RSAI-BIS Cork 2025 Book of Abstracts

Session Name/Number	Presenter Name	Paper title and abstract

S1A: Regional Policy	Ernest Amrago	**Environmental Innovation Adoption: The Role of Sustainable Agricultural Policy, Agricultural Education and Advisory Services** Abstract: Environmental sustainability is a policy priority in Irish agriculture, with farmers adopting various innovations to mitigate the negative environmental impact from agriculture. Understanding the factors driving the adoption of environmental innovations across farm systems is critical for system-specific policy design. While this evidence exists for dairy and tillage farms, cattle, and sheep farms are limited and panel data use across these farm types remains underexplored. Using the innovation system theory, we set out to investigate the role of sustainable agricultural policy (nitrate derogation and agri-environment scheme), agricultural education, and advisory services (Teagasc) in the adoption of agricultural environmental innovations in the Irish agricultural system. Specifically, these factors are investigated across the four main farm systems in Ireland: dairy, cattle, sheep, and tillage. A seven-year panel data (2017-2023) derived from the Teagasc National Farm Survey (NFS) is deployed for this study. Probit models are employed to examine the relationship between the adoption factors and the selection of agricultural environmental innovations across different farm systems. The results indicate that the effect of sustainable agricultural policies, agricultural education, and advisory services on the adoption of environmental innovations varied across the farm systems. In particular, state-supported agricultural R&D institution advice positively influenced adoption in the dairy, cattle, and sheep systems but the effect in the tillage system was negative. While agricultural education positively affects adoption in the dairy, cattle, and sheep systems, its impact in the tillage system is insignificant. The ACRES scheme does not drive adoption in the dairy and tillage systems, however a positive influence on adoption is found in the cattle, and sheep farm systems. The effect of derogation is positive in the dairy system. Policy recommendations are proffered based on these results.

S1A: Regional Policy	Davide Luca	**Are NextGenerationEU funds effectively targeted? Assessing the territorial distribution of Italy's Recovery and Resilience Plan** Abstract: To address the socio-economic challenges of COVID-19, the European Union launched NextGenerationEU, its largest-ever stimulus package, worth over ,Ç¨650bn. At its core are National Recovery and Resilience Plans (RRPs), which provide member states with financial support for structural reforms and investments. Despite the scale and potential of this initiative, empirical evidence on how these funds are allocated remains limited. Focusing on Italy, one of the largest beneficiaries, we investigate two key questions: (1) we explore the territorial distribution of funds from Italy's national government, in charge of overall coordination, to local administrations, by identifying the key local characteristics associated with participation in Italy's RRP/amounts received. (2) we explore whether recipient areas specialise in policy areas where they have existing strengths or invest in weaker domains. Using a two-stage Heckman model and a dataset covering nearly 8,000 municipalities, we analyse how local administrative, financial, and macroeconomic factors shape fund allocation. Our findings reveal that funds are primarily directed toward Southern, economically disadvantaged urban municipalities with strong administrative capacity. Prior experience with EU Cohesion Policy funding is also a significant predictor of receiving RRP funds. Moreover, fund distribution across different policy areas is influenced by pre-existing infrastructure and service levels in those sectors. Regarding investment strategies, we find a specialisation pattern in Digital, Education, and Healthcare missions, where municipalities attract funds in areas where they already have expertise. Conversely, a diversification pattern emerges in the Social mission, aligning with the EU Cohesion Policy's goal of reducing territorial disparities. Overall, the allocation process appears relatively effective in channelling resources where they are needed. However, some of Italy's weakest territories may struggle to fully exploit the opportunities provided by NextGenerationEU, potentially reinforcing spatial inequalities rather than reducing them.

S1A: Regional Policy	Helena Lenihan	**Exploring the impact of R&D grants on firm-level R&D: Urban and rural firms and industry concentration** Abstract: Governments use firm-level Research and Development (R&D) grants as part of place-based policy efforts to drive regional and/or local development. However, R&D grants can have heterogenous firm-level impacts, depending on the locations where firms are based. Understanding the mechanisms through which such location effects occur is vital for using R&D grants to best effect. Such grants can be employed as part of place-based development efforts, but also in programmes without an explicit spatial component. This is an issue which remains largely unresolved in the literature. We explore this, by focusing on two key spatial characteristics regarding the locations where firms are based: (1) The role of general agglomeration economies, in terms of firms locating in urban or rural locations; and (2) The importance of within industry concentration effects of the locations where firms are based. Our analysis uses a novel and detailed database of firms in Ireland, and a combination of matching and weighted difference-in-difference estimation. We find industry concentration effects to accentuate the impact of R&D grants on firms' R&D expenditure and R&D employment, while population agglomeration effects are only evident in the context of R&D employment. We do not find conclusive evidence for these characteristics to affect how R&D grants result in additional firm sales from innovation. Given the policy relevance of the use of scare public resources (in this instance in the form of R&D grants) to drive firm-level outcomes and stimulate place-based development efforts, we conclude by discussing potential policy insights derived from our analysis.

S1B: Liveable Cities I	Francesco Viviani	**The Spread of Airbnb and Its Impact on the Real Estate Market: Evidence from Italy** Abstract: The rapid spread of short-term rentals, especially through the Airbnb platform, has produced significant impacts on urban contexts, provoking widespread concern and sparking significant public and policy debates. One of the central issues lies in the conflict with permanent residency, both in qualitative terms (e.g., noise level, perceived insecurity) and quantitative terms (e.g., rising in residential property values and a reduction in the already limited supply of long-term rental housing). The impact of these externalities whether positive or negative varies. On the one hand, neighbourhood livability may decline, potentially depressing property values, while, on the other hand, heightened demand for short-term rental properties may intensify housing affordability issues by driving up residential cost. These increasing emergence of spillover effects has placed cities, especially those where this type of offer is particularly prominent, in front of new regulatory challenges. By analyzing a panel dataset for ten Italian cities, from 2012 to 2022, and employing a mixed effect model, findings reveal that, even in the Italian context, there is a positive and significant relationship between the presence of Airbnb and real estate market prices. This relationship is even more pronounced in historic city centres than in the suburbs and especially in cities that are highly attractive for both cultural and business reasons, compared to in cities specialized mainly in cultural tourism. Moreover, the study highlights how the presence of a more organized, entrepreneurial supply - evident from the number of listings managed by the same entity (multi-host) - shows a greater impact on property prices compared to short-term rentals managed by individual hosts.

S1B: Liveable Cities I	Francisco Nobre	**Proximity to gambling shops and gambling harms** Abstract: We look into the relationship between gambling shops and gambling harms. Harmful gambling is an increasingly recognised public health issue. 3.8% of England's population gambles at an elevated risk of addiction; 250,000 people in England have an addiction to gambling and these are linked with up to 500 suicides every year and up to £2 billion cost to the society. On similar health concerns such as obesity, there is evidence that the geographic proximity to unhealthy food options (i.e. fast food) is a contributing factor. For gambling, such evidence is scant due to data constraints both on the location of gambling shops and the prevalence of gambling harms. We utilise the Gambling Commission's geocoded data on the location of gambling shops and match these to the GambleAware Treatment and Support Survey Data. Doing this allows us to shed light into the relationship between the presence of gambling venues and gambling harms in the UK. Specifically, we investigate how proximity to gambling shops influences the likelihood of an individual being classed as a problematic gambler while controlling for several confounders. Our analysis starts by providing a rich set of descriptive statistics on the intensity of gambling shops across the country and its evolution since 2014. Continuing, we employ probit models that explore the relationship between gambling shops and gambling harms. Initial findings show that proximity to gambling shops is positively associated to the probability of being a problematic gambler. These results are corroborated by robustness tests using propensity matching scoring and coarsened exact matching and call for increased attention on the regulatory framework for gambling venues.

S1B: Liveable Cities I	Jack Williamson	**A comparison of urban carbon accounting metrics for a single city: challenges for measurement and directions for informing policy actions** Abstract: Across the world it has become increasingly common for cities to adopt low, or net-zero carbon goals, yet there is no consensus on how to measure city-level emissions. The elements included within widely used carbon accounting measures vary, which can both complicate the public communication of emissions metrics and make it problematic to show the connection between specific decarbonisation actions and change in these measures. Our research looks at Glasgow City, Scotland, and begins by exploring the differences in elements included in four widely-used emissions metrics: territorial consumption-based, production-based, and spatio-temporal model-based. We compare these measures directly across the important, and superficially common categories of domestic/housing and transport categories, highlighting data sources, and methodological differences. We then explore how urban decarbonisation policies impact on these metrics, comparing the case of policies focused on domestic/housing with those targeting transportation. We discuss the special case of a local policy aimed at achieving a 30% reduction in passenger vehicle miles driven. Our findings show that the measurable impacts of policies can differ substantially across the accounting metrics used. We argue that aligning decarbonisation policies with appropriate carbon metrics is critical for effective policy evaluation. Without clear evidence of impact, public support for local climate action may be at risk, highlighting the importance of using a range of metrics for urban level carbon accounting.

S1C: Politics, Migration, refugees and integration	Conor O'Driscoll	**The Geography of Being Stuck: Local and Regional Perspectives on Residential Immobility** Abstract: This study examines the phenomenon of residential immobility, focusing on individuals who express a desire to relocate but remain "stuck" in their current residences due to various personal, economic, and structural constraints. This research seeks to identify common demographic, socio-economic, and spatial characteristics of those who are deemed "stuck". Furthermore, it explores the heterogeneity of immobility, investigating whether varying degrees of "stuckness" differ across cohorts and geographic locations, and how these factors relate to socio-economic outcomes such as income, employment status, and health. More specifically, I use individual-level longitudinal data, geocoded at the neighbourhood level, and pair it with highly refined spatial data to explore these relationships across the UK between 2009-2019. To do this, panel-based linear regression techniques, coupled with discrete choice models, are used to explore these associations. This dual approach: first identifying the determinants of residential immobility and then examining its impacts on socio-economic indicators: enhances our understanding of how being stuck in place intersects with broader socio-economic trends. By shedding light on the structural and personal constraints that contribute to immobility, and its potential consequences, this study offers insights that could inform policy interventions designed to facilitate residential mobility and improve urban planning strategies. Ultimately, it contributes to theories of residential and factor mobility by highlighting the diverse, often overlooked experiences of those who remain immobile in a rapidly changing world.

S1C: Politics, Migration, refugees and integration	Luise Koeppen	**The Spatial Continuum of Healthcare Access: Understanding Inequalities through Individual Characteristics, Amenity Values, and Contextual Factors** Abstract: This paper examines the spatial continuum of healthcare access, exploring the interplay between individual characteristics, perceived and actual healthcare access inequalities, and contextual factors such as amenity value. Employing a multilevel framework, we investigate how individual demographics, socio-economic status, and access to resources interact with spatial and environmental dynamics to shape healthcare access outcomes. By focusing on both perceived and actual measures of healthcare access, the study contributes to understanding the geography of health inequalities and provides actionable insights for targeted interventions. The withdrawal of government services in a region has long been associated with discontent, this paper examines whether withdrawal of healthcare services is a potential example of this. Drivers of political discontent have thus far been identified as territorial inequalities and socio-demographic inequalities, this paper will attempt to expand this to include structural changes in public sector provisions in detail.

S1C: Politics, Migration, refugees and integration	Rachael Kawasaki	**Does Immigrant Integration Foster Positive Attitudes towards Immigration? Evidence from England** Abstract: When immigrants are more integrated, do local populations become more positive towards immigration, or are immigrants more easily able to integrate when local populations have more inclusive attitudes? The relationship between intergroup attitudes and immigrants' integration outcomes is complex, as both attitudes towards immigrants and integration are dynamic, subject to a variety of factors, and vulnerable to confounding factors. While much research has been done on the individual and local level characteristics that determine attitudes as well as on the drivers of integration, little quantitative research has been conducted on how interactions between groups can drive or impede integration. Moreover, as national governments often cite social cohesion and making immigration more acceptable to publics as the aim of integration programs, understanding how immigrants' outcomes and local attitudes are related is essential to understanding public opinion and guiding policy. This paper aims to fill this gap and to disentangle this complex relationship between attitudes and integration outcomes by examining whether respondents who live in areas with more integrated immigrants show more positive attitudes towards immigration over time. Using panel data from the British Election Study and longitudinal data from Understanding Society (the UK Longitudinal Household Survey), this paper employs a three-level multi-level model to understand whether attitudes towards immigration in the United Kingdom become more positive when a greater percentage of local immigrant populations are citizens (political integration), intermarried with UK-born residents (social integration), employed and high-skilled (economic integration), and use English as the main language at home (cultural integration). The expected results of this work are 1) to establish whether or not a relationship between integration outcomes of immigrants and attitudes towards immigration is significant, 2) to determine which integration outcomes: social, political, cultural, or economic : have the strongest relationship with attitudes.

S1D: Regional energy use and environmental impacts	Daragh O'Leary	**The Heterogeneous Impact of High-Growth Firms on Start-Up Survival & Employment across Regions** Abstract: This paper examines how regional high-growth firm prevalence influences the survival and employment activity of start-ups within a region. It provides a contribution to the regional literature by conceptually building upon the superiority and multiplicative argument of regional high-growth prevalence and outlining the possibility for spatial heterogeneities in this framework. We also provide an extension to the regional entrepreneurship literature by exploring why the underlying mechanisms in the multiplicative and superiority arguments may affect start-up firms in particular. Furthermore, the paper provides empirical results regarding the relationship between high-growth firm prevalence and regional start-up activity across differently performing regions, which will be of interest to academics and policymakers.

S1D: Regional energy use and environmental impacts	Huanjia Ma	**The role of public procurement and retrofitting in achieving net-zero** Abstract: The UK Government has rigorous targets for achieving net-zero. One of the policy strategies to achieve net-zero includes the Warm Homes Plan, a plan to offer incentives to upgrade UK housing stock to be more energy efficient. This paper examines the impacts of increased ‘green' public procurement on regional economies and labour markets. Using the SEIM-UK, a multi-regional input-output model of the UK economy, this study presents a case study of the West Midlands. We design policy scenarios based on either the current 2050 Net Zero target or an accelerated 2040 target, demonstrating the potential role of public procurement in strengthening both the regional economy and supply chains while achieving environmental benefits. The analysis finds that the investment required between 2025 and 2050 to reach the baseline scenario is £12 billion and for the accelerated scenario £21 billion. The analysis highlights the differing regional economic impacts of local vs non-local procurement. However, the absorptive capacity of the regional workforce is analysed and identified as a significant brake on progress of local procurement. The findings identify where policy can intervene to support the transition to net-zero by fostering local supply chains and workforce development.

S1D: Regional energy use and environmental impacts	Kevin Connolly	**Reshoring of renewable energy manufacturing for regions and smaller nations: An exploration of offshore wind Northern Ireland** Abstract: In order to combat climate change many nations have committed to reduce their carbon dioxide emissions with the development of renewable energy key in meeting these objectives. At the same time these nations see the development of renewables as an opportunity to reindustrialise for the 21st century with many placing emphasis on the reshoring of manufacturing via the onshoring of parts of the renewable energy supply chains, to increase economic benefits from green investment. While this is a goal for nations of all sizes, due to the specialities needed in the development technologies, in reality reshoring is much easier for larger nations. Smaller nations are limited by their economic structures and labour force. In this paper, using offshore wind in Northern Ireland as a case study, we investigate the issues around onshoring of renewables for small nations and regions. For this we use the particular case of Northern Ireland, a self-governing region of the UK; but the method we propose is general and could be carried out by decision makers in any small nation or region. We firstly carry out a structural analysis of the economy of Northern Ireland and identify synergies with the offshore wind supply chain, and then we model the economic impacts of onshoring key components of this supply chain. Overall, we find that there is the potential for sizeable economic benefits, in NI's case mostly in the onshoring of foundations; but our results extend and in general many smaller regions will be able to identify their own specific opportunities in onshoring renewables manufacturing.

S2A: Regional growth and productivity I	Daragh O'Leary	**The Heterogeneous Impact of High-Growth Firms on Start-Up Survival & Employment across Regions** Abstract: This paper examines how regional high-growth firm prevalence influences the survival and employment activity of start-ups within a region. It provides a contribution to the regional literature by conceptually building upon the superiority and multiplicative argument of regional high-growth prevalence and outlining the possibility for spatial heterogeneities in this framework. We also provide an extension to the regional entrepreneurship literature by exploring why the underlying mechanisms in the multiplicative and superiority arguments may affect start-up firms in particular. Furthermore, the paper provides empirical results regarding the relationship between high-growth firm prevalence and regional start-up activity across differently performing regions, which will be of interest to academics and policymakers.

S2A: Regional growth and productivity I	Sabine D'Costa	**Digitalisation and firm survival during the Covid-19 pandemic in the UK** Abstract: This paper investigates the performance and survival of firms in the UK. The observed slow productivity growth in the UK results from both low average firm productivity and insufficient reallocation in favour of the most productive firms. In particular, we study the role of firm digitalisation for firm survival during the Covid-19 pandemic. Pandemic lockdowns forced many businesses to adopt digitalisation due to an inability to work and transact with customers and suppliers in person, giving an advantage to businesses with an initially higher level of digitalisation. We test the relationship between digitalisation and survival, controlling for the variation in 'local lockdowns' in the UK, which varied businesses effective exposure to pandemic restrictions over time and space. Some regions with higher rates of Covid-19 infections were placed under stricter restrictions and for longer. We rely on the Longitudinal Small Business Survey, a survey of small and medium sized businesses covering details of business practices, including detailed variables on digitalisation. Further, we are able to control for government business support during the pandemic. We find positive effects of early adoption of digital inputs on the survival of British SMEs during the 2020-2022 period. However, this is restricted to urban firms. For rural SMEs, government Covid support was the predominant determinant of survival as digital inputs did not have a significant effect on survival. The paper contributes to the literature on firm survival and the particular role of digital technologies in helping firms survive. In does so in a context where digital technologies became suddenly and unexpectedly crucial for many businesses' operations.

S2A: Regional growth and productivity I	Calvin Jones	**Built on Sand? The quality of regional economic statistics and the implications for regional science** Abstract: Regional economic divergence and convergence is a central concern of regional scientists. Often, outcome divergence is measured via the use of publicly published data, such as on regional (and local) gross value added (and GDP),and household income. Divergence is then explained by assessing differences in economic 'inputs' across regions, here including skills and qualifications, GVA per job and hour, employment rates, and trade intensity and orientations. In the UK however there are increasing concerns about the accuracy and robustness of regional economic data. This paper levers learning from the compilation of the new Supply and Use Tables and Input Output Tables for Wales to suggest that UK regional economic statistics are flawed and unreliable to an extent that makes much academic work, and policy/practitioner commentary on the economic position and progress of UK regions and cities, fundamentally unsound

S2B: Liveable Cities II	Mingming Xu	**A systematic literature review of employer-paid parking and sustainable urban commuting choice** Abstract: The need to develop strategies for carbon-neutral cities and sustainable urban transportation systems requires a shift away from car dependency and usage towards active commuting and public transport. In Ireland, for example, the Climate Action Plan 2024, which targets a 50% reduction in transport sector emissions by 2030, sets daily travel mode share targets at 53% by cars, 19% by public transport, and 28% by active travel. In urban areas employer-paid or subsidised parking is a key barrier to sustainable mobility choices and designing a model, using behavioural and consumer-based approaches could be a key enabler of reduced car commuting and associated emissions. To date however there has been limited attention paid to parking in economics, psychology, consumer, and sustainability literatures and so it is an under-researched aspect of sustainable mobility. This paper presents the findings from a systematic literature review of the relationships between employer-paid parking and commuting mode choices in urban and suburban environments. Using PRISMA systematic review guidelines, the search strategy resulted in 186 articles undergoing full-text screening and 74 articles being included in the literature review. This paper consolidates knowledge on the topic, analyses past and on-going research developments, and provides future research directions by using a rigorous and auditable systematic literature review methodology. The review points to substantial evidence that employer-paid or subsidised parking encourages solo driving. Transitioning from employer-paid to employee-paid parking reduces single-occupancy vehicle (SOV) commuting and vehicle miles travelled. However, the shift may not fully achieve anticipated outcomes due to suppressed demand for parking by employees, spillover parking on nearby streets or in adjacent neighbourhoods, and insufficient level of public transport services. Effective workplace parking and transport management, therefore, requires complementary policies from local authorities, such as regulating and pricing on-street parking and enhancing public transport services.

S2B: Liveable Cities II	John Omwamba	**Modelling Access and Local Travel Behaviour in a 15-Minute City: The Case of Trieste** Abstract: The 15-Minute City (FMC) framework seeks to promote sustainable urban mobility, reduce car dependency, and enhance proximity-based access to essential services. However, its feasibility in cities with complex topographies remains underexplored. This study evaluates the applicability of the FMC model in Trieste, Italy, a coastal city with significant elevation variations, using gradient-sensitive accessibility modelling, spatial equity analysis, and local travel behaviour assessment. The research employs network-based isochrone mapping, adjusting for elevation constraints using Tobler's Hiking Function (walking) and Parkin-Rotheram's Cycling Model to measure accessibility across multiple transport modes. Findings reveal notable walking spatial disparities in access to education, healthcare, retail, and public amenities, with central districts largely meeting FMC criteria while peripheral, high-elevation areas experience significant accessibility gaps. Despite a dense public transport network, last-mile connectivity remains a key barrier, particularly in hillside neighbourhoods where walking and cycling adoption is lower. Travel behaviour analysis highlights persistent car dependency for school and shopping trips, with mode choices influenced by terrain, service distribution, and perceived infrastructure limitations. While cycling and e-bikes improve accessibility, limited infrastructure and safety concerns hinder widespread adoption. The study underscores that FMC implementation in hilly cities requires relevant adaptable policies beyond conventional active mobility strategies. Key recommendations include expanding cycling infrastructure, enhancing intermodal public transport connections, and decentralizing essential services to improve accessibility beyond what can be achieved through transport policies alone. This research advances FMC methodologies and provides a replicable framework for cities with challenging geographies. Key Words: 15-minute city; sustainable mobility; equitable access; social inclusion; essential services; travel behaviour

S2B: Liveable Cities II	Sofia Franco	**Drug-related harm reduction and local communities: Evidence from Dutch drug consumption rooms** Abstract: Drug-consumption rooms (DCRs), also known as supervised injection sites or safe injection rooms, are a type of harm reduction that provides a secure environment for the consumption of both legal and illegal drugs. The primary goals of DCRs are to enhance the health conditions of drug users and to reduce the public nuisance associated with drug use. The goal of our study is twofold. First, we estimate the neighbourhood impact of DCRs on local communities through its impact on local drug use and crime. Second, we investigate how DCRs may impact property values, which according to its critics could happen through the aforementioned effects that DCRs have on local drug consumption and subsequent local criminal behaviour. We use detailed panel micro-data from the Netherlands and a variant of a difference-in-differences framework that identifies the effects of DCRs using annual variation between city neighbourhoods driven by openings and closings, controlling time-varying neighbourhood characteristics such as the presence of potential drug-use and crime generators like shelters, local bars, restaurants, cannabis dispensaries (the so-called 'coffeeshops') and nightclubs. We find that DCRs reduce drug use in the surrounding neighbourhoods by about 13 percentage points, equivalent to approximately three-quarters of a standard deviation. Additionally, drug-related crime is reduced by 24%. House prices increase by 2.5%, but this effect is observed only in low-income neighbourhoods. This finding can be attributed to the absence of significant reductions in drug use and the notably smaller impact on crime in middle/high-income neighbourhoods. We also observe a significant increase in nuisance reports following the opening of a DCR, but this effect is only seen in middle/high-income neighbourhoods. These findings indicate that controlled drug use in DCRs can significantly enhance neighbourhood quality, particularly in economically disadvantaged areas.

S2C: Regional inequalities I	Amaya Vega	**Accessibility-based community vulnerability assessment to bridge failure: a spatial analysis of socio-economic impacts.** Abstract: Bridges are critical infrastructure that supports community connectivity to employment and essential services. Prioritising bridge maintenance interventions is a complex task that involves the consideration of various factors, such as the bridges lifespan, characteristics, operating conditions, environmental impact, and the consequences of infrastructure disruption for local communities. Failures in bridge infrastructure can disproportionately affect rural communities, often amplifying existing socio-economic disparities. Due to their low-density residential patterns and scattered development, rural residents often experience long travel distances to employment and essential services, with significant reliance on car travel, and sparse public transport services. The sustainable development of rural areas requires the improvement of rural transport accessibility, which is considered a key enabler to achieving the Sustainable Development Goals (SDGs) of the 2030 Agenda. This study investigates the vulnerability of communities to bridge failure by examining the accessibility implications and the socio-economic impacts of such events. Using network and accessibility analysis, the paper presents a methodological framework to analyse how bridge closures may disrupt access to essential services, employment centres, and healthcare facilities, focusing particularly on the identification of vulnerable populations. The paper integrates Geographic Information System (GIS) tools and accessibility analysis to generate accessibility-based community vulnerability scores. By using data on bridge locations, road transport networks, and small-area socio-economic statistics from the Census of Population of Ireland, results show the spatial distribution of vulnerable communities to bridge failure, highlighting the regions where these events are likely to have the most severe socio-economic impacts. The paper contributes to the area of transport planning, bridge maintenance and infrastructure investment prioritisation in the context of climate adaptation. Ultimately, the objective is to assist bridge managers and local authorities in providing equitable infrastructure planning that considers the needs of local communities, aiming to reduce the disproportionate impact of connectivity disruptions in these regions.

S2C: Regional inequalities I	Christian Calvillo	**A Just Transition for All? Understanding the Distributional Impacts of Net Zero on Groups with Protected Characteristics** Abstract: Existing net zero research aim to assess the distributional impacts of the transition. However, it may oversimplify these impacts by looking at groups broadly and potentially only categorising them based on economic metrics (e.g. income level). Indeed, the transition is likely to present a disproportionally high burden to lower income households, but it assumes a level of uniformity within the group, implicitly considering that all the impacts, challenges and barriers are the same. This research work, aims to understand the distributional impacts of the transition to net zero, focusing on buildings and transport changes, with an emphasis on potentially vulnerable groups, while also considering their specific characteristics and geographical contexts. This study analyses existing evidence and data, structured around the Public Sector Equality Duty (PSED) protected characteristics definitions. This study follows a mixed methods approach, involving the review of existing evidence (qualitative and quantitative) on academic and grey literature, and secondary data analysis of available data from the UK's National Transport Survey, English Housing Survey, ONS Census 2021 data, among others. Early findings show clear trends and commonalities between fuel and transport poverty drivers and groups with protected characteristics, while also highlighting potential non-economic barriers. For example, groups with protected characteristics are more likely to live in flats and rent, and their geographical distribution tends to be more urban and suburban. Also, groups with protected characteristics, such as ethnic minorities, rely more on public transport and are less flexible in their travel needs. Importantly, there are strong links between certain protected characteristics and low incomes. However, other non-economic factors further affect these groups, e.g. non-financial, practical, and administrative barriers for disabled, older people, some types of dwellings, and renters. Policy responses need to evolve and go beyond financial incentives and take into account non-economic barriers and geographical contexts. Policies need to be more flexible, agile, targeted, and tailored to needs.

S2C: Regional inequalities I	Tasos Kitsos	**Unpacking spatial earnings inequality in the UK: The role of people, place, and industry effects** Abstract: We use comprehensive, administrative data to examine the influence of people, place, and industry characteristics in driving spatial earnings disparities in the UK. The UK faces a structural dual challenge of a, now longstanding, productivity gap with comparator countries coupled with significant, persistent and widening regional disparities, particularly between London and the South East and the rest of the country. Reducing these disparities could boost economic growth and prosperity across the nation. Yet, at a fundamental level, the drivers of spatial inequality remain poorly understood. Previous studies analysed the extent to which wage disparities are driven by people and/or places effects, often in the format of 'black-boxed' fixed-effects. We build on these to examine the drivers of spatial earnings disparities, focusing on workers' education, firms' productivity, and place characteristics across UK regions. We use the Longitudinal Education Outcomes (LEO) data that links education, tax, and employment records to consider the sources of wage disparities related to personal, place and industrial base characteristics. These include aspects such as innate abilities and school performance, local amenities and transport accessibility, and the comparative advantages of industries unevenly clustered across space. We apply an AKM model to quantify the contribution of workers, firms, and place characteristics to earnings inequality. Our methodology follows the same individuals as they move across areas in a two-way fixed-effects framework, including individual-level controls. Continuing, we use a variance decomposition approach to quantify the relative importance of "people" and "place" effects in driving individual earnings inequalities across places. Finally, we test to what extent spatial earnings inequalities, driven by sorting of skilled workers, can be explained by area and industry characteristics. As such, we offer new evidence for people- and place-based policies to foster regional convergence and reduce spatial inequality in the UK.

S2D: Regional innovation and competitiveness	Sudhakar Brar	**The Complementary Role of Open Innovation and R&D: A Pathway to Eco-Innovation** **Research Question** : The purpose of this study is to examine the complementarity between open innovation strategies (OI) and research and development (R&D) typologies based on environmental impact in context of eco-innovation (EI) using quasi-poisson modelling framework. **Methods** : This study uses data from 731 individual Irish firm level observations. The data comes from merging the Irish CSO's Innovation in Irish Enterprises (IIE) (2022), Business Expenditure in Research and Development (BERD) (2022), and Business Demography (2020) data. A quasi-poisson model is employed to examine the complementarity and/or substitutability between open innovation strategy variables (inbound and outbound) and different R&D typologies variables (green R&D and non-green R&D) in the context of eco-innovation. Also, in terms of eco-innovation, we differentiate between the innovative benefits received by the firm and those received by the end user. **Results** : Inbound OI variables such as expenditure on software and knowledge breadth are substitutable with green R&D. Expenditure on software is also found to be substitutable with non-green R&D. Expenditure on instruments and equipment is found to be complementary to green R&D and non-green R&D. Evidence if not found if the outbound OI variable : if firm licenses its IPRs : is complementary or substitutable with green R&D. However, there is partial evidence found for it to be complementary with non-green R&D. **Conclusion** - This study clarifies the nuanced interplay between OI strategies and R&D typologies in advancing EI. Findings reveal that inbound OI strategies like software acquisition and knowledge partner breadth act as substitutes for green R&D, suggesting firms can leverage external knowledge to reduce reliance on internal investments. Conversely, expenditure on instruments and equipment complements both green and non-green R&D, underscoring the role of tangible assets in amplifying internal capabilities. The lack of clear complementarity for outbound OI (licensing IPRs) with green R&D challenges assumptions about its universal efficacy in sustainability contexts, though partial substitutability with non-green R&D highlights spillover potential. By distinguishing between firm-level and end-user EI benefits, the study advances theoretical understanding of how innovation strategies differentially impact sustainability outcomes. Practically, firms should prioritize governance structures and partner diversity to mitigate rigidity risks (e.g., equity partnerships) while strategically balancing internal R&D with substitutive OI tools like software. **Originality**: The study offers unique empirical contributions to the intersection of OI and sustainability literature. First, it advances a scholarly discourse by systematically evaluating the complementarity of OI strategies with green and non-green R&D in the context of eco-innovation, addressing a critical gap in prior literature that has been overlooked. Second, it introduces a novel analytical framework that disentangles EI benefits accrued internally by firm form those realized by end users, a distinction rarely operationalized in existing studies.

S2D: Regional innovation and competitiveness	Maria Plotnikova	**Digital transformation of SMEs in Spain** Abstract: Digital technologies are transforming most industries, and many small and medium enterprises (SMEs) will have to adapt to these changes in order to survive and grow. Therefore, adoption and implementation of digital technologies will be of major importance for many SMEs and territories in the decades ahead (OECD, 2020; Reuschke, Mason, and Syrett, 2021). The study conceptualizes and tests the model of digital transformation. We use a latent structural regression model to examine a set of relationships between digital transformation, digital skills and digital ecosystem constructs. Our empirical study uses a data set of 841 SMEs obtained from a 2020 representative survey of SMEs in Spain. Our investigation shows a positive effect of city location on digitalization variables (observed and latent) for SMEs in Spain. The results obtained have direct policy implications. Advances in the digitalisation process may exhibit spatial dependence, and, in this respect, contribute to the emergence of a spatial digital divide between urban and rural areas, as has often been suggested (Labrianidis and Kalogeressis, 2006; Prieger, 2013; Gerli and Whalley, 2021). Government policy should compensate for the disadvantages that SMEs experience in rural areas and act as catalysts for the building and development of digital ecosystems in which SMEs can successfully participate.

S2D: Regional innovation and competitiveness	Kevin Mulligan	**Beyond the Golden Triangle: Evaluating the impact of government R&D support on firm-level innovation inside and outside of the Oxford-Cambridge-London region** Abstract: Much evidence suggests that public Research and Development (R&D) support plays a key role in driving firms' innovation. However, there is significant debate over the effectiveness of R&D subsidies in regions with different characteristics. This is particularly important for the UK's so-called ‚ÄòGolden Triangle between Oxford, Cambridge, and London. Several studies argue that the Golden Triangle has attracted a disproportionately high level of public R&D investment over several decades. As a result, firms located in the Golden Triangle benefit from knowledge spillovers which are unavailable to firms in other regions. This may in-turn enhance the effectiveness of public R&D support for firms in this region. As a knock-on consequence, the already existing R&D and innovation performance gap between the Golden Triangle and the rest of the UK may continue to widen. Despite the importance of this issue, much remains unknown about the relative impacts of R&D subsidies across different regions. To address this issue, this study examines the following research question: What is the impact of public R&D support on the innovation performance of firms located in the Golden Triangle vs. firms in other UK regions? To examine this research question, the analysis draws on the UK Longitudinal Small Business Survey (LSBS), which is collected annually by the Department for Business and Trade. The final dataset is an unbalanced panel, tracking approximately 7,000 firms from 2015-2022, producing circa 32,000 firm-year observations. The LSBS captures whether firms received R&D tax credits, and provides granular detail on firms regional location, sub-dividing England into 40 Local Enterprise Partnership (LEP) regions, which is crucial for defining the Golden Triangle with accuracy. In terms of potential policy implications, results from this analysis shed light on the extent to which regional inequalities exist in the effectiveness of one-size-fits-all R&D subsidies targeted at firms.

Early Career Plenary	Conor O'Driscoll	**Mobility and Economic Geography** Despite frequent claims that digital connectivity and technological advances have diminished the relevance of distance, spatial frictions persist in shaping mobility as well as economic and social outcomes for individuals. This keynote examines mobility as a topic in Economic Geography. Distinguishing between travel mobility (the ability to access employment, services, and social networks) and locational mobility (the capacity to choose/change residential locations), I make the case that both remain sensitive to physical infrastructure, land use patterns, and institutional arrangements. Theoretical perspectives from Economic Geography provide the foundation for understanding how agglomeration forces, sorting processes, and spatial equilibrium outcomes interact, and thus shape the spatial distribution of economic activities. But some core assumptions underlying these frameworks ought to be questioned. Empirical evidence is presented on how remote work and AI adoption are altering location decisions and the spatial configurations of labour markets. The Irish context is used to illustrate how planning legacies, suburban development, and transport infrastructure shape mobility outcomes. The talk concludes by reflecting on the continued salience of spatial structure in understanding contemporary patterns of economic activity, while also highlighting the need to re-engage with geographical mechanisms in research on mobility and inequality.

S3A: Regional growth and productivity II	Bart Los	**A Long-Term Analysis of the Functional Employment Structure in English Regions** Abstract: The nature of international trade has changed. Regions and countries do no longer just specialise in entire industries, but more so in tasks within these (Grossman and Rossi-Hansberg, 2008; Timmer et al., 2019). A region could host relatively many headquarter functions (involving tasks related to R&D, marketing and management), while other regions could have a larger share of their workforces active in the fabrication function. Consequently, regions with comparable industry compositions might no longer be very similar in terms of the functions they perform. This functional specialization has implications for evaluating the economic performance of regions. As is well-known from the literature on the smile curve that characterises global value chains, fabrication activities generally capture a lower share of value added in comparison to headquarter functions (e.g., Mudambi, 2008). Hence, differences in the functional employment structure can be a determinant of the large interregional inequality in the United Kingdom (McCann, 2016; Carrascal-Incera et al., 2020), and changes therein over time. In this paper, a taxonomy of regions based on both their current functional specialisation patterns and on the changes in these over a thirty-year period will be provided. The taxonomy of regions based on changes over time is inspired by Dauth and Sdekum (2016), but adds changes in the functional structure to their perspective, which exclusively focuses on industrial structure. To this end, Census data on the occupation and industry in which workers were employed are used. The analysis covers the period 1991-2021. Questions answered are: Which English regions specialized most in the fabrication function?,Which regions had industry-function patterns of employment change that were most dissimilar with such changes for England as a whole? and Have employment and income growth in such regions been slower or faster than the English average?

S3A: Regional growth and productivity II	Helena Barachino	**COVID-19 and School-to-Work-Transition of Higher Education Graduates in the Netherlands** Abstract: This article evaluates the labor market outcomes associated with the school-to-work transition for Dutch higher education graduates during the COVID-19 pandemic. The COVID-19 pandemic, as a global disruptor, has significantly impacted education, affecting students study trajectories and graduation times, and may have contributed to skills mismatches, underemployment, job losses, and delays in new graduates entering the labour market (De Boer, 2021;Saw et al., 2020). Preliminary studies have identified widespread concerns regarding job opportunities, along with early signs of scarring and labour market disorientation resulting from the pandemic (Pastore & Choudhry, 2022; Tomlinson et al., 2023). This research is novel in that it addresses an unexplored area - labour market outcomes of graduates affected by the pandemic during their studies and subsequent transition into work. We analyze data from the Statistics Bureau Netherlands (CBS) to compare school-to-work transition periods of graduates before and during the pandemic, and to examine changes in their trajectories.

S3A: Regional growth and productivity II	Ioana Jelea	**Urban Structure and Carbon Footprint: The Significance of Subcenters in Emission Scaling** Abstract: As cities expand and evolve, their spatial structure undergoes significant transformations, often shifting from a monocentric form, centered around a single economic hub, to a more polycentric configuration with multiple activity centers. The emergence of multiple economic centres within an urban area raises important questions about how urban morphology influences carbon emissions, particularly in relation to transportation and energy consumption. Understanding these relationships is essential for developing effective strategies to mitigate urban emissions and support sustainable development. While existing research has established scaling laws that link urban population, density, and emissions, the potential role of subcentres in shaping these trends remains largely unexplored. This study first investigates the universal applicability of subcentre scaling across different urban area definitions and comparing US with UK cities. It then moves to analyse the role of subcentres in the equivalent carbon emissions in urban areas. It does so by calculating the information value that the number of active subcentres in a city holds to understand the relation between urban area size and emissions. In particular, using a dataset of UK cities progressively filtered based on size and population counts, we examine the correlation between number of subcentres and observed emissions while also assessing the sensitivity of boundary definitions in identifying subcentres. While the aggregate impact of the sheer number of subcentres on emissions appears limited, their emergence in the urban context plays a role-understanding of urban geometry and spatial organisation, which links back to the definition of urban boundaries.

S3B: Wellbeing and Demographics	Vítor João Pereira Domingues Martinho	**Soil management and its impact on the development of rural communities** Abstract: Soil management takes on complex contours that are interconnected with various dimensions, impacting the various economic sectors and the dynamics of populations. This context is particularly difficult to manage when it comes to understanding its interlinkages in rural communities, because there is often a lack of social and economic dynamics to implement strategies that are suited to more sustainable development. On the other hand, agriculture's relationship with soils has several particularities, because, on the one hand, agriculture needs soils as a factor of production, but on the other, it can influence their quality. Rural communities in general need innovative strategies capable of creating economic activity that can mitigate population decline in these areas. More sustainable soil management combined with more eco-friendly agricultural activity is something that needs to be explored further, in order to bring more knowledge about how the profitability of farms can be improved without negatively impacting the environment. There are a number of issues that need to be debated here, including the need to strengthen the compensation of local communities for the production of public goods and services that allow for better mitigation of greenhouse gases emissions. Policy instruments within the framework of European agricultural policies (CAP), for example, already provide for farmers to be compensated for farming in less-favoured and mountainous areas and for practising environmentally-friendly activities, but in some circumstances these measures need to be adjusted in order to be more effective. The issue here is to keep people in rural areas, improve land management and reduce environmental impacts, particularly from activities on farms. In view of the above, this study aims to make further contributions on the relationship between land management and its impacts on rural communities, through bibliometric analysis. The results show that there is still a long way to go to exploit the potential of rural areas and improve their sustainability. Acknowledgments: This work is funded by National Funds through the FCT - Foundation for Science and Technology, I.P., within the scope of the project Ref: UIDB/00681/2020 (https://doi.org/10.54499/UIDP/00681/2020). Furthermore we would like to thank the CERNAS Research Centre and the Polytechnic Institute of Viseu for their support. This work was developed under the Science4Policy 2023 (S4P-23): annual science for policy project call, an initiative by PlanAPP Competence Centre for Planning, Policy and Foresight in Public Administration in partnership with the Foundation for Science and Technology, financed by Portugals Recovery and Resilience Plan.

S3B: Wellbeing and Demographics	Abdellah Abaida	**Spatial lag models for housing price analysis in metropolitan areas** Abstract: This study employs spatial lag models to analyze housing price dynamics in metropolitan areas, focusing on the impact of urban infrastructure and neighbourhood characteristics. Unlike traditional linear regression, we use a Generalized Linear Model (GLM) framework to account for potential non-normality in housing price distributions while incorporating spatial dependence. The model integrates a spatially lagged dependent variable, capturing price spillovers between neighbouring locations, and evaluates key determinants such as proximity to subway stations, local amenities, and demographic factors. Using housing transaction data from study done on major South Korean cities, we demonstrate how GLM-based spatial lag models improve estimation accuracy compared to standard OLS approaches. Keywords: Spatial lag models, housing prices, GLM regression, urban economics, subway accessibility, spatial dependence.

S3B: Wellbeing and Demographics	Megan Scherrer	**At the Intersection of Fuel Poverty and Heating Decarbonisation Policy: Aims and Unintended Impacts in Scotland** Abstract: The Scottish Government has set a target to reduce fuel poverty (FP) to no more than 10% of households by 2035 and 5% by 2040, while simultaneously achieving net-zero emissions by 2045. With 18% of the UK's emissions coming from heating in 2021, heating decarbonisation (HD) is a key part of wider net-zero goals. While research exists that delves into the intersection of decarbonisation policy and fuel poverty, there is a gap to be addressed when exploring the unintended impacts of policy on the lived realities of fuel-poor households in the Scottish context. The goal of this research is to increase understanding of the direct and indirect impacts policy can have on the lived experiences of fuel-poor people and communities. Through a review of the literature, policies and regulatory interventions were identified that aligned with the four primary drivers of FP in Scotland (poor home energy efficiency, high energy costs, low household income, and household energy use behaviours). The review also identified four primary mechanisms by which policies function to either support HD and-or mitigate FP (fiscal interventions, pricing, energy supplier activities, energy efficiency improvements). Document analysis of policies representative of each of the four mechanisms has generated interesting early findings. Early analysis reveals that there can be disconnect between the objectives of policies and some of their actual outcomes. For example, the Energy Company Obligation prioritises energy efficiency improvements, but households transitioning to electrified heating systems often face higher energy costs due to the higher price of electricity compared to gas. Furthermore, when funds for interventions are recovered by being built into household energy bills it can disproportionally affect low-income households. These and similar findings need to be addressed in order to create more equitable and inclusive policy going forward.

S3C: Regional inequalities II	Edel Walsh	**Gen Z and the Silent Epidemic : Examining Loneliness Among Young Adults in Europe** Abstract: Understanding the prevalence and correlates of loneliness in young adults is important in the context of both individual well-being and broader societal and economic impacts, but to date very little research has been conducted on this group. Loneliness has been linked to mental health issues such as depression and anxiety, and chronic loneliness has been associated with physical health problems such as cardiovascular disease. From an economic perspective, this can lead to higher healthcare costs, lost productivity, and increased absenteeism at work or school. Loneliness can hinder young adults' ability to socialize and network, restricting their economic mobility and access to opportunities, which can ultimately result in negative impacts on labour market outcomes. Furthermore, loneliness can reduce cognitive function and decision-making ability, potentially leading to decreased productivity at work or school. Understanding loneliness in young people is important for informing policies and strategies aimed at improving mental health support services and designing community initiatives to alleviate loneliness in young people and foster healthier, more productive populations. This research examines the factors associated with loneliness in young adults aged between 16 and 24 using data from the EU Loneliness Survey 2022 (n=2,859). The prevalence of loneliness among young people across 27 European Union member states is estimated. On average, about 20% of young people report feeling lonely most or all of the time in the past four weeks, with country variation ranging from 8% in Croatia to 36% in Cyprus. The percentage of lonely young adults is higher than the national average in all but 4 countries. The results from the multivariate regression analysis indicates that females are lonelier than males in this age bracket. Self-identification as LGB+ contributes significantly to loneliness in young adults compared with those who identify as heterosexual/straight. Living in an area for between 6 to 10 years is associated with a decrease in loneliness compared with individuals who are less than 2 years in an area. Poor health and longstanding illnesses are associated with an increase in loneliness. In terms of virtual and social media factors, playing video games for more than 4 hours per day is associated with a significant increase in loneliness in young people. Increased face to face interactions with family and friends are associated with a decrease in loneliness however phone/internet/social media interactions with friends or family are not significant. Different measures of loneliness, based on the UCLA scale and DJG scale, are used to test the robustness of the results. Loneliness in young individuals represents a growing societal problem; one with specific challenges related to mental health, social isolation, and limited access to supportive networks, all of which can hinder personal and academic development.

S3C: Regional inequalities II	Marianne Mayer	**Crisis of Care: How Unequal Healthcare Access Fuels Political Discontent in Europe** Abstract: With the recent rise in anti-system voting within Europe, it is evident that certain regions are feeling increasingly marginalised. Recent studies have shown the association between individual and contextual socioeconomic determinants on political discontent. Simultaneously, healthcare, as a core service of national governments, has seen centralisation policies in the name of efficiency impose barriers to healthcare access in certain regions. The withdrawal of government services in a region has long been associated with discontent, this paper examines whether withdrawal of healthcare services is a potential example of this. Concretely, this study assesses the influence of barriers to healthcare access on political discontent within the European Union. The individual and structural barriers to healthcare access were analysed on two levels; individual and regional level. A multilevel regression analysis with random intercepts was employed to identify the variance between these levels. The results indicate that sex, income and educational attainment, as variables of individual healthcare access, have significant negative associations with political discontent. The distribution of healthcare institutions, as an indicator of regional healthcare access, showed significant positive associations with political discontent. 6% of variation in political discontent was linked to region-specific healthcare access variables. Future research should explore the country-specific variations of these findings, as well as expand on healthcare access barriers to include perceived barriers.

S3C: Regional inequalities II	Richard Rijnks	**Moving on up - Quality of life differentials and migration potential in the Netherlands** Abstract: The basic utility model of migration predicts that households will move when the expected utility in the destination region exceeds the sum of the utility in the current region, and some utility penalty for associated with migration. Recent work in the United States by Goetzke and Islam (2018) confirmed that utility differentials are relatively swiftly resolved, if not fully then at least partially through increased in-migration in the higher-quality region. This paper, however, was unable to accommodate the idea that different processes may act on different scale levels. Quality of life migration is generally associated with shorter moving distances, and labour-market related migration with longer moving distances. This paper aims to address this gap, by analysing the association between quality-of-life differentials and subsequent migration for all internal migrations in the Netherlands between 2012 and 2022. Subsequently, this paper estimates finegrained models for within-municipality migration and quality of life at the neighbourhood level. The results confirm that the influence of quality-of-life differentials changes across distances, and reveals an additional spatial heterogeneity in the association.

S3D: Environmental Assets and Economic Valuation	Darragh Corcoran	**Developing Marine Ecosystem Extent Accounts for Ireland: A Standardized Approach** Abstract: The adoption of the System of Environmental-Economic Accounting Ecosystem Accounting (SEEA EA) as an international statistical standard in 2021 marked a critical step toward integrating ecosystems into national accounts. Ireland is required under EU regulations to develop natural capital accounts based on SEEA EA methodologies. This research presents the first spatially explicit marine ecosystem extent accounts for Ireland, providing essential baseline data for environmental-economic integration and marine spatial planning. Following the SEEA EA framework, the Global Ocean Accounts Partnership (GOAP), and Eurostat's proposed marine ecosystem typology, this study constructs transparent and standardized extent accounts. These accounts support compliance with EU reporting obligations while facilitating marine policy and sustainable resource management. Addressing issues of transparency and standardization in marine extent mapping, this methodology enhances reproducibility and comparability in ecosystem assessments. The research identifies 71 unique marine habitats under the EUNIS 2012 classification system and 16 distinct ecosystems using a proposed Eurostat typology. The extent maps generated offer a more detailed representation of Ireland's marine ecosystems than existing Eurostat classifications, improving alignment with EU ecological frameworks. The resulting spatial dataset provides the foundation for future assessments of ecosystem condition and service valuation. By systematically integrating spatial data, this study establishes a scalable, replicable framework for ecosystem extent accounting. It strengthens Ireland's ability to monitor, value, and manage its marine ecosystems while addressing challenges such as high-resolution spatial data availability. These standardized natural capital accounts will enhance science-based policy development, supporting sustainable marine governance at both national and EU levels.

S3D: Environmental Assets and Economic Valuation	Long Zhou	**How do alternative fuel poverty mitigation policies impact household and wider economic outcomes in the uk?** Abstract: We examine the wider economy impacts and trade-offs involved public spending to alternative forms of fuel poverty mitigation action, considering a UK example, where action could involve directing a given funding pot to direct energy bill support or funding basic retrofit projects to enable bill reductions through increased energy efficiency. Using a dynamic computable general equilibrium model, we analyse the impacts of both approaches on the real income and expenditure of beneficiary households and wider economic performance variables under different scenarios and assumptions. We find that direct bill support provides an immediate real income boost to beneficiary households and enables a reallocation of spending that triggers a transitory wider economy stimulus. Public spending on retrofitting provides a different transitory stimulus, through construction activity, with a long-term wider economy boost supported by sustained real income and spending uplifts enabled in more energy efficient households. However, the latter approach risks more displacement of other activities due to the impacts on investment costs of additional demand for constrained construction services, and more so where UK producers demonstrate foresight of the time limited nature of public spending. Thus, the key insight emerging is the importance of how government spends and when. Where government needs to raise new funds, how this is done also impacts outcomes. A progressive approach of taxing higher income households erodes net economy-wide gains by depressing overall consumer spending. A tax on energy suppliers negates wider economy gains and makes outcomes regressive with costs passing to all consumers.

S3D: Environmental Assets and Economic Valuation	Roberto Koeneke	**A New Method for Improving Economic Contribution Estimates for Commercial Saltwater Fishing in Florida** Abstract: While the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) publishes annual reports on Fisheries Economics of the United States, their estimates of the economic contributions of commercial fishing focus on national-, regional-, and state-level totals and do not report county-level estimates. Having economic contributions disaggregated by species reveals important heterogeneity among the different types of commercial fishing. Despite commercial fishing being regulated at the national level (federal waters) and state level (state waters), local policymakers stand to benefit from accurate county-level data to better understand the size, scope, and structure of this industry. The University of Florida, Institute of Food and Agricultural Sciences (UF/IFAS) produces county-level statistics on the commercial fishing industry, including measures of economic contributions, via the Coastal and Freshwater Extension Enhancement (CFEE) program. The CFEE program produces these estimates for 34 coastal counties of Florida (Jefferson county is the only coastal county not included) using state- and county-level input-output models. The present study extends the methods used by the UF/IFAS' CFEE program to produce county-level, species-specific estimates and compares the methods used by NMFS and UF/IFAS CFEE to inform future methodological work on the estimation of the economic contributions of commercial fishing. The proposed methodological improvements can be extended to other geographies, providing more accurate information on the economic importance of the commercial fishing sector in other coastal states and counties.

S4A: Regional growth and productivity III	Frank Crowley	**Road to Growth: The impact of motorway access on population, employment, and commuting mode choices** Abstract: This paper examines the impact of motorway access points opening in Ireland between 1986 and 2016, on population growth, employment growth and commuting mode choices. Using a Propensity Score Matching Difference-in-Differences (PSM-DID) model, this paper finds that areas within 10km of motorway access points experience higher levels of population and employment growth. These areas also experience a higher proportion of their population commuting to work or school by car. Consequently, motorway access has the potential to trigger a myriad of regional land use implications that require careful consideration, particularly as governments move towards sustainable transportation in response to the climate crisis.

S4A: Regional growth and productivity III	Vassilis Monastiriotis	**Springing out of the development traps** Abstract: In their recent influential work, Diemer et al (2022, Economic Geography) introduced to the literature the concept of regional development traps: defined as a condition of relative underperformance whereby regions face significant structural challenges in retrieving past dynamism or improving prosperity for their residents. The concept - and the empirics surrounding it - has received a lot of attention, both in the literature and by policy. Not unsurprisingly, this attention is directed mainly on the question of what puts regions into such traps: for example, what are the key regional characteristics (e.g., levels of innovation and R&D spending, industrial structure, levels of productivity and human capital) associated with a high probability of regions becoming ‚trapped'. In this paper we are interested in the inverse question: inspired by original evidence that we produce, showing that regions - occasionally - spring out from their development traps (and, low-growth equilibria more generally), experiencing fast growth sustained over a number of years, we undertake a two-fold analysis. First, we develop regional measures of growth acceleration' and document cases of regions which successfully manage to spring out from their development traps. Second, we perform an exploratory analysis, in a two-way comparative fashion, examining the regional characteristics which account for the probability that (a) a 'trapped' region will experience sustained accelerated growth ('springing out') and (b) a region experiencing sustained accelerated growth will be a formerly 'trapped' one. We relate our results to a discussion of regional disparities (essentially, in growth-acceleration opportunities) and the potential role of policy in stimulating such growth acceleration in 'trapped' and 'non-trapped' places.

S4A: Regional growth and productivity III	John Paul Clifford	**Spatial differences in the effects of deindustrialisation on deprivation** Abstract: The consequences of deindustrialisation of regions has been a topic of substantial interest in recent years. Using the Irish case, we explore the impact deindustrialisation has had on regional deprivation. In this research, we explore a highly spatially disaggregated dataset which provides for a granular spatial level of analysis. The results of this analysis shows vastly different impacts of deindustrialisation whereby cities and all urban regions experience no increase in deprivation. However all rural region types experience some increase in deprivation, with rural regions in close proximity to urban centres, experiencing the greatest impacts. These results provide valuable insights to policymakers including the potential for more targeted and place-sensitive policies to address the negative impacts of deindustrialisation in areas with the largest impacts. The results also support the theory that a potential 'squeezed middle'' emerge with regard to previous regional policy supports due to a lack of nuance in regional policy.

S4B: Sustainable regional development I	Touria Abdelkader B Conde	**Reducing carbon dioxide emissions from energy use** Abstract: Greenhouse gas emissions have doubled between 1971 and 2012, with CO2 accounting for 76 percent of greenhouse gas emissions. This research analyses the extent to which excess CO2 emissions are directly associated with energy consumption or are due to imperfections in the production processes of goods and services. A microeconomic specification of the energy market is developed and applied by means of econometric techniques including panel data for 20 countries with a total population equivalent to 61 percent of the world's population over the period 1995-2015. Although consumers generally cannot directly change the emissions caused by goods production processes, they can act on the emissions caused by their domestic energy consumption. Therefore, in this research, through a cost-benefit analysis, four inexpensive and sustainable energy systems for domestic consumption in nine countries are compared, resulting in the use of thermal water, where it can be applied, as the most socially efficient system.

S4B: Sustainable regional development I	Grant Allan	**A global Social Accounting Matrix system for regional hypothetical extraction analysis** Abstract: We consider the system-wide consequences of the hypothetical extraction of regional industry using a closed global Social Accounting Matrix (SAM). Solutions employing single-region Input Output methods omit external impacts, but new global IO approaches rectify this by reallocate extracted production and the sourcing of final demand to other regions. However, these global IO methods make the implausible assumption that final demands in the target region (and all other regions) are unchanged. Through endogenising production and income in a regionally-disaggregated closed global SAM we demonstrate how the global pattern of output, incomes and final demands are impacted by extraction of regional sectors. A comparison of the SAM and IO results indicate the importance of endogenizing not only production but also income and final demands in hypothetical extraction in a closed linear system.

S4C: Regional inequalities III	Astrid Krenz	**Regional Dynamics for jobs in Artificial Intelligence, Data Science, and Sustainability** Abstract: We collect a data set for advertised jobs in the fields of Artificial Intelligence, Data Science, and Sustainability, and analyse the regional labour market dynamics for the German economy. Based on the job vacancy data, we find differences across industry sectors and firm size, and we analyse and visualise the regional distribution of job vacancies. Applying methods from Natural Language Processing, we identify topics from the text corpus. In particular, we use Latent Dirichlet Allocation (LDA) as a topic modelling method and label resulting word clouds. We detect differences in skill requirements and in innovation activities.

S4C: Regional inequalities III	Siobhán Lucey	**Associations between U.S. county-level sociodemographic factors and deaths, 2014-2022** Abstract: Background/Objective: To examine US county level socio-economic conditions on deaths due to external causes including deaths from injury, homicides, motor vehicles and drug poisonings for the period 2014-2022. Except for motor vehicle deaths (declined by 1.8%), all mortality rates due to these external causes have increased over the time period in question with injury deaths increasing by 2.4%, homicides by 1.6% and drug poisoning by 8%. Prior research shows that area-level socio-economic factors can help explain these patterns. Methods: Using the County Health Rankings and Roadmaps data set we employ a model building approach combining the multivariable fractional polynomial procedure with backward elimination to examine possible non-linear relationships amongst our selected variables. Preliminary Results: Income, unemployment, income inequality, childhood poverty and those without health insurance were relevant for all death categories, with children in single parent households and teen births also being relevant for homicides and drug poisoning, respectively. We also present US county-level bivariate maps showing the individual interplay of key explanatory variables and the outcome variables which show regional disparities amongst the counties. Conclusions: Understanding the relationship between these death categories and various socioeconomic factors is essential for policy makers and other agencies in developing strategies to address the observed regional issues found in this study and preventing/reducing future deaths.

S4C: Regional inequalities III	Danny Norton	**Towards the net-zero transition in rural areas: developing a taxonomy for transport across Ireland's Western Region** Abstract: One of the key challenges associated with the transition of transport systems to net-zero is that the pace and scale required can exacerbate spatial disparities, while some regions may benefit from decarbonising transport systems, others, particularly vulnerable rural communities, may be disproportionately affected by higher costs associated with the change and potentially more difficulty in accessing essential services. The European Green Deal aims at achieving sustainable transport that is accessible, affordable, and clean. However, with a near-total focus on urban mobility, there has been limited attention paid to the requirements of rural communities in the transport transition. Historically characterised by high levels of private car dependency, low population densities often make the provision of public transport in rural areas economically inefficient. Developing sustainable rural transport systems and associated policy responses requires understanding the spatial distribution of the factors that shape rural mobility. Taxonomies offer a way to measure the systemic factors determining the uneven spatial distribution of transport outcomes. Traditional methods of rural classification typically rely on population size and density, overlooking the critical role that accessibility to community capitals can have on the ability to adapt and change. This paper contributes by presenting a methodology to classify rural communities using cluster analysis by their geospatial and geoeconomic characteristics and includes a measure of community capital (e.g. financial, human, social), Using the West of Ireland as a case study, the paper identifies current and potentially future communities vulnerable to the net-zero transition. Using data from the 2022 Census of Population of Ireland, the paper identifies distinct community types that share similar transport and economic profiles. These typologies provide a foundation for targeted policy interventions supporting efficient resource allocation and a spatially fair net-zero transition in Ireland.

S4D: Rural Economics	Brenda Lynch	**Rural Entrepreneurship - Attitudes, Barriers, and Opportunities for Growth: Evidence from Norther European Regions** Abstract: Rural entrepreneurship is a vital driver of economic sustainability and resilience and can provide solutions to depopulation, especially in remote and peripheral areas. Yet new and established businesses in such areas face persistent challenges. Financial constraints, digital infrastructure gaps, and perceived limited business growth opportunities remain key obstacles, restricting both the establishment and expansion of rural enterprises. Literature also highlights succession planning as a significant concern for rural business continuity. Given the strong emphasis on competitiveness, digitisation and regional development at EU level, the question arises to how can policy support businesses in such areas to grow and thrive? To address this, the current research employs recent data (2024) on the factors influencing attitudes towards rural enterpreneurship across Ireland, Finland, Sweden, and Iceland through an online survey. A total of 62 participants of varying educational and employment backgrounds completed the survey. The findings indicate that positive attitudes towards rural entrepreneurship are strongly tied to community contribution, with 69% of respondents agreeing or strongly agreeing that their desire to support local communities shaped their perspective on rural entrepreneurship. The potential for improved work-life balance through rural entrepreneurship was also emphasised. While opportunities for innovation were widely recognised as a key driver of rural entrepreneurship, participants indicated digital skills-gaps, financial access and digital connectivity as the most immediate concerns in these geographical areas. A comparative analysis between Ireland and Finland revealed no statistically significant differences in key rural entrepreneurial challenges, though Irish respondents placed greater emphasis on work-life balance ($p < 0.01$). These findings highlight the need for targeted policy interventions, including improved access to rural funding mechanisms, enhanced digital training, and investments in infrastructure, to support rural entrepreneurial resilience. Addressing these foundational challenges is essential for unlocking rural economic potential and ensuring long-term business continuity.

S4D: Rural Economics	Franziska Bay	**A Territorial Typology of Social Exclusion in European Rural Areas** Abstract: Despite increasing attention to rural development over the past years, a comprehensive understanding of the factors shaping social exclusion of different vulnerable populations in rural areas remains limited. The aim of this study is to develop a territorial typology of factors which put individuals at risk of social exclusion in European rural areas. Making use of the conceptual framework of social inclusion, this study analyzes factors which affect social wellbeing and a sense of belongingness using survey data from the INSPIRE Horizon Europe project. Quantitative data from a national survey, administered to at least 3,000 people across seven pilot countries, was used to explore which demographic, social, economic or other influence factors put individuals at risk of social exclusion in different European countries and rural regions. Our sample encompasses participants from Ireland, France, Greece, Poland, Romania and Slovakia, providing an indication of decisive factors. The resulting typology classifies the piloted rural areas based on their resilience, perceived social inclusivity, and overall well-being. Not only traditional macro-economic indicators, but also social, institutional, and political parameters are considered. In a next step, spatial microsimulations will be conducted to generalize the patterns of populations at-risk of social exclusion across European regions at the NUTS 3 level. The typology of social exclusion developed in this research effort is intended to help develop and tailor social economy solutions to individuals and regions facing social inclusion challenges, so that ultimately, rural areas can become more resilient and prosperous communities by fostering social entrepreneurship and improving access to essential services.

S4D: Rural Economics	Vítor João Pereira Domingues Martinho	**Soil management and its impact on the development of rural communities** Abstract: Soil management takes on complex contours that are interconnected with various dimensions, impacting the various economic sectors and the dynamics of populations. This context is particularly difficult to manage when it comes to understanding its interlinkages in rural communities, because there is often a lack of social and economic dynamics to implement strategies that are suited to more sustainable development. On the other hand, agriculture's relationship with soils has several particularities, because, on the one hand, agriculture needs soils as a factor of production, but on the other, it can influence their quality. Rural communities in general need innovative strategies capable of creating economic activity that can mitigate population decline in these areas. More sustainable soil management combined with more eco-friendly agricultural activity is something that needs to be explored further, in order to bring more knowledge about how the profitability of farms can be improved without negatively impacting the environment. There are a number of issues that need to be debated here, including the need to strengthen the compensation of local communities for the production of public goods and services that allow for better mitigation of greenhouse gases emissions. Policy instruments within the framework of European agricultural policies (CAP), for example, already provide for farmers to be compensated for farming in less-favoured and mountainous areas and for practising environmentally-friendly activities, but in some circumstances these measures need to be adjusted in order to be more effective. The issue here is to keep people in rural areas, improve land management and reduce environmental impacts, particularly from activities on farms. In view of the above, this study aims to make further contributions on the relationship between land management and its impacts on rural communities, through bibliometric analysis. The results show that there is still a long way to go to exploit the potential of rural areas and improve their sustainability. Acknowledgments: This work is funded by National Funds through the FCT - Foundation for Science and Technology, I.P., within the scope of the project Ref: UIDB/00681/2020 (https://doi.org/10.54499/UIDP/00681/2020). Furthermore we would like to thank the CERNAS Research Centre and the Polytechnic Institute of Viseu for their support. This work was developed under the Science4Policy 2023 (S4P-23): annual science for policy project call, an initiative by PlanAPPì Competence Centre for Planning, Policy and Foresight in Public Administration in partnership with the Foundation for Science and Technology, financed by Portugals Recovery and Resilience Plan.

S5A: Tourism economics	Lisa Noonan	**How regional-specific factors impact on the decision to engage in sustainable tourism activities** Abstract: There has been a surge in interest in sustainable tourism activities in recent years; see for example: Bassi and Martin, 2024; Secondi et al., 2024; del Mar Alonso-Almeida, 2024. While the individual level determinants which impact on the decision to engage in sustainable tourism activities, such as age, employment and family status have been considered in the literature, it is likely that individuals' activities are shaped by their own experiences and attitudes towards tourism in their home region. Overtourism is one such experience that may shape individual activities. Interest in overtourism has increased since the Covid-19 pandemic (Santos-Rojo et al., 2023) and this paper contributes to the literature by examining how the intensity of tourism activity in the individuals home region, impacts upon their decision to engage in sustainable tourism activities when they travel. Data from the Flash Eurobarometer on attitudes of Europeans towards tourism in 2021 is supplemented by data on European NUTS regions to conduct regression analyses. The results will be of interest policymakers and stakeholders in the European tourism industry.

S5A: Tourism economics	Matthew Lyons	**The regional economic impact of the reduction in tourism following the Maui wildfires** Abstract: Hawai‘i’s economy specializes in tourism, making it vulnerable to the economic impacts of disasters affecting tourism, such as the wildfires on Maui in September 2023. The island of Maui is especially vulnerable, and the extraordinary losses from the wildfires in Lahaina and Kula continue to dampen tourist numbers. We examine the change in tourism spending following the wildfires and estimate the lost economic contribution from this decline using a multi-region input-output (MRIO) model. The results show the large decline in Maui’s economy and which sectors were particularly affected beyond those directly impacted by reduced visitor numbers. The MRIO model also implies that these impacts flow to other counties in Hawai‘i, but the substitution effect of some visitors switching their destination to other islands mitigates this impact. Our findings highlight how diversifying the economy would support resilience to the economic effects of disasters statewide.

S5B: Regional labour markets	Björn de Kruijf	**Technological change and adult training participation** Abstract: This study examines the relationship between technological change and adult participation in training programs, utilising data from the Programme for the International Assessment of Adult Competencies (PIAAC). Technological change is a significant driver influencing labour market dynamics, often leading to shifts in skill requirements and job functions. As workplaces increasingly integrate advanced technologies, there is a growing need for employees to acquire new technological competencies to remain competitive. This necessitates continuous participation in training and development activities, through formal, non-formal and informal learning. However, the extent to which technological change motivates or deters individuals from engaging in such training remains underexplored. PIAAC provides a comprehensive dataset that includes information on adults' proficiency in literacy, numeracy, and problem-solving, as well as detailed background variables related to education, employment, and training experiences. Building on the work of Koster and Brunori (2021), we investigate if more exposure to technological change at the workplace results in a higher likelihood of participation in training. For this investigation, we employ objective and subjective measures to assess the impact of technological advancements on training engagement. The objective measure is derived from the work of Webb (2020), which quantifies the extent of vulnerability to technological change in AI-exposure, digitalisation exposure and robotisation exposure. The subjective measure captures individuals' experience of technological changes within their work environment in the past three years and is part of the PIAAC questionnaire. We derive the participation in informal learning at work and non-formal education for work from the PIAAC dataset as well. We add information about urbanity to understand the dynamics between the city and countryside. Technological change is more gradual in the city and more shock-wise in the countryside. Therefore, we expect different types of training to be of bigger importance depending on the location. Koster, S., & Brunori, C. (2021). What to do when the robots come? Non-formal education in jobs affected by automation. International Journal of Manpower, 42(8), 1397:1419. https://doi.org/10.1108/IJM-06-2020-0314 Webb, M. (2020). The Impact of Artificial Intelligence on the Labor Market. SSRN. https://doi.org/10.2139/ssrn.3482150

S5B: Regional labour markets	Beatriz Jambrina Canseco	**The Political Impact of Active Labor Market Policies Amid Manufacturing Job Losses** Abstract: Transformative political shifts, such as rising polarization, disillusionment with globalization, and the surge of radical parties, have been linked to the disappearance of manufacturing jobs in advanced economies. We argue that the political effects of deindustrialization are shaped by public policy responses. Leveraging the geographic and temporal variation in job losses and active labour market support within a single country, we employ a staggered difference-in-differences model to compare electoral outcomes over time in municipalities with and without mass layoffs, and with and without generous re-training and re-employment programs for displaced workers. We find that incumbents gain votes in areas where layoffs are paired with generous active labour market programs, while radical left parties typically lose votes. We provide evidence that these political effects are driven, in part, by local labour market dynamics.

S5B: Regional labour markets	Stuart McIntyre	**Curves in Regional Labour Markets Revisited** Abstract: Regional Labour market curves (LMC) in Diamond (1982); Mortensen and Pissarides (1994) (DMP), Blanchflower and Oswald (1989) (BO) and Phillips (1958) describe the empirical relationship between real wages and measures labour market 'slack', such as unemployment. Understanding these relationships provides key insights into the operation of regional labour markets and in turn the design of effective economic policy. In recent years, a mounting number of U.S. based studies indicate that both curves have either flattened considerably or disappeared. However, little evidence on these changes exists for other countries, including the UK. This paper re-examines labour market curves at a sub-national level for the UK. In doing so, we depart from the existing LMC literature which uses labour market survey data and focuses on wage levels and changes in wage levels. We leverage approximately 100 million adverts from the UK's most popular job aggregator - in combination with two-way fixed-effect models - to explore the elasticity of wage offers (not levels) with respect to labour market slack. With this sample size, our data enable estimation of a variety of LMC curves, such as those which are occupation, region and skill-specific. It also facilitates the construction of high-frequency and spatially-granular measures of labour market tightness related to vacancy rates. In using job advertisement data, our analysis focuses on wage offers as opposed to the typically-considered wage stocks in this literature. We hypothesise that this distinction may be important. Wage offers, unlike stocks, can be responsive to current labour market conditions; that is, wage offers are not ‘sticky'. Our analysis tests whether LMC curves ‘reveal' themselves when this measure is used.

S5C: Location and Socioeconomic Outcomes	Marije Kooistra	**Searching for the best place to age; happiness outcomes of post-retirement residential mobility** Abstract: This study investigates the impact of types of residential mobility of post-retirement adults on happiness. The share of older adults is rising across most western countries, adding pressure to health care systems that are already under strain. As a result, older adults need to be more self-reliant or rely on informal care due to labour shortages in healthcare (Jones & Dolsten, 2024). For some older adults, this means a need to change their residential relocation by, for example, moving closer to family that can provide informal care or closer to the amenities needed to be self-reliant (Granbom et al., 2019). Previous studies have, however, highlighted the importance of ageing in place for the wellbeing of older adults (Ratnayake et al., 2022). As these changes in society unfold, there is a need to better understand the outcomes of these types of changes in residential behaviour. How do moves after retirement impact happiness and are some types of moves associated with better happiness outcomes than others? This study investigates the impact of types of residential mobility of older adults on happiness by employing propensity score matching to compare individuals who moved with those who remained in place over an approximately ten-year period. By making use of panel data from the Lifelines cohort study, a multi-generation cohort study in the Northern Netherlands which includes 12,000 older adults, we are able to match on a broad range of indicators, including detailed information about objective and self-assessed health, psychometrics, and socio-economic status. We use detailed geo-demographical data to determine the effect associated with different characteristics of the move (such as distance and association with life events) and control for (changes in) health and household composition.

S5C: Location and Socioeconomic Outcomes	Aileen Murphy	**The effect of being an ‚Äòempty nester' on the individual life satisfaction of older European parents** Abstract: This paper estimates the effect of being an 'empty nester' on the individual life satisfaction of parents over 60 years in Europe. An empty nester is an individual whose children have grown up and left home. ‚ÄòEmpty nest syndrome' refers to the feelings of loss or loneliness for mothers and/or fathers following the departure of the last child from the parental home. This shock can impact individuals from both an emotional and economic perspective, affecting their individual well-being. Despite its economic impact, there is little contemporary economic literature in the area. Using pooled data from 28 countries obtained from the European Social Survey 2002-2020, we use a multilevel ordered probit regression to analyse the correlates of life satisfaction amongst older parents in Europe (n=66,942), and account for the nested data structure. We control for key personal, socio-economic and social capital variables. Gender and country differences are examined. Preliminary findings report 81% of the sample are empty nesters, 48% of whom are mothers. 18% of the empty nesters report financial hardship compared with 31% of parents living with children. The regression results suggest being an empty nester is positively and significantly associated with life satisfaction. We find no gender differences. Other findings indicate that income is positively associated with older parents' well-being, whereas, as expected, financial hardship exhibits a negative association with well-being. Health is also a significant factor with worse subjective health and health hampering conditions negatively associated with life satisfaction of older parents. Social capital is important for maintaining the individual well-being of older parents, and the results here support this assertion. Increased social meetings, social activities, personal religiosity and trust in others are all found to positively affect the life satisfaction of parents over 60 years of age. Our research finds no evidence of the empty nest syndrome in Europe. Instead, empty nesting is associated positively with the life satisfaction of older parents. These results suggest that older parents welcome their freedom and value independence and autonomy for their adult children but given the resurgence of intergenerational co-residency owing to the current economic environment, these benefits may not be realised.

S5C: Location and Socioeconomic Outcomes	Kevin Credit	**Startup neighborhoods: A Comparative Analysis of Micro-geographies of Entrepreneurial Ecosystems in Dublin and Berlin** Abstract: Recent studies have established that digital technology startups tend to cluster in close proximity within urban environments. However, our understanding of their detailed micro-geographical patterns remains limited, particularly regarding sectoral diversity and neighborhood characteristics. This study conducts a comparative analysis of the entrepreneurial ecosystems in Dublin and Berlin, two rapidly growing startup hubs. To examine the spatial dynamics of how startups clusters at the neighborhood level, we use unique point-level datasets of startups in both cities to compare the locational patterns of sub-industries within neighborhoods and examine startups' locational preferences regarding the demographic, employment, and land use attributes of neighborhoods (including employment by industry, mixed-use development, and commercial real estate availability). This analysis allows us to better understand the factors that contribute to micro-geographic patterns and clusters within larger entrepreneurial ecosystems, and thus (ultimately) the effects of these startup clusters on regional economic and social dynamics. This spatially-granular approach bridges the entrepreneurial ecosystem literature (which tends to focus on the role of institutions and culture) with urban planning perspectives. By analyzing detailed location data from both metropolitan regions, this study aims to provide insights into the industrial patterns within ecosystems and their interaction with urban structure. The findings will contribute to both theoretical understandings of spatial mechanisms in entrepreneurial ecosystems and provide practical implications for urban planning and policy-making in emerging startup districts. These granular planning insights are increasingly important as many global cities (including Dublin and Berlin) grapple with the political and social ramifications of investment in the high tech industry, which is increasingly seen both as a benefit to regional (and national) economic development and as a contributor to urban gentrification and rising house prices.

S6A: Spatial political analysis	Philip McCann	**Is the UK Sterling-Zone an Optimal Currency Area? Comparisons with the Euro Area and the Rest of Europe Using City and Regional Investment Data** Abstract: In this paper we use detailed data on the capital risk-pricing of large-scale UK and European real estate investments to capture the extent to which the UK Sterling-area, the Eurozone, and the non-Euro parts of the EU, correspond to Mundell's (1961) original notion of an optimal currency area (OCA). Financial capital is the most geographically mobile factor, and the factor input which can respond most rapidly, and move most quickly, towards equilibrating adjustments in response economic shocks. As such, observations of how capital prices adapt to shocks across different city, regional, national, and pan-national geographies provide a powerful test of the OCA logic in a manner which is consistent with Mundell's (1961) original arguments. In particular, our analysis spans the shocks associated with the 2008 global financial crisis. Our results suggest that in the post-crisis era, the Sterling-area is less of an optimal currency area than either the Eurozone or the non-Euro parts of the EU. This also helps to explain why in the post-crisis era, UK monetary policy, and in particular quantitative easing (QE), appears to have had no real beneficial traction outside of the London area.

S6A: Spatial political analysis	Davide Luca	**Are NextGenerationEU funds effectively targeted? Assessing the territorial distribution of Italy's Recovery and Resilience Plan** Abstract: To address the socio-economic challenges of COVID-19, the European Union launched NextGenerationEU, its largest-ever stimulus package, worth over ,Ç¨650bn. At its core are National Recovery and Resilience Plans (RRPs), which provide member states with financial support for structural reforms and investments. Despite the scale and potential of this initiative, empirical evidence on how these funds are allocated remains limited. Focusing on Italy, one of the largest beneficiaries, we investigate two key questions: (1) we explore the territorial distribution of funds from Italy's national government, in charge of overall coordination, to local administrations, by identifying the key local characteristics associated with participation in Italy's RRP/amounts received. (2) we explore whether recipient areas specialise in policy areas where they have existing strengths or invest in weaker domains. Using a two-stage Heckman model and a dataset covering nearly 8,000 municipalities, we analyse how local administrative, financial, and macroeconomic factors shape fund allocation. Our findings reveal that funds are primarily directed toward Southern, economically disadvantaged urban municipalities with strong administrative capacity. Prior experience with EU Cohesion Policy funding is also a significant predictor of receiving RRP funds. Moreover, fund distribution across different policy areas is influenced by pre-existing infrastructure and service levels in those sectors. Regarding investment strategies, we find a specialisation pattern in Digital, Education, and Healthcare missions, where municipalities attract funds in areas where they already have expertise. Conversely, a diversification pattern emerges in the Social mission, aligning with the EU Cohesion Policy's goal of reducing territorial disparities. Overall, the allocation process appears relatively effective in channelling resources where they are needed. However, some of Italy's weakest territories may struggle to fully exploit the opportunities provided by NextGenerationEU, potentially reinforcing spatial inequalities rather than reducing them.

S6A: Spatial political analysis	Ugo Fratesi	**Rule compliance in local administrations: the role of institutions** Abstract: A large number of studies investigate the role of administrative capacity on regional economic development, the determinants of its effectiveness, how to improve it and which context conditions favour its functioning. One important aspect of local administrative capacity is the ability of local administrations to effectively implement rules and directions coming from the central government. This may depend on several factors, and partly due to sheer capacity (e.g. in terms of personnel and administrative resources endowment in general), partly to behavioural aspects (e.g. the ownership of the policies), partly to purely political aspects (e.g. the alignment of local authorities with the central government). This paper focuses on the role of local institutions in determining the behaviour of local authorities and uses a unique natural experiment to do it. In fact, the Italian law introduced a compulsory registration of public projects, but only with subsequent reforms this was accompanied with sanctions in case of non-compliance. This experiment is exploited by looking at the discontinuity introduced in the behaviour of local administrations by the reforms introducing the sanctions. These did not affect the behaviour of some local administrations, while they introduced statistically significant discontinuities in the behaviour of others. Using a very large database of public project, the presence of these discontinuities in the behaviour of local administrations is first detected and then put in relationship with the level of institutions in the region. In this way, it is possible to demonstrate the extent to which regions with a lower level of institutions had administrations which only complied with the rule after the introduction of specific sanctions.

S6B: Regional growth and innovation	Harm-Jan Rouwendal	**New skill adoption and cities** Abstract: This paper studies the relationship between new technology adoption and agglomeration economies. We asses to what extent the adoption of new technologies differs across space by studying differences in the adoption of new digital skills in the Netherlands. The use of online job vacancy data allows us to study the implementation of new technologies on the skill level in the workplace and empirically analyse the spatial variation in new digital skill adoption within occupations. Results show that employers in urban areas more often demand new digital skills for open jobs compared to similar jobs elsewhere. This indicates new technology adoption is higher in cities, which helps explain the productivity premium of urban areas.

S6B: Regional growth and innovation	Yibin Liu	**The role of household wealth in the decision to be self-employed: An analysis of pan-European countries** Abstract: Purpose: This paper investigates the relationship between household wealth and self-employment decisions across European countries. Despite extensive research on how wealth influences entrepreneurial choices, findings remain inconsistent, and a comprehensive pan-European perspective is lacking as most studies focus on only one or two countries. Our study reconciles these conflicting results by employing diverse household wealth measures in explaining self-employment choices within 15 European countries. Design: Using micro data from the European Central Bank's Household Finance and Consumption Survey (2014-2017), we estimate an instrumental variable probit model to examine how the various household wealth measures affect self-employment within European countries in three groups based on high, median, and low GDP per capita. Findings: We confirm a significant negative relationship between income and self-employment across all countries. In high-GDP countries, financial assets positively influence self-employment. In median-GDP countries, primary residence ownership positively impacts self-employment engagement, while pension income has a negative effect. In low-GDP countries, vehicle ownership positively affects self-employment decisions, while pension and social transfer income have negative effects. Practical implications: Household asset accumulation significantly drives entrepreneurship, while wage income levels deters self-employment participation within European countries. Originality: This study addresses gaps in existing literature by examining a broader range of wealth measures across multiple countries.

S6B: Regional growth and innovation	Nuo Jin	**Homesickness matters: Regionalising the contextualisation of corporate innovation through entrepreneurial embeddedness** Abstract: Business owners' sense of belonging to hometowns, i.e., entrepreneurial embeddedness, is believed to impact corporate development. In China, the deeply ingrained sense of entrepreneurial embeddedness has led to numerous examples of corporate innovation since the 1980s. This study adopts data of 3,639 sample firms in 2010-2019 in China and a fixed-effect panel model to analyse how corporate innovation responds to entrepreneurial embeddedness diversely in different regions. It also tries to discuss two potential mechanisms contributing to such response, i.e., family values and political network. It is found that entrepreneurial embeddedness can significantly boost corporate innovation, but such stimulation varies across regions. Family values can only act as a mediating effect on corporate innovation in regions without an initially strong ancestral tradition. Political network can contribute to corporate innovation in the forms of entrepreneurs' political positions and local government business-targeted loans.

S6C: Circular Economy and ESG	Aman Kenjegaliev	**ESG spillovers on the external returns to scale in the United States** Abstract: The objective of this paper is to examine the impact of ESG spillovers on the external scale economies. We apply fixed effect panel data regression on the spatio-industrial translog cost function by focusing on the companies mainly comprising S&P 500 from 35 industries in the United States. We use four financial and three ESG variables in our sample for the period from 2009 to 2020. We find that the industries are more important for the external cost spillovers than their geographical proximity. The average measure of the direct scale economies exhibits substantial diminishing scale economies. Therefore, the firm's own average costs increase more than the output increases. This result suggests that the direct own costs of a typical US firm in our sample are not offset by the increases in the output. However, we find significant spatio-industrial spillovers that counterpoise the direct scale economies; therefore, we observe overall increasing returns to scale for the firms. Finally, our results suggest that contribution of the ESG inputs in the translog function towards scale economies are non-negligible, albeit, they have low magnitude and their directions vary within the direct and indirect effects, and between ESG inputs.

S6C: Circular Economy and ESG	Ana Isabeñ Mateos-Ansótegui	**Policy Changes and Insights from Circular Economy in European SMEs** Abstract: The transition towards a circular economy (CE) is fundamental to achieving sustainability and reducing environmental impact. Small and medium-sized enterprises (SMEs) represent a critical sector in this transition, yet their adoption of CE practices varies significantly across Europe. This study analyzes the evolution of CE strategies in European SMEs by utilizing data from multiple Flash Eurobarometer surveys (2015:2024) and evaluates the impact of recent environmental policy changes on their implementation. The 2024 Eurobarometer indicates a progressive increase in CE adoption, reporting that 93% of SMEs have implemented at least one resource efficiency measure, such as waste reduction, recycling, or energy efficiency. However, financial constraints (28%) and administrative burdens (35%) remain major obstacles, hindering a full transition. Regional disparities are also observed, with Southern European SMEs exhibiting a higher engagement in CE initiatives compared to their Northern counterparts. Recent European policy reforms have played a decisive role in shaping SME behavior. The Circular Economy Action Plan (2020) introduced stricter waste reduction targets and eco-design standards, while the European Green Deal and Fit for 55 package (2021) have further reinforced sustainability commitments through extended producer responsibility schemes and funding mechanisms under Horizon Europe. These policies have accelerated SME participation in circular business models but have also introduced new compliance challenges. We will use an analysis of cluster evolution. While EU policies have facilitated CE adoption, additional efforts are required to alleviate financial and administrative barriers. Policymakers should prioritize streamlined regulatory processes, expand green financing, and enhanced SME awareness through targeted educational programs. Ongoing monitoring through Eurobarometer surveys will be crucial for assessing policy effectiveness and guiding future sustainability strategies.

S6C: Circular Economy and ESG	Joseph Swain	**Reconciling Regional and Multi-Regional Input-Output Databases: Tracking the UK Healthcare sector's Plastic-related Emissions** Abstract: The NHS is the largest consumer of single-use plastics in Europe with plastic accounting for 22.7% of its total waste stream and contributing substantially to both emissions and material footprint. Reducing plastic-related emissions is a key challenge in achieving the NHS's Net Zero target, necessitating accurate and detailed emissions accounting. Previous studies have estimated the UK healthcare sector's environmental footprint using hybrid and top-down methodologies, but these approaches have not been differentiated by material type, limiting their ability to capture the specific role of plastics in emissions generation. One major challenge in quantifying plastic-related emissions is the mismatch between available Input-Output datasets. UK national tables lack the detailed international trade detail necessary to reflect the full supply chain of plastic products used in healthcare, while global Multi-Regional Input-Output models such as EXIOBASE 3 introduce uncertainties due to nowcasting and balancing inducing a lack of consistency with national accounts. This research addresses these challenges by reconciling UK national Input Output tables and Environmental data with the EXIOBASE 3 dataset to develop a UK-specific MRIO model while retaining resolution of the plastic, healthcare, and waste sectors. By integrating national data into the multi-regional structure, the reconciled model enables a more accurate estimation of healthcare-related plastic emissions. It is applied to generate time-series estimates of plastic-related emissions for the UK healthcare sector and to conduct a structural decomposition analysis identifying the key drivers of these emissions over the past decade. The findings offer new insights into the healthcare sector's plastic dependency, informing targeted policy interventions and sustainable procurement strategies to support the NHS's Net Zero ambitions at both national and regional levels, including local healthcare systems and supply chains.