central nodes in the network of food-related resource flows, a crucial strategy to steer the transition towards a more circular food system will be through the engagement of cities. Specifically, cities are characterized by a large number of economic activities, and by dense and multi-layered social network structures and high levels of political power. Still, the central role of cities in enabling sustainability transitions, generally, and in food system transitions, specifically, is largely neglected. We argue that greater consideration should be given to the spatial dimension of circular food systems, the agency of cities on it, and their complex local, national and global interlinkages. In this perspective, we propose how policy-makers can take advantage of these factors to trigger unprecedented momentum to materialize transitions to circularity at multiple scales.

Machine learning estimation of heterogeneous time trends in housing prices

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Pecs-G16 Real Estate and Housing Markets Issues, B017, August 26, 2022, 9:15 AM - 10:45 AM

A rich literature on house price indices looks into the development of housing prices or rents over time, when controlling for a variety of housing characteristics. The most commonly used approaches typically assume time trends to be constant or allow only for limited spatial heterogeneity. Evidence on trend heterogeneity with respect to housing characteristics is, however, sparse, yet crucial to understand the dynamics behind the emerging developments.

In the hedonic regression approach, analyzing time trend heterogeneity would require the explicit and precise modeling of interaction terms, thereby imposing strict, unrealistic formal assumptions on the data generating process (DGP). In contrast, the repeat sales method only considers housing units for which prices are observed in more than one period, thereby being inefficient in its use of data. To overcome these issues, Longford (2009) and McMillen (2012) view time trends in the light of the Potential Outcomes Model (POM) and suggest the use of matching estimators that essentially compare units from different periods that are similar in their covariates. This approach provides a nonparametric way to control for housing characteristics, establishes a simple framework for heterogeneous time trend estimation and removes effects that arise from changes in the spatial and structural composition of observed housing markets by excluding units with a lack of common support. However, similar to hedonic regressions, the consideration of the spatial dimension into the model is based on the inclusion of unflexible and arbitrary fixed effects. In addition, matching estimators are well known to suffer from the curse of dimensionality.

We adopt the view on house prices as potential outcomes and apply causal forests to estimate heterogeneous time trends of house and apartment sales prices and rents, respectively. This method from the field of causal machine learning can in essence be interpreted as an data-adaptive form of k-nearest neighbor matching and overcomes the curse of dimensionality by letting neighborhoods in the covariate space get wide along irrelevant dimensions, enabling it to identify spatial neighborhoods with relatively constant price levels. Thus, we explore its capability to flexibly consider the spatial dimension in regions with high observation density, by directly including the observation's coordinates as regressors. Our analysis uses data from ImmoScout24, Germany's leading online platform for real estate advertisement, which contains detailed geocoded information on dwellings in Germany advertised for sale or rent between 2010 and 2020.

"Hybrid urbanization", labor market extensions and potentials for rural development: A research agenda

Prof. Hans Westlund¹

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Pecs-G04-O1 Urban-Rural Relationships, B019, August 24, 2022, 11:15 AM - 12:45 PM

See extended abstract.

Coworking before, under and after the pandemic: The case of Sweden

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Pecs-S59-S8 Spatial Coronametrics: New Tools in Regional Science for Quantifying the Spatial Dimensions of Pandemics, A308, August 26, 2022, 11:15 AM - 12:45 PM

Coworking is a phenomenon that in Sweden is more extensive and widespread than has previously been known. In February 2022 there was at least 649 coworking firms, in 200 of Sweden's 290 municipalities. There are many common features of coworking places, but there are also significant differences between them in different types of municipalities. Coworking in the metropolitan regions seem to differ between city and suburbs in terms of users' place of residence and travel patterns. It is also likely that coworking in regional centers differs from sparsely populated municipalities in terms of any other, regular workplace location and members' commuting needs. These are tentative interpretations that should be the subject of further study.

Other important questions for further studies are:

- The phenomenon of coworking as a new form of workplace that does not fully fit into the institutions, laws and frameworks that have been built up with the traditional workplace as a model.
- The function of coworking environments as the first place of establishment in a new place, as a business incubator and as a breeding ground for spin-offs of companies.
- Coworking environments as social networks and as an environment for the integration of newcomers to the region.
- Coworking environments as learning innovation hubs for their members.
- Coworking (or teleworking) in attractive areas as a recruitment factor of new labor.
- Coworking environments as bridges for informal information exchange between individuals with different regular workplaces.
- Municipalities 'and regions' attitude to coworking and teleworking in their own organization.
- Municipalities and regions' possible measures to start and stimulate coworking.

Employment effects of new rail infrastructure: A study of the Hanzelijn railway in the Netherlands

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Pecs-S10-S2 Counterfactual methods for regional policy evaluation, B311, August 24, 2022, 2:00 PM - 3:30 PM

This study examines the impact of the newly constructed Hanzelijn railway in 2012 in the Netherlands on individual-level employment outcomes. The opening of a railway station in the town of Dronten, which substantially decreased public transport commuting times to regional employment centres, represents an exogenous change in job accessibility. We combine a difference-in-difference approach with a matching strategy to estimate the extent to which employment outcomes of people in Dronten have changed through time and in comparison with a control group, using Dutch administrative monthly panel data spanning the period 2006 to 2018. Our empirical results indicate that the opening of the railway station had virtually no statistically significant effect on employment probabilities of the inhabitants of Dronten who were in the working age at the moment the station was put into service, while we did find a significant increase in the number of days per year that they had work during the entire post-treatment period for the whole population, with larger effects and over a longer period for men, young people, those without access to household vehicles, and among workers with flexible job contracts. In terms of educational level, we only found statistically significant estimates for higher educated, who are more likely to use train services within the Dutch context. We also found a small significant increase in hourly wages, with larger effects among young people, middle- and lower educated, and among those with flexible job contracts, which may relate to job matching effects. The findings in this study are important for policymakers in that they imply that the reduction in public transport commuting times following from railway expansions, do not necessarily translate into a substantial improvement of the labour market outcomes of those living near the new station, in particular in more car-oriented rural environments

The Digital Entrepreneurship Ecosystem in Europe: Evidence from the Digital Platform Economy Index

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Pecs-S11 The Relevance of Digitalization for Clusters and Entrepreneurship - Empirical Studies of Processes, Relationships and Policy, B312, August 25, 2022, 9:15 AM - 10:45 AM

Although the digital entrepreneurship ecosystem concept has evolved in recent years, empirical research evidence by measurement can still be developed. When discussing the entrepreneurial ecosystem in a digital platform-based ecosystem, it is absolutely essential to include a massive global digital community. Unfortunately, the issue of European platformization arises commonly since their role in the global digital entrepreneurship ecosystem was insufficient. This paper aims to explore the digital entrepreneurial ecosystem in European Union countries. We selected three major countries, Germany, France, and Austria, and analyzed all three countries' Digital Platform Economy indexes to investigate the digital entrepreneurial ecosystems' development further. According to our preliminary research, France and Austria need more effort than Germany to improve the digital entrepreneurial ecosystem. However, we also observe the French digital entrepreneurial ecosystem that may establish its position in the future, despite the economy in the other two countries being one step ahead. Our study contributes to the body of knowledge in entrepreneurship, digitalization, and the recently emerging digital platform economy. It highlights platform issues in European Union countries by considering ways to balance the digital ecosystem and entrepreneurship ecosystem in the future.

Geographic distribution of economic inequality and crime in Indonesia: exploratory spatial data analysis and spatial econometrics approach

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Online-G23-O1 Segregation, Social and Spatial Inequalities, August 23, 2022, 11:15 AM - 1:15 PM

Indonesia has a serious crime issue. Since there are evidences that economic inequality may cause crime incidences, several studies have been conducted to verify the relationship. However, very few of these studies took geographical pattern and spatial linkages between crime and its determinants, particularly inequality, into account. To provide a better understanding of the spatial distribution of economic inequality and crime and the relationship between the two variables in Indonesia, this paper examines the geographical pattern of economic inequality and crime as well as local and spillover effects of within and across-districts/cities inequality on crime rate. Using data of 483 Indonesian districts/cities from 2010 to 2020, this study employed local indicators of spatial association (LISA) analysis to examine geographical patterns between economic inequality and crime and panel spatial Durbin model to investigate the spatial effects, including local and spillover effects, of economic inequality on property and other types of crime rate. LISA analysis yielded geographic-based information regarding clusters of economic inequality and crime, thus provided an insight on the spatial pattern of those variables. To understand the relationship between economic inequality components and crime further, panel spatial Durbin results has shown that using property crime rate as the dependent variable, strong positive local and spillover effect of within-region and across-region economic inequality on crime rates was observed. When other types of crime used as dependent variable, economic inequality components also showed significant positive effect, except for within-districts/cities economic inequality component from the neighboring region, which showed weak spillover effects on other types of crime rates.

Territorial revitalization: actions and policies underway in the industrial territory of Belfort since 2019

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Online-G31-O2 Location of Economic Activity, August 23, 2022, 4:00 PM - 5:45 PM

See extended abstract

Territorial revitalization is an underconceptualized term. However, academic fields using or mentioning it are numerous. This statement is the result of interdisciplinary research in ORTEP, a project structured around the notion of revitalization. The purpose of conceptualizing revitalization is to characterize actions and instruments aiming at renewing dynamics at a local scale and to understand its underlying operation. This new concept depends on five principles, among which a drastic system change and a change of trajectory for the local territory.

To develop and test this theoretical framework, we propose an application on Belfort industrial area from 2019 to nowadays. This period is characterized by a crisis opened through the local industry leader's own difficulties, General Electric. Our research shows that production and employment arrangements in the local industry are changing through restructuring of the already existing energy sectors, especially through the development of a local hydrogen sector. However, development action plans that involves buying out and diversifying activities are not engaging revitalization dynamics for the local territory as it doesn't tackle important aspect of the local crisis such as employment issues, social exclusion, or ecological problems. In that context, the covid-19 might have been a stronger barrier on alternative projects structured during social mobilizations than on already engaged and long-term projects that were more institutionalized and already funded.

Coefficient accuracy in regression models with spatially varying coefficients

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Pecs-G14-O2 Spatial Econometrics, B016, August 25, 2022, 4:00 PM - 5:30 PM

The paper examines the effect of multicollinearity in two state of the art models with spatially varying coefficients. The two models under scrutiny, geographically weighted regressions (GWR) and spatially varying coefficient processes (SVCP), alleviate the assumption of constant parameters over the whole observed geographic area and allow for regional variations in the estimated regression coefficients. However, such models suffer from inefficiency and identification issues with rising levels of collinearity in the explanatory variables, resulting in biased and inconsistent marginal inference. This paper on the one hand explores various possible scenarios to evaluate coefficient accuracy in regression models with spatially varying coefficients by means of a simulation study with varying levels of correlation among the explanatory variables, different values of disturbance in the models, and different degrees of spatial dependence. On the other hand, using recent advances in Bayesian computing, the paper proposes solutions to reduce the level of variable collinearity and, therefore, improve coefficient accuracy. Specifically, variable selection techniques and shrinkage priors are employed to tackle overparameterization which is the most common culprit for collinearity. The results highlight that variable selection and shrinkage are indeed easy extensions and can substantially enhance parameter accuracy. The paper also showcases the performance of the proposed modeling framework in estimating urban expansion in European NUTS2 regions using detailed land-use information. The application indicates that allowing for spatial variations in the regression coefficients plays a key role in understanding observed land-sealing in European regions.

Regional Spillovers in the Context of Universities and Business Incubators

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Pecs-S58-S1 University impacts on the local and regional economy, B314, August 25, 2022, 2:00 PM - 3:30 PM

Knowledge spillovers can stimulate regional entrepreneurship (D. B. Audretsch & Lehmann, 2005). In this context, universities and research institutions are understood as primary knowledge producing entities. Business incubators maintain ties to these entities also across district borders. They therefore bear the potential to act as vehicle transporting knowledge to districts beyond the reach of spatially bound spillovers. Existing literature is primarily focused on finding and explaining effects that universities and research institutes or the industry itself have on the regional innovation and entrepreneurial activities. Using fixed effects panel regressions, the effect of business incubators to support knowledge diffusion within regions that inhabit universities and research institutes is analyzed. Additionally controlling for spillovers through spatial regressions, we try to grasp the potential for business incubators to transport knowledge generated by higher education and research institutions across district borders to also stimulate supra-regional entrepreneurship.

An exploration of new regional governance models in China in the post-COVID-19 era: challenges and opportunities

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Online-G29-O1 Regional and Urban Policy and Governance, August 23, 2022, 11:15 AM - 1:15 PM

In the midst of COVID-19 Pandemic, China has started to implement its 14th Five-year Plan to further shift itself to an innovation based and environment friendly economy in the new era of digitalization and globalization. In this process, modern governance is both a primary goal and tool to achieve the feat.

What governance models this will entail particularly at the regional level will be key to drive China's successful transition. China constitutes a vastly diverse set of areas with highly productive ones such as the Yangtze River Delta region as one of the country's growth engines, and less developed areas such as the Central and West regions that need to prosper through economic transformation. Significant improvements in existing regional governance approaches and/or adopting new governance models are required to tackle issues such as lack of a shared regional vision and strategy and significant urban-rural divide.

Responding to different challenges in the new era, new regional governance models have been rising in China, ranging from informal, formal to hybrid models with increasing collaboration and partnership between not only governments but enterprises, social organizations and the common public. Regions such as the Yangtze River Delta region and the Pearl River Delta are at the forefront of the trend, experimenting with alternative governance models as a new platform to embrace their own growth opportunities and tackle local challenges. It is imperative to review what has been happening in regional governance trends and explore future directions in developing and improving region-fit modern governance models. This will ultimately propel China's regional economy to shift to a high gear and set China's regional growth and development on the right path.

Using a systematic approach, the paper seeks to map out existing and emerging governance models in greater detail that are designed for regions as a whole or for specific purposes, analyze comparatively the cooperative mechanisms of provinces and cities within regions, including structures, governance capacity, services they deliver, decision-making processes involved, funding mechanisms and underlying rationale as well as the effectiveness of the governance models. The discussion of these different model attributes is deeply rooted in the regional development trends in the new era, particularly China's effort in identifying and seeking the appropriate spatial articulation of economy and corresponding intervention practices. How to improve and enhance the new governance models to best serve their purposes is also discussed.

Building stronger and more resilient urban regions in China in the post-COVID-19 era

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Online-G06 Adaptive and Resilient Cities and Regions, August 22, 2022, 9:15 AM - 10:55 AM

In the last two decades, in line with international trends, China's urbanization has accelerated and is characterized by metropolitan development and strengthened urban-rural linkages. Chinese government has termed the process as New-type urbanization to distinguish it from the urbanization during the general industrial period with significant population movement from rural areas to cities. It recognizes the growing complexity of local economic and socio-environmental challenges and stresses the importance of adopting a systematic approach to explore and identify “fit-for-purpose” policy solutions. Urban regions, i.e. metropolitan areas with significant rural linkages, have increasingly become a focal point of national development in China.

Since the outbreak of Covid-19 at the end of 2019, the pandemic has had a significant impact on the socioeconomic activities of urban regions in China. Due to a variety of disease prevention and control policies, local residents are often confined in their local areas with more localized consumer activities, and businesses have had to remodel their value chains to source more local production materials and sell more products locally. These short-term solutions have significantly helped local economies to survive during the pandemic. But questions remain, what could China do to further the resilience for development in its urban regions in the post-Covid-19 era? Are we able to do a better job in both recovering from the Covid-19 shock to build a stronger and most sustainable economy while also managing potential societal risks in the future?

Using both qualitative and quantitative approaches through case studies and available urban and regional data, the paper will adopt a systematic approach to analyze the recent urban region dynamics in China during the pandemic, and response mechanisms for disease control and restoring socio-economic orders during different stages of combating Covid-19. It aims to develop a conceptual framework to investigate growingly interlinked people, industrial value chain and socio-environmental issues in the post-Covid-19 era. Based on the systematic analysis, the paper will explore feasible policy options moving forward in building stronger and more resilient urban regions in China.

Human capital dynamics in China: A spatial Markov chain Approach

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Online-G18-O2 Regional and Urban Labour Markets and Entrepreneurship, August 23, 2022, 9:15 AM - 10:55 AM

Human capital is an important driver of the economy. The regional distribution of human capital affects the development process of the economy. This paper applies Markov chain and its spatial form extensions to China's human capital index over the 1985-2019 period and calculates the transition probabilities between different human capital levels. Results from this paper show that China's regional human capital is uneven distributed, and this distribution is in dynamic change. Moreover, by comparing the results of non-spatial and spatial Markov chains, this study confirms the effect of regional spatial dependence on the change of human capital distribution, i.e., rich neighbors increase the probability that one region moves up to the higher class, and conversely, poor neighbors increase the probability that one region falls into a lower class. This article highlights the importance of incorporating the spatial effects into China's regional human capital.

Re-estimate economic convergence in China-Using satellite light data

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Online-G01-O1 Regional and Urban Development, August 22, 2022, 9:15 AM - 10:55 AM

Nowadays, inequality in regional economic development is an essential issue in China's development process. China is one of the countries with the most severe regional inequality problems. With the help of the economic convergence framework, we can explore whether there is a trend towards a reduction in economic disparities in a region. In China, however, the lack of city-level data increases the difficulty of estimation. This study aims to use satellite lighting data to fill in the missing values in China's GDP data at the city level, then test whether there is convergence in the Chinese economy from 2012 to 2019. The originality of this study comes from three aspects:

1. This study develops a complete city-level dataset to measure development by combining existing GDP and lighting data.
2. This study incorporates the beta convergence framework with spatial factors and compares the results of classical convergence regressions with its spatial extension.
3. This study calculated local convergence rates using geographically weighted regressions and found significant regional differences in convergence rates.

To address the missing value issue, this study verifies the strong linear relationship between China's GDP per capita and nighttime lighting data (NTL data) to illustrate the applicability of NTL data in China. Then this paper combines satellite lighting data, provincial data, and city data to estimate GDP per capita for 344 prefecture-level cities in China, filling in the missing values.

This study calculates regional economic convergence in China, both overall and locally, through the lens of classical beta convergence, spatial modeling, and geographically weighted regressions. The regression results show that there is economic convergence in China in general and that China's economic development has significant spatial autocorrelation. Second, the LM test shows that spatial modeling is necessary for convergence framework, and it is more appropriate to use spatial error model. After introducing the spatial model, results suggest that the spatial factor would speed up the convergence process. Finally, the local regressions suggest significant regional differences in the speed of economic convergence in China. The fastest convergence rates were found in the less developed regions of the west and central China, while the convergence rates were slow in the eastern coastal areas. In conclusion, this study highlights the importance of incorporating spatial correlation and spatial heterogeneity into regional economic analysis.

Analyzing smart specialization from a network perspective

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Pecs-G38-O1 Smart Specialization, B019, August 26, 2022, 11:15 AM - 12:45 PM

Smart specialization or RIS3 has played an integral part of the reformed European Cohesion Policy during the 2014-2020 programming period (Fratesi et al., 2021). Contrary to traditional sector-neutral approaches, smart specialization requires regions to concentrate their investments on a limited number of context-specific research and innovation (R&I) priorities (Foray, 2017). The end of the 2014-2020 programming period offers an opportunity to assess the implementation of the smart specialization concept in practice. Given the recency of the policy, most contributions in the academic field have focused on the theoretical aspects of RIS3, while its practical implementation has only recently come under scrutiny (some notable exceptions include: Capello & Kroll, 2016; Iacobucci, 2014; McCann & Ortega-Argilés, 2015).

The aim of this paper is to trace and assess the processes of specialization by taking a closer look at the regional R&I network and more specifically the thematic focus of the knowledge that flows through the existing links. We seek to understand to what extent the measures implemented under RIS3 resulted in the concentration of a well-defined core of knowledge domains, as the theory would suggest. To reconstruct the regional innovation network in a dynamic fashion we rely on R&I projects, funded through the RIS3 policy instruments, while the thematic focus of the link content is inferred by inspecting project titles, abstracts and keywords. We base our study in the context of the Spanish region of Catalunya and its RIS3-funded R&I ecosystem. This type of analysis can shed light on the micro-mechanisms of specialization and identify potential points of intervention in the regional knowledge network, through which policy makers can facilitate the advancement of the selected priority domains.

The Determinants of Provincial Public Health Expenditures in Turkey: A Spatial Data Analysis

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Pecs-G02 Macroregional, Transregional, Regional and Urban Policy and Governance, B017, August 24, 2022,
11:15 AM - 12:45 PM

This paper assesses the determinants provincial public health expenditures for Turkey taking spatial dimension into account. A general-to-specific approach has been adopted where spatial variations in the relationships have been examined using the NUTS3 level provincial panel data for the time period 2009-2019. Descriptive spatial exploratory analysis indicates the existence of significant positive spatial association for provincial GDP per capita, health expenditures, and other explanatory variables, while the traditional East-West divide seems to persist with respect to income and health indicators. Empirical results indicate that there is positive spatial interaction with respect to provincial health expenditures supporting the expenditure externality hypothesis. In addition to spatial spillover effects, our results show the presence of strong path dependency, implying long-term policy stability. Urbanization and education level are important determinants of public health expenditures with significant spatial effects.

Invisible Immigrants: The determinants of the legal integration of refugees

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Online-S49-S1 Drivers and impacts of migration: new insights on the role of local labour markets, human capital, personality and (family) networks, August 22, 2022, 2:00 PM - 3:35 PM

In response to a lack of evidence on the factors that influence the integration of refugees within Europe, we use rich micro-data on refugees who arrived and gained an asylum residence permit in the Netherlands between 2014 and 2020 to analyse the factors that hindered or facilitated legal integration. We benefit from the quasi-random allocation of refugees within the Netherlands which allows us to explore the role played by locational characteristics, and use two measures of legal integration, first whether or not an individual passed the civic integration exam and second, whether full naturalisation occurred. We find that a number of factors reduce the likelihood of both forms of integration, including mental or physical health difficulties and a lengthy asylum application process. The likelihood of gaining full naturalisation is further reduced by the duration of time on social benefits and the unemployment rate of the residential municipality. In contrast, both forms of legal integration are positively associated with being in employment, being educated within the Netherlands and, to an extent, the level of urbanisation of the municipality. Our findings withstand a number of robustness exercises.

Does the Stringency of the Integration Exam Affect the Labour Market Performance of Refugees? Evidence from the Netherlands

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Online-G23-O1 Segregation, Social and Spatial Inequalities, August 23, 2022, 11:15 AM - 1:15 PM

The concern about refugee integration in the European labour market has been growing following increasing asylum applications in recent years. However, the labour market effects of government interventions to cultivate the local language and respect the rules and norms of host societies, remain largely unassessed. To address the need for causal evidence of these interventions, this study investigates whether civic integration exams promote the economic integration of refugees in the Netherlands, where refugees are obliged to take a set of complex exams, including a component about the Dutch labour market called the ONA. Taking advantage of the exogenous introduction of the ONA, and mitigating endogeneity concerns by generating comparable treated and untreated groups, we compare economic outcomes driven by the new exam containing the ONA with the previous exam. Using rich Dutch administrative data for the period from 2014 to 2020 and applying a Propensity Score Matching - Difference in Differences framework, we assess whether and to what extent the ONA boosts the refugees' labour market performance, in terms of employment probability, hours worked and hourly wages. Our results indicate that passing the ONA leads to a higher employment probability by 2.6 percentage points in comparison to those who passed the exam without ONA. Five quarters after the exam, the additional employment probability, driven by ONA, reaches 3.7 percentage points. Yet, our results provide no evidence of a significant impact of ONA on hours worked and hourly wages. In other words, the newly introduced exam helps the likelihood but has no effects on the quantity and quality of jobs. Our results also reveal that the ONA particularly boosts the employment likelihood of refugees from Syria and females by 3.9 percentage points and 2.1 percentage points, respectively.

Application of hybrid Gibbs processes to firm location modelling

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Pecs-G09 GIS and Location Modelling, B020, August 24, 2022, 2:00 PM - 3:30 PM

Inside business location studies, one can distinguish between three main approaches - discrete choice models (DCM) (basically solution of optimization problem for each particular location and then choice the best one), count modelling approach (different factors impact on number of a new-born business plants in a given region) and spatial related methods, mainly point pattern analysis (major group of papers is based on application of Ripley's K and its derivatives). All abovementioned approaches are based on aggregated data, which do not seem to be appropriate for such problem - these data do not reflect spatial nature and distribution of data, do not account for spatial factors (such as localization patterns or issue of economic clusters and agglomeration economies) or existence of spatial dependence and heterogeneity.

Among studies operating on point data one should mention study of Bocci and Rocco (2016) which applies inhomogeneous Poisson process to investigate firm location determinants and papers of Sweeney and Gómez-Antonio (2016; 2018; 2021) exploring determinants of location with Gibbs processes.

Sweeney and Gómez-Antonio were not the first, who accounted for interaction within the radius – the pioneer attempt was made by Rosenthal and Strange (2003) (although made on aggregated data). However, studies of Sweeney and Gómez-Antonio opened a wide possibility for further investigation. Innovative element of this paper is assumption that several interaction radii exist, thus instead of simple Gibbs process (considering only one interaction radius) hybrid of several Gibbs processes will be used.

Preliminary results show that consideration of spatial factors and several interaction radii allows to produce a model which passes goodness-of-fit tests. Later, such model may be used to analyse business locations.

Is Retaining the same as Attracting Foreign Capitals? Not quite... The case of Italy

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Online-S52-S2 Foreign Direct Investments, trade and local development: drivers and impacts, August 23, 2022, 2:00 PM - 3:40 PM

See extended abstract

Labour market, FDI and investments during the high-pressure economy in Central and Eastern Europe

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Pecs-S46 Long-term Development Perspectives, Barriers, and Challenges in Central and Eastern European Regions: A Survey of the Next Decades, B312, August 26, 2022, 11:15 AM - 12:45 PM

Central and Eastern European countries experienced a slow recovery, then a high-pressure economy after the global financial and economic crisis in the 2010s. As a result, they achieved an on-going convergence to the European Union's average level of development in terms of per capita GDP (partly affected by the slowing down of the Mediterranean member states' growth). The dominance of the capital city regions in driving economic growth is still reinforced, and the spatial distribution of foreign direct investments also plays a significant role in shaping regional inequalities. Despite explicit convergence at the national level, interregional income differentials are persistent and left-behind regions experience on-going stagnation. Although capital city regions enjoy above-average level of economic development, many regions in the eastern periphery are amongst the 20 poorest regions within the EU. Our research uses exploratory statistical data analysis and multivariate statistical analysis, e.g., principal component analysis, to investigate the relative importance and the territorial dynamics of selected regional economic indicators. We intend to focus on those variables that allow us to capture the working of the high-pressure economy, such as labour market indicators and investments, including foreign direct investments. We use publicly available statistical data in a regional disaggregation collected from Eurostat and national statistical offices. Our preliminary results indicate that FDI has an essential role in ensuring a relatively high level of regional development, but the growth performance of FDI host regions proved to be unstable.

The State of Digitalization - The case of Select Hungarian Universities

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Online-G20-O3 Cities, Regions and Digital Transformations, August 23, 2022, 9:15 AM - 10:55 AM

One of higher education's current challenges revolves around the worldwide fast-paced change generated by digitalization.

Through the digitalization of main university activities and fundamental operation processes, there is an opportunity to boost the availability of knowledge, elevate student experience, streamline workflows, and reduce costs. The progression of university digitalization can be set on a broad spectrum worldwide. In-depth interviews were conducted with Hungarian universities listed on the most renowned worldwide university ranking lists. The group of interviewees consisted of university leaders and experts in the areas of education, research and the third mission of universities. The overall theme of the interview was embedded in the context of digitalization, focusing on the current state of digitalization of the university itself, how digital endeavors are realized and what is the main ambition behind digitalization. Moreover, I explore how the theme of digitalization fits in the context of 'fourth generation' universities. The structure of the in-depth interview questionnaire was designed based on the inputs of contemporary literature on digitalization and the analysis of digital maturity models.

The purpose of the study is twofold:

First, to determine the characteristics of a modern university, which is resilient, has the ability and agility to adapt to a digital world and newly emerging needs to enhance its competitiveness. This has key importance, as the 3 standard university missions have the potential to positively influence the local economy if the values (e. g. trained experts and professionals, relevant research, patents, university-government-industry cooperation) generated on the output side are utilized in the local region.

Second, identify the key challenges and benchmarks of Hungarian top universities and establish the general themes that characterize the Hungarian higher education sector.