Regional Science

Association International

British and Irish Section

Registered charity No. 277247

46th ANNUAL CONFERENCE

Crown Hotel,

Harrogate

August 22nd to 24th, 2017

Welcome!

Dear Participant,

The Committee of the Regional Science Association International: British and Irish Section warmly welcomes you to Harrogate. We hope you enjoy your stay and find the conference interesting and useful.

We are very grateful to our local organiser Graham Clarke and the support of staff at the Crown Hotel.

The RSAI-BIS welcomes new members. Your conference fee includes annual membership of the Section, with all of the benefits that membership brings. Please get involved with the Section. If you have any suggestions or ideas on how to improve the Section, our annual conference or developing the Section for all members we would love to hear these. Also included in this booklet is a form to submit your name for election to the Section's committee. The committee is appointed at the AGM which takes place on Thursday (lunchtime). We welcome applications. The minutes of the 2016 AGM are also included in this booklet.

Please feel free to discuss any RSAI-BIS or conference matter with our Chair Aisling Reynolds-Feighan, Membership Secretary Karyn Morrissey, Treasurer Stuart McIntyre or myself.

Justin Doran
Secretary

Message from the RSAIBIS Chair

Dear Delegate,

As Chair of the Section, I would like to welcome you to Harrogate. We are delighted to see so many delegates from the UK and Ireland, as well as many from further afield in Europe, the US, Australia and New Zealand. This promises to be a terrific conference and we are very happy to welcome you all to Yorkshire.

After a splendid conference by the sea in Newquay last year, we were so grateful to Professor Graham Clarke for his tremendous work again in setting up activities and venues for this year's conference. Graham has done a wonderful job and we look forward to working and socialising in the beautiful surroundings that he has selected. I hope that you enjoy Harrogate and have an opportunity to explore the town and surrounding countryside during your visit. I would like to record my thanks to a very supportive RSAIBIS committee for their input to the planning and execution of this year's conference and activities. Justin Doran took on the role of Secretary of the Section in 2016 and together with Dr Stuart McIntyre, our treasurer, they have been working hard on our behalf to help in the preparations for this year's conference. Our Membership Secretary, Dr Karyn Morrissey has done a fantastic job communicating with members and keeping everyone up-to-date on general announcements and progress with conference preparations.

As usual among the features of this year's conference are:

- The Early Career Prize for the Best Paper (for those within 3 years of a PhD).
- The Early Career Prize for Best Presentation (for those prior to PhD). Short-listed candidates are presenting on Wednesday.
- The Moss Madden Medal for the best journal paper on a regional science topic published by a member of the Section.

Winners of all three prizes will be presented at the Conference Dinner on Thursday night.

Many thanks to members of the Section for their support in adjudicating these prizes. Special thanks to Professor Kim Swales for his work on the Moss Madden Medal Award and the other members of the jury, Professor Bernard Fingleton and Professor Philip McCann.

We are very happy to welcome two plenary speakers this year. First we have Professor Alessandra Faggian, Professor of Applied Economics, Gran Sasso Science Institute, L'Aquila (Italy). Ale is well-known to section members having been very active in our Section until her move to the States. She is now back at home in Italy! She is an expert on many areas of regional science including, regional economics, economic geography, migration, human capital, resilience & natural disasters. She is also now editor of 'Papers in Regional Science'. Her talk is on Thursday morning. Second, is Bob Stimson, former Director of the Australian Urban Research Infrastructure Network (AURIN), Faculty of Architecture, Building and Planning at The University of Melbourne and Emeritus Professor in Geographical Sciences and Planning, the University of Queensland. Bob is a very distinguished regional scientist with expertise in urban and regional development and planning as well as other aspects of analytical human geography and spatial behaviour. He is a former President of the Regional Science Association International. His talk is on Thursday afternoon and is sponsored by the Section's journal, *Spatial Economic Analysis*. The journal has gone from strength to strength in its 12th year. We are very pleased to showcase our outstanding journal during the conference and support the wonderful work done by the management and editorial teams. We are grateful to the publishers, Taylor and Francis, for their generous support of the RSAIBIS activities.

We are delighted to welcome Ale and Bob to our 46th Annual Conference and thank them for taking the time to join us.

On Tuesday afternoon we will host a panel discussion exploring the spatial implications of devolution. We have a number of speakers who will give different perspectives on current concerns, outcomes and impacts under Brexit. We very much encourage you to join in the discussions and come along to the pub quiz and dinner afterwards at the Crown Hotel. Many thanks to Professor Calvin Jones for organising both of these events.

The committee has been particularly busy this year with planning and logistical organisation surrounding the hosting of the 58th European Regional Science Association Congress by RSAIBIS in Cork, Ireland next year. Dr Maria Abreu took on the role of Section Vice-Chair at last year's AGM, and together with Dr Declan Jordan (who is Congress Chair) they have worked to set up arrangements and plan the various programmes for the Congress. This is an exciting event for the Section and we are grateful to Declan, Maria and other members of the local organising committee for the work they are undertaking. More details will be outlined and discussed during the Section AGM. This will take place on Thursday at 1.00pm. We would encourage you to come to the meeting and consider joining the committee. A nomination form is included in your delegate pack. The committee has worked very diligently to support the Section's membership this year and I very much appreciate and enjoy working with such an enthusiastic and lively group of colleagues.

This is my last year as RSAIBIS Chair. A new Chair will be elected at the AGM. It has been an honour and a privilege for me to have served as Chair for the last four years. I would like to thank all of the Section membership for their friendship, collegiality and support: it has been a most rewarding and enjoyable experience. I have been supported by an energetic and enthusiastic committee and excellent officers who have tirelessly worked on your behalf to make the section a vibrant, welcoming and support association of scholars. I would like to record my gratitude for the professionalism, diligence and expertise shown by the current officers Stuart McIntyre, Justin Doran, Karyn Morrissey and Maria Abreu, as well as Kristinn Hermannsson and Declan Jordan in earlier years.

Thank you for participating in our annual conference. We hope you find the experience both academically rewarding and enjoyable socially.

Best Wishes

Aisling Reynolds-Feighan
Chair

Our Association

Regional Science is an expanding field devoted to the development of theory and method in urban and regional analysis and policy. It has a conscious aim of cutting across the traditional disciplinary approaches to these issues. The British & Irish Section of the Regional Science Association International was founded in 1968. The membership is drawn, in the main, from academics, consultants and scientists in local and national government, who share an interest in spatial issues. They come from a range of disciplines including economics, geography and planning.

Our Main Activities

- Organisation of an annual conference, workshops and seminars;
- Award of an annual prize, the Moss Madden Memorial Medal;
- Award of Early Career / Doctoral Prize for Best Presentation at the Annual Conference;
- Award of Prize for Best Paper at the Annual Conference;
- Maintain bilateral relations with other sections of the RSAI.

The Section is run by a committee of thirteen elected members. The committee may co-opt a further three members. The Chairman and the committee are elected at the Annual General Meeting which is held during the Annual Conference each year. The conduct of the business of the Section is governed by the Constitution.

We are continually seeking new elected members of our committee. If you are interested in becoming an elected member then please contact our Chairman (Aisling Reynolds-Feighan), Membership Secretary (Karyn Morrissey) Treasurer (Stuart McIntyre) and/or Secretary (Justin Doran) in the first instance.

Contents:

GENERAL INFORMATION **6**

PROGRAMME **17**

ABSTRACTS **29**

General Information

The Conference Venue

The conference will be held in the Crown Hotel. All of the sessions will take place within the Crown Hotel. The Crown's website is: http://www.crownhotelharrogate.com/ .

Dining at the Conference

There are breaks each day for tea and coffee which will be as timed on the programme. Lunch will be served each day. These are included in the conference fee.

Dinner and pub quiz, 22.08.2017

There will be a dinner and pub quiz at the hotel on Tuesday night after the panel discussions from 19:00 onwards. This will be an opportunity for new and old colleagues to meet in an informal atmosphere. This too is included in the full conference fee.

Wednesday 23.08.2017

As you can see from the programme, this year we have a joint session with the ESRC's UK Data Service-Census Support organised by John Stillwell (University of Leeds). At the end of this session we encourage you to come to John's talk which summarises the achievements of the UKDS-CS over the last five years and marks the publication of a new 2011 Census Handbook published by Routledge. This is followed by a buffet and drinks reception in the hotel sponsored by the UKDS-CS to launch the handbook. John retires this year and so this is a great chance to catch his thoughts as outgoing Functional Director for Census Support at the UKDS..

Conference Dinner, Thursday 24.08.2017

The conference dinner will take place on Thursday night of the conference and will be held at Rudding Park, a short distance from Harrogate itself. A bus will take us to the venue at 19.30. The dinner is preceded by a drinks reception at the same venue sponsored by Spatial Economic Analysis. The bus will return approx. 22.30

Regional Science Association International

British and Irish Section

Annual General Meeting

Thursday 24th of August 2017 at 1.00 p.m.

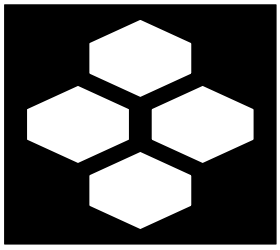
Crown Hotel, Harrogate
(Bronte Suite)
Agenda

1. **Minutes of 2016 AGM**
2. **Chair's Report**
3. **Treasurers Report**
4. **European Matters – Update on ERSA Congress**
5. ***Spatial Economic Analysis* Journal Report**
6. **Israeli-British-Irish Regional Science Workshop**
7. **Election of Committee, 2017/18**
8. **Election of Chair**
9. **AOB**

Nominations for the Committee will close at 5 p.m. on Wednesday August 23rd.

Regional Science
Association International

British and Irish Section



Annual General Meeting 2016

Atlantic Hotel Newquay,

Wednesday August 31st 2016, 14:30

1. Minutes of 2015 AGM

Minutes for the 2015 AGM in Dublin were agreed. Proposed by Declan Jordan, seconded by Maria Plotnikova.

2. Chair's Report

The chairman, Aisling Reynolds-Feighan (ARF), noted that this is her third year as chairman and that she is encouraged by the participation of the members.

Last year's conference at UCD in Dublin was very successful and left a healthy financial surplus. At that AGM there were significant developments, as the constitution was amended to elect a membership secretary for the first time. Also, there were discussions about the possibility of hosting the ERSA congress, which met with overwhelming support from the AGM. After a thorough appraisal of congress options it was decided that the section offer to host the ERSA Congress in Cork, Ireland. Under the leadership of Declan Jordan. In response to this there is a special resolution to appoint a chairman elect to take over the reins in anticipation of the ERSA event.

Next year's conference will be held in Harrogate Yorkshire. Graham Clarke has agreed to act as local organiser.

This year's doctoral colloquium was cancelled. Several abstracts were received but participants withdrew due to logistical reasons accessing Newquay.

Paul Elhorst has taken over as the new editor in chief of Spatial Economic Analysis. The chairman is delighted to welcome Paul to the section.

The chairman thanked the officers for their contribution to the section. In particular, Dr Kristinn Hermannsson, who is stepping down as secretary this year.

3. Treasurer's Report

Dr Stuart McIntyre (SM) presented a report on the section's overall finances for 2015 and preliminary estimates for 2016. SM noted that the section's finances are healthier than was

expected at this time last year. This is due to some additional income, but mostly anticipated costs that did not materialise. A healthy surplus of approximately £25,000 has been built up. This has occurred gradually as the surplus has recovered from the significant costs invested in the Moss Madden Medal. SM stressed that the section is a registered charity and therefore its aim was not gather surpluses. However, it was prudent to build a buffer in anticipation of the ERSA congress.

The accounts were passed by the meeting. Proposed by Graham Clark and seconded by Karyn Morrisey.

4. **European Matters – Update on ERSA Congress**

Declan Jordan (DJ) reported on ongoing work to prepare for hosting of the ERSA congress. DJ reported on his findings from the ERSA congress in Vienna, which he remarked was very tightly organised.

The congress is scheduled for the last week of August 2018. DJ has already had significant sponsorship committed by Failte Ireland and support in kind from City of Cork.

Peter Batey pointed out that not a lot of RSAI-BIS people attend ERSA congresses regularly. Therefore, it would be ideal if a number of members could attend the congress in Groningen to pick up tips for Cork. PB suggested organised sessions are a strength for congresses and encouraged participants to start thinking about that already, perhaps chairing members of the committee with international scholars.

5. **Special Resolution: In view of the likely hosting of the 2018 ERSA Congress, the section proposes election of a vice-chair who will become chair of the section from 2017 – 2019.**

ARF pointed out that the chairperson, according to the constitution, serves for a maximum of 4 months and that she is heading into her last year of office. However, there are a number of decisions that need to be made over the next 12 months.

The British and Irish Section will appoint a vice chairperson for one year that is anticipated to become the chairman of the section for the following three years.

The resolution was passed unanimously.

There is one nomination for Dr Maria Abreu to become chairperson-elect. The appointment was passed unanimously.

6. **Spatial Economic Analysis Journal Report**

Paul Elhorst (PE) noted that he had been serving as journal editor for one year, from the founding editor Bernie Fingleton. The journal publishes about 20 papers a years and receives approximately 100 submissions. PE noted that his background is in spatial

econometrics and because of this the journal receives a number of submissions in that field. However, he is keen that a wider range of topics are served by the journal.

7. Election of Committee, 2016/17

The following committee was appointed by the AGM.

Aisling Reynolds	Chair
Justin Doran	Secretary
Stuart McIntyre	Treasurer
Karyn Morrisey	Membership secretary
Maria Abreu	Chair elect
Peter Batey	OM
Declan Jordan	OM
Graham Clarke	OM
Vasilis Monastiriotis	OM
Kristinn Hermannsson	OM
Bernard Fingleton	OM
Calvin Jones	OM
Frank Crowley	OM

The chairman thanked Maria Plotnikova for her contribution to the committee.

8. AOB

KM pointed out that as the membership secretary she was keen to enhance our virtual profile by tweeting in the name of section. She pointed out that the section was underrepresented in this space and needed to reach out to wider audiences.

Regional Science Association International

British and Irish Section

NOMINATION FORM FOR ELECTION TO THE COMMITTEE

Members are encouraged to stand for election to the Committee.

If you would like to be considered for membership of the committee for 2017/18 please complete the details below and submit it to the Secretary, Justin Doran, by Wednesday August 23rd at 5 p.m.

Name: _____

Institutional Affiliation: _____

Address: _____

_____

_____

Signature: _____

Each committee member must be proposed and seconded by a member of the Section.

Proposer Name: _____

Proposer Signature: _____

Second Proposer Name: _____

Second Proposer Signature: _____

The British and Irish Section at 50

Professor Peter Batey
University of Liverpool
RSAI Archivist

The field of regional science owes its existence largely to the efforts of one man: American economist Walter Isard. Isard was deeply dissatisfied with the fact that his fellow economists failed to handle space in their deliberations and felt that, to remedy this, the rigorous analysis of cities and regions would benefit greatly from an inter-disciplinary approach. From the late 1940s onwards he became a tireless advocate for 'regional science' (as he called it) among economists, geographers, planners, sociologists, mathematicians and economic historians. This led in due course to the founding of the Regional Science Association in 1954.

From 1960 onwards, Isard turned his attention to extending the Association beyond North America. He successfully promoted sections and congresses that for the first time created an academic community for regional science research activity. Thanks to Isard's boundless energy and outstanding organisational ability, sections were planted in Europe, Japan and elsewhere.

Interestingly, the founding of a 'British Isles Section' proved to be one of Isard's biggest challenges. Only at the third attempt did he eventually succeed. During this year's conference, RSAI Archivist Professor Peter Batey will describe the fascinating process that led to the creation of a British Section in the late 1960s and the particular difficulties that were encountered. Peter will draw upon archive material to show how the Section developed its conferences, its publications and its subsequent role as the British *and Irish* Section, thereby fulfilling Isard's original aim. And, with an eye on Cork next year, Peter will outline the Section's major involvement in hosting European Congresses.

We would encourage all members, and our guests, to attend this celebration of the Section's 50th Anniversary.

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and Liveable Regions
August 28-31, 2018
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RSAI
REGIONAL SCIENCE ASSOCIATION INTERNATIONAL
UCC
Cork
City Council
Fáilte Ireland
National Tourism Development Authority
MEET IN
IRELAND

The Israeli-British-Irish Regional Science Workshop

The Israeli-British-Irish Regional Science Workshop (IBI) is a multi-disciplinary group, comprising the Israeli and the British & Irish Sections of RSAI. Its principal objective in to encourage and facilitate collaborative and co-operative research by members of the two Sections in all areas of Regional Science. The IBI held its first meeting in Tel Aviv (1991). Subsequent meetings of the Workshop took place in Ambleside (1995), Jerusalem (2000), Edinburgh (2003), Ramat Gan (2007) and London (2011). Various presentations at these meetings have been published as journal articles, chapters in edited collections, and as a volume: D. Felsenstein, R. McQuaid, P. McCann, D. Shafer (eds.), *Public Investment and Regional Economic Development*. Cheltenham: Edward Elgar, 2001. Expressions of interest in continuation of the Workshop are being sought from members of RSAIBIS who have been associated with this Workshop or who wish to be. In either case, members are asked to contact John Parr, Bartlett School of Planning, University College London: john.parr@ucl.ac.uk.

Virtual Special Issue of Spatial Economic Analysis

The Section's journal, Spatial Economic Analysis, has a virtual special issue to mark the keynote lecture at the forty-seventh Annual Conference of the Regional Science Association International – British and Irish Section in Harrogate by Professor Bob Stimson of the University of Queensland, Australia. The theme of the virtual special issue, which relates to Professor Stimson's expertise, is *Spatial Analysis for Urban Development*. With over half of the world's population now living in urban areas, which is expected rise to 66% by 2050 according to the United Nations, this theme is of critical importance. Cities provide significant opportunities for economic growth and development as long as urban design models are not only effective but also sustainable, inclusive and equitable. This virtual special issue draws together ten articles from earlier volumes of Spatial Economic Analysis, which inform a successful urban design agenda.

The issue is freely accessible at http://bit.ly/rsea-urban-dev

The articles included in the virtual special issue are:

Bhattacharjee, A., Castro, E., & Marques, J. (2012). Spatial Interactions in Hedonic Pricing Models: The Urban Housing Market of Aveiro, Portugal. Spatial Economic Analysis, 7(1), 133-167. doi:10.1080/17421772.2011.647058

Dorfman, J. H., Partridge, M. D., & Galloway, H. (2011). Do Natural Amenities Attract High-tech Jobs? Evidence From a Smoothed Bayesian Spatial Model. Spatial Economic Analysis, 6(4), 397-422. doi:10.1080/17421772.2011.610811

Gómez-Antonio, M., Hortas-Rico, M., & Li, L. (2016). The Causes of Urban Sprawl in Spanish Urban Areas: A Spatial Approach. Spatial Economic Analysis, 11(2), 219-247. doi:10.1080/17421772.2016.1126674

González-Val, R., & Olmo, J. (2015). Growth in a Cross-section of Cities: Location, Increasing Returns or Random Growth? Spatial Economic Analysis, 10(2), 230-261. doi:10.1080/17421772.2015.1023337

Guy, F. (2013). Small, Local and Cheap? Walkable and Car-oriented Retail in Competition. Spatial Economic Analysis, 8(4), 425-442. doi:10.1080/17421772.2013.833344

Hewings, G. J. D., & Parr, J. B. (2007). Spatial Interdependence in a Metropolitan Setting. Spatial Economic Analysis, 2(1), 7-22. doi:10.1080/17421770701232467

Karlsson, V. (2011). The Relationship of Housing Prices and Transportation Improvements: Location and Marginal Impact. Spatial Economic Analysis, 6(2), 223-241. doi:10.1080/17421772.2011.557774

Royuela, V. (2011). Modelling Quality of Life and Population Growth. The Case of the Barcelona Metropolitan Area. Spatial Economic Analysis, 6(1), 83-109. doi:10.1080/17421772.2010.540034

Törmä, H. (2008). Do Small Town Development Projects Matter, and Can CGE Help? Spatial Economic Analysis, 3(2), 247-268. doi:10.1080/17421770801996698

We would be grateful for your help in promoting the availability of this special issue through your networks. There was also a virtual special issue on *Migration* to mark Professor Jacques Poot's lecture at the conference in 2017 in Cornwall, the editorial of which is available at http://www.tandfonline.com/doi/full/10.1080/17421772.2016.1221572.

Programme

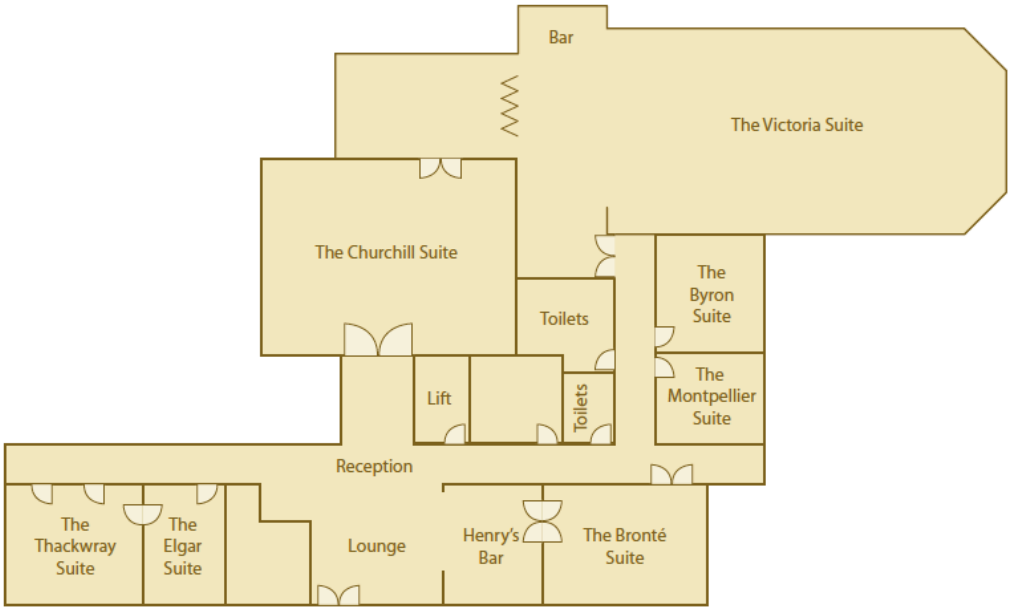
Please note that the programme may be subject to minor revisions and delegates should refer to the registration desk where a daily updated programme will be posted.

Note on session chairs: session chairs have been appointed and are asked to try to ensure that presenters keep to their allocated time.

Programme Overview

Tuesday			
Time	**Room 1**	**Room 2**	**Room 3**
11.00-11.30	Tea/coffee and registration		
13.00-14.00	Lunch		
14.00-15.30	1A	1B	
16.00-18.00			
	Round Table Discussion		
19.00-	Buffet Dinner followed by Evening quiz		
Wednesday			
Time	**Room 1**	**Room 2**	**Room 3**
9.00-11.00	2A	2B	2C
11.00-11.30	Tea/coffee		
11.30-13.00	3A	3B	
13.00-14.00	Lunch		
14.00-15.30	4A	4B	4C
15.30-16.00	Tea/coffee		
16.00-17.30	5A	5B	
17.45-18.30	John Stillwell talk		
18.30-	Reception		
Thursday			
Time	**Room 1**	**Room 2**	**Room 3**
9.00-11.00	6A	6B	6C
11.00-11.20	Tea/coffee		
11.20-12.15	Plenary 1: Alessandra Faggian		
12.15-13.15	Lunch		
13.00-14.00	AGM		
14.00-15.00	7A	7B	7C
15.00-16.00	8A	8B	8C
16.00-16.30	Tea/coffee		
16.30-17.00	Perspectives on applied regional science		
17.00-18.00	Plenary 2: Bob Stimson		
18.00-19.00	RSAI: B&I Section Committee Meeting		
19.30-	Bus departs for conference dinner		

Floor Plan



All A sessions will take place in the Bronte Suite

All B sessions will take place in the Byron Suite

All C sessions will take place in the Thackwray Suite

Tuesday 22nd August (see previous page for room allocations)

11.00/11.30 Coffee and registration

13.00 Lunch

14.00 PARALLEL SESSION 1A: HIGHER EDUCATION AND REGIONAL DEVELOPMENT

Chair: Vassilis Monastiriotis

Regional Development and Higher Education: Creating Public Value?
Calvin Jones (Cardiff Business School)
Is education an investment good, consumption good or a social imperative? Examining the impact of the economic crisis on participation rates in higher education across European regions
Kristinn Hermannsson (Robert Owen Centre, University of Glasgow)
Spatial differences in the returns to education: sorting, agglomeration and pressures of demand
Vassilis Monastiriotis (London School of Economics)

14.00 PARALLEL SESSION 1B: SPATIAL ANALYSIS ENABLED BY NEW CONSUMER (BIG) DATA

Chair: Martin Clarke

Exploring the geography of e-commerce using retail loyalty card data
Graham Clarke, Mark Birkin, Elena Kirby-Hawkins (University of Leeds)
Understanding ethnic segregation in Britain through consumer data
Tian Lan and Paul Longley (University College London)
Mobility and Affordability in the UK housing market: insights from Whenfresh/Zoopla data
Martin Clarke & Nik Lomax (University of Leeds)

15.30 Tea/coffee

16.00 DEVOLUTION AND REGIONAL POLICY ACROSS THE ISLES: REFLECTIONS FROM THE COALFACE

Devolution in the UK: The Case of England
John Parr, University College London

Followed at 16.30 by round table discussion:

Chair: Calvin Jones (University of Cardiff)

Participants: Ian Gordon, London School of Economics
Karel Williams, CRESC Manchester
Laura Norris, Cardiff University
Peter McGregor (University of Stratchclyde)

18.00 End

19.00 Buffet dinner followed by evening quiz

Wednesday August 23rd

Parallel sessions 2A, 3A, 4A and 5A are joint sessions on 'The Role of the Census in Regional Science' in collaboration with the ESRC's UK Data Service-Census Support organised by John Stillwell (University of Leeds). We are very grateful to John for his support and organisation of the session.

09.00 PARALLEL SESSION 2A: GEODEMOGRAPHICS, MICROSIMULATION AND COMMUTING

Chair: John Stillwell

Creating a New Open Geodemographic Classification of the UK Using households and 2011 Census Data
Paul Longley (University College London), Chris Gale (University of Southampton) and Alex Singleton (University of Liverpool)
Using census data in microsimulation
Mark Birkin, Michelle Morris, Tom Birkin and Robin Lovelace (University of Leeds)
Mapping Travel-To-Work Flows
Oliver O'Brien and James Cheshire (University College London)
Moving through the life course: inter-regional migration in England and Wales from 1971 to 2011
Rachel Stuchbury (University College London)

09.00 PARALLEL SESSION 2B AGGLOMERATION, FDI AND REGIONAL DEVELOPMENT

Chair: Colin Wren

City-size wage gap in developing country context: Spatial labour sorting against agglomeration effects.
Vanessa Galeano-Duque, Juan Soto, Latin American Center for Rural Development
The Effects of Spurious Agglomeration and Agglomeration Economies on the Productivity of Foreign-Owned Manufacturing Businesses in Ireland
Lisa Noonan, University College Cork
Promoting regional growth and innovation: relatedness, revealed comparative advantage and the product space
Philip McCann (University of Sheffield), Gloria Cicerone (University of Pescara), and Viktor A. Venhorst (University of Groningen)
The FDI Border Effect and Economic Integration: Evidence from the Fifth European Union Enlargement
Ilona Serwicka (University of Sussex), Jonathan Jones and Colin Wren (University of Newcastle)

09.00 PARALLEL SESSION 2C: EARLY CAREER PRESENTATIONS

Chair: Dimitris Ballas

Spatial variability of census variables
Xin Gu (University of Liverpool) (with Paul Williamson)
A Look at Urban Performance Balance across Different Boundaries in England and Wales
Hadi Arbabi (University of Sheffield)
The environmental inequality of air pollution and its impacts on health outcomes in England
Philip McBride (University of Exeter Medical School)
A spatial microsimulation approach to the analysis of health resilience
Phil Jones (University of Sheffield) & Dimitris Ballas (University of Groningen)

11.00 Tea/coffee

11.30 PARELLEL SESSION 3A ETHNICITY AND CENSUS ANALYSIS

Chair: Paul Norman

Ethnic Identity and Inequalities: Local Authority Summaries
Ludi Simpson (University of Manchester)
Local Ethnic Inequalities and Ethnic Minority Concentration in Districts of England and Wales, 2001-11
Kitty Lymperopoulou (University of Manchester), Nissa Finney (University of St Andrews) and Gemma Catney (University of Liverpool)
Using Census Microdata to Explore the Inter-relationship Between Ethnicity, Health, Socioeconomic Factors and Internal Migration
Fran Darlington-Pollock (University of Liverpool), Paul Norman (University of Leeds) and Dimitris Ballas (University of Groningen)
Why Censuses are Essential for Estimating Ethnic Populations and Components of Change
Philip Rees, Stephen Clark, Nik Lomax and Paul Norman (University of Leeds) and Pia Wohland (Hull York Medical School),

11.30 PARELLEL SESSION 3B: ENTREPENEURSHIP AND FIRM PRODUCTIVITY

Chair: Martin Wrobel

The Causes of the East-German Productivity Gap: Shadow of Socialism or Regional Structure?
Oliver Ludewig (Institute for Employment Research, Nürnberg)
Qualification Practices and Skill-Mismatch in the Electronics Industry of Selected Regions in Germany, the Netherlands and Poland
Nicholas Reum (University of Cologne)
Individual and firm level determinants of the hiring of Green Card recipients in Germany
Martin Wrobel (Alexander von Humboldt Institute for Internet and Society, Berlin)

13.00 Lunch

14.00 PARELLEL SESSION 4A: POPULATION CHANGE OVER TIME

Chair: Mark Birkin

Uneven Family Geographies in England and Wales: (Non)Traditionality and Change between 2001 and 2011
Darren Smith and Andrea Culora (University of Loughborough)
Using Census Data for Trend Comparisons in British City Regions
Mike Coombes and Tony Champion (University of Newcastle)
The Changing Geography of Deprivation in Great Britain: Exploiting Small Area Census Data, 1971 to 2011
Paul Norman (University of Leeds) and Fran Darlington-Pollock (University of Liverpool)
The Spatial-temporal Exploration Health and Housing Tenure Transitions Using the Northern Ireland Longitudinal Study
Myles Gould (University of Leeds) and Ian Shuttleworth (Queens University Belfast)

14.00 PARELLEL SESSION 4B: **FISCAL IMPACTS OF DEVOLUTION**

Chair: Peter McGregor

Regional needs, regional targeting and regional growth: an assessment of the impact of EU cohesion funds in the UK regions in the period 1994-2013
Vassilis Monastiriotis (London School of Economics)
How serious is a Devolved Data Deficit?
Annette Roberts & Max Munday (Cardiff Business School)
The Impact of Greater Regional Fiscal Autonomy: The New Fiscal Framework for Scotland
Peter McGregor (University of Strathclyde)

14.00 PARELLEL SESSION 4C - RENEWABLE ENERGY (finish 15.00)

Chair: Niall Farrell

Analysis Of Geothermal Sector In Northeastern Atlantic Area
Touria Abdelkader B. Conde Universidad Nacional de Educacion a Distancia (UNED University), Madrid, Fernando Barreiro-Pereira (Universidad Nacional de Educacion a Distancia (UNED University) Madrid
Are subsidies for renewable energy deployment justified on grounds of regional development? The case of wave energy deployment in Ireland.
Niall Farrell (University of Oxford)

15.30 Tea/coffee

16.00 PARELLEL SESSION 5A: OTHER APPLICATIONS AND THE CTP

Chair: Phil Rees

The Prevalence of Informal Care and its Association with Health: Longitudinal Research Using Census Data for England and Wales
James Robards, Maria Evandrou, Jane Falkingham, and Athina Vlachantoni (University of Southampton)
Contrasting Approaches to Engaging Census Data Users
Jim Ridgway, James Nicholson, Sinclair Sutherland and Spencer Hedger (University of Durham)
The Census Transformation Programme: Progress and Prospects
Meghan Elkin (UK Office of National Statistics)

16.00 PARELLEL SESSION 5B: REGIONAL SCIENCE AND DIGITAL TECHNOLOGIES

Chair: Emmanouil Tranos

Exploiting digital technologies: comparative analysis of regional policies
Dylan Henderson and Neil Roche (Cardiff University)
Evaluating the economic impact of business adoption and exploitation of digital technologies: a Systematic literature review
Anna Scedrova (Cardiff University)
The evolution of the digital economy in the UK from a spatial perspective
Emmanouil Tranos (University of Birmingham)

17.30 End

17.45 Reflections on the 'Achievements of the UK Data Service-Census Support" (Byron Suite)

John Stillwell, University of Leeds

Followed by 18.30 Reception and buffet sponsored by the UK Data Service-Census Support (all welcome if attending the 'Reflections' talk)

Thursday 24th August

09.30 PARELLEL SESSION 6A: URBAN ECONOMIC ANALYSIS AND PLANNING

Chair: Gordon Mulligan

Location around Big Cities as Central Places
Fernando Barreiro-Pereira (Universidad Nacional de Educacion a Distancia (UNED University Madrid)
Philip Sargant Florence: Pioneer in Applied Regional Science
Peter Batey (University of Liverpool)
Recent Change in Metropolitan America: An Analysis of Patents and Business Startups
Gordon Mulligan (University of Arizona)

09.00 PARALLEL SESSION 6B: INCOME AND WELL-BEING

Chair: Philip Morrison

The effect of subjective well-being on hedonic valuation - Measuring regional unobservables or individual preferences
Richard Rijnks (University of Groningen)
Simulating regional and sub-regional health data to examine the role of population health on regional economic performance
Karyn Morrissey (University of Exeter Medical School), Ferran Espuny (University of East Anglia), Paul Williamson (University of Liverpool)
Qualitative validation of multidimensional povery index for Wales
Maria Plotnikova (Aberystwyth University)
The economics of loneliness
Philip Morrison (Victoria University of Wellington, New Zealand)

09.00 PARELLEL SESSION 6C: INNOVATION, CULTURAL DIVERSITY AND TECHNCIAL CHANGE

Chair Frank Crowley

Internal and regional cultural diversity and team performance: Evidence from European football
Declan Jordan (University College Cork)
Entrepreneurship, wellbeing, and location
Maria Abreu, (University of Cambridge)
Why Is the "Cambridge Phenomenon" More Than an Innovation Bubble?
Annie Tubadji, (UWE), Peter Nijkamp (VU Amsterdam) and R.Huggins (University of Cardiff)
The Role of the Creative Industries in stimulating Business Innovation in Ireland.
Frank Crowley and Justin Doran (University College Cork)

11.00 Tea/coffee

11.20 Plenary address (1) (the Byron Suite)

Chair: Maria Abreu

Internationalised at work and localistic at home: the 'split' Europeanisation behind Brexit
Alessandra Faggian (Professor of Applied Economics, Gran Sasso Science Institute, L'Aquila (Italy))

12.15 Lunch

13.00 AGM of the RSAI:British & Irish Section (all welcome) (Byron Suite)

14.00 PARELLEL SESSION 7A: CGE MODELS/ REGIONAL ECONOMIC ANALYSIS

Chair: Philip McCann

Towards a behavioural regional Computable General Equilibrium model
Grant Allan (Fraser of Allander Institute, Economics Department, Strathclyde Business School), Figus, G (Strathclyde Business School), McGregor, P.G (Fraser of Allander Institute, Economics Department, Strathclyde Business School) and Swales, J.K (Fraser of Allander Institute, Economics Department, Strathclyde Business School).
The Continental Divide? Economic Exposure to Brexit in Regions on both Sides of the Channel
Philip McCann (University of Sheffield), Wen Chen (University of Groningen), Bart Los (University of Groningen), Raquel Ortega-Argilés (University of Birmingham, City-REDI), Mark Thissen (PBL Netherlands Environment Assessment Agency), Frank van Oort (Erasmus University Rotterdam)

14.00 PARELLEL SESSION 7B: TRANSPORT PLANNING

Chair: Aisling Reynolds-Feighan

Assessing the active travel impacts of major transport infrastructure projects
Robin Lovelace (University of Leeds)
The Performance of Small and Medium Air Transport Communities in Liberalised and Turbulent Markets: A Review of Recent Experiences
Aisling Reynolds-Feighan (University College Dublin)

14.00 PARELLEL SESSION 7C: ENERGY AND WATER DEMAND

Chair: *Stuart McIntyre*

Forecasting water demand under policy scenarios for a UK water company, 2011 to 2101
Philip Rees (University of Leeds), Riz Nawaz (University of Sheffield), Stephen Clark (University of Leeds), Ross Henderson (Thames Water Utilities Ltd), Chris Lambert (Thames Water Utilities Ltd), Ben Corr (Greater London Authority), Gordon Mitchell (University of Leeds), Pia Wohland (Hull York Medical School), & Adrian McDonald (Independent Consultant)
Regional Nowcasting in the UK
Stuart McIntyre (University of Strathclyde)

15.00 PARELLEL SESSION 8A: RURAL ECONOMIES

Chair: Max Munday

Are rural areas taking advantage of proximity to cities?
Juan Soto (Latin American Centre for Rural Development), Milena Vargas & Julio Berdegua
Exploring rural economy effects of trends in dairy farm consolidation in England and Wales
Annum Rafique and Max Munday (Cardiff Business School)

15.00 PARELLEL SESSION 8B: POLITICAL GEOGRAPHY AND SPATIAL ANALYSIS

Chair: Don Webber

Identifying clusters of Westminster Parliamentary constituencies using e-petition data
Stephen Clark (University of Leeds)
Lancaster's attributes model and economic policy preferences
Don Webber (University of the West of England)

15.00 PARELLEL SESSION 8C: MARINE ECONOMICS

Chair: Karyn Morrissey

Stakeholder's second sight: a search for knowledge consensus on Ireland's salmon farming
Liam Carr (NUI Galway)
The varying economic impacts of Marine Spatial Planning across different geographical scales: a Q methodology study in the UK
Madeline Gustavsson & Karyn Morrissey (University of Exeter)

16.00 Tea/coffee

16.30 Celebration of the 50th Anniversary of the Section (Byron Suite)
Chair: Graham Clarke

50 years of the RSAI:British & Irish Section
Peter Batey (University of Liverpool)

17.00 Plenary session (2) (Byron Suite)

Chair: Graham Clarke

'Challenges for Regional Science: Past and Present'
Robert Stimson (University of Melbourne)

18.00 (Committee meeting of the RSAI:B&I section – committee members only) – bar!

19.30 Bus departs for Conference dinner – Rudding Park
- Drinks Reception before the conference dinner sponsored by *Spatial Economic Analysis*.

Book of Abstracts

Paper Title: ANALYSIS OF GEOTHERMAL SECTOR IN NORTHEASTERN ATLANTIC AREA

Presenting Author: Touria Abdelkader

Presenting Author Affiliation: Tutor of the National University of Distance Education (UNED)

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Co-author(s): Fernando Barreiro Pereira

Abstract:

Geothermal energy is an important source of renewable, active power, largely caused by the different radioactive elements that inhabit the interior of the Earth, like Uranium, Thorium and Potassium, which is linked to phenomena of volcanism, geysers, water thermal and tectonic zones with associated activity phenomena earthmoving and plate tectonics, earthquakes and tsunamis in the crust in the last 10,000 to 20,000 years. This energy is linked both active zones of the Earth's crust as a source of magmatic heat, which is several kilometers deep and whose temperatures may range between 100 and 6.000 degrees.

The main objectives of this paper are:

Knowledge about geothermal energy, regulations and subsidies.

Economics of geothermal installations.

Optimal extraction zones of geothermal energy in Northeastern Atlantic Countries (France, Iceland, Ireland, Morocco, Portugal, Spain and UK).

Competitiveness in costs compared to other types of installations, renewable or nonrenewable.

Encourage the creation of installations from geothermal energy, create jobs and impact of emissions.

The Geological Survey of Spain conducted a study of the Spanish geothermal potential, where it was concluded that Spain has a capacity of geothermal development of 8,000 MW of installed capacity.

The Geothermal Sector could contribute to the Spanish energy system by 2020 more than 2,000 MW between production of electricity and heat production. In terms of employment growth in this sector was 43.1 % in 2008 compared to 2007, 59.8 % in 2009 and 81.5 % in 2010.

Paper Title: Entrepreneurship, wellbeing, and location

Presenting Author: Maria Abreu

Presenting Author Affiliation: University of Cambridge

E-mail of Presenting Author: ma405@cam.ac.uk

Co-author(s): Aleid Brouwer, Ãzge Ãner, Eveline van Leeuwen

Abstract: A considerably small but growing literature links entrepreneurship to the well-being of entrepreneurs. There is also a growing literature that focuses on the importance of location characteristics on well-being. We also know from a big body of urban and regional economics literature that entrepreneurial activity is not randomly distributed across space, conditions in certain types of local markets make these places more suitable for entrepreneurship. Triangulating these three lines of research, we show how well-being outcome of entrepreneurship varies across different areas. We use deprivation and rurality as two important economic dimensions that relate to entrepreneurship and well-being simultaneously at varying spatial aggregations. Our quantitative analysis is based on data from the British Household Panel Survey (BHPS), covering the period 2009-2014.

Paper Title: Towards a behavioural regional Computable General Equilibrium model

Presenting Author: Kim Swales

Presenting Author Affiliation: Fraser of Allander Institute, Economics Department, Strathclyde business School

E-mail of Presenting Author: grant.j.allan@strath.ac.uk

Co-author(s): Allen G**,** Figus, G, McGregor, P.G and Swales, J.K.

Abstract: There has recently emerged a strong and widespread critique of economics centred on its inability both to predict the onset of the financial crisis and to question the institutions which created the crisis (Kwak, 2017; Earle et al, 2017). One aspect of this criticism has focussed on the role of abstract theory and, in particular, general equilibrium analysis. We would argue strongly for an analysis that attempts to incorporate simultaneously micro and macro-economic factors in a consistent manner. However, such an analysis does not have to be constrained by the conventional neo-classical straightjacket.

In this paper we investigate the impact of different expectation-formation procedures and the role that these play on the level of investment and overall economic activity in a regional economy subject to temporary exogenous shocks. The basic model which we adopt here has an eclectic, broadly Keynesian, flavour following Robinson (1960), is influenced by the work of Kahneman (2012) in the treatment of consumption and investment and incorporates endogenous technical progress. Essentially we are attempting to generate a form of behaviouralist regional Computable General Equilibrium (CGE) model.

Paper Title: A Look at Urban Performance Balance across Different Boundaries in England and Wales

Presenting Author: Hadi Arbabi

Presenting Author Affiliation: The University of Sheffield

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Co-author(s): Martin Mayfield, Gordon Dabinett

Abstract: The National Infrastructure Commission's assessment of the UK planning policy notes a lack of coherent strategy and the prevalence of siloed-thinking. The existing toolset, e.g. land-use and transport interactions (LUTI) models, which inform the infrastructural planning process, are typically designed and calibrated to function at a microscale. Meanwhile, shifting focus towards city regions and agglomerations means planning scales have grown beyond microscale projects. Deployable only after certain strategies have been identified for scenario exploration purposes, existing toolsets do not address the overarching issue of how to categorically identify scale-appropriate infrastructural strategies for larger urban areas and city regions. This leaves the country lacking simple yet coherent tools that suggest appropriate strategies at larger intermediate mesoscale boundaries, which can in turn complement and inform microscale economic and land-use models and also planning debate and processes. The study presented here provides a comparative picture of the city performance across different administrative and density-based boundaries within England and Wales (E&W). It explores potential effects of integration of individual units into larger metropolitan areas, e.g. Northern Powerhouse and Midlands Engine, as well as the suitability of potential strategies, namely, densification and improvements of the transport network, for improving size-cost performance balance across E&W. This is achieved utilizing a theoretical framework developed in Santa Fe Institute based on the recurring power-law scaling of numerous urban characteristics, e.g. economic output, infrastructure volume and size, etc., with regards to city population. The core findings suggest that despite the higher economic output of the southern regions their urban performance on average suffers from escalating tolls of transport and mobility processes and hence appear to benefit from measures to increase built density. This is in contrast to the welsh and northern regions where the improved performance would require enhancements of the transport access and infrastructure within individual units.

Paper Title: Location around Big Cities as Central Places

Presenting Author: Fernando Barreiro-Pereira

Presenting Author Affiliation: Universidad Nacional de EducaciÃ³n a Distancia, Madrid, Spain

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Co-author(s):

Abstract: At the end of the XX Century, a great part of the global economic activity is mainly developed around metropolitan areas, which are converting in big cities that enter in some specialization and competition processes among them for the economic power. The 600 main cities produce 80 percent of global GDP in 2016. The last decades have witnessed the emergence and the never seen growth of a number of big cities: while in 1950 there where 2 mega-cities with more than 9 million inhabitants, in 2016 there are 49, many of them being located in less developed countries. On the other side, the globalization of the post-industrial economy generates a new urban spatial organization where a few number of cities concentrate a disproportionate part of economic power, creation, decision and control. These global cities have been called World-cities or World metropolises. Most of the largest cities are in the less developed countries, while the most powerful world cities are mainly located in the developed countries. It results that size seems to be neither a necessary nor a sufficient condition for obtaining the status of global city. A condition to be a global city is the access to the economic power. The big cities enter in some specialization and competition processes. It occurs that during the 1990â€™s New York has specialized in equity trading, London in currency trading, and Tokyo in size of bank deposits. A similar situation happened with Hong Kong: it was said, before China regained control of Hong Kong, that their financial services centers would be in international competition with each other. It turns out that Hong Kong is today the international financial centre for China, while Shanghai is the national financial center. It could be said that thereâ€™s a comparable difference in the UK between London and Edinburgh. Within the US, again in the financial sector, Chicago is the centre for commodities futures, while New York is the centre for futures on interest rates. Chicago is a centre for commodity futures because of its history as the meatpacking and food processing centre for the mid-west. There exist some kinds of strategic games among the Word cities. Some economists argue that competition between cities is indirect, as it derives from competition among businesses based chiefly on productivity. An important target in macroeconomics is the money market analysis, but money market is generally not considered in microeconomic models and hence neither in most spatial models. The main aim of this paper is to propose a general equilibrium model to explain the location of consumers and producers around a big monocentric city, where consumers choose optimal quantities of consumption goods, money, land and transportation, and households and firms can rationally choose their location in relation to the central market. Results for firms indicate that their locations are generally situated beyond the location of households with respect to the central business district, depending of the land size needed by firms.

Paper Title: Philip Sargant Florence: Pioneer in Applied Regional Science

Presenting Author: Peter Batey

Presenting Author Affiliation: University of Liverpool

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Co-author(s):

Abstract: Regional science is widely acknowledged to have its origins in the 1950s. Isard (2003) traces the developments that led economists, geographers and planners to come together to form the inter-disciplinary Regional Science Association (now RSAI) in 1954 and describes the growth of a distinct body of spatial analytical methods and location theory capable of being used to support urban and regional policy (Isard 1960).

But what preceded this growth in regional science? Is there any indication that formal methods were used by early planners? What role, if any, did quantitative data play in spatial planning? How far were planning policies and proposals supported by an evidence base? Are there signs of an inter-disciplinary approach drawing on a number of social sciences?

At the Newquay conference last year, I began to piece together some elements of the pre-history of regional science methods. I pointed to a number of planning studies from the 1940s in which a rigorous and systematic approach was adopted. These included some important work by economist Philip Sargant Florence in the area of industrial analysis. Sargant Florence, an American by birth who spent most of his working life in England, made significant contributions to the measurement of industrial concentration and the identification of footloose industries that might offer opportunities for reviving the rural economy. As Professor of Commerce at Birmingham University, Sargant Florence was a key figure in the West Midland Group on Post-war Reconstruction and Planning and participated in that Group's studies of Herefordshire and the Birmingham Conurbation in the 1940s. Sargant Florence's interests were many and varied and included not only economics but geography, sociology and planning.

In this paper I make an assessment of Sargant Florence's contributions to the methodology of regional analysis and planning on both sides of the Atlantic.

References:

Isard, W. (1960), Methods of Regional Analysis, Cambridge: MIT Press

Isard, W (2003), History of Regional Science and the Regional Science Association International the Beginnings and Early History, Berlin: Springer.

Paper Title: Stakeholders' second sight: a search for knowledge consensus on Ireland's salmon farming

Presenting Author: Liam Carr

Presenting Author Affiliation: NUI Galway

E-mail of Presenting Author: liam.m.carr@nuigalway.ie

Co-author(s):

Abstract: Global fisheries landed 93.4m tonnes in 2014, a figure that has remained stable over 25 years. Over the same time, global seafood demand has risen from 14 to 20 kg per person. To meet demand, aquaculture "which now provides more than half of all seafood destined for human consumption" has intensified. In Ireland, salmon aquaculture has been cited as a growth area, with government pursuing a 78% increase in farmed salmon production by 2020. Such growth carries concomitant environmental and socioeconomic impacts, and stakeholders have mobilised to voice their priorities. Using a nested Q-method approach to measure relative levels of conflict and consensus, 86 high-level aquaculture, conservation, fishing, tourism, state, and local stakeholders shared insights on oversight, spatial conflict, environmental impacts, and market drivers surrounding Ireland's 13,000-tonne, 90m salmon aquaculture industry. Despite ongoing debate between stakeholders, consensus does exist across five identifiable groups. Stakeholders agree that: responses to sea lice infestations must be proactive and strictly applied; the licensing process needs updating; and scale-appropriate, ecosystem-based husbandry and monitoring initiatives, reflective of the unique dynamics, processes, ecological thresholds, and other uses of bays where farming occurs, are essential. This knowledge provides government a starting point from which to develop specific policies.

Paper Title: Identifying clusters of Westminster Parliamentary constituencies using e-petition data

Presenting Author: Stephen Clark

Presenting Author Affiliation: University of Leeds

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Co-author(s): Nik Lomax, Michelle A Morris

Abstract: In a representative democracy it is important that politicians have knowledge of the desires, aspirations and concerns of their constituents. Opportunities to gauge these opinions are however limited and, in the era of Big Data, thoughts turn to what alternative, secondary, data sources may be available to keep politicians informed about local concerns. One such source of data are signatories to electronic petitions (e-petitions). Such petitions have risen greatly in popularity over the past decade and allow members of the public to initiate and sign a petition online, with popular petitions resulting in media attention, a response from the government or ultimately a debate in parliament. These data are thus novel in their availability and have not yet been widely used for research purposes. In this article we will use the e-petition data to show how semantic clusters of Westminster Parliamentary constituencies, fitted as Gaussian finite mixture models via EM algorithm, can be used to typify constituencies. We identify four clusters: Domestic Liberals; International Liberals; Nostalgic Brits and Rural Concerns, and illustrate how they map onto electoral results. The findings and the utility of this approach to incorporate new petitions and adapt to changes in electoral geography are discussed.

Paper Title: Mobility and Affordability in the UK housing market: insights from Whenfresh/Zoopla data

Presenting Author: Martin Clarke

Presenting Author Affiliation: School of geography, University of Leeds

E-mail of Presenting Author: M.C.Clarke@leeds.ac.uk

Co-author(s): NiK Lomax

Abstract: In this paper we report on further developments on analysing Zoopla data on the housing market in England and Wales. Zoopla is one of 3 platforms that are used to advertise proprty sales and rentals in the UK. A comprehensive amount of data is collected on each transaction including, in a proportion of transactions, the forwarding address. We have now assembled data on domestic property sales and rentals for the calendar years 2014 and 2015. One of our tasks has been to look at the validity of the data by cross referencing it with other data sets such as HMRC data. We also have used some innovative visualisation techniques to try to understand the patterns of migrations that are taking place over time. The ultimate goal of the research is to examine whether this type of data could be used as a way of understanding and projecting small area migration in England and Wales. The project is part of a wider research programme at the Consumer Data Research Centre at Leeds, an ESRC Data Investment

Paper Title: The Role of the Creative Industries in stimulating Business Innovation in Ireland

Presenting Author: Frank Crowley

Presenting Author Affiliation: University College Cork

E-mail of Presenting Author: frank.crowley@ucc.ie

Co-author(s) Justin Doran

Abstract: The idea of creativity as a source of innovation and competitiveness has received greater attention from academics, planners and policymakers in recent years. Florida (2002) stresses the importance of creativity to entrepreneurship, innovation, art and culture. Firms in the creative industries are normally seen as innovative. Despite the increased focus of creativity in the theoretical literature there is still a dearth of empirical evidence on the spatial story and the role creative industries play in explaining innovation outcomes (Lee and Rodríguez-Pose, 2014). This paper attempts to address this gap. The data used is the Community Innovation Survey 2012. In addition, data at the electoral district (ED) regional level, of which there are approximately 3,400 in Ireland, on the proportion of the workforce employed in creative industries is used. Creative industries are defined as in Lee and Rodríguez-Pose (2014) based on NACE Rev2 4-digit categories. A series of probit models are estimated to analyse the impact of being in the creative industries on firm level innovation output and also the impact of a firm being located in a region in which there are high levels of employment in creative industries. The results suggest that firms in creative industries are more likely to introduce new product innovations (both new to the market and new to the firm). Firms in the creative industry are no more likely to introduce process innovations than firms in other industries.

References

Florida, R. (2002*). The rise of the creative class and how it's transforming work, leisure, community, and everyday life*. New York: Basic Books.

Lee, N., & Rodríguez-Pose, A. (2014). Creativity, cities, and innovation. *Environment and Planning A*, *46*(5), 1139-1159.

Paper Title: Are subsidies for renewable energy deployment justified on grounds of regional development? The case of wave energy deployment in Ireland.

Presenting Author: Niall Farrell

Presenting Author Affiliation: Oxford university, institute for new economic thinking

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Co-author(s): Cathal O'Donoghue and Karyn Morrissey

Abstract: Alongside primary drivers of sustainability, a secondary driver for wave energy deployment has been the potential for regional development. In an Irish context, studies to date have estimated this impact at an aggregate economy-wide level, overlooking both the spatial distribution of benefits. These economic impacts are not without cost, however, and this regional development is financed by an additional charge on household electricity bills. The objective of this paper is to identify the potential spatial impact of the sector, net of subsidy costs. This is carried out by using the Teagasc Spatial Microsimulation of the Irish Local Economy (SMILE) model. SMILE contains a profile of demographic, socio-economic, labour force and income variables for both individuals and households, disaggregated to the local area (electoral district) level. Using data pertaining to the first full-scale wave installation and simulating the response of industry to increased demand for output, increases in economic activity and demand for employment are assigned to their relative locations. The interaction of these two profiles allows for an estimation of the changes in welfare and economic activity across the Irish regions. This is compared to changes in the spatial distribution of household disposable income. While inter regional inequality falls, there is a greater increase in within region inequality.

Paper Title: Spatial variability of census variables

Presenting Author: Xin Gu

Presenting Author Affiliation: Geography and Planning, University of Liverpool

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Co-author(s): Paul Williamson

Abstract: The analysis of spatial variation is a key task in regional science. We investigate spatial variations of all variables in the 2011 UK census data at different spatial levels such as country, local authority and output areas. Previous studies for spatial variations mainly focus on single variable at a certain spatial level. However, the spatial variation of a variable can be quite different at different spatial levels. It is therefore useful to understand which spatial level contributes most to the variation. We explore the proportion of spatial variation contributed by each spatial level using an analysis of variance for categorical variables. The proportion of spatial variation is defined as the between area variance divided by total variance of a variable at unit level. Furthermore, when considering spatial variation of two or more variables, their interactions may have different spatial variability than the variable themselves. Therefore, we investigate the spatial variation of variables including their first and second order interactions through log-liner models. Both Pearsonâ€™s chi square statistic and likelihood ratio statistic are used as a measurement of the degree to which the variables and/or their interaction are variant in certain spatial levels. The results of the above studies will be presented in some tables.

Paper Title: The varying economic impacts of Marine Spatial Planning across different geographical scales a Q methodology study in the UK

Presenting Author: Madeleine Gustavsson

Presenting Author Affiliation: European Centre for Environment and Human Health, University of Exeter Medical School

E-mail of Presenting Author: m.c.gustavsson@exter.ac.uk

Co-author(s): Karyn Morrissey

Abstract: Traditionally seen as low-skilled, low-tech industry central to the survival of coastal communities, the human ability to exploit the marine environment means that economic activity associated with our oceans and seas has expanded the marine sector to include a series of high tech, urban focused industries such as marine observation technology, renewable energy and blue biotechnology. The global ocean market (also called the 'blue economy') is estimated to be valued at approximately 1,200 billion per annum, contributing approximately 2% to the world's Gross Domestic Product (GDP). As the exploitation of Earths land based resources reaches capacity, economic expansion of the relative value of marine resources are expected to increase. Learning from past mistakes with land based exploitation, policy actions - specifically Marine Spatial Planning, aim to create a framework for the oceans and seas that minimise conflicts between economic activities within the marine while maintaining good environmental status. Within the UK, the planning process has just started with only one marine plan being implemented to date. Whilst the economic benefits of MSP have been widely celebrated there is a need to explore the diversity in impact between groups at different scales. In particular, this study asks the question is the blue economy shifting from a coastal economy, largely operated in rural and coastal places, to an urban-based economy, and can MSPs be seen as a facilitator of such transitions? To investigate this, this paper deploys a Q-methodology to elicit stakeholder perception across a broad section of marine sectors of the potential economic impact of MSP.

Paper Title: Exploiting digital technologies: comparative analysis of regional policies

Presenting Author: Dylan Henderson

Presenting Author Affiliation: Cardiff University, Welsh Economy Research Unit

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Co-author(s): Neil Roche

Abstract: This paper examines the role of regional policy in supporting businesses to adopt digital technologies and to exploit these within their business activities. While much attention has been focused on investments in broadband infrastructure, the role of public authorities in helping business to make use the digital technologies that are enabled by such infrastructure, and to produce innovation and wider commercial returns, is an under-researched area. The paper examines digital technology policy development at an EU and UK level, using a typology of intervention models and associated rationales. It illustrates these models with case studies of policy instruments from European regions and beyond. These case studies highlight the enabling role played by the institutional agencies in framing such policies, and the differing rationales for intervention. They also point to differing capacities of businesses to absorb such technologies, and the uneven spatial distribution of business digital capabilities in shaping the policy response. The paper concludes by considering evidence of success from such policies, and their future direction in light of continuing technology development of both broadband and digital technologies.

Paper Title: Is education an investment good, consumption good or a social imperative? Examining the impact of the economic crisis on participation rates in higher education across European regions

Presenting Author: Kristinn Hermannsson

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Co-author(s): Queralt Capsada-Munsech University of Glasgow, Rosario Scandurra University of Granada

Abstract: We use a macropanel of European NUTS-1 regions to determine if and how economic activity affected participation in higher education during a period of economic volatility between 2002 and 2012. This is a useful case to examine as over this period there is large variation in GDP changes, which intersects a diverse institutional landscape. It has long been understood that demand-side problems in the economy could undermine the supply-side in the longer run through scarring effects on the working age population. If macroeconomic weakness further reduces incentives and opportunities for gaining education these long run challenges will be amplified.

A priori it is not clear if and how the macroeconomy influences participation in education. Human capital theory argues that education should be viewed as an investment good, where forward looking agents weigh the opportunity cost of studying against discounted future benefits. From this vantage point the economy could impact both the pay-off from and opportunity cost of studying. Alternatively, some economists argue that education should be viewed as a consumption good, where the level of participation rates reflects current levels of economic activity. Conversely, sociologists argue that participation in education reflects cultural norms by different social classes. In particular that the progeny of middle class families will participate in education to the extent required to maintain their relative standing vis-a-vis lower social classes. Therefore, participation rates only reflect economic activity rates indirectly.

Paper Title: Regional Development and Higher Education: Creating Public Value?

Presenting Author: Calvin Jones

Presenting Author Affiliation: Cardiff Business School

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Co-author(s):

Abstract: Global economies face a critical, perhaps existential, crisis centred around the relationship between businesses and the societies and ecologies that host them. The resultant tensions are very evident in the poorer regions of the UK. However Business schools across the UK have largely failed to recognise these increasing pressures, or at least to respond to them in a holistic and integrated way to help both companies and communities “as well as governments” understand and react to the grand challenges shaping our world. This paper examines the objective of Cardiff Business School to become the first 'Public Value' business school, and reflects on the potential opportunity for the School (and University) to contribute more to regional and City-regional development as a consequence.

Paper Title: A spatial microsimulation approach to the analysis of health resilience

Presenting Author: Phil Mike Jones

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Co-author(s): Dimitris Ballas

Abstract: We present a novel analysis of health resilience at the small area level in a case study area in South Yorkshire. Using spatial microsimulation techniques we are able to estimate health resilience at output area level using a broader range of indicators than has previously been possible.

Previous geographical analysis of health resilience has been limited to analysis of coarser geographies “such as local authority district or ward” because of the poor availability of spatially disaggregated data sets. The measures available to articulate health resilience have also been limited, often to crude measures of area mortality or general morbidity.

Using data from Understanding Society we identify small areas in our case study area using two complementary approaches. A systematic literature review informed a selection of measures to identify resilience characteristics. These are then simulated using iterative proportional fitting and resilient areas identified as those with high levels of these characteristics. A more traditional analysis of small areas with high deprivation and low mental health prevalence is also considered.

We conclude by outlining key local and national policy changes and consider their impacts on these areas identified as resilient.

Keywords: health resilience; mental health; spatial microsimulation; iterative proportional fitting; raking

Paper Title: Internal and regional cultural diversity and team performance â€“ Evidence from European football

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Abstract: There is evidence of benefits of diversity at the regional level to employment growth, innovation, and new firm formation. These benefits may arise from diverse perspectives stimulating new ways of thinking, and in turn leading to positive externalities. Similar benefits have also been observed at the level of the business. Within a sporting context the evidence for these benefits is equivocal. Studies' differing results may result from different datasets, proxies of team diversity, or estimation techniques. Furthermore, much of the focus on team performance to date has neglected the importance of regional and/or spatial impacts. Although there is growing interest in the topic, studies of this effect are limited. This study uses regional, club, and individual player data for seven European countries for the 2015/2016 football season. Several methods of estimating cultural diversity are used. The paper finds little evidence of an effect of cultural diversity on performance, though other regional-level variables are found to influence club performance.

Paper Title: Assessing the active travel impacts of major transport infrastructure projects

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Abstract: Major transport infrastructure projects affect many aspects of life. This is well known and sometimes acted on, thanks in part to well-established methods in economic appraisal, cost-benefit analysis and environmental impact assessment. Recently other types of assessment have emerged, including, health, equality and transport impact assessment. However, there has been relatively little work focussing explicitly on active travel impacts, despite the high potential for new schemes to affect walking and cycling and the increased policy interest in these modes of transport in recent years. Motivated by the need to ensure active travel is accounted for, this paper sets out methods for active travel impact assessment, based on three types of impact. Severance, when new infrastructure cuts across routes with high active travel potential; parallels, opportunities for constructing new routes parallel new infrastructure; and integration with existing transport services, where new or different active travel options are unlocked by new infrastructure. A case study of a proposed railway, between Lewes and Uckfield in Essex, UK, demonstrates the methods' real world application.

Paper Title: The Source of the East-German Productivity Gap: Shadow of Socialism or Regional Structure?

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Abstract: East-German firms still have a lower productivity than their Wet-German counterparts. On an aggregate level median labour productivity was in 2013 by almost 18% lower than in West Germany. In the public and political debate this difference is viewed as a long lasting consequence of the East German socialist past.

However, there are also other factors influencing firm productivity. For example in regional economics it is routinely shown, that firms are the more productive the more urban the region is in which it is located. Yet, in East Germany the share of urban regions is much smaller than in the West. Therefore we hypothesise that a large part of the East German productivity gap is due to the regional differences and not to the shadow of socialism. Thus, we ask whether a part of the productivity gap between East and West stems from the different regional compositions of both parts of Germany or not and how import the regional component is. An answer to theses question would be important for policy makers, because only a correct diagnosis allows an effective cure.

We attempt to analyse the productivity gap using a large scale employer survey provided by the Institute of Employment Research. It covers up to 15.000 establishments each year in the period from 1996 to 2014. First descriptive evidence for the end of the observation period suggest, the productivity gap was very large in urban areas and relatively small “half of the aggregated average gap in rural areas”. At the same time almost three quarters of West German establishments are located in more urban areas while in East Germany three quarters of the establishments are located in the more rural areas. These first results are substantiating our reasoning. However, further econometric analyses (production function) will show whether these descriptive findings are misleading or regional factors (density, specialisation etc.) are really explaining a substantial part of the output gap.

Paper Title: The environmental inequality of air pollution and its impacts on health outcomes in England

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Co-author(s): Dr. Karyn Morrissey, Dr. Ben Wheeler, Dr. Stefan Reis

Abstract: The aim of this paper is to explore the impact of air pollution on health outcomes controlling for area level deprivation across the English regions. The co-location of air pollution and socio-economic deprivation is increasingly well documented. This research has demonstrated that people that experience lower socio-economic status tend to be more exposed to air pollution, as well as being more vulnerable to air pollution and having worse health, this has been termed triple jeopardy. This relationship is important due to growing awareness of the health implications that air pollution may pose on society.

Key pollutants that affect people's health include nitrogen oxides (NO2 and NO, referred to as NOx) and particulate matter (PM). These can have an impact through both long term and short term exposure, with long term exposure having the most serious consequences. The impacts of air pollution can be acute or chronic and most commonly affect respiratory and cardiovascular systems. Examples of health impacts are nausea, breathing difficulties, skin irritation, respiratory disease and cancer, such as lung cancer. On the whole, risk of respiratory and cardiovascular morbidity and mortality increases with heightened ambient pollutant concentrations. Similarly, there is a burden of disease that is associated with air pollution, with particulate air pollution accounting for 4.7% of mortality in England.

Obtaining modelled data on air pollution and linking this to the Index of Multiple Deprivation and household characteristics such as ethnicity and age profile, this paper will explore the effect of air pollution on respiratory health outcomes, controlling for area level deprivation across regions in England. This paper will also look at the potential for effect modification of air pollution-health outcome relationships by socio-economic status.

Paper Title: Promoting regional growth and innovation: relatedness, revealed comparative advantage and the product space

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Abstract: We adapt the product-space methodological approach of Hausmann and Klinger to the case of Italian provinces and regions in order to examine the extent to which the network connectedness and centrality of a province's exports is related to its economic performance. We construct a new Product Space Position (PSP) index which retains many of the Hausmann-Klinger features but which is also much better suited to handling regional and provincial data. We also compare PSP performance with two other export composition indices. A better positioning in the export-network product space is indeed associated with a better local economic outcomes.

Keywords: relatedness, revealed comparative advantage, product space, regional development.

JEL codes: O11, R11, R12

Paper Title: The Continental Divide? Economic Exposure to Brexit in Regions on both Sides of the Channel

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Abstract: In this paper we employ an extension of the World Input-Output Database (WIOD) with regional detail for EU countries to study the degree to which EU regions are exposed to negative trade-related consequences of Brexit. We develop an index of this exposure, which incorporates all effects due to geographically fragmented production processes within the UK, the EU and beyond. Our findings demonstrate that UK regions are far more exposed than regions in other countries, although we find considerable heterogeneity across regions in the UK. Only the Republic of Ireland faces exposure levels similar to the average for UK regions, while the next most affected regions are in Germany, The Netherlands, Belgium and France. This imbalance may influence the outcomes of the negotiations between the UK and the EU.

Keywords: Brexit, trade, regional differences, value chains, input-output analysis

JEL Categories: F14; F15; P44; R12

Paper Title: The Impact of Greater Regional Fiscal Autonomy: The New Fiscal Framework for Scotland

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Abstract: There is considerable momentum in the UK and elsewhere towards greater decentralisation of fiscal powers. The Scottish Government, for example, is in the process of acquiring a significantly enhanced degree of fiscal autonomy, including the control of income tax rates and receiving assigned revenues from VAT. In this paper we systematically explore the consequences of the new system for Scotland. First, we outline the main features of the New Fiscal Framework that is in the process of being implemented: income tax revenues have become an explicit element of the Scottish public budget, together with a block grant adjustment (and, in due course, the assignment of VAT revenues). Second, using our forward-looking, multi-sectoral CGE model of Scotland, we consider the likely impact of the new fiscal system for the sensitivity of the Scottish economy to demand and supply disturbances. For the first time Scotland's public expenditure is constrained, in part, by income tax (and VAT) revenues raised in Scotland. This increases the responsiveness of the Scottish economy to policy and non-policy disturbances. For example, if the Scottish Government succeeds in stimulating exports this will now, though an increase in incomes and tax revenues - and therefore government expenditure, increase economic activity by more than under the previous system. On the other hand any Brexit-induced contractions in exports have a greater adverse impact on economic activity than under the previous (Barnett-driven) system, since the reduction in tax revenues raised in Scotland now has a further negative impact through a contraction in public spending. Finally, we explore the potential for the Scottish Government to use its new fiscal powers to achieve its objective of greater inclusive growth.

Paper Title: Regional Nowcasting in the UK

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Abstract: Timely and high quality macroeconomic indicators are essential to effective economic policymaking. While there have been significant advances in improving the timeliness of official economic data at the national level, these advances have not, as yet, been reflected in improvements in regional macroeconomic data. In the UK, the 'flash' estimate of quarterly GDP is released around 25 days after the end of the quarter. In Scotland, the regional equivalent release for quarterly GVA is released –on average- 115 days after the end of the quarter. This is poor in comparison to the UK as a whole, but is still very good by comparison to the other regions and nations of the UK. *Annual* GVA for the other regions and nations of the UK is released around a year after the end of the year to which it relates. The lack of timely regional macroeconomic data is a barrier to effective economic policymaking. With significant policy emphasis in the UK on greater devolution and localism, better and more timely economic data on the regional economies of the UK is now essential. One well-established methodology to produce more timely estimates of macroeconomic aggregates like GDP/GVA is termed 'nowcasting'.

This paper reports work undertaken as part of the ONS Economic Statistics Centre of Excellence. In this paper, we develop the existing methods to enable the production of more timely measures 'nowcasts' of economic performance for each of the UK regions and nations. Our initial focus is on nowcasting nominal GVA, as the main regional macroeconomic aggregate, but these methods could be applied to other metrics of regional economic performance, and shortly will be applied to real GVA. Our departure point in the literature is the stacked Bayesian VAR literature (McCracken et al, 2015). In this paper we estimate a Bayesian VAR model for 10 regions of the UK over the period 1967 to 2015. We produce year ahead forecasts for each of our regions and examine the improvement in these forecasts that occurs when we condition on the accumulation of quarterly data about the UK economy using entropic tilting methods. Data on the UK Economy as a whole are released in a much more timely manner, which enables us to produce updates of our regional estimates within year, and the production of a final conditional forecasts 11 months in advance of official data being released for each region. This approach improves the accuracy of our year ahead forecasts substantially relative to our unconditional forecasts, and we show that as information accumulates during the year on the performance of the UK economy our forecasts generally become more accurate.

Paper Title: Spatial differences in the returns to education: sorting, agglomeration and pressures of demand

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Abstract: The urban and spatial economics literature has shown the presence of sometimes sizeable wage differences across areas of different sizes and densities, which persist even after controlling for observed and unobserved differences in worker quality (sorting). Although such differences are typically associated to processes of pooling, matching and learning (urbanisation economies, assortative matching and human capital accumulation, respectively), it is possible that they also reflect, at least in part, spatial differences in prices (including land prices), local amenities (assuming that these are correlated to urban scale) and" importantly "pressures of demand. Motivated in part by this observation, in this paper we set out to examine the impact of sorting, agglomeration and demand pressures for one particular" but core "component of wages, namely the wage returns to education. We use UK micro-data to derive estimates for the returns to education across the local labour markets of Britain over the period 2000-2015. By comparing the estimated returns and their spatial differences, between a parsimonious and an extended Mincerian model (which also controls for selection into employment), we are able to derive a measure of the extent to which sorting accounts for the observed differences in returns to education. To examine the role of agglomeration and demand pressures for the remaining differences, we regress our derived Mincerian estimates on various related area-specific variables (employment density, accessibility, employment growth, unemployment), also including compositional controls to further control for the role of sorting. For comparison, we repeat this analysis for estimated returns to experience and area-level fixed-effects, following the approach taken in Monastiriotis (2002). Our analysis allows us to draw conclusions both about the sources of the urban wage premium and about the role that agglomeration, sorting and demand pressures play for spatial wage disparities in the country.

Paper Title: Regional needs, regional targeting and regional growth: an assessment of the impact of EU cohesion funds in the UK regions in the period 1994-2013

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Abstract: Despite the bourgeoning literature on the economic effects and overall effectiveness of EU Cohesion Policy, and the relevance of the latter for the debate about Britain's position in the EU, studies examining the contribution of cohesion funds on regional economic performance in the UK are far and few between. Recent contributions in the broader literature (concerning the "full universe" of EU regions) have extended their focus beyond simple questions concerning the size and direction of the economic effects of cohesion spending, examining instead the local-level and wider (e.g., national-institutional) factors that may condition the materialisation of such effects in the first place. Only very recently, however, this shift in attention has also included characteristics related to the particular deployment of relevant expenditures. This paper makes a contribution in this direction, offering a unique analysis of the regional impact of cohesion spending in the UK over three programming periods (1994-2013) and examining the role that aspects of design and fund-deployment have had on this. Our econometric analysis focuses in particular on the role of scale (threshold effects), composition (concentration of expenditures within categories) and consistency (distance between allocations and realised expenditures). We further develop a set of category-specific indices of "relative regional need" to examine whether the effects of cohesion funds are conditioned on the successful prioritisation of expenditures (in any particular area, relative to the intensity of needs in that area "needs-targeting"). We find that EU funds had significant positive effects on the UK regions, while targeting of funds appears to have played an important role in this. We discuss the implications of these findings both with regard to the effectiveness of EU cohesion policy at large and in relation to the prospective withdrawal of cohesion funds from the UK as part of the country's exit from the EU.

Paper Title: The economics of loneliness

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Abstract: Loneliness is a reflection of being alone and not liking it. It is a physical and mental condition which if sustained can reduce quality of life and shorten lives. As an objective measure it reflects the number and depth of social contacts and as a subjective measure it captures how people evaluate the quality of their social engagement relative to their expectations.

Loneliness reflects people's position within social networks. These are usually proximate and relate intimately to the way people engage with others in particular places. This paper extends recent work in Regional Science on subjective wellbeing (Morrison 2014) and other emotions (Morrison 2016) to include issues of social isolation (Morrison and Smith 2017).

One of the most important but under explored connections in the literature on loneliness is its close association with economics. There is a strong statistical relationship between loneliness and income and more particularly consumption (as captured in standard of living indicators). The reasons, I argue, have to do with the financial costs of social interaction and the increasing commodification of social engagement at all ages.

In order to ground this argument I test several hypotheses using the New Zealand General Social Survey (NZGSS) administered to over 8000 respondents in 2012. This national survey carries an unusually comprehensive set of measures of social interaction, living standards while also offering controls for a range of demographics and measures of place deprivation.

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Paper Title: Simulating regional and sub-regional health data to examine the role of population health on regional economic performance

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Abstract: Understanding health outcomes across regions is an important topic for regional scientists, not least because a healthy population is a productive population. While health geography has long demonstrated that health outcomes vary across space and that economic factors such as differential unemployment rates are significantly associated with these health patterns, it is increasingly recognised that the association is most likely to be reciprocal. Recent research has found that health is not just a product of favourable economic circumstances, but is also an important determinant of economic development at national, regional and local levels.

To understand the role that population health plays on regional economies, accurate data on health outcomes is required at the sub-regional scales. Using a spatial microsimulation model, Espuny et al., (2017) developed estimates of cardiovascular disease (CVD), diabetes and obesity at the regional and sub-regional level. This paper uses data from Public Health England (PHE) on rates of CVD, diabetes and obesity at the Clinical Commissioning Group (CCG) level to validate the data on health outcomes produced by the spatial microsimulation model. It was found that the spatial microsimulation model produced robust estimates of CVD, diabetes and obesity at the CCG level. The newly simulated health data when merged with regional economic data has the potential to explore the role of population health on regional economic development.

Paper Title: Recent Change in Metropolitan America: An Analysis of Patents and Business Startups

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Abstract:

This paper examines selective attributes of 350-plus metropolitan areas in the USA during the opening years of the new millennium. In the first two-thirds of the paper a multivariate analysis of those metropolitan economies is undertaken for the year 2010; here the main purpose is to identify the underlying high-tech aspects of those very different economies. This allows a novel innovation index to be calculated for each place and also leads to a classification of those places into different economic types. The last third of the paper outlines a multi-equation regression model that sheds light on the determinants of recent employment and productivity growth in those metropolitan economies.

In the first two parts of the paper attention is given to 20 different production attributes in the year 2010 including the age and education of the workforce, patent production, business startups, per capita productivity of the workers, labor force participation, and the like. Multivariate analysis is used to reduce these 20 attributes down to 10 orthogonal dimensions. This deconstruction of the metropolitan economies allows a signature (factor) score to be generated on each of the 10 independent factors. Adjusting for signs, these scores are summed up to generate an innovation index for each metropolitan area in 2010. Two versions of this index are given and each correlates more highly with recent metropolitan change than other indices discussed in the literature.

The factor scores are then used to generate a multivariate classification of the various metropolitan economies. After some experimentation, eight broad innovation clubs are identified and the five leading clubs are given more scrutiny than the three lagging clubs. High-tech places, which are especially prominent in both patents and startups, are shown to be more heterogeneous than low-tech places. Moreover, the recent growth and change seen in many metropolitan areas appears to be associated with the incidence of very different factors: population growth has been driven by forces (natural amenities, etc.) that are different from those that have induced either employment change or productivity growth.

The third part of the paper takes up this last theme in more detail and introduces alternative simultaneous-equation models that include patents, proprietorship numbers (representing new business startups), population size, and a series of well-known contextual variables (health, crime, etc.). The results shed light on how employment change and productivity growth, for different time intervals, are related to patents and startups in US cities. In recent times patents appear to play a stronger role in the success of Snowbelt cities while startups appear to play a stronger role in the success of Sunbelt cities.

Paper Title: The Effects of Spurious Agglomeration and Agglomeration Economies on the Productivity of Foreign-Owned Manufacturing Businesses in Ireland

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Abstract: The purpose of this paper is to examine the impact of spurious agglomeration and agglomeration economies on the productivity of foreign-owned manufacturing businesses operating in Ireland.

Substantial productivity differentials exist between indigenous and foreign-owned manufacturing businesses operating in Ireland. While the higher productivity levels in foreign-owned businesses are commonly attributed to transfer pricing, the presence of agglomeration economies may also affect productivity levels. Recent evidence shows that agglomeration economies have a significant impact on the productivity of manufacturing businesses in Ireland but the effects of agglomeration economies are significantly different for indigenous and foreign-owned manufacturing businesses in Ireland (Noonan, 2016). However, the effects of spurious agglomeration on the productivity of businesses in Ireland have been overlooked. This study contributes to the literature by examining the effects of spurious agglomeration and agglomeration economies on the productivity of foreign-owned manufacturing businesses in Ireland.

Spurious agglomeration (DeCoster and Strange, 1993) occurs when firms concentrate in a particular geographic area in the absence of any agglomeration advantages. However, even if the location of the firm among other firms is not dependent on agglomeration economies, it does not mean that it is not benefiting from agglomeration economies (Parr, 2002) Therefore, this paper also considers the impact of four different types of agglomeration economies on the productivity of foreign-owned manufacturing businesses in Ireland. These are internal economies of scale, external localization economies, related variety and external urbanization economies.

Utilizing data from the Census of Industrial Production 2009, a series of GMM regressions are estimated. The results show that spurious agglomeration has a positive and significant impact on productivity. Increases in the number of foreign-owned businesses of the same nationality in Ireland leads to productivity increases for businesses of that nationality. It may be the case that foreign-owned businesses operating in Ireland are sharing knowledge with other businesses of the same nationality in relation to successfully conducting business in Ireland. It may also be the case that the more foreign-owned businesses operating in Ireland, the stronger their bargaining power when lobbying the government.

We also find clear evidence that urbanization economies have a positive and significant impact on productivity. The availability of a pool of skilled labour in the industry and in related industries is also important for increasing productivity. The availability of domestic inputs has a negative impact on productivity. It may be the case that domestic inputs are more expensive or of a poorer quality than those available abroad.

Paper Title: Devolution in the UK: The Case of England

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Abstract: The issue of devolution (broadly speaking, the transfer of powers from one level of government to lower level) has become prominent in the public mind over recent decades. This has been brought about largely by proposed changes in the structure of government within parts of the UK. The question of devolution is not new, of course. In the nineteenth century, devolution was advocated by various groups as well as a number of individuals, notably Joseph Chamberlain who was in favour of â€œhome rule all roundâ€. There was also a measure of cross-party support for this immediately after World War I, although nothing became of it. Until a relatively short time ago, devolution usually referred to the distinct forms of government and administration within three of the home nations of the UK, namely, Northern Ireland, Scotland and Wales. However, recent proposals for devolution programmes in particular areas of England have provided an additional perspective on the subject. This will form the primary focus of the presentation.

After considering the nature of devolution and some of the motivations for this, attention is given to the proposals for devolution to various areas of England. The majority of the proposals can be grouped into three distinct spatial levels. In ascending order of physical extent (though not population) the levels are as follows: a) the metropolitan area (the metropolitan counties in the Midlands and the North of England); b) the non-metropolitan county (unofficially termed the â€œshire countiesâ€); and c) the region (a level of policy organisation that appears to have fallen from favour since 2010). These three levels represent key elements of the administrative organisation of England. For each level an attempt is made to outline some of its spatial-structure characteristics, and also to consider the more important opportunities and the difficulties associated with devolution. A conclusion is reached that if these proposals materialise, the devolution landscape of the UK will become increasingly kaleidoscopic in character, leading possibly to instability and calls for further reform.

Paper Title: Qualitative Validation of Multidimensional Poverty Index for Wales.

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Abstract: This paper reports on the results of the mixed methods analysis of the multidimensional deprivation in Wales. The aim is to construct an index of multidimensional deprivation that would incorporate factors specific for Wales. This is achieved through quantitative and qualitative analysis with the results of both triangulated. Quantitative analysis involves construction of Multidimensional Poverty indices for Wales following the Alkire-Foster method (Alkire & Foster, 2011; Alkire et al., 2011) based on 5 dimensions of poverty: Living Standard, Education, Health, Housing, Participation and Networking. The index is constructed using the Understanding Society database. The qualitative analysis consists firstly of workshops with departments of local authorities and voluntary sector organisations which work to tackle poverty at the level of individuals and households; and secondly with individuals and households themselves which are experiencing multidimensional poverty. The purpose of the workshops and interviews has been to validate the components and construction of the Multidimensional Poverty Index and to provide a clearer and more nuanced perspective on the mechanisms determining and the problems arising from multidimensional deprivation. The interviews are audio-recorded, transcribed and analysed in NVivo. The contribution of this study is to provide new insights into efficient and effective approaches to tackling poverty in Wales.

Paper Title: Exploring rural economy effects of trends in dairy farm consolidation in England and Wales

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Abstract: This paper examines consolidation and intensification trends in dairy farms. Elements of the research project are exploring the regional economy consequences of dairy and beef consolidation, and its ramifications for the rural economy in particular. In this context it is important to explore the wider determinants of farm productivity and the technical efficiency of dairy farms. Data Envelopment Analysis (DEA) is used to estimate the efficiency of milk and beef production in England and Wales. DEA is a non-parametric approach which uses inputs and outputs to create a best practice frontier. This frontier measures the relative efficiency of the decision making units (DMUs).This method is used as it does not require the production function to have a specified form and it relies on basic assumptions of microeconomic production theory. The paper uses data from the Farm Business Survey (FBS) for 14 years from 2002 to 2015. It is a two outputs and five inputs model where the outputs are the amounts of milk produced and the tonnes of beef whereas the inputs are the number of dairy and beef cows, the labour hours put in by the workers, the land area per hectare, the machinery used and the animal's feed. The results are used to explore trends of dairy farm consolidation.

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Paper Title: Qualification Practices and Skill-Mismatch in the Electronics Industry of Selected Regions in Germany, the Netherlands and Poland

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Abstract: A significant part of the political and scientific discussion about qualitative Mismatches between labour demand and labour supply, particularly Skill-Mismatch, has been about the role of various Skill-Formation-Systems and their institutional proximity to the industry. In education systems where the involvement of firms in the process of public vocational and higher education is greater, it is mostly assumed that the qualitative gaps in the structure of labour demand and supply on the basis of skill-levels would be lower than in such systems where the education process is determined mostly by public actors. These arguments usually stress the importance of the institutional structure of the education system on the national level. Based on institutional approaches in Economic Geography, this project aims to assess the role of social, cognitive and geographical proximity as equally or perhaps even more important drivers for firms' qualification practices regarding Skill-Mismatches on their respective labour markets. In doing so it tackles questions of the interplay between national and regional configurations and the ways how firms form specific, often regional arrangements. To address these questions, the research project used a qualitative comparative approach by interviewing companies from the Electronics industry in five heavily industrialized regions. These regions are located within three national contexts and their respective national Skill-Formation-Systems: Germany, the Netherlands and Poland. All three differ significantly regarding the involvement of firms in public vocational and higher education. It suggests that social, cognitive and geographical proximity play a much more important role for the implementation of successful qualification practices in those national contexts where the formal involvement of firms in the education process is lower. Thus it sheds a critical light on the assumption that the institutional proximity on the national level is the decisive factor for firms' qualification practices when they experience Skill-Mismatches.

Paper Title: The Performance of Small and Medium Air Transport Communities in Liberalised and Turbulent Markets: A Review of Recent Experiences

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Abstract: This paper explores the changing nature of air service provision to small, medium and large communities in Europe, North America, Asia, Latin America and Middle East & Africa. Using OAG datasets from 1996-2016, the trends in air transport activities are examined for each of the main continental air transport markets. The air traffic data are linked to urban population datasets. The US Federal Aviation Administration (FAA) hub classification scheme is adapted and applied to the major global regions in order to compare and contrast the distribution of air traffic across communities of different sizes. The extent of "route churn" is examined in major continental regions over the analysis period and measured for the categories of community. Small and medium-sized air transport communities are shown to be more vulnerable to service reduction and loss during down-cycle periods. In the US, the number of small- and medium-sized communities receiving scheduled jet air passenger services reduced significantly and permanently after deregulation in 1978. Despite some temporary expansions in the airports network in the 1990s and 2000s, the pattern of service has remained heavily concentrated on a relatively small set of routes between the larger airports serving larger communities. In Europe by contrast, liberalisation has resulted in substantial growth in the range and number of air services to small- and medium-sized communities, often with low frequency. In Asia, where air traffic is expected to continue to grow rapidly in the next decade, the airports network has expanded rapidly as has the range of passenger service offerings. The role of social air service provision is examined in the context of these changing trends: a series of stylized facts are set out before some general conclusions are drawn.

Paper Title: The effect of subjective well-being on hedonic valuation - Measuring regional unobservables or individual preferences

Presenting Author: Richard Rijnks

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Abstract: This paper explores the use of individual subjective well-being (SWB) data and individual transaction price data in the north of the Netherlands. Controlling for the usual suspects of housing characteristics and environmental characteristics, we estimate a hedonic house price model using individual SWB data on the right hand side. The data used in this study consist of the LifeLines Biobank survey (N ~ 165.000) for the individual household characteristics, combined with NVM (national real estate association) transaction and housing characteristics data. This paper provides insight into whether SWB is a proxy for unobservable environmental characteristics or individual preferences.

Paper Title: How serious is a Devolved Data Deficit?

Presenting Author: Annette Roberts

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Abstract: The paper explores whether differences in the quantity and quality of economic data (and the related economic modelling capabilities and possibilities) could create problems for devolved regions in terms of high quality economic policymaking, monitoring and evaluation. The focus is on the importance of developing regional data in an increasingly devolved fiscal context, and with inadequate tools being available through which to understand the impacts of changes from global macroeconomic shocks as well as the evolution of a more "devolved" tax system.

The case of the Welsh economy illustrates key points. This is a useful lens through which to explore the causes and consequences of a devolved data deficit, especially as it concerns supporting policy on tax levels and application. The region has evolving autonomy over some taxes, but with a paucity of economic data or economic modelling capacity to help evaluate the implications of fiscal change. The Welsh case is employed (and contrasted to Scotland) to outline the economic data challenges facing the devolved nations. The paper suggests that devolution should have a harmonised approach to subsidiarity of power and economic data.

Paper Title: Evaluating the economic impact of business adoption and exploitation of digital technologies: a Systematic literature review

Presenting Author: Anna Scedrova

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Abstract: Information and communication technologies (ICTs) have long been identified as an important enabler of new business practices and the emerging digital economy. Academics from a range of disciplines such as economics, business studies, information systems have begun to examine the impact of ICTs. While academic research during the 1990s found little evidence of ICT investment linking through to productivity gains (Hitt and Brynjolfsson, 1996), subsequent studies in the early 2000s began to demonstrate such a link. At the firm level, literature has highlighted the role of digital technologies in improving internal efficiencies, sales, innovation and profits. The research has shown, however, that the issue of time was an important component in understanding impact. Introduction of ICTs can cause an initial "shock", with little or no immediate impact on labour productivity, so that productivity effects are time-lagged. Indeed, productivity improvements are said to be rarely achieved without substantial preparation and internal firm adjustments, i.e. strategy (Colombo et al., 2013).

While research has begun to examine the impact of these developments on productivity there is limited clarity on the mechanisms of change and the nature and variety of economy-level impacts (Schryen, 2013). This paper will address this weakness through systematic searches of literature from the EBSCO Business Source Premier and EconLit bibliographic databases (1990-2016). Its focus will be on exploitation and the consequences of economic impact (firm-level and regional-level). The objective, here, will be to summarise extant studies evaluating impacts of business exploitation of digital technologies, identify gaps in the literature, and provide recommendations for theory and practice.

Paper Title: Are rural areas taking advantage of proximity to cities?

Presenting Author: Juan Soto

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Co-author(s): Milena Vargas & Julio Berdegu

Abstract: In this paper, we identify the positive and negative effects from proximity to cities on the economic development of rural areas in Chile. Following Partridge and Rickman (2003), and Rappaport (2004), this work characterizes the changes in population and employment in rural areas as the partial adjustments on the location of households and firms due to the spatial variations in agglomeration economies, amenities, and public provision of services of nearby cities. In order to observe how rural areas are influenced by the scope and intensity of the linkages with urban areas, we estimate the effect of travel time to cities and market potential variables, over the change of population and employment for 22,241 rural areas in Chile, using the two last Chilean national censuses of 1992 and 2002, rural travel time estimates, and stable satellite light night.

Paper Title: City-size wage gap in developing country context: Spatial labour sorting against agglomeration effects.

Presenting Author: Vanessa Galeano

Presenting Author Affiliation: Latin American Center for Rural Development

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Co-author(s): Juan Soto

Abstract: Marked and persistent spatial disparities in incomes and wages amongst urban systems are a characteristic feature of countries all over around the world. Economic forces at national and global levels related to trends in population movements, housing markets and amenities provision have continuously reinforced this pattern. Empirical literature widely documents a positive nominal wage gradient across city-size (Baum-Snow and Pavan, 2012; Echeverri and Ayala, 2011; Glaeser and Mare, 2001; Glaeser and Gottlieb, 2009; Kemeny and Storper, 2012). Notwithstanding, the evidence in relation to its causal effects is inconclusive. This article aims to study the city size wage gap in Chile in order to better understand which mechanisms are at play on this phenomenon in a developing country context. Specifically, we are focused on differentiating agglomeration from spatial labour sorting effects in an attempt to explore the relative importance of these causal mechanisms in explaining the city-size wage gap in the context of developing countries. This research argues that rather than a higher level of agglomeration effects as explanation of wage disparities among developing countries cities, as proposed by Duranton (2016), Chauvin et al. (2013) and Combes et al. (2015), this phenomenon should be explained by a higher spatial concentration of high-skill labour force in bigger cities. In conducting this, we estimate and disentangle the size of the skills composition effect of the observed city-size wage gap using eleven waves of the Chilean National Socioeconomic Characterisation Survey (CASEN 1992 to 2015). Our preliminary results suggest in fact, that the Chilean case supports our hypothesis.

Paper Title: US-Mexico Cross Border Commuting and Quality of Life

Presenting Author: Juan Soto

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Co-author(s): Hector NuÃ±ez & Dusan Paredes

Abstract: We estimate the differential of Quality of Life (QOL) level for residents in Mexico located in the municipalities that border the US. We separate them first in two groups, those who commute within Mexico and to U.S. Then we split them in two additional groups depending on the commuting time, letting 2 hours as the threshold time. For each one of these three groups we estimate an individual QOL index following Roback (1982) framework, where commuting time as well as standard amenities like crime and temperature are considered for indexing housing prices and wages. We control the simultaneously problem by using a two-stage least square estimation. We find that those who commute more than two hours within Mexico have a wage premium over the rest of the groups, while premium for commuters to US is not significant different than that for internal commuters. These results open the discussion about what are the real gains to analyze the of cross-border commuting and whether is a feasible alternative to migration from Mexico to US. Moreover, these findings are in line with the reduction in migration flows detected along last official statistics as well with the reduction of transaction costs for those Mexican workers who choose to daily cross the border toward US.

Paper Title: The evolution of the digital economy in the UK from a spatial perspective

Presenting Author: Emmanouil Tranos

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Abstract: This paper aims to map the participation in the digital economy and its evolution in the UK from a geographical standpoint. Most of the existing economic geography literature which dealt with the spatiality of the Internet employed supply-side measures, such as the infrastructural capacity, in order to understand the geography of the digital economy and its potential spatial economic effects. Useful as these approaches might have been, they cannot capture the micro-processes and the characteristics of the individual online behaviour. This paper aims to address this gap by utilising data from the Internet Archive. This is a novel source of big and unstructured data which contains archived web pages from the mid 1990s onward. This paper focuses on a sample of the .do.uk domain, the webpages of which include locational information. Using content analysis we classify these webpages and extract knowledge about the geography of the digital economy. Moreover, the longitudinal dimension of these data enables us to study the evolution of these spatial patterns over the time at a rather detailed spatial scale. The results of this analysis can provide important insights about the spatiality of the digital economy, its evolution and, most importantly, about the economic trajectories of places.

Paper Title: Why Is the "Cambridge Phenomenon" More Than an Innovation Bubble?

Presenting Author: Annie Tubadji

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Abstract: The Cambridge region (UK) is often regarded as a highly successful science and technology pole, characterized by an entrepreneurial boom known as the "Cambridge Phenomenon". The present paper addresses the question of whether this success story is exclusively (or mainly) caused by an innovation bubble. Our analysis is predominantly inspired by George Shackle's (1949) definition of uncertainty as a function that truncates (ignores) investment opportunities for which so little knowledge on their successful implementation exists that they might lead to surprising business results. The key hypothesis underlying this paper is that the acceptance or management of this type of uncertainty may partly explain the "Cambridge Phenomenon". To offer a solid empirical examination, we employ the unique Cambridge Ahead dataset on the performance of all 20,000 companies established in the region during the period 1919 - 2014, tracked over five years. The results from a Cox Proportional Hazard Model clearly demonstrate the existence of a decision-driven paradox consistent with Shackle's so-called "potential surprise function". Namely, within five years of starting-up, the most daring companies appear to die faster. However, daring companies that have survived over this period appear to live longer than other survivors. Moreover, it is found that a critical determinant of the survival of the daring-type of companies is formed by the local entrepreneurial context. Finally, the agglomeration effect on the speed of company death is found to account for about 3% per Cambridge Area ward (lowest administrative division). One third of it is explained by very small variations in the local cultural milieu, especially with regard to attitudes to uncertainty.

Paper Title: Lancaster's attributes model and economic policy preferences

Presenting Author: Don Webber

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Abstract: This article augments Lancaster's attributes model and then applies it to demonstrate how voters decided which political party to vote for in the 2015 general election. To calibrate the model we collected primary data using face-to-face interviews in three different parliamentary constituencies which appointed representatives from different political parties in previous recent UK general elections. The model illustrates that three factors were important in influencing voting behaviour and in shaping the result: perceived relative importance of election issues, expected performance of parties on each election issue and the trade off between election issues. The endogeneity of these issues highlight that if a political party uses the media to heighten voters' perceptions of elections issues which the party believes are important and so enhance voters' perceptions of the performance of the party on those election issues, then they would have greater chance of increasing their representation in parliament. We conclude that the Liberal Democrats lost significant vote share because of voters' perceptions of their performance on the contemporary election issues.

Paper Title: Individual and firm level determinants of the hiring of Green Card recipients in Germany

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Abstract: The German government's 'Green Card Initiative'□ between 2000 and 2004 repre-sented a particular effort to help companies to overcome national labour shortages in the IT and computer science sector. A total of 20,000 Green Cards were provided to be distributed among high-skilled migrants from non-EU countries if recipients either had the respective education or provided evidence from future employers in Germany that they would earn a minimum salary per year of, then, 100,000 German Mark (51,000).

We use unique longitudinal data on the careers of nearly 1,500 beneficiaries and analyse the determinants of the extent and quality of their labour market integration. In particular, by using the inverted Herfindahl Index in the analyses, we focus on the relevance of cultural diversity on the firm/establishment level for the labour market integration of green card recipients. We examine path-dependency in the recruitment of migrants as regards, for example, nationality and field of study. We also ask whether previous experience with the hiring of migrants of the same nationality determines the future recruitment of migrants and what role the openness towards a diversity of employees (of different nationalities) generally plays for the process.

Paper Title: Exploring the effects of future variations in Stamp Duty Land Tax in Wales

Presenting Author: Long Zhou

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Co-author(s): Kent Matthews and Max Munday

Abstract: In the current climate of greater devolution of fiscal powers to the UK regions, there have been concerns about how subtle variations in different types of taxes may impact on these same regional economies. Investigating these issues has been hindered by a lack of economic data and modelling frameworks, with simple modelling approaches such as Input-Output unsuitable for exploring the consequences of tax varying. In this paper the focus is on Stamp Duty Land Tax (SDLT) which is one of the taxes being devolved to Welsh Government. Stamp Duty Land Tax will be replaced by a Welsh Tax on Transactions involving interests in Land (WTTIIL). The paper examines how changes in the administration and level of this tax could have consequences on different parts of the regional economy. The paper describes the development of a CGE model for Wales together with an accompanying SAM, and shows how this is applied to the problem of the land tax. A series of simulations are developed to show the possible effects of changes in this tax.

The paper is based on research that is funded by Welsh Government.

Abstracts for the Special Session on 'The Role of the Census in Regional Science' at the 46th Regional Science Association International: British and Irish Section, in collaboration with the UK Data Service-Census Support on Wednesday 23 August

Title: Using census data in microsimulation modelling

Presenter: *Mark Birkin* (LIDA, University of Leeds)

Co-authors: Michelle Morris, Tom Birkin and Robin Lovelace (LIDA, University of Leeds)

Abstract: This presentation will explore the value of census data for academic research and public policy analysis using spatial microsimulation. It will begin with a broad overview of methods and an explanation of the rationale for the creation of synthetic microdata from neighbourhood statistics. Applications will be considered in relation to three problem domains: urban mobility; diet and nutrition; and consumer choices. Case studies will be used from real world examples in both local government and commercial environments. The use of complementary data sources will also be highlighted, placing emphasis on the combined value of census data with emerging sources of data for lifestyles and behaviour. This will lead on to a broader discussion of issues in relation to the cross-validation of different data sources and, in particular, the robustness of census data. There is also a commentary on trends in the utility and value of alternative data sets in a world which is ostensibly overflowing with 'big data'.

Title: Using census microdata to explore the inter-relationships between ethnicity, health, socioeconomic factors and internal migration

Presenter: *Fran Darlington-Pollock* (Queen Mary University of London)

Co-authors: Paul Norman (University of Leeds) and Dimitris Ballas (University of Groningen)

Abstract: Ethnic inequalities in health, although widely observed, are not fully understood. Theories of selective sorting between area types and social classes may help explain changing ethnic health gradients in England as opportunities and propensities for either internal migration or social mobility vary between ethnic groups. Furthermore, processes of selective sorting can help us interpret the complex inter-relationships between ethnicity, health, socioeconomic factors and internal migration. In this presentation, we explore these relationships using census microdata to establish whether selective sorting may vary between ethnic groups and if selective sorting is contributing to changing ethnic health gradients. Through analysis of the Census Samples of Anonymised Records, we find that despite marked variations in the propensity to migrate by ethnic groups, the relationship between migration and health is consistent between ethnic groups. However, we show that the extent of the influence of socioeconomic status on the health-migration relationship does vary. To assess the contribution of selective sorting to changing ethnic health gradients, we use the Office for National Statistics Longitudinal Study to compare the health of different groups transitioning between deprivation quintiles and social classes. Our results show that these transitions can contribute to changing ethnic health gradients. Further, it is likely that for minority groups,

movement within the middle deprivation quintiles may be particularly important in terms of the contribution to changing health gradients.

Title: Using census data for trend comparisons in British city regions

Presenter: *Mike Coombes* (CURDS, University of Newcastle)

Co-author: Tony Champion (CURDS, University of Newcastle)

Abstract: City decline has attracted growing interest in several countries, but recent high levels of net immigration mean that few if any British cities are seeing absolute population decline. Even so it is clear that some patterns of uneven growth such as the north-south 'divide' show a continuing importance in analysing relative decline. Census stock and flow datasets on 74 cities covering the UK's larger cities allow some multi-dimensional analyses that can draw out key longer-term trends. Particular emphasis is put upon forms of decline likely to increase the risk of poverty. This leads to a focus on the labour market which in turn called for analysis by city labour market area, so changes in local job availability can be linked to change in local employment rates. A synthesis index of relative decline is developed, and a set of other variables then used to model the resulting city index scores. These analyses suggest that for robust research and monitoring of cities on issues such as relative decline, Census stock and flow datasets are certainly necessary but not sufficient.

Title: The Census Transformation Programme: progress and prospects

Presenter: *Meghan Elkin* (ONS)

Abstract: In 2010, the UK Statistics Authority asked the National Statistician and the Office for National Statistics (ONS) to review the future provision of population statistics in England and Wales in order to inform the Government and Parliament about the options for the next census. Over the next three years, ONS undertook extensive research into new ways of counting the population, reviewed practices in other countries, engaged with a wide range of users, completed a three month consultation and commissioned an independent review of methodology. In March 2014, the National Statistician recommended a predominantly online census in 2021 supplemented by the further use of administrative and survey data. The Board of the Authority and the Government subsequently accepted and endorsed the National Statistician's recommendation. This presentation outlines early thinking and plans by ONS to deliver an online census in 2021. It considers the impact on the design of a move to an online first approach as a means for the public to complete census questionnaires, and the greater use of administrative data to improve the efficiency, effectiveness and quality of the census. It also describes the strand of work on continued research into the potential to switch to an administrative data based Census after 2021.

Title: The spatial-temporal exploration health and housing tenure transitions using the Northern Ireland Longitudinal Study

Presenter: *Myles Gould* (University of Leeds)

Co-author: *Ian Shuttleworth* (Queens University Belfast)

Abstract: The nature and value of the Northern Ireland Longitudinal Study (NILS) is demonstrated through a statistical analysis of changes in individuals' health status, housing tenure and residential movement between the 2001 and 2011 Censuses. Multilevel analysis of individuals located within Super Output Areas, and also aggregate mapping of Local Indicators of Spatial Association (LISA) using 2011 Census Area Statistics are undertaken. Over the ten year period in which some people report worsening of their health whilst others experience an improvement, we show how probabilities in health transition are related to starting tenure as well changes in tenure and address between 2001 and 2011. We also provide evidence of distinctive 2011 geographies of self-reported illness and housing tenure, and suggest that spatial context does matter to a degree for individual health transitions. The presentation concludes with a reflection on the analyses presented, consideration of potential future research applications using the NILS, and also some general observations on the changing data landscape.

Title: Using the 2011 Output Area Classification as a baseline for consumer data analytics

Presenter: *Paul Longley* (UCL)

Co-authors: Chris Gale (University of Southampton) and Alex Singleton (University of Liverpool)

Abstract: This presentation will reflect upon the creation of the 2011 Output Area Classification and the related 2011 London Output Area Classification. It will then discuss the ways in which ancillary data sources can be used in geodemographic classifications alongside census data, taking the London Classification of Workplace Zones as an example. Finally, novel uses of census and other data will be discussed in the context of updating geodemographic classifications. Some implications for the open data movement will also briefly be discussed.

Title: Local ethnic inequalities and minority concentration in England and Wales, 2001-11

Presenter: *Kitty Lymperopoulou* (University of Manchester)

Co-authors: Nissa Finney (university of St Andrews) and Gemma Catney (University of Liverpool)

Abstract: There has been a longstanding debate in the UK about the residential patterns of ethnic minority groups and the consequences of these patterns for social cohesion. However, there has been less focus on the role of residential segregation in perpetuating the socio-economic disadvantage of ethnic minority groups and, as yet, there is little evidence on how residential segregation patterns relate to spatial patterns of ethnic inequality. This presentation draws on data from the 2001 and 2011 Censuses in the UK to explore how ethnic group concentrations within local

authorities in England and Wales are related to patterns of ethnic inequality in employment, education, housing, and health. The Index of Dissimilarity is used to measure residential segregation for nine ethnic minority groups in 2011 and how it has changed since 2001, for neighbourhoods (output areas) within districts. Ethnic inequality is measured as the absolute difference in the proportion of White British people and people from ethnic minority groups within districts for employment, education, housing and health. Considerable variation by ethnic group and district is found in the association between segregation and socio-economic inequality, suggesting both positive and negative 'effects' of segregation. Key findings are that: high residential segregation is associated with high ethnic inequalities in education within districts; high residential segregation is associated with low ethnic inequalities in employment, health and housing and this relationship strengthened over the 2000s; higher levels of ethnic inequality are found in districts which have had least reduction in segregation, or experienced an increase in segregation.

Title: Contrasting approaches to engaging census data users

Presenter: *James Nicholson* (University of Durham)

Co-authors: Jim Ridgway, Sinclair Sutherland and Spencer Hedger (University of Durham)

ABSRACT

This presentation illustrates two approaches to engaging users with census data. The first involved the creation of a website devoted to census data that designed and assembled a variety of data visualisations, many of which facilitated exploration by users. For example, the local characteristic table LC6202EW shows NS-SeC by ethnic group by age, which can be plotted against each other in a variety of ways; users can also view data from neighbouring constituencies, and can compare local demographics with the geographies in which the constituency is nested (such as the local region, or England and Wales). Another approach is exemplified by the Constituency Kit, the first product of a collaboration between the House of Commons Library and Durham University. The Constituency Kit provided rich data in a form that people could understand and explore, ahead of the 2015 election, and then the 2017 election. Resources are targeted on different audiences, which include politicians, journalists, researchers, and citizens. It has three major components: the Constituency Explorer; quizzes; and constituency PDFs (about 10,000 pages in total). The Explorer presents data on 150 variables, many synthesised from the three 2011 Censuses, constituency by constituency; users can select variables, and can 'pin' constituencies in order to compare them. We illustrate user engagement via google analytics. In addition to an analysis of the different approaches to user engagement, we discuss the use of large scale survey data in reforming statistics education, using the ERASMUS+ funded procivicstat project as an example.

Title: The changing geography of deprivation in Great Britain: Exploiting small area census data, 1971 to 2011

Presenter: *Paul Norman* (University of Leeds)

Co-author: Fran Darlington-Pollock (University of Liverpool)

Abstract: A major use of census data has been the development of measures of small area deprivation. Deprivation indices have had widespread use in public health, local government and academic research. In a variety of settings, we might be interested in knowing whether area deprivation has changed over time including whether a regeneration scheme has had the desired effect or whether health inequalities are increasing or decreasing. However, deprivation schemes are invariably cross-sectional and various census aspects mean that determining change over time is challenging. Nevertheless, methods to address these issues exist along with a recent literature on measuring change in area characteristics over time. This chapter will first give examples of census based deprivation schemes and their usage. The methods used to measure change in area deprivation over time are then outlined. This is followed by a description of the geographies of change during the five censuses 1971 to 2011 in several case study locations. The presentation concludes with a consideration of the future of deprivation measures with respect to the 2021 Census and the use of administrative data as inputs to deprivation indices.

Title: Mapping travel-to-work flows

Presenter: *Oliver O'Brien* (UCL)

Co-author: James Cheshire (UCL)

Abstract: A fine-grained origin-destination dataset, showing counts of travel-to-work flows split by mode of transport, was incorporated into an online scrollable/zoomable map, which allowed for intuitive navigation of the data and easy identification of distinct flow patterns. The technique demonstrates that even with a relatively simple cartographical treatment of the data, insights can be quickly gained.

Title: Why censuses are essential for estimating ethnic populations and components of change

Presenter: *Philip Rees* (University of Leeds)

Co-authors: Stephen Clark, Nik Lomax and Paul Norman (University of Leeds) and Pia Wohland (Hull Medical School)

Abstract: This presentation describes the creation of new estimates of ethnic populations and components of change in local authority districts (LADs) in England for years between the 2001 and 2011 Censuses. Information on ethnic populations by age and gender is provided in censuses. In between censuses, information on ethnic population change is scarce. To fill the gap, we used data

from the two censuses with reconciled total population and component estimates published by the Office of National Statistics. The sequence of steps used to produce a ten-year time series is described. These reconciled population and component estimates provide a firmer foundation for ethnic-specific projections than hitherto available. The role of the census in this work is vital.

Title: The prevalence of informal care and its association with health: Longitudinal research using census data for England and Wales

Presenter: *James Robards* (University of Southampton)

Co-authors: Maria Evandrou, Jane Falkingham, and Athina Vlachantoni (University of Southampton)

Abstract: Informal or unpaid caregiving is increasingly significant in the context of an ageing population and pressures related to the funding of care in later life. The relationship between health and informal caring remains contested. Cross-sectional analysis of recent census data points to a positive association between caring and health, with carers being less likely to report a limiting long-term illness than non-carers. However, there may be a healthy carer selection effect, with those in better health being in a position to provide care. This chapter investigates the relationship between caring and health using the ONS Longitudinal Study, a 1% sample of the population of England and Wales, using 2011 Census records linked to the 2001 Census responses from the same individuals. Two separate dimensions of the 'caring-health' relationship are investigated using a longitudinal approach. First, the impact of caring on health is examined using a typology of care provision - non-carers, light carers and heavy carers - in 2001 and 2011. Second, the chapter investigates the relationship between health and care, examining the characteristics associated with providing care in 2011, taking into account prior selection into the caring role at 2001. Multivariate analysis predicting informal caring at 2011 among those who were providing care in 2001 indicates that being in fair health in 2011 is significant, as is the intensity of care provision in 2001. The implications of these findings for future research and for the design of policy supporting carers are discussed.

Title: Ethnic identity and inequalities: Local authority summaries

Presenter: *Ludi Simpson* (University of Manchester)

Abstract: Flexible access to census results for a wide range of policy and research work was made simple through drop-down lists, lookup functions and text conditional on data values. This example emphasised clear visualisation of tried and tested analyses to provide answers to common questions.

Title: Uneven family geographies in England and Wales: (Non)Traditionality and change between 2001 and 2011

Presenter: *Darren Smith* (University of Loughborough)

Co-author: Andreas Culora (University of Loughborough)

Abstract: This presentation uses 2001 and 2011 Census data for England and Wales to explore how family formations at local authority district level have been reproduced and/or transformed during the 2000s. Using six variables drawn from Duncan and Smith's (2002) earlier study of geographies of family formations, the chapter shows that regional patterns have become more entrenched, and divisions within England and Wales would appear to have become more intense. It is argued that some local authorities have seemingly joined 'regional clubs' of traditionality and non-traditionality, with the effects of urban-rural, coastal and university towns being a key factor in the differentials of family formations. These spatial differences will have major bearings on diverse demands for social welfare and public policy in England and Wales

Title: Moving through the life course: inter-regional migration in England and Wales from 1971 to 2011

Presenter: *Rachel Stuchbury* (University College London)

Abstract: Using the ONS Longitudinal Study it is possible to follow individual people in England and Wales from the 1971 census until (currently) 2015, incorporating four more census returns on the way. Variables derived from postcodes are available for researchers, showing distance (in bands) between address at last census and at this census. This presentation includes analysis of distance and direction of moves by individuals from 1971 to 2011, stratified by individual and household characteristics.