

ESRI REVIEW OF RESEARCH 2018



ABOUT THE ESRI

The Economic and Social Research Institute is an independent research institute working towards a vision of ***'Informed policy for a better Ireland'***. The ESRI seeks to support sustainable economic growth and social progress in Ireland by providing a robust knowledge base capable of providing effective solutions to public policy challenges.

The Institute was founded in 1960 by a group of senior civil servants, led by Dr T.K. Whitaker, who identified the need for independent and in-depth research to support the policymaking process in Ireland. Since then, the Institute has remained committed to independent research and its work is free of any expressed ideology or political position. The Institute publishes all research reaching the appropriate academic standard, irrespective of its findings or who funds the research.

The ESRI brings together leading experts from a variety of disciplines who work together to break new ground across a number of research initiatives. The expertise of its researchers is recognised in public life and researchers are represented on the boards and advisory committees of several national and international organisations.

ESRI researchers uphold the highest academic standards. The quality of the Institute's research output is guaranteed by a rigorous peer review process. Research is published only when it meets the required standards and practices. Research quality has also been assessed as part of two peer reviews of the Institute, in 2010 and 2016.

ESRI research findings are disseminated widely in books, journal articles and reports. Reports published by the ESRI are available to download, free of charge, from its website. ESRI staff members communicate research findings at regular conferences and seminars, which provide a platform for representatives from government, civil society and academia to discuss key findings from recently published studies and ongoing research.

The ESRI is a company limited by guarantee, answerable to its members and governed by a Council, comprising a minimum of 11 members and a maximum of 14 members, who represent a cross-section of ESRI members: academia, civil service, state agencies, businesses and civil society.

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Eoghan Murphy, TD, Minister for Housing, Planning and Local Government, and Alan Barrett pictured at *Exploring Developments in the Irish Housing and Mortgage Market*, a conference held on 21 June to discuss ongoing research from the ESRI's joint research programme with the Department.



Alan Barrett (right) chaired the *National Economic Dialogue* on 27 and 28 June. He is pictured here with Paschal Donohoe, Minister for Finance and Public Expenditure and Reform (left) and An Taoiseach Leo Varadkar (centre).

01 INTRODUCTION

Every year, this Review of Research is an opportunity for me to describe the important work of the ESRI in providing independent, high-quality research to achieve its vision of “informed policy for a better Ireland”. The ESRI performs a unique role in Irish public life. It provides the most effective input with which to solve public policy problems: evidence.

The extent of public policy challenges can seem overwhelming in our rapidly changing world. Recent developments, such as Brexit and changing US trade policies, have added to the challenges already facing policymakers in Ireland. The difficulties posed by housing supply, healthcare, climate change, an ageing population, and technological advances, to name just a few, demand innovative and effective responses.

However, solutions are only likely to be effective if they are based on high-quality evidence. Solving policy problems is multifaceted and difficult – the best place to start is with the facts. Establishing the facts should be a guiding principle, a “North Star”, for policymakers tasked with responding to complex public policy challenges.

There are two reasons why the ESRI is among the best-placed organisations to help policymakers achieve this. Firstly, our commitment to academic rigour distinguishes us from others. A rigorous peer review process guarantees the quality of the Institute’s research output and we publish work only when it meets the highest standards. Secondly, the Institute is independent and its work is free of any expressed ideology or political position. We publish all research reaching the appropriate academic standard, irrespective of its findings or who funds the research.

For these reasons, the ESRI can be relied on to provide only solid evidence, which cuts through the noise of an information-heavy world where the lines between facts and

opinion are often blurred and disinformation is readily available. The value of facts has come under fire recently in the context of the so-called “post-truth” era. The ESRI will continue to support informed public debate by promoting the importance of high-quality research, by making its research widely available and by communicating the results in a variety of public fora. Our contributions to public discourse are informed by almost 60 years of expertise in a wide range of socio-economic topics.

Before I highlight key research from 2018, it is important to thank our funders, our members and our research partners for their valuable support. I would like to acknowledge in particular the grant provided by the Department of Public Expenditure and Reform. I would also like to thank the numerous government departments, state agencies and other organisations who commissioned the research described below and throughout this document.

I should stress that the following highlights are in no way exhaustive and reflect only a sample from the enormous body of work produced by ESRI researchers in 2018.

Preparing for Brexit

The Institute has built a body of work on Brexit since its initial scoping exercise published in 2015. Since then, our work has been at the forefront of analysis aiming to make sense of this seismic change and its implications for Ireland. Our research has been discussed in Oireachtas committees and debates, and has been covered by national and international news outlets, including the *New York Times*, the BBC and the *Guardian*.

In 2018, ESRI studies focused on the potential impact of Brexit on consumer prices, supply chain links between the north and south of Ireland and the UK, and challenges faced by exporters. The Quarterly Economic

01 INTRODUCTION

Commentaries continued to examine the potential short- and long-term impact of various Brexit scenarios on the Irish economy.

The Institute produced its first study about how Brexit could impact the prices of common household goods. The findings highlighted that costs would rise the most for lower-income households. These households spend a greater share of household expenditure on food products, many of which are imported from the UK and would be subject to tariffs.

At a conference held in conjunction with the Department of Business, Enterprise and Innovation, researchers launched a study discussing the reliance of Irish-owned firms on the UK as the source of raw materials. This dependence would leave them highly exposed to cost increases in the case of a hard Brexit, damaging competitiveness and export performance.

Climate policy for Ireland

The Institute launched a new model, the Ireland Environment, Energy and Economy (I3E) model, in November. The model examines the interaction between economic policies, energy use and climate change. It reproduces the structure of the Irish economy, including productive sectors, households and the government, with the aim of informing policy design so that a smooth and least-cost transition to a low-carbon economy can be achieved.

The first analysis using the model examined how an increased carbon tax would affect prices and emissions. It found that the carbon tax would need to increase significantly to move towards a low-carbon economy and to meet the EU emissions targets.

This work is significant in the context of Ireland's climate change objectives and

also the alarming report delivered this year by the Intergovernmental Panel on Climate Change. The importance of understanding the relationship between the economy and the environment was acknowledged on the global stage this year in the announcement of Professor William Nordhaus as a recipient of the Nobel Prize in Economics for his pioneering work. The ESRI is pleased to play a leading role in producing evidence to inform the development of Irish climate policy.

Childcare costs

Mothers with higher childcare costs worked fewer hours, according to a study published by the Institute in September. Using data from the *Growing Up in Ireland* study, the study calculated childcare costs in Ireland, including non-centre-based care such as care provided by childminders and relatives. It highlighted several critical issues for policy development in this area.

On average, households spend 12 per cent of their disposable income on care for one child. However, the burden was greater for lone parents, who spend 16 per cent, and for low-income households, who spend 20 per cent. Costs were higher for those living in Dublin, East Leinster and other urban areas. As the research was based on one child, it represents the minimum costs and the minimum impact on working hours.

Such costs are a significant barrier to employment for women and more affordable childcare costs could bring more women into the labour market. Policies that address childcare costs are important in terms of tackling poverty, as not being able to work due to childcare costs is associated with household joblessness and poverty risk.

Attitudes to immigrants and Black Irish citizens

Ireland is now one of the most diverse countries in the EU, with 17 per cent of its population born in another country. In this context, research carried out as part of an ongoing programme funded by the Irish Human Rights and Equality Commission has been valuable in highlighting how people from different ethnic backgrounds are faring in Ireland.

Research found that Black Irish people are twice as likely to experience discrimination when seeking work and over three times as likely to experience discrimination in the workplace as White Irish people. Both Black non-Irish and Black Irish people are much less likely to hold a managerial or professional job. Black non-Irish people fared worst. They were less than half as likely to be employed as White Irish people and five times as likely to experience discrimination when seeking work.

This indicates that we need to be cognisant of how ethnic minorities in Ireland are faring and ask why Black Irish citizens and residents do not have the same opportunities and outcomes as White Irish people. Another study from the same research programme found that attitudes towards diversity in Ireland are now less positive than the Western European average. However, the study identified that personal experience and social contact are the key to promoting attitudes that are more positive. This indicates that positive outcomes are likely when we find successful ways to promote integration.

The sections above highlight a selected collection of research accomplishments in 2018. I invite you to find out about the wide range of topics throughout the remainder of this document.



Professor Alan Barrett,
Director of the ESRI



Alan Barrett (centre) pictured with Sebastian Kurz, Chancellor of Austria, (right) and An Taoiseach Leo Varadkar (left) at Dublin Castle on 8 July.

02 ESRI CONFERENCES AND SEMINARS

The ESRI holds conferences and seminars to examine key research topics. These events are open to the public and often held in conjunction with the release of a publication.

Additionally, the ESRI organises a public seminar series connecting experts from other institutions with researchers and policymakers. These seminars provide access to specialised knowledge and promote informed debate on a wide range of economic and social issues.

Visit esri.ie/events for more information, including photos, videos and presentations from events held in 2018.



(left to right) Pete Lunn, Claire Keane, Alan Barrett, Paschal Donohoe, TD, Minister for Finance and Public Expenditure and Reform, and Tim Callan at the *Budget Perspectives 2019* conference on 10 July.

CONFERENCES

Poverty dynamics of social risk groups in the EU, **January.**

Symposium on risks in integrated energy systems, **March.**

Growing Up in Ireland data workshop, **March, April, August and December.**

Evidence on some economic effects of local infrastructure in Ireland, **April.**

ESRI-UCC-MaREI energy research workshop: national energy & climate policy, **May.**

Planning for the future Irish healthcare system, **May.**

Exploring developments in the Irish housing and mortgage market, **June.**

Ireland's response to recent trends in international protection applications, **June.**

Building stronger business: responding to Brexit, **July.**

Budget perspectives conference 2019, **July.**

Joint ESRI and CompNet research and data workshop, **October.**

Launch of Growing Up in Ireland Report: lives of 13-year-olds, **October.**

10th annual Growing Up in Ireland conference, **November.**

Launch of monitoring report on integration 2018, **November.**

ESRI annual Geary lecture: globalisation and the Irish economy, **November.**

Launch of the Ireland Environment, Energy and Economy (I3E) model, **November.**



(left to right) Desmond O'Mahony, Daráine Murphy, Katherine Zappone, TD, Minister for Children and Youth Affairs, Eoin McNamara, Emer Smyth, Aisling Murray and Dorothy Watson at the *Growing Up in Ireland* conference and launch of the key findings reports on 8 November 2018.

SEMINARS

How are millennials faring? The 'Next Steps' longitudinal survey of young people in England at age 25: survey implementation and initial findings, Dr Lisa Calderwood and Dr Morag Henderson, University College London Centre for Longitudinal Studies, January.

The end of free higher education in England: implications for quality, enrolments, and equity, Dr Gill Wyness, University College London Institute of Education, January.

Behavioural science with mass transaction data, Professor Neil Stewart, University of Warwick, February.

On the rapidity of Ireland's recovery, Professor Frank Barry, Trinity College Dublin, and Dr Adele Bergin, ESRI, February.

Managing labour migration for lower skilled jobs, Jonathan Chaloff, Organisation for Economic Co-operation and Development, February.

Freelancing – the new entrepreneurship, Professor Andrew Burke, Trinity College Dublin, March.

Joint ESRI/TCD seminar: Fostering social acceptance of energy transitions: the prospects and limitations of community fund provision, Professor Patrick Devine-Wright, University of Exeter, April.

Joint ESRI/UCD research seminar: The origins of firm heterogeneity: a production network approach, Professor Kalina Manova, Department of Economics, University College London, April.

Knowledge spillovers from multinationals to local firms: international and Irish evidence, Dr Iulia Siedschlag, ESRI and Dr Mattia Di Ubaldo, University of Sussex, April.

Banking crises and investments in innovation, Dr Oana Peia, University College Dublin, May.

Do trade bans protect endangered species? Evidence from the world's first possession ban, Dr John M. Lynham, University of Hawaii, June.

What shapes great expectations? Gender, social origin and cross-country differences in students' expectations of university graduation, Dr Luis Ortiz, Pompeu Fabra University, June.

Childcare, home production and labour supply, Dr Hélène Turon, University of Bristol, November.

The public sector wage gap: new evidence from panel administrative data, Professor Olivier Bargain, University of Bordeaux, October.

Technology and heterogeneous capital: explaining the decline of the labour share, Professor Mary O'Mahony, King's College London, October.

Mums go online: is the internet changing the demand for healthcare? Professor Carol Propper, Imperial College London, October.



(left to right) Frances McGinnity, Philip O'Connell, UCD, David Stanton, TD, Minister of State for Equality, Immigration and Integration, Éamonn Fahey, Samantha Arnold and Emma Quinn at the launch of the *Monitoring report on integration 2018* on 7 November.

2018 IN NUMBERS

PUBLICATIONS

44 REPORTS

62 JOURNAL ARTICLES

11 BOOK CHAPTERS

28 RESEARCH BULLETINS

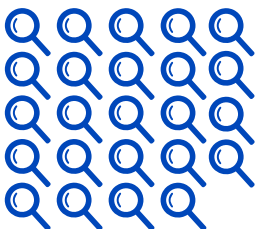
26 WORKING PAPERS

RESEARCH PROGRAMMES AND PROJECTS



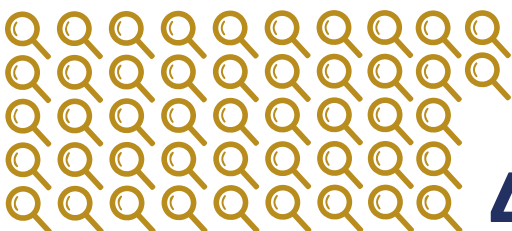
19

NEW



24

COMPLETED



47

ONGOING

OIREACHTAS



ESRI RESEARCHERS ADDRESSED
OIREACHTAS COMMITTEES

6 TIMES

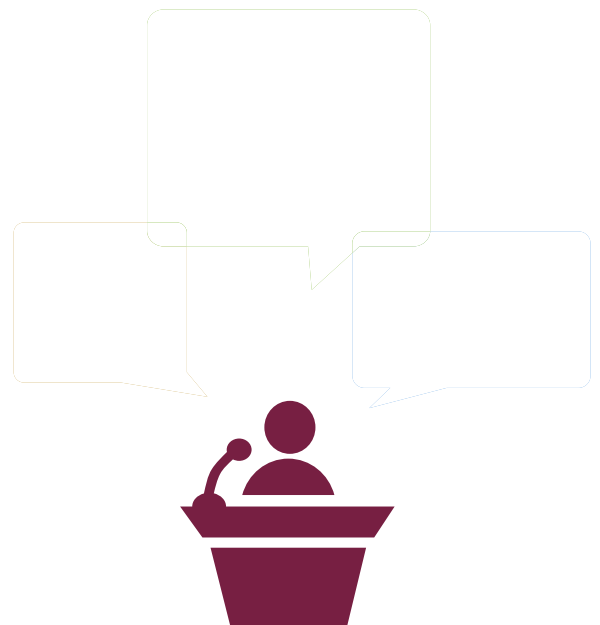
THE ESRI WAS MENTIONED
IN OIREACHTAS PROCEEDINGS

335 TIMES

MEDIA



EVENTS



03 BEHAVIOURAL ECONOMICS



Research Area

Coordinator:

Pete Lunn

Others working in this area include:

Martina Barjaková,
Cameron Belton,
Laura Gormley,
Hannah Julienne,
Ciarán Lavin,
Féidhlim McGowan,
Terry McElvaney,
Áine Ní Choisdealbha,
Deirdre Robertson,
Shane Timmons

RESEARCH HIGHLIGHTS

- Irish consumers do not understand important aspects of Personal Contract Purchase (PCP) plans. Consumers have difficulty telling the difference between good and poor PCP deals, or understanding what happens at the end of the deal.
- Research identified features of credit, investment and insurance products that either are poorly understood by consumers or bias their decisions. There is evidence that many consumers find modern financial products difficult to deal with, with implications for their financial outcomes.

The behavioural economics research area revolves around the Behavioural Research Unit (BRU), a team of multidisciplinary scientists who use controlled experiments to investigate economic decisions and behaviours. The BRU has many research programmes that made progress in the second half of 2018.

An experiment was undertaken to pre-test calorie posting on restaurant menus. This experiment, funded by the **Department of Health**, employed eye-tracking technology to record how much attention consumers give to calorie labels. The results showed that labels do affect food choices and that the format affects the weight that consumers give them.

The BRU completed five laboratory experiments under the PRICE Lab research programme, funded by the **Competition and Consumer Protection Commission, Commission for Communications Regulation (ComReg) and Commission for Energy Regulation**. Topics included adoption of smart meters, marketing of broadband speed, premium rate telecoms services, understanding mortgages and mortgage switching, and biases in consumer choices towards options seen first. Results will all be available in 2019.

The BRU completed and published a substantial review of international evidence on financial product features for the **Central Bank of Ireland**. The work identified specific features of credit, investment and insurance products that cause consumers difficulty.

The BRU completed three studies for the **Pensions Authority**. Multiple experiments revealed shortcomings in people's understanding of how pensions work, leading them to (i) underestimate money growth; (ii) fail to respond to tax incentives; (iii) make inconsistent decisions about annuities.

The studies also tested interventions designed to address these problems.

The BRU completed a literature review for **Sport Ireland** on behavioural interventions designed to increase physical activity in socially disadvantaged areas. This review informed designs for field trials to be undertaken in 2019.

A statistical model was developed for the **Department of Agriculture, Food and the Marine** to identify farms most at risk of breaching EU Nitrates regulations. The model is to be used to target behavioural interventions designed to reduce pollution from Irish farms.

In a research programme funded by **Irish Water**, the BRU undertook a review of communications and relevant evidence regarding take-up of remediation measures to remove lead from household drinking water. Trials of interventions will follow.

In research funded by the **OECD**, a first experiment was undertaken in collaboration with the **Water Industry Commission for Scotland**. The study showed that households dislike putting off inevitable price increases. The BRU has designed a subsequent study to explore how households trade off water charges against environmental and service benefits.

Lastly, experiments were designed to investigate how people assess environmental risks associated with mineral extraction. This is the first step in a **Horizon 2020** project funded by the **European Commission**, undertaken in collaboration with the Geological Survey of Ireland.

03 BEHAVIOURAL ECONOMICS

Project or Programme Title	Client/Funding Agency	Researchers	Status [EOY 2018]
Price Lab research programme: Phase 2	Commission for Communications Regulation; Commission for Regulation of Utilities, Water and Energy; Competition and Consumer Protection Commission	P. Lunn D. Robertson Á. Ní Choisdealbha F. McGowan S. Timmons C. Belton M. Barjaková C. Lavin	In progress
Financial product features and consumer decision making	Central Bank of Ireland	P. Lunn	Completed
Disclosure about personalised pricing	The Organisation for Economic Co-operation and Development	P. Lunn D. Robertson H. Julienne M. Barjaková	In progress
Public perception of mineral exploration	Geological Survey of Ireland as part of PACIFIC, an EU-funded Horizon 2020 Consortium	P. Lunn D. Robertson H. Julienne	In progress
Provision of behavioural science to sport and physical activity in disadvantaged communities	Sports Council of Ireland	D. Robertson P. Lunn C. Belton L. Gormley	In progress
Decision making and pensions	Pensions Authority	P. Lunn D. Robertson	Completed
Obesity and food choices	Department of Health	P. Lunn D. Robertson	Completed
Applying behavioural science to the lead mitigation research	Irish Water	S. Timmons D. Robertson P. Lunn	In progress
Water regulation in Scotland	The Organisation for Economic Co-operation and Development and the Water Industry Commission for Scotland	P. Lunn D. Robertson C. Belton C. Lavin	In progress
Applying behavioural science to compliance with nitrate regulations	Department of Agriculture, Food and the Marine	P. Lunn D. Robertson S. Lyons M. Barjaková	In progress
Presentation of information on the BER certificate	Sustainable Energy Authority of Ireland	P. Lunn	In progress
Identification of behavioural principles of good risk communication	Health Service Executive	P. Lunn D. Robertson H. Julienne	Completed
Environmental protection	Environmental Protection Agency	P. Lunn D. Robertson S. Timmons	In progress

JOURNAL ARTICLES

"Do consumers understand PCP car finance? An experimental investigation", *Journal of Consumer Policy*, Vol. 41, Issue 3, September 2018, pp. 229–255, **Terry McElvaney, Pete Lunn, Féidhlim McGowan**.¹

"Price transparency in residential electricity: experiments for regulatory policy", *Journal of Behavioral Economics for Policy*, Vol. 1, No. 2, 2017, pp. 31–37, **Pete Lunn**, Marek Bohacek.

"The case for laboratory experiments in behavioural public policy", *Behavioural Public Policy*, Vol. 2, Issue 1, May 2018, pp. 22–40, **Pete Lunn, Áine Ní Choisdealbha**.

REPORTS AND OTHER PUBLICATIONS

Do some financial product features negatively affect consumer decisions? A review of evidence, ESRI Research Series No. 78, ESRI, Dublin, **Pete Lunn, Féidhlim McGowan**, Noel Howard.

ESRI RESEARCH BULLETINS

"Do consumers understand PCP car finance? An experimental investigation", ESRI, Dublin, **Terry McElvaney, Pete Lunn, Féidhlim McGowan**.

"Price transparency in residential electricity: experiments for regulatory policy", ESRI, Dublin, **Pete Lunn**.

ESRI WORKING PAPERS

"Do consumers understand PCP car finance? An experimental investigation", ESRI, Dublin, **Terry McElvaney, Pete Lunn, Féidhlim McGowan**.

"Supporting decision-making in retirement planning: do diagrams on pension benefit statements help?", ESRI, Dublin, **Pete Lunn, Féidhlim McGowan**.

"The framing of options for retirement: experimental tests for policy", ESRI, Dublin, **Féidhlim McGowan, Pete Lunn, Deirdre Robertson**.

"The roaming regulation and the case for applying behavioural industrial organisation to EU competition policy", ESRI, Dublin, **Féidhlim McGowan**.

PRESENTATIONS/PAPERS READ TO CONFERENCES AND LEARNED SOCIETIES

"An experimental study of smart meters and time-of-use tariffs", *Economics and Psychology Conference*,

University College Dublin, Dublin, November, **Cameron Belton, Pete Lunn**.

"Application of behavioural insights to policy in Ireland", *OECD International Conference on Behavioural Insights*, OECD, Cape Town, South Africa, September, **Pete Lunn**.

"Applying behavioural science to policy", *European Commission Training Course*, European Commission, Brussels, Belgium, May, **Pete Lunn**.

"Behavioural economics: a new understanding of consumer behaviour?" *European Union Consumer Policy Network*, European Commission, Lisbon, Portugal, June, **Pete Lunn**.

"Behavioural economics: what it is, and how it helps us to understand financial disputes", *International Financial Ombudsmen Conference*, Financial Ombudsman, Dublin, September, **Pete Lunn**.

"Causal reasoning about the risk of catastrophic events", *International Association for Research in Economic Psychology Seminar*, London, UK, July, **Deirdre Robertson, Pete Lunn**.

"Pre-testing calorie posting legislation", *Economics and Psychology Conference*, University College Dublin, Dublin, November, **Deirdre Robertson, Pete Lunn**.

"Does consumer advice alter mortgage-holders' evaluations of switching offers?" *Economics and Psychology Conference*, University College Dublin, Dublin, November, **Shane Timmons, Martina Barjaková, Terry McElvaney, Pete Lunn**.

"Setting defaults for online banking transactions: experimental evidence from personal loan repayment terms", *Research in Behavioural Finance Conference*, Vrije Universiteit, Amsterdam, The Netherlands, September, **Shane Timmons, Féidhlim McGowan, Pete Lunn**.

"Surplus splitting and the endowment effect", *Maastricht Behavioural Economics Symposium*, University of Maastricht, Maastricht, The Netherlands, June, **Pete Lunn**.

"The framing of options for retirement: experimental tests for policy", *Research in behavioural finance conference*, Vrije Universiteit, Amsterdam, The Netherlands, September, **Pete Lunn, Féidhlim McGowan, Deirdre Robertson**.

"The public's perception of mining-related activities: a behavioural science approach", *Geoscience 2018*, Dublin Castle, Dublin, November, **Hannah Julienne, Deirdre Robertson, Pete Lunn**.

"Using behavioural experiments to pre-test policy", *Budget Perspectives 2019*, ESRI, Dublin, July, **Pete Lunn, Deirdre Robertson**.

¹**Bold type** indicates ESRI staff members. An asterisk (*) indicates an ESRI Research Affiliate.

03

BEHAVIOURAL ECONOMICS



(left to right) Ciarán Lavin, Laura Gormley, Shane Timmons, Deirdre Robertson, Pete Lunn, Martina Barjaková, Cameron Belton and Hannah Julienne are researchers in the ESRI's Behavioural Research Unit.



Pete Lunn and Deirdre Robertson, authors of *Using behavioural experiments to pre-test policy*, pictured at the Budget Perspectives conference on 10 July.

Some features of financial products cause problems for consumers

On 16 October 2018, the ESRI published a review of international behavioural literature, which found that some features of financial products consistently cause consumers difficulty. It identifies specific problems for consumers in credit, investment and insurance markets.

The review, funded by the Central Bank of Ireland, examines evidence from more than 140 international studies in behavioural economics and behavioural finance, mostly conducted within the past five to ten years. It identifies multiple product features that either are poorly understood by many consumers or generate systematic biases in their decisions.

Specific findings include:

- The amount consumers repay on credit cards is influenced by minimum amounts suggested by lenders, which act as “anchors” on decisions.
- Consumers can be influenced by changes to credit limits even when they borrow well below their limit.
- Many consumers underestimate how long it takes to repay debt and respond more to cash sums than to equivalent prices expressed as interest rates.
- Consumers struggle to understand how mortgage costs can vary, placing too much weight on immediate monthly repayments.
- Many retail investors pay too much attention to past performance and too little to fees charged by providers.
- Consumers do not evaluate so-called “structured” investment products accurately and are too optimistic about how well they will perform.

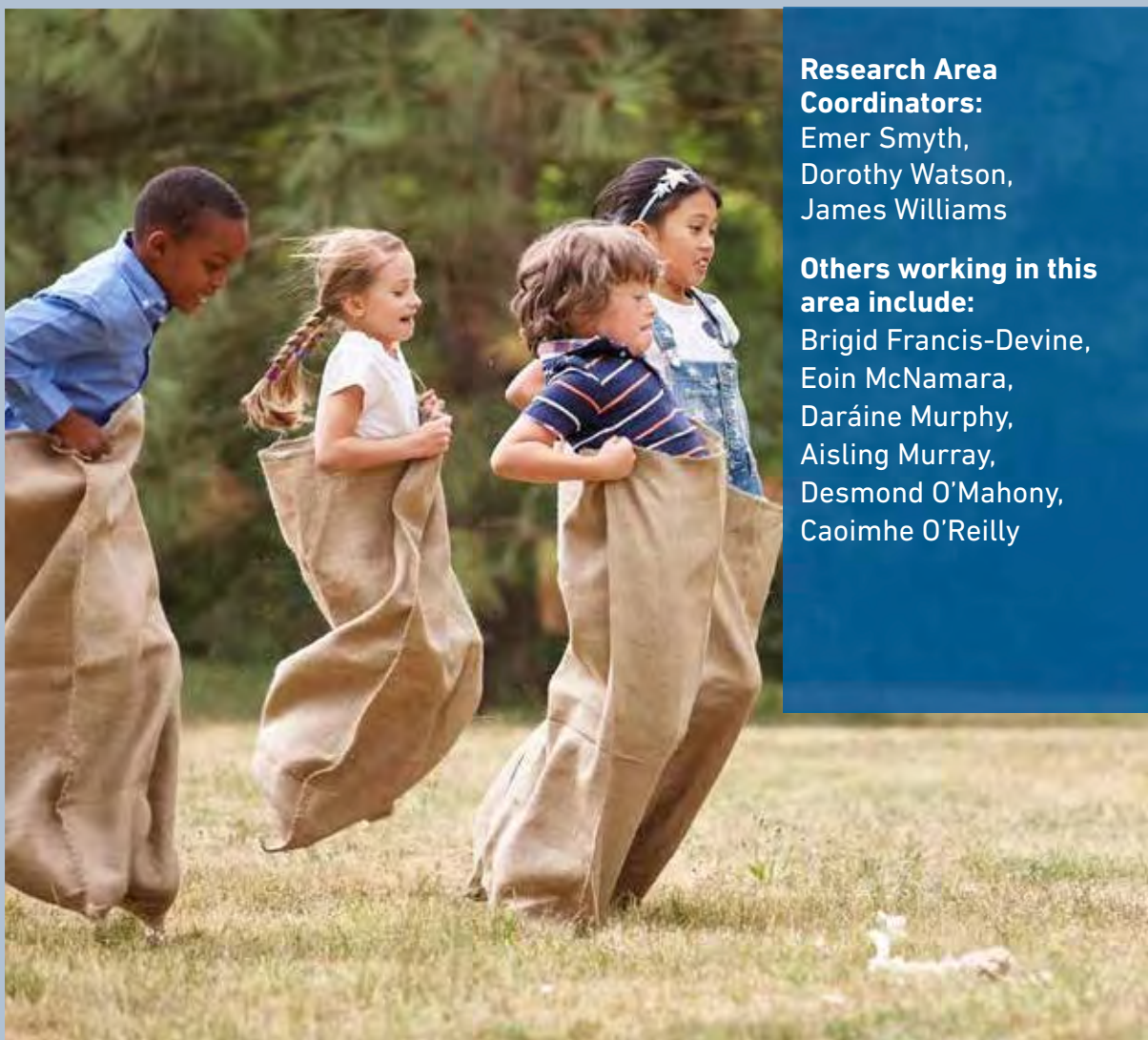
- Consumers are susceptible to purchasing poor-value add-on insurance products.
- Some consumers fail to understand the trade-off between the premium and the excess on insurance products.

A common theme among the findings is that where financial products have multiple features, consumers struggle to take account of all the attributes that matter for their financial outcomes.

There has been an increase in the volume of research in this area in recent years and it has become clear that many consumers find modern financial products difficult to deal with. The evidence suggests a need to keep everyday financial products simple. Where more complex products are available, behavioural research provides methods for testing them to ensure that they can be properly evaluated and understood by the consumers they are designed to attract.

The review concludes that consideration should be given to a requirement to pre-test some financial products and product features. Such pre-tests might help to ensure that innovative financial products offer genuine value to consumers.

04 CHILDREN AND YOUNG PEOPLE



Research Area Coordinators:
Emer Smyth,
Dorothy Watson,
James Williams

Others working in this area include:
Brigid Francis-Devine,
Eoin McNamara,
Daráine Murphy,
Aisling Murray,
Desmond O'Mahony,
Caoimhe O'Reilly

RESEARCH HIGHLIGHTS

- Overweight and obesity continued to be a problem for children at 13 years of age. Twenty per cent of 13-year-olds were overweight and 6 per cent were obese. Girls were significantly more likely than boys to be overweight or obese.
- 23 per cent of 9-year-olds had an online profile. Boys' profiles were largely related to computer gaming and girls' profiles were more likely to be related to social media.

04 CHILDREN AND YOUNG PEOPLE

Work in this area examines developmental outcomes for children and young people and how these vary between different groups in society. Much of the research in this field at the ESRI is closely tied to the ***Growing Up in Ireland*** project,² the national longitudinal study of children.

Significant progress was made throughout the year in terms of data collection and the preparation of databases for research. Interviewing was completed with over 8,000 9-year-olds and their families in the project's younger Cohort '08 (Infant Cohort) and interviewing commenced with the 20-year-olds in the older Cohort '98 (Child Cohort). Databases delivered for use by other researchers included the data for Cohort '98 at age 17 and for Cohort '08 at age 7/8.

In October, Katherine Zappone, TD, Minister for Children and Youth Affairs, launched research about the lives of 13-year-olds. Findings from the study indicated that children from more socially disadvantaged backgrounds were at higher risk of poorer outcomes in terms of their physical health, education and emotional and behavioural wellbeing.

The tenth ***Growing Up in Ireland*** Annual Research Conference was held in November and attended by 200 people. Professor Ingrid Schoon, the Chair of Human Development and Social Policy at the Institute of Education, University College London, delivered the keynote address titled Navigating the transition to adulthood: the role of structure and agency.

At the conference, Minister Zappone launched four Key Findings reports, examining the lives of 9-year-old children from Cohort '08. These reports focused on children and their families; health and development; school and learning; and socio-emotional development and relationships. These recent findings indicate that there were big improvements since 2013 in ability of families to make ends meet. A positive picture of family relationships emerged, with most parents reporting a high level of closeness with their children. Grandparents were important figures in the family lives of most 9-year-olds: two-thirds of children saw a grandparent at least once a week. Children had a broadly positive attitude to school. They generally had healthy diets but had a relatively high consumption of some treat foods such as biscuits and cakes. However, only one-quarter of 9-year-olds reported reaching the recommended level of physical activity.

A workshop was held at the conference on the use of data to inform policy, with contributions from the ESRI, the DCYA and the National Disability Authority. In addition, ESRI researchers presented papers at the conference on a wide range of topics including decision-making about higher education, measuring cognitive ability at age 17, healthcare utilisation, cultural differences in behaviour during pregnancy, the relationship between computer usage and academic performance, socio-emotional well-being, adolescent psychotic experiences, the cost of childcare and tracking physical activity levels over time.

²*Growing Up in Ireland* is conducted by the Economic and Social Research Institute in partnership with Trinity College Dublin. It is funded by the Department of Children and Youth Affairs (DCYA), with a contribution from The Atlantic Philanthropies in Phase 2; and managed and overseen by the DCYA in association with the Central Statistics Office.

04 CHILDREN AND YOUNG PEOPLE

Project or Programme Title	Client/Funding Agency	Researchers	Status [EOY 2018]
<i>Growing Up in Ireland</i> (Phase 2)	Department of Children and Youth Affairs	E. Smyth D. Watson J. Williams A. Murray B. Francis-Devine E. McNamara D. O'Mahony C. O'Reilly	In progress

REPORTS AND OTHER PUBLICATIONS

Growing Up in Ireland: 9-Year-olds and their families, Cohort '08 at 9 years old — Key Findings No. 1, ESRI/TCD/DCYA, Dublin, **Growing Up in Ireland Study Team**.

Growing Up in Ireland: School and learning, Cohort '08 at 9 years old — Key Findings No. 2, ESRI/TCD/DCYA, Dublin, **Growing Up in Ireland Study Team**.

Growing Up in Ireland: Health and physical development, Cohort '08 at 9 years old — Key Findings No. 3, ESRI/TCD/DCYA, Dublin, **Growing Up in Ireland Study Team**.

Growing Up in Ireland: Relationships and socio-emotional well-being, Cohort '08 at 9 years old — Key Findings No. 4, ESRI/TCD/DCYA, Dublin, **Growing Up in Ireland Study Team**.

Growing Up in Ireland: The lives of 13-year-olds, Stationery Office, Dublin, **James Williams, Maeve Thornton, Mark Morgan, Amanda Quail, Emer Smyth, Daráine Murphy, Desmond O'Mahony**.

PRESENTATIONS/PAPERS READ TO CONFERENCES AND LEARNED SOCIETIES

"A latent growth curve model of the relationship between computer usage and academic performance in a nationally representative sample of Irish children aged 9 to late adolescence", *Society of Longitudinal and Lifecourse Studies Annual Conference 2018*, Milan, Italy, July; *10th Annual Growing Up in Ireland Research Conference*, ESRI, Dublin, November; and *Growing Up in the Digital Environment*, Children's Research Network, Dublin, December, **Desmond O'Mahony**.

"Decision-making about higher education: choosing an institution", *Growing Up in Ireland 10th Research Conference*, ESRI, Dublin, November and *European Network on Transitions in Youth Annual Conference*, MZES University of Mannheim, Germany, September, **Emer Smyth, Daraine Murphy**.

"Equality of access to early non-parental childcare in Ireland", *Society of Longitudinal and Lifecourse Studies Annual Conference 2018*, Milan, Italy, July, **Aisling Murray, Helen Russell, Fran McGinnity**.

"Findings from Cohort '08 (Infant Cohort) at 9 years", *10th Annual Growing Up in Ireland Research Conference*, ESRI, Dublin, November, **Dorothy Watson**.

"Growing up healthy in Ireland", *Growing Up Healthy in Families Across the Globe*, Massey University, Wellington, New Zealand, April, **James Williams**.

"*Growing Up in Ireland: educational outcomes*", *Inspectorate Conference*, Department of Education and Skills, Athlone, February, **James Williams, Aisling Murray**.

"Measurements of cognition at age 17/18 years: verbal fluency vs traditional vocabulary", *10th Annual Growing Up in Ireland Research Conference*, ESRI, Dublin, November, **Aisling Murray**.

"The future of micro-level, birth cohort studies", *Growing Up Healthy in Families Across the Globe*, Massey University, Wellington, New Zealand, April, **James Williams**.

"The impact of early life stress on adolescent wellbeing", *10th Annual Growing Up in Ireland Research Conference*, ESRI, Dublin, November, **Daráine Murphy**.

"The impact of prescription drug co-payments on healthcare utilisation and health", *10th Annual Growing Up in Ireland Research Conference*, ESRI, Dublin, November, **Gretta Mohan**.

"The price of living in the digital age? Mobile phone ownership and children's socio-emotional development", *10th Annual Growing Up in Ireland Research Conference*, ESRI, Dublin, November, **Selina McCoy**.

"Tracking the physical activity levels of the *Growing Up in Ireland* child cohort over eight years", *10th Annual Growing Up in Ireland Research Conference*, ESRI, Dublin, November, **Eoin McNamara**.



(left to right) Niamh Finglas, Jessica Shan and Leo Allen at the *Growing Up in Ireland* conference on 8 November.



(left to right) Elizabeth Nixon, TCD, Richard Layte, TCD, Dorothy Watson, Clare Farrell, DCYA, Alan Barrett, Katherine Zappone, TD, Minister for Children and Youth Affairs, Emer Smyth and Claire Finn, DCYA, at the *Growing Up in Ireland* conference on 8 November.

05 COMMUNICATIONS AND TRANSPORT



Research Area Coordinators:
Seán Lyons,
Edgar Morgenroth

Others working in this area include:
Seraphim Dempsey,
Philip Carthy,
Pete Lunn,
Selina McCoy

RESEARCH HIGHLIGHTS

- Research examined the factors most likely to influence the location of a new firm outside the Dublin region. It found that areas with broadband are attractive to new firms if there is also a highly educated workforce there.
- Research examined the academic performance of children who owned a mobile phone from a young age. Children who owned a mobile phone at age 9 performed less well in standardised reading and maths tests at age 13.

05 COMMUNICATIONS AND TRANSPORT

The programme of research in communications is supported by the **Department of Communications, Climate Action and Environment** and the **Commission for Communications Regulation**. This programme is currently addressing four broad research topics:

1. Quantifying the effects of broadband in schools and the effects of programmes intended to improve access of schools to broadband services;

2. Effects of wholesale broadband infrastructure on wider economic outcomes;

3. Modelling the market for broadband services;

4. Effects of regulation on aspects of market performance.

In collaboration with researchers in the Education area, research investigated the impact of digital technologies within and outside school on academic skills and socio-emotional development among children and young people. A first paper was finalised examining student views on the use of personal devices in school and their views on online safety. Two papers drawing on *Growing Up in Ireland* data were also completed. The first examines the extent to which early mobile phone ownership among children impacts on their academic development as they move into adolescence. The paper was presented at the European Consortium of Educational Research conference in Italy in September and was accepted by Economics of Innovation and New Technology. The second paper considers how such phone ownership impacts on the socio-emotional development of children between the ages of 9 and 13 years.

At the start of 2018, a paper was published on the factors affecting consumer switching in Irish telecoms markets. The study found that a high proportion of telecoms consumers have been with their supplier for a long time and never consider switching. Consumer resistance to switching is broadly spread across society rather than focused among particular socioeconomic groups. Many will only consider switching if they experience “bill shock” or expect a substantial cost saving. Another paper was published in the *Journal of Regional Science*. It found that the availability of broadband infrastructure in an area helps attract new businesses, but only in places where educational attainment is also high.

A paper about how broadband rollout affected the productivity of firms in Ireland’s services and distribution sector was accepted by *Telecommunications Policy*. It shows that productivity gains from broadband were confined to two sectors: information and communication services and administrative and support service activities. Two new studies were completed during the year. One, titled *Distribution of benefits from choice in retail broadband services: who searches most?* uses data on broadband plan searches made on a commercial price comparison website, which can be linked to Census data on local socioeconomic characteristics. A second paper, using data from the Department of Business, Enterprise and Innovation, finds no evidence that broadband rollout affected firm-level employment during the period of the Great Recession and its immediate aftermath.

05 COMMUNICATIONS AND TRANSPORT

Project or Programme Title	Client/Funding Agency	Researchers	Status [EOY 2018]
Programme of Research in Communications	Department of Communications, Climate Action and Environment & Commission for Communications Regulation	S. Lyons S. Dempsey P. Carthy S. McCoy P. Lunn	In progress

JOURNAL ARTICLES

“Consumer switching intentions for telecoms services: evidence from Ireland”, *Heliyon*, Vol. 4, Issue 5, May 2018, e00618, pp. 1–32, **Pete Lunn, Seán Lyons**.³

“The impact of broadband and other infrastructure on the location of new business establishments”, *Journal of Regional Science*, Vol. 58, pp. 509–534, **Daire McCoy***, **Seán Lyons, Edgar Morgenroth**, Donal Palcic, Leonie Allen.

CHAPTERS IN BOOKS AND REPORTS

“Digital technologies and student learning”, Brian Mooney (ed.), *Ireland’s Yearbook of Education 2018/2019*, pp. 43–48, Dublin: Education Matters, **Selina McCoy, Seán Lyons**.

ESRI RESEARCH BULLETINS

“Many people never switch telecoms provider: what is different about switchers?”, ESRI, Dublin, **Pete Lunn, Seán Lyons**.

“The local factors that affect where new businesses are set up”, ESRI, Dublin, **Daire McCoy*, Seán Lyons, Edgar Morgenroth**, Donal Palcic, Leonie Allen.

PRESENTATIONS/PAPERS READ TO CONFERENCES AND LEARNED SOCIETIES

“Mobile phones and children’s academic development in Ireland”, European Conference on Educational Research, University of Bolzano, Bolzano, Italy, September, **Selina McCoy, Seraphim Dempsey, Seán Lyons**.

“The role of digital technologies in teaching and learning: insights from ESRI research”, Hibernia College Annual Conference, Hibernia College, Dublin, March, **Selina McCoy, Seán Lyons, Seraphim Dempsey**.

³**Bold type** indicates ESRI staff members. An asterisk (*) indicates an ESRI Research Affiliate.



Alan Barrett and Shane Ross, Minister for Transport, Tourism and Sport, pictured ahead of the round table discussion on public transport held in the Mansion House, Dublin on 21 May.

Photo credit: Robbie Reynolds.



(left to right) Edgar Morgenroth, Leonie Allen, Commission for Communications Regulation, Seán Lyons and Daire McCoy, Grantham Research Institute on Climate Change and the Environment, authors of research examining if broadband attracts new businesses to a local area. They are pictured ahead of a seminar titled *Evidence on Some Economic Effects of Local Infrastructure in Ireland* held at the ESRI on 13 April.

06 EDUCATION



Research Area Coordinators:
Selina McCoy,
Emer Smyth

Others working in this area include:
Joanne Banks,
Adele Bergin,
Merike Darmody,
Seraphim Dempsey,
Elish Kelly,
Seán Lyons,
Seamus McGuinness,
Jessica O'Sullivan,
Adele Whelan

RESEARCH HIGHLIGHTS

- Children start primary school with different skills and capacities, with some children facing greater challenges. The largest skills gap, both academic and socio-emotional, is between children with disabilities or special educational needs and their peers.
- Research examining if special classes operate as a form of segregation or inclusion for students with special educational needs found that this depends on the type of leadership in the school, the type of special class, and the severity of needs of students in the class.



Selina McCoy and Andrew Power, Registrar, Dún Laoghaire Institute of Art, Design and Technology, pictured at the launch of *Ireland's Yearbook of Education 2018/19*, held at NUI Offices, Merrion Square East on 19 December. Dr McCoy works in the Education research area of the ESRI and is a member of the Editorial Board for the Yearbook.



Mary Mitchell O'Connor, Minister of State for Higher Education, and Joe McHugh, Minister for Education and Skills, pictured at the launch of *Ireland's Yearbook of Education 2018/19*, held at NUI Offices, Merrion Square East on 19 December.

06 EDUCATION

The ESRI education research area covers all levels of the Irish educational system, including early childhood education, primary, second level, and further and higher education. Research in 2018 focused on the role and impact of digital technologies in the lives of children, the transition to primary education, the use of digital cameras in teacher education, the Post Leaving Certificate (PLC) programme, the Youthreach programme and changes to the Leaving Certificate grading scheme.

In collaboration with researchers in the Communications research area and as part of a programme funded by the **Department of Communications, Climate Action and Environment**, research investigated the impact of digital technologies within and outside school on academic skills development among children and young people. Drawing on *Growing Up in Ireland (GUI)* data, one paper found that children who received mobile phones earlier fared less well in their academic development as they moved into adolescence. The education team also contributed an article on digital technologies and student learning to the annual *Yearbook of Education*.

A report based on analyses of *GUI*, for the **National Council for Curriculum and Assessment (NCCA)**, shows that boys, children with special educational needs and children from disadvantaged families face greater challenges in starting primary school. The findings suggest that supporting teachers to build stronger relationships with all groups of children and to develop a positive classroom climate could help ease children's adjustment difficulties.

A study examining the early impact of the revised Leaving Certificate grading scheme was completed. It was overseen by the Transitions Reform Steering Group and funded by the **NCCA**. The study found that the changes led to an increase in uptake in higher-level subjects, but this increase was less pronounced in DEIS schools and smaller schools. In addition to this study, the team provided research support to the senior cycle review being conducted by the **NCCA**.

A review of the Youthreach programme, undertaken on behalf of **SOLAS**, was completed during 2018. Also funded by **SOLAS**, the evaluation of the PLC programme was published. This study indicates enhanced entry to employment and higher education among those who have taken part in the programme. However, it highlights potential ways of further improving the responsiveness of provision to labour market opportunities.

Funded by **Hibernia College**, researchers have also been examining how digital cameras can support student teachers during their school placement, undertaken as part of their teacher education.

Education researchers continued to be involved in international networks, including *Understanding Inequalities*, funded by the UK-based **Economic and Social Research Council**, in addition to the **Directorate General for Education and Culture's** Network of Independent Experts in Education and Training and its Expert Group on Graduate Tracking.

Most children settle in well to primary school

On 30 May 2018, the ESRI and the National Council for Curriculum and Assessment published a study that used *Growing Up in Ireland* data to examine how 9,000 children adjusted to primary school. It did this by examining their vocabulary skills; their early literacy and numeracy skills; their attitudes to school; their relationships with teachers; and their socio-emotional skills, which include being able to concentrate in class, communicate their needs and take turns/share with other children.

The research found that the vast majority of five-year-olds are positive about school, look forward to going to school and say good things about school. Only a small proportion (4–5 per cent) of children often complain or are upset about school. However, the study showed that children start school with different skills and capacities, with some children facing greater challenges.

The largest skills gap, both academic and socio-emotional, is between children with disabilities or special educational needs and their peers. In addition, boys have lower vocabulary test scores and teachers report that boys are more likely than girls to have poorer literacy skills, negative attitudes towards school and greater socio-emotional difficulties. Children from socio-economically disadvantaged backgrounds have more negative attitudes towards school, more socio-emotional difficulties and poorer literacy and numeracy skills than those from other backgrounds.

These findings indicate a need to develop supports for children to enhance the transition to primary education.

What could help children to adjust?

The report also suggests a number of ways to help all children settle in well to primary school.

Supporting teachers to build stronger relationships with all groups of children and to develop a positive classroom climate could help ease children's adjustment difficulties.

At present, primary school teachers receive little information about a child's skills and challenges when they start school. This could be resolved by developing templates to transfer information between preschool staff and primary school teachers to provide greater continuity of learning for children.

Increasing play-based activities could promote learning and engagement among young children. Across most schools, there is a decline in play-based learning in senior infants. Additionally, junior infants pupils in multi-grade classes experience less play-based learning as teachers must balance teaching multiple grades simultaneously.

Promoting home learning activities in the preschool years could help to prepare children for school life. Activities, such as reading and creative play, are associated with a more successful adjustment to school.

How well do children adjust to primary school?

The vast majority of five-year-olds are positive about school

Most children look forward to going to school and say good things about school.

Children start school with different skills and capacities.

Some groups of children face greater challenges when starting school.

Boys

Children with disabilities and special educational needs

Children from disadvantaged backgrounds



These groups are more likely to experience challenges

Poorer academic skills

Early vocabulary, literacy and numeracy abilities

Poorer socio-emotional skills

Ability to concentrate in class, communicate needs and take turns/share with other children

More negative attitudes towards school

Complain or are upset about going to school

Poorer quality of relationships with teachers

Less close and more conflictual

What could help children to adjust?

TRANSFER DOCUMENTATION



Transfer information about a child's strengths and needs from early years practitioners to primary school teachers

URBAN DEIS SCHOOLS

Significant skills gap between urban DEIS and non-DEIS schools

More resources needed to target disadvantaged children in urban areas



POSITIVE SCHOOL CLIMATE

Build positive student-teacher relationships

Support teachers to implement positive behaviour management



MORE PLAY-BASED ACTIVITIES to enhance learning and engagement

Promote continued use in senior infants

Promote increased use among younger children in multi-grade classes



PROMOTE HOME LEARNING ACTIVITIES

Reading and creative play help children prepare for school life

06 EDUCATION

Project or Programme Title	Client/Funding Agency	Researchers	Status [EOY 2018]
Evaluation of the National Youthreach Programme	Solas	E. Smyth J. Banks S. McCoy S. McGuinness D. Watson J. O'Sullivan	Completed
The effects of the new Leaving Certificate Grading Bands on the school experience and environment: an early impact study	National Council for Curriculum and Assessment	S. McCoy D. Byrne J. O'Sullivan (National University of Ireland, Maynooth) E. Smyth	Completed
Research support for the school-based review of senior cycle	National Council for Curriculum and Assessment	E. Smyth S. McCoy J. Banks	In progress
Pilot study of digital classroom observation with student teachers in Irish primary schools	Hibernia College	S. McCoy A. Lynam (Hibernia College) Mary Kelly (Hibernia College)	In progress
European Commission Directorate-General for Education and Culture's network of independent experts in education and training	Ecorys UK Ltd	S. McCoy	In progress
European Commission Directorate-General for Education and Culture's expert group on graduate tracking	Ecorys UK Ltd	S. McCoy	In progress
Network of experts working on the social dimension of education and training (NETSET II)	Public Policy and Management Institute, Lithuania	M. Darmody E. Smyth	Completed
Understanding inequalities	Economic and Social Research Council (UK)	E. Smyth – ESRI is a co-applicant in an application led by University of Edinburgh	In progress
Children's Integration into primary education: insights from the <i>Growing Up in Ireland</i> study	National Council for Curriculum and Assessment	E. Smyth	Completed

JOURNAL ARTICLES

"A case for using Swivl for digital observation in an online or blended learning environment", *International Journal on Innovations in Online Education*, Vol. 2, No. 2, 2018, **Selina McCoy**, Aoife Lynam, Mary Kelly.⁴

"Children's agency in multi-belief settings: the case of community national schools in Ireland", *Journal of Research and Childhood Education*, Vol. 32, Issue 4, 2018, pp. 486–500, Daniel Faas, Aimee Smith, **Merike Darmody**.

"More education, less volatility? The effect of education on earnings volatility over the life cycle", *Journal of Labor Economics*, Vol. 37, No. 1, January 2019, **Judith Delaney**, Paul J. Devereux.

"One of the gang? Peer relations among students with special educational needs in Irish mainstream primary schools", *European Journal of Special Needs Education*, Vol. 33, Issue 3, 2018, pp. 396–411, **Joanne Banks**, **Selina McCoy**, Denise Frawley.

"The role of principals in creating inclusive school environments: insights from community national schools in Ireland", *School Leadership & Management*, Vol. 38, Issue 4, 2018, pp. 457–473, Daniel Faas, Aimee Smith, **Merike Darmody**.

"Working at a different level? Curriculum differentiation in Irish lower secondary education", *Oxford Review of Education*, Vol. 44, Issue 1, 2018, pp. 37–55, **Emer Smyth**.

REPORTS AND OTHER PUBLICATIONS

The transition to primary education: insights from the Growing Up in Ireland Study, ESRI and NCCA, Dublin, **Emer Smyth**.

CHAPTERS IN BOOKS AND REPORTS

"Educational inequality: is 'free education' enough?", in Judith Harford (ed.), *The Legacy of Free Post-Primary Education in Ireland*, 2018, Chapter 6, Bern: Peter Lang, **Emer Smyth**.

"Immigrant student achievement and educational policy in Ireland", in L. Volante, D. Klinger and O. Bilgili (eds), *Immigrant Student Achievement and Education Policy*, pp. 119–135, Cham: Springer, **Merike Darmody**, **Emer Smyth**.

"Digital technologies and student learning", Brian Mooney (ed.), *Ireland's Yearbook of Education 2018/2019*, pp. 43–48, Dublin: Education Matters, **Selina McCoy**, **Seán Lyons**.

"Widening access to higher education: balancing supply and demand in Ireland", Sheila Riddell, Sarah Minty, Elisabet Weedon and Susan Whittaker (eds), *Higher Education Funding and Access in International Perspective*, 2018, Chapter 7, pp. 121–142, Bingley: Emerald Publishing, **Emer Smyth**.

ESRI RESEARCH BULLETINS

"Segregation in an era of inclusion? The role of special classes in Irish mainstream schools", ESRI, Dublin, **Joanne Banks**, **Selina McCoy**.

ESRI WORKING PAPERS

"Senior cycle review: analysis of discussions in schools on the purpose of senior cycle education in Ireland", ESRI, Dublin, **Joanne Banks**, **Selina McCoy**, **Emer Smyth**.

PRESENTATIONS/PAPERS READ TO CONFERENCES AND LEARNED SOCIETIES

"Conflict from the start? Inequalities in teacher–pupil relationships in the early years of primary education", *Educational Studies Association of Ireland Annual Conference*, University College Dublin, Dublin, April and *Society for Longitudinal and Lifecourse Studies Annual Conference*, Bocconi University, Milan, Italy, July, **Emer Smyth**.

"Mobile phones and children's academic development in Ireland", *European Conference on Educational Research*, European Educational Research Association, Bolzano, Italy, September, **Selina McCoy**, **Seraphim Dempsey**, **Seán Lyons**.

"Parental background and cognitive skills on transition to primary school: the role of early childcare and family learning environment in Ireland and Scotland", *Scottish Educational Research Association Annual Conference*, University of Glasgow, Glasgow, UK, November, **Emer Smyth**, Adriana Duta.

"Re-engaging children with school through the School Completion Programme", *Educational Studies Association of Ireland Annual Conference*, University College Dublin, Dublin, April, **Joanne Banks**, **Emer Smyth**.

"The transition to primary education", *Transitions Across Early Years Education*, Irish National Teachers' Organisation and Early Childhood Ireland, Dublin, June, **Emer Smyth**.

⁴**Bold type** indicates ESRI staff members. An asterisk (*) indicates an ESRI Research Affiliate.



John Curtis and Martina Lawless briefed a visiting delegation from the Committee on Economic Affairs and Energy in the German Bundestag on 22 June. They discussed topics including the economy, energy and climate change.



(back row, left to right) Lisa Ryan (UCD), Michael Geary (Bord Na Móna), Patrick Mohr (NTMA), Petr Spodniak, Cyriel de Jong (KYOS), Valentin Bertsch, (front row, left to right) Derek Scully (Energia), Marianna Russo, Hanyu Zhang (UCD), Julie Byrne (UCD), Kieran Fitzgerald (AIB) and Jim Hanly (DIT) at the *Symposium on Risks in Integrated Energy Systems* on 6 March.

**Research Area**

Coordinators: Valentin Bertsch, John Curtis, Seán Lyons

Others working in this area include:

Achim Ahrens, William Brazil, Philip Carthy, Kelly De Bruin, Desta Fitiwi, Ankita Gaur, Gianluca Grilli, Jason Harold, Dana Kirchem, Muireann Á. Lynch, Ciarán Mac Domhnaill, Anne Nolan, Marianna Russo, Petr Spodniak, Miguel Tovar Reaños, Aykut Mert Yakut, Shiyu Yan, Tong Zhu

Work was also undertaken with**Research Affiliates**

John Cullinan and Daire McCoy.

RESEARCH HIGHLIGHTS

- An increase in the carbon tax of €5 per tonne of CO₂ would, on average, increase consumer prices by 0.13% and producer prices by 0.08%, and reduce emissions by only 1.2%. The carbon tax would need to increase significantly to transition to a low-carbon economy and meet the EU emissions targets.
- Acceptance levels for wind farms and grid development projects increase most when local residents are compensated via a simple community benefit scheme and do not partake in ownership or risk sharing of the projects. People who prioritised environmental concerns were the most willing to accept infrastructure development in their community.

07 ENERGY AND ENVIRONMENT

Research in this area is financed by multi-annual research programmes. Energy and climate research is funded by the **Department of Communications, Climate Action and Environment, ESB, Ervia, Eirgrid, SSE Ireland, Viridian, Commission for Regulation of Utilities, Science Foundation Ireland, Sustainable Energy Authority of Ireland** and the **Gas Innovation Group/Gas Networks Ireland**. An environment research programme is funded by the **Environmental Protection Agency** and the **Health Service Executive**, while the fisheries research programme is funded by **Inland Fisheries Ireland**. Collaborations are ongoing with UCD, TCD, UCC, NUIG, QUB, and universities in the UK, Germany, Finland, Portugal and the USA. The research area co-hosted a workshop with UCD on risk in integrated energy systems in March, a public seminar with TCD on energy transitions in April, and a conference on energy policy with UCC in May.

The energy research programme encompasses four areas: market design and regulation; energy services; energy infrastructure; and the interface with society and the environment. Research findings in 2018 included:

- ***Variable electricity energy prices induce larger demand flexibility but variable capacity prices are more predictable from a supplier perspective.***
- ***The additional rent tenants are willing to pay for better energy efficiency is sufficient to pay for the most common retrofit investments with a short payback period for landlords.***
- ***Acceptance levels for energy infrastructure development are highest when local residents are compensated via community benefit schemes.***

In November, the ESRI launched its new model to examine climate policy issues, the Ireland Economy, Energy and Environment (I3E).

I3E is a Computable General Equilibrium (CGE) model describing the relationship between energy inputs and environmental impacts (focusing on emissions), production sectors, households and the government. Initial research examined sectoral and distributional impacts of increases in the carbon tax.

A focus of the environment research programme in 2018 was the interaction between health and the environment. Among the research findings are that coastal views are associated with lower rates of depression, and that urban residents in areas with intermediate amounts of green space have the lowest obesity rates. Complementary research found that visitor facilities within urban parks, rather than parks' physical attributes, have a greater influence on park visitation rates. Other research this year involved lab experiments, with one study finding that presenting a product's environmental attributes as a colour-coded scale, as opposed to text, resulted in consumers selecting more environmentally friendly products.

The fisheries research programme examined preferences for fish stock conservation practices. Sea bass anglers were generally in favour of stronger protective measures, whereas salmon anglers had strongly divergent views. Analysis of salmon anglers' logbook data identified the catch effectiveness associated with fishing methods, licence types and locations, which is practical information for fishery management decisions. During 2018, a monthly angler survey was carried out, eliciting information on fishing activity (target species, frequency, catch, angling-related expenditure). These data will facilitate future research.

An increase in carbon tax would have small impacts on households and producers

On 9 October 2018, the ESRI published new research examining the impact of an increase in the current carbon tax. The work was undertaken as part of a joint research programme with the Department of Finance and Revenue Commissioners to examine the impacts of an increase in the current carbon tax.

The study found that both households and producers would face relatively small increases in costs in the event of a higher carbon tax. It estimated that an increase in the carbon tax of €5 per tonne of CO₂ would on average increase consumer prices (measured by the Consumer Price Index) by 0.13% and producer prices by 0.08%. Even quite large increases in the carbon tax were found to have limited impacts, whereby a doubling of the carbon tax (to €40) is estimated to increase consumer prices by 0.53% and producer prices by 0.37%. At the same time, the study estimates small impacts on emission reductions of 1.2% for a €5 increase and 4.7% for a €20 increase.

Households at all income levels will face similar percentage increases in consumer prices. In the case of a €5 increase in carbon tax, costs would increase by €0.45 per week for the poorest households and by €2.30 a week for the richest. However, in terms of shares of income, the impact on poorer households will be more than double that on richer households. For a €5 increase, the poorest households will have to spend 0.16% more of their income to continue the same level of consumption (of all commodities), whereas the richest will have to spend 0.07% more.

Energy prices will have the greatest impact on consumer prices, where the poorest households face a 0.7% increase in energy prices and the richest a 1.1% increase for a €5 increase in the carbon tax.

The study finds that the prices of heating increase slightly more for poorer households. The poorest households will face a 0.28% increase in home heating costs and the richest a 0.22% increase. This is due to the stronger reliance of poorer households on carbon-intensive fuels (such as peat and coal) for heating.

The production sectors most impacted by a carbon tax increase are the energy and transport sectors. However, the impacts are estimated to be small, with an increase of less than 0.3% in the production costs of the transport sectors. The production sectors that drive Irish exports will face extremely small cost increases.

The emission reductions resulting from a carbon tax increase are limited. Transport sectors display the largest decrease in annual emissions, with a decrease of almost 2.5% in water and land transport. Richer households will decrease their emissions more than poorer, with a 1.4% decrease for the richest households and 1.1% for the poorest.

The relatively low carbon tax, which makes up less than 2% of taxes on products, has limited impacts on prices and hence does not give consumers and producers enough incentive to decarbonise. To ensure a transition to a low-carbon economy and to meet the EU emissions targets, the carbon tax would need to increase significantly.

Project or Programme Title	Client/Funding Agency	Researchers	Status [EOY 2018]
I3E climate and economic modelling project	Department of Communications, Climate Action and Environment	K. de Bruin A. M. Yakut	In progress
Energy system integration partnership programme	Science Foundation Ireland; University College Dublin	J. Curtis V. Bertsch P. Spodniak D. Fitiwi D. Kirchem A. Gaur M. Á. Lynch	In progress
CREENCE: Collaborative research of decentralisation, electrification, communications and economics	Science Foundation Ireland	J. Curtis W. Brazil V. Bertsch J. Harold	In progress
Residential gas networks connections	Gas Innovation Group; Science Foundation Ireland; University College Cork	J. Curtis M. Reaños	In progress
Environment research programme	Environmental Protection Agency; Health Service Executive	S. Lyons J. Curtis G. Grilli I. Siedschlag A. Nolan P. Carthy C. Mac Domhnaill P. Lunn D. Robertson A. Ahrens	In progress
Noise health, investigating causal relationships using Irish health data	Environment Protection Agency	S. Lyons A. Nolan E. Murphy (UCD) C. Mac Domhnaill	In progress
Energy policy research centre	ESB; Ervia; Eirgrid; Commission for Regulation of Utilities; Vridian; Department of Communications, Climate Action and Environment; SSE Ireland	J. Curtis S. Lyons V. Bertsch M. Á. Lynch M. Reaños M. Russo S. Yan T. Zhu C. Mac Domhnaill	In progress
Joint research programme on energy	Sustainable Energy Authority of Ireland	J. Curtis	In progress
Transport demand model	Sustainable Energy Authority of Ireland	K. de Bruin S. Yan	In progress
Irish fisheries programme	Inland Fisheries Ireland	J. Curtis G. Grilli	Completed

JOURNAL ARTICLES

- "A comprehensive survey of flexibility options for supporting the low-carbon energy future", *Renewable and Sustainable Energy Reviews*, Vol. 97, December 2018, pp. 338–353, Marco R.M. Cruz, **Desta Fitiwi**, Sérgio F. Santos, João P.S. Catalão.⁵
- "A travel cost evaluation of the benefits of two destination salmon rivers in Ireland", *Journal of Outdoor Recreation and Tourism*, Vol. 23, September 2018, pp. 1–7, **Gianluca Grilli**, Gavin Landgraf, **John Curtis**, Stephen Hynes.
- "Anglers' views on stock conservation: sea bass angling in Ireland", *Marine Policy*, Vol. 99, 2019, pp. 34–41, **Gianluca Grilli**, **John Curtis**, Stephen Hynes, Paul O'Reilly.
- "Bunching of residential building energy performance certificates at threshold values", *Applied Energy*, Vol. 211, February 2018, pp. 662–676, **Matthew Collins**, **John Curtis**.
- "Coastal blue space and depression in older adults", *Health & Place*, Vol. 54, November 2018, pp. 110–117, **Seraphim Dempsey**, Mel T. Devine, Tom Gillespie, **Seán Lyons**, **Anne Nolan**.
- "Combining local preferences with multi-criteria decision analysis and linear optimization to develop feasible energy concepts in small communities", *European Journal of Operational Research*, Vol. 268, Issue 3, August 2018, pp. 1092–1110, Russell McKenna, **Valentin Bertsch**, Kai Mainzer, Wolf Fichtner.
- "Examining the benefits of load shedding strategies using a rolling-horizon stochastic mixed complementarity equilibrium model", *European Journal of Operational Research*, Vol. 267, Issue 2, 1 June 2018, pp. 643–658, **Mel Devine**, **Valentin Bertsch**.
- "Exploring the spatial and temporal determinants of gas central heating adoption", *Resource and Energy Economics*, Vol. 52, May 2018, pp. 64–86, **Daire McCoy***, **John Curtis**.
- "Forward risk premia in long-term transmission rights: the case of electricity price area differentials (EPAD) in the Nordic electricity market", *Utilities Policy*, Vol. 50, February 2018, pp. 194–206, **Petr Spodniak**, Mikael Collan.
- "Heating system upgrades: the role of knowledge, socio-demographics, building attributes and energy infrastructure", *Energy Policy*, Vol. 120, September 2018, pp. 183–196, **John Curtis**, **Daire McCoy***, Claudia Aravena.
- "Heterogeneity and persistence in the effect of demand side management stimuli on residential gas consumption", *Energy Economics*, Vol. 73, June 2018, pp. 135–145, **Jason Harold**, **Seán Lyons**, **John Cullinan***.
- "High radon areas and lung cancer prevalence: evidence from Ireland", *Journal of Environmental Radioactivity*, Vol. 182, February 2018, pp. 12–19, **Seraphim Dempsey**, **Seán Lyons**, **Anne Nolan**.
- "Highly resolved optimal renewable allocation planning in power systems under consideration of dynamic grid topology", *Computers & Operations Research*, Vol. 96, August 2018, pp. 281–293, Viktor Slednev, **Valentin Bertsch**, Manuel Ruppert, Wolf Fichtner.
- "Householder preferences for the design of an energy efficiency retrofit subsidy in Ireland", *Economic and Social Review*, Vol. 49, No. 2, Summer 2018, pp. 145–172, **Matthew Collins**, **Seraphim Dempsey**, **John Curtis**.
- "Including value orientations in choice models to estimate benefits of wildlife management policies", *Ecological Economics*, Vol. 151, September 2018, pp. 70–81, **Gianluca Grilli**, Sandra Notaro, Danny Campbell.
- "Modelling national policy making to promote bioenergy in heat, transport and electricity to 2030 – interactions, impacts and conflicts", *Energy Policy*, Vol. 123, December 2018, pp. 579–593, Matthew Clancy, **John Curtis**, Brian Ó Gallachóir.
- "Pike (*Esox lucius*) stock management in designated brown trout (*Salmo trutta*) fisheries: anglers' preferences", *Fisheries Research*, Vol. 207, November 2018, pp. 37–48, **John Curtis**.
- "Prospects of a meshed electrical distribution system featuring large-scale variable renewable power", *Energies*, Vol. 11, Issue 12, December 2018, 3399, Marco Cruz, **Desta Fitiwi**, Sérgio Santos, Sílvio Mariano, João Catalão.
- "Rental tenants' willingness-to-pay for improved energy efficiency and payback periods for landlords", *Energy Efficiency*, December 2018, Vol. 11, Issue 8, pp. 2033–2056, **Matthew Collins**, **John Curtis**.
- "Sea bass angling in Ireland: a structural equation model of catch and effort", *Ecological Economics*, Vol. 149, July 2018, pp. 285–293, **Gianluca Grilli**, **John Curtis**, Stephen Hynes, Paul O'Reilly.
- "Self-consumption through power-to-heat and storage for enhanced PV integration in decentralised energy systems", *Solar Energy*, Vol. 163, March 2018, pp. 150–161, Hannes Schwarz, Hans Schermeyer, **Valentin Bertsch**, Wolf Fichtner.

⁵**Bold type** indicates ESRI staff members. An asterisk (*) indicates an ESRI Research Affiliate.

“The effects of home energy efficiency upgrades on social housing tenants: evidence from Ireland”, *Energy Efficiency*, Vol. 11, Issue 8, December 2018, pp. 2077–2100, **Bryan Coyne, Seán Lyons, Daire McCoy***.

“The impact of electricity tariffs on residential demand side flexibility: results of bottom-up load profile modeling”, *Energy Systems*, Vol. 9, Issue 3, August 2018, pp. 759–792, Marian Hayn, Anne Zander, Wolf Fichtner, Stefan Nickel, **Valentin Bertsch**.

“The role of community involvement mechanisms in reducing resistance to energy infrastructure development”, *Ecological Economics*, Vol. 146, April 2018, pp. 447–474, **Marie Hyland, Valentin Bertsch**.

“Two-stage stochastic, large-scale optimization of a decentralized energy system: a case study focusing on solar PV, heat pumps and storage in a residential quarter”, *OR Spectrum*, Vol. 40, Issue 1, January 2018, pp. 265–310, Hannes Schwarz, **Valentin Bertsch**, Wolf Fichtner.

“Urban green space and obesity in older adults: evidence from Ireland”, *SSM – Population Health*, Vol. 4, April 2018, pp. 206–215, **Seraphim Dempsey, Seán Lyons, Anne Nolan**.

“Water quality and recreational use of public waterways”, *Journal of Environmental Economics and Policy*, Vol. 7, Issue 1, 2018, pp. 1–15, **Benjamin Breen, John Curtis**, Stephen Hynes.

“Willingness-to-pay and free-riding in a national energy efficiency retrofit grant scheme”, *Energy Policy*, Vol. 118, July 2018, pp. 211–220, Matthew Collins, **John Curtis**.

REPORTS AND OTHER PUBLICATIONS

The environmental impacts of fiscal instruments, ESRI and Environmental Protection Agency, Dublin, **Edgar Morgenroth, Martin Murphy**, Kyle Moore.

The economic and environmental impacts of increasing the Irish carbon tax, ESRI Research Series No. 79, ESRI, Dublin, **Kelly de Bruin, Aykut Mert Yakut**.

CHAPTERS IN BOOKS AND REPORTS

“Impact of strategic behaviors of the electricity consumers on power system reliability”, M. Hadi Amini et al. (eds), *Sustainable Interdependent Networks II: From Smart Power Grids to Intelligent Transportation Networks*, Vol. 1, Cham: Springer, Amin Shokri Gazafroudi, Miadreza Shafie-khah, **Desta Fitiwi**, Sérgio F. Santos, Juan Manuel Corchado, João P. S. Catalão.

“Managing risk in electric distribution networks”, A. Arefi, F. Shahnia and G. Ledwich (eds), *Electric Distribution Network Management and Control*, Chapter 1, pp.1–36, Singapore: Springer Nature, Marco R.M. Cruz, **Desta Fitiwi**, Sergio F. Santos, Miadreza Shafie-khah, Joao P.S. Catalao.

ESRI RESEARCH BULLETINS

“Adoption of natural gas for residential heating”, ESRI, Dublin, **Daire McCoy*, John Curtis**.

“Anglers’ views on conservation of sea bass”, ESRI, Dublin, **Gianluca Grilli, John Curtis**, Stephen Hynes, Paul O’Reilly.

“Coastal blue space and depression in older adults”, ESRI, Dublin, **Seraphim Dempsey**, Mel T. Devine, Tom Gillespie, **Seán Lyons, Anne Nolan**.

“Compensating communities to reduce resistance to energy infrastructure development”, ESRI, Dublin, **Marie Hyland, Valentin Bertsch**.

“Differences in household responses to feedback on their gas consumption”, ESRI, Dublin, **Jason Harold, Seán Lyons, John Cullinan***.

“Economic contribution and management of sea bass angling in Ireland”, ESRI, Dublin, **Gianluca Grilli, John Curtis**, Stephen Hynes, Paul O’Reilly.

“Economic contribution of visiting salmon anglers to the Moy and Corrib fisheries”, ESRI, Dublin, **Gianluca Grilli**, Gavin Landgraf, **John Curtis**, Stephen Hynes.

“Examining the benefits of demand reduction policies for electricity”, ESRI, Dublin, Mel Devine, **Valentin Bertsch**.

“High radon areas and lung cancer prevalence in Ireland”, ESRI, Dublin, **Seraphim Dempsey, Seán Lyons, Anne Nolan**.

“Householders’ views on the best energy efficiency retrofit incentive mechanisms”, ESRI, Dublin, Matthew Collins, **Seraphim Dempsey, John Curtis**.

“Low rates of free-riding in residential energy efficiency retrofit grants”, ESRI, Dublin, Matthew Collins, **John Curtis**.

“Optimally allocating renewable generation in Ireland: a long-term outlook until 2050”, ESRI, Dublin, Viktor Slednev, **Valentin Bertsch**, Manuel Ruppert, Wolf Fichtner.

“Pike stock management in designated brown trout fisheries: anglers’ preferences”, ESRI, Dublin, **John Curtis**.

"Return on energy efficiency investments in rental properties", ESRI, Dublin, Matthew Collins, **John Curtis**.

"Urban green space and obesity in older adults", ESRI, Dublin, **Seraphim Dempsey, Seán Lyons, Anne Nolan**.

"Who upgrades their residential heating system?", ESRI, Dublin, **John Curtis, Daire McCoy***, Claudia Aravena.

ESRI WORKING PAPERS

"A looming revolution: implications of self-generation for the risk exposure of retailers", ESRI, Dublin, **Marianna Russo, Valentin Bertsch**.

"Analysing long-term interactions between demand response and different electricity markets using a stochastic market equilibrium model", ESRI, Dublin, **Valentin Bertsch, Mel Devine**, Conor Sweeney, Andrew C. Parnell.

"Drivers of people's preferences for spatial proximity to energy infrastructure technologies: a cross-country analysis", ESRI, Dublin, Jason Harold, **Valentin Bertsch**, Thomas Lawrence, Magie Hall.

"LNG and gas storage optimisation and valuation: lessons from the integrated Irish and UK markets", ESRI, Dublin, **Mel Devine, Marianna Russo**.

"The impacts of demand response participation in capacity markets", ESRI, Dublin, **Muireann Á. Lynch**, Sheila Nolan, **Mel Devine**, Mark O'Malley.

"The profitability of energy storage in European electricity markets", ESRI, Dublin, **Petr Spodniak, Valentin Bertsch, Mel Devine**.

"The role of power-to-gas in the future energy system: how much is needed and who wants to invest?", ESRI, Dublin, **Muireann Á. Lynch, Mel Devine, Valentin Bertsch**.

"Using angling logbook data to inform fishery management decisions", ESRI, Dublin, **Gianluca Grilli, John Curtis**, Stephen Hynes.

PRESENTATIONS/PAPERS READ TO CONFERENCES AND LEARNED SOCIETIES

"A looming revolution: implications of self-generation for the retailers' risk exposure", *7th Mannheim Energy Conference*, Centre for European Economic Research, Mannheim, Germany, May; *11th International Workshop on Empirical Methods in Energy Economics*, Fondazione Eni Enrico Mattei, Milan, Italy, June; *Commodity and Energy Markets Association Meeting 2018*, Università La Sapienza, Rome, Italy, June, **Marianna Russo, Valentin Bertsch**.

"Investigating economy-wide impacts of climate change policies in Ireland with the I3E model", *Launch of the new Ireland Environment, Energy and Economy (I3E) model*, ESRI, Dublin, November, **Kelly de Bruin**.

"Investigating the economic and environmental impacts of a doubling of the Irish carbon tax", Seminar, Umeå University, Umeå, Sweden, May, **Kelly de Bruin**.

"Technical details of the I3E modelling framework", *Launch of the new Ireland, Environment, Energy and Economy (I3E) model*, ESRI, Dublin, November, **Aykut Mert Yakut**.

"Consumer switching in European retail markets", International Association for Energy Economics 41st conference, University of Groningen, Groningen, The Netherlands, June, Jason Harold.

"Consumer switching in European retail markets", *Irish Economic Association Annual Conference*, Dublin, May, **Jason Harold**.

"Coordinated generation and transmission expansion planning, data centres and flexibility options", *EirGrid and Energy Systems Integration Partnership Programme workshop*, Dublin, September, **Desta Fitiwi**.

"Disaster cost assessment: a case study of the potential economic impact of a nuclear accident affecting Ireland", *Statistical and Social Inquiry Society of Ireland*, Dublin, February, **John Curtis**, Bryan Coyne, **Edgar Morgenroth**.

"Drivers of people's preferences for spatial proximity to energy infrastructure technologies: a cross country analysis", *World Congress of Environmental and Resource Economists*, University of Gothenburg, Gothenburg, Sweden, June, **Jason Harold**.

"Energy abundance, trade and the geographical distribution of the manufacturing sector in China", *Beijing Energy Conference 2018*, Renmin University of China, Beijing, China, September, **Tong Zhu**.

"Implementing dynamic network reconfiguration with renewables considering future grid technologies: a real case study", *18th IEEE International Conference on Environment and Electrical Engineering*, Palermo, Italy, June, J. Pogeira, S.F. Santos, **Desta Fitiwi**, M.R.M. Cruz, J.P.S. Catalao.

"Interactions between demand response and network expansion planning: a quantitative analysis", *15th International Conference on the European Energy Market 2018*, Institute of Electrical and Electronics Engineers, Lodz, Poland, June, **Desta Fitiwi, Valentin Bertsch**.

"Meshed operation of distribution network systems: enabling increased utilization of variable RES power",

18th IEEE International Conference on Environment and Electrical Engineering, Palermo, Italy, June, M.R.M. Cruz, **Desta Fitiwi**, S.F. Santos, J.P.S. Catalao.

"Investigating the effects of the environment on health using spatially-linked survey and environment data", *Health and Wellbeing Annual Conference*, Environmental Protection Agency and Health Service Executive, Dublin, November, **Anne Nolan**.

"Opening up research possibilities through linkage to microdata", *Environmental Protection Agency and Health Service Executive Environment, Health & Wellbeing Annual Conference*, Dublin, November, **Seán Lyons**.

"Optimal development of Irish electricity generation mix considering fossil fuel phase-out and north-south interconnection", *ESRI-University College Cork workshop*, ESRI, Dublin, May, **Desta Fitiwi**, **Valentin Bertsch**.

"Optimal investment decisions in electrical energy systems with increasing renewable penetration", *Workshop on Operational Research in Environmental Management and Supply Chain Management*, German Society for Operational Research, Ulm University, Ulm, Germany, March, **Valentin Bertsch**.

"Optimal investment decisions in integrated energy systems: the case of power-to-gas", *41st International Association for Energy Economics Conference*, University of Groningen, Groningen, The Netherlands, June, **Valentin Bertsch**.

"Optimally allocating renewable generation in Ireland: a long-term view until 2050", *Energy Ireland Conference 2018*, Dublin, June, **Valentin Bertsch**.

"Role of distributed energy storage systems in the quest for carbon-free electric distribution systems", *18th IEEE international Conference on Environment and Electrical Engineering*, Palermo, Italy, June, **Desta Fitiwi**, S.F. Santos, J.P.S. Catalao.

"Sea bass angling in Ireland: a structural equation model of catch and effort", *Envecon 2018 Conference*, UK Network of Environmental Economists, London, UK, March, **Gianluca Grilli**, **John Curtis**.

"Sensitivity analysis in distribution automation based on active reconfiguration with renewables and storage", *18th IEEE international Conference on Environment and Electrical Engineering*, Palermo, Italy, June, C. Santos, S.F. Santos, **Desta Fitiwi**, M.R.M. Cruz, J.P.S. Catalao.

"Urban green space and obesity in older adults", *Society for Longitudinal and Lifecourse Studies Conference*, Bicocca University, Milan, Italy, July and *European Conference on Health Economics*, Maastricht University, Maastricht, The Netherlands, September, **Anne Nolan**, **Seraphim Dempsey**, **Seán Lyons**.

"The profitability of energy storage in European electricity markets", *15th International Conference on the European Energy Market 2018*, Institute of Electrical and Electronics Engineers, Lodz, Poland, June and *Resource and Energy Economics Seminar*, Helsinki Graduate School of Economics, Helsinki, Finland, September, **Petr Spodniak**.

"The role of power-to-gas in the future energy system: how much is needed and who wants to invest?" *ESRI, University College Cork and the Centre for Marine and Renewable Energy Research Workshop*, Dublin, May, **Valentin Bertsch**, **Muireann Á. Lynch**.

"Urban green space and obesity in older adults", *Health and Environment Conference*, University of Duisberg-Essen, Germany, May, **Anne Nolan**, **Seán Lyons**, **Seraphim Dempsey**.

**Research Area**

Coordinators: Anne Nolan, Helen Russell, Maev-Ann Wren

Others working in this area include: Aoife Brick, Sheelah Connolly, Nora Donnelly, James Eighan, Aoife Fitzpatrick, Conor Keegan, Elish Kelly, Pete Lunn, Bertrand Maître, Frances McGinnity, Gretta Mohan, Aisling Murray, Sanna Nivakoski, Amanda Quail, Brendan Walsh, Dorothy Watson, Richard Whyte

Work was also undertaken in collaboration with Research Affiliate Richard Layte and Research Associate Samantha Smith.

RESEARCH HIGHLIGHTS

- **GAA players can spend up to 31 hours per week on their senior inter-county commitments and compromise on other aspects of their lives to do so, according to a study examining how the demands of playing inter-county affect players' personal and professional lives, and their club involvement.**
- **Job stress among employees in Ireland doubled from 8 per cent in 2010 to 17 per cent in 2015. However, the level of job stress in Ireland was still below the average for ten Western European countries in 2015 (19 per cent).**



(left to right) Jim Breslin, Secretary General, Department of Health, Maev-Ann Wren, John Connaghan, Director General, HSE, Alan Barrett, Muiris O'Connor, Assistant Secretary, Department of Health, and Sheelah Connolly at the conference *Planning for the Future Irish Healthcare System* held on 31 May at the ESRI.



(left to right) Stephen Coen of Mayo, Seamus Hickey, CEO of the GPA, Alan Barrett, John Horan, Uachtarán Chumann Lúthchleas Gael, Elish Kelly and Shane Flanagan of Limerick at the launch of *Playing senior inter-county Gaelic games: experiences, realities and consequences* on 18 September.

Health research focused on the themes of: the further development of a projection model for healthcare demand and expenditure; alternative approaches to achieving universal healthcare; the impact of the supply of community and long-stay care outside Irish hospitals on hospital length of stay; costing post-stroke cognitive impairment; inequities in access to GP care; and the relationship between the environment and health. Quality of life research focused on job stress in the Irish workforce, occupational injury and illness within sectors, and participation in sports and physical activity.

Under a major programme of research funded by the **Department of Health**, the ESRI further developed the demand phase of the HIPPOCRATES projection model for healthcare demand and expenditure to include analysis of demand for specialist mental health and disability services. In the first phase of the development of the model to project expenditures, the ESRI analysed public hospital expenditures. Further new applications and developments of the model included: projections of demand for public and private hospital capacity, analysis of the shares of activity in public and private hospitals, and projections of demand for the Nursing Home Support Scheme.

A three-year research project funded by the **Health Research Board (HRB)**, which began in 2018, will examine potential costs, outcomes and challenges of alternative approaches to achieving universal healthcare. The focus of this project in its first year has been on defining the objectives of universal healthcare, establishing metrics for its achievement and examining potential barriers to universality in Ireland. A second **HRB** project on mortality

in Ireland, using data from TILDA, also began in 2018. Three further research projects funded by the **HRB** continued in 2018, on costing post-stroke cognitive impairment, inequalities in access to GP services, and analysing need for and supply and utilisation of health services by area in Ireland, and the relationship between the supply of services outside hospitals to the use of services within hospitals.

The research programme on environmental economics, funded by the **Environmental Protection Agency (EPA)**, examined the association between green and blue spaces and health outcomes. It used geo-coded data on environmental features matched to health outcomes data from TILDA. A project on noise and health commenced in collaboration with UCD and funded by the **EPA**.

In November, a study of job stress was published with the **Health and Safety Authority**. It found that job stress increased significantly in Ireland between 2010 and 2015 and that emotionally demanding work, high levels of time pressure and exposure to bullying, harassment or other poor treatment were the strongest predictors of job stress. Sectoral specific studies on workplace injuries and illness were also published during 2018.

Research commissioned by the **Gaelic Athletic Association** and the **Gaelic Players Association** was published in September. It revealed the high time commitments of senior inter-county players and the implications these had for work–life balance.

A project continued on financial security in the older population, funded by the **Health Service Executive**. Research on the ageing workforce began as part of the research programme with the **Health and Safety Authority**.

Level of job stress in Ireland doubles in five years

On 27 November 2018, the ESRI published new research, funded by the Health and Safety Authority, which found that job stress among employees in Ireland doubled from 8 per cent in 2010 to 17 per cent in 2015. However, the level of job stress in Ireland was still below the average for ten Western European countries in 2015 (19 per cent). Workers in Ireland were more likely to report the pressures of emotional demands and exposure to bullying, harassment and other forms of mistreatment but less likely to report time pressure than their Western European counterparts.

The report uses two waves of a European-wide dataset, the European Working Conditions Survey, carried out in 2010 and 2015, to examine the working conditions that are associated with job stress.

The study counted an employee as experiencing job stress if they reported experiencing stress at work “always” or “most of the time” and also reported stress reactions, such as general fatigue, anxiety and sleep disturbance.

The study identified that job stress is more common among people experiencing high levels of the following workplace demands:

Emotional demands (i.e. dealing with angry clients/customers or having to hide emotions while at work). Those experiencing high levels of emotional demands were 21 times more likely to experience job stress than those with the lowest levels.

Time pressure (e.g. never have enough time to get the job done, work to tight deadlines): those with the highest levels of time pressure were ten times more likely to experience job stress than those under the least time pressure.

Bullying, harassment, violence, discrimination etc.: those with the highest exposure were eight times more likely to experience job stress than those with no exposure.

Long working hours: those working over 40 hours per week were twice as likely to experience job stress as those working 36 to 40 hours.

Employees were less likely to experience stress if they experienced support from co-workers and managers, felt that their job

was useful or had a feeling of work well done. Employees in Ireland enjoy relatively high levels of support from managers and co-workers. However, these factors had less impact on levels of job stress than the demands listed earlier.

Stressful sectors and jobs in Ireland

Employees in the Health sector (18 per cent), Public Administration (16 per cent) and the Manufacturing sector (15 per cent) experience the highest levels of job stress. The occupational groups most likely to experience job stress are technical/associate professionals (20 per cent), professionals (16 per cent) and managers (14 per cent).

Policy implications

The report highlights how important it is for Irish firms to have policies in place to deal with job stress. Under health and safety legislation employers have a duty of care to protect employees against any personal injury to mental health arising from job stress. The effects of job stress are substantial. International studies show that job stress is linked to poor physical and mental health outcomes such as cardiovascular disease and depression, and to negative impacts for firms through absenteeism, increased job turnover and reduced morale. This has a knock-on effect on government finances and the economy more generally. The report shows that the most urgent need for action is in addressing psychosocial risks such as bullying, harassment and violence, high levels of emotional demands and time pressure.

New research examines the realities of being a senior inter-county player

On 18 September 2018, the ESRI published new research examining how the demands of playing inter-county affects players' personal and professional lives, and their club involvement. The Gaelic Athletic Association and the Gaelic Players Association funded the study.

The research used data from a 2016 survey of players. It found that GAA players can spend up to 31 hours per week on their senior inter-county commitments and compromise on other aspects of their lives to do so. In spite of the time commitments, very few players cited "too demanding" as their reason for ceasing playing. The research revealed that the vast majority of 2016 players were glad that they chose to play senior inter-county Gaelic games. The benefits they identified from playing included the opportunities to build leadership skills, self-confidence and professional connections.

However, the report documented areas where players could benefit from additional support.

Players, particularly those aged over 30, compromised on their personal relationships and general downtime in order to ring-fence time for their inter-county commitments. Players spent just over six hours per day on these commitments on a pitch-based training day. 40 per cent did not have any time off from Gaelic games in 2016. Players aged 18 to 21 had particularly high levels of time commitment because the majority played with four or more teams. Travel time to and from training and increased emphasis on sports conditioning as a major component of inter-county training added substantially to the training load and time commitments of players.

Players compromised on sleep, with almost half not getting the eight to ten hours recommended for athletes on a pitch-based training day. The injury rate was higher among players getting seven or less hours' sleep. Players' mental wellbeing was poorer than that of the general population, especially when compared to those of a similar age. Suboptimal sleep may be contributing to their poorer mental wellbeing, although players also reported stresses such as finding the time

commitments to be too much, that too much effort was demanded of them and that time away from family and friends was a downside of playing at inter-county level.

At first glance it appears that players are maintaining their professional careers in tandem with playing senior inter-county, devoting an average of 7.9 hours to their professional commitments on a pitch-based training day during the championship. However, this was achieved only by cutting back on time for personal relationships, sleep and general relaxation. Regardless of age, the main reason players had for withdrawing from the game was that they wanted to focus on their professional career.

Over half of players sustained an injury while playing or training with their inter-county team during 2016. Of these, 56 per cent were out of the game for more than a month and 6 per cent missed work or college for five weeks or more. Many players continued to train and play with their county and club teams when injured, with quite a number receiving medication to do so. Injury was the second biggest reason for players ceasing to play senior inter-county.

Almost two-thirds of players indicated that their club was understanding when inter-county commitments restricted them in training/playing for their club. Nevertheless, arrangements between club and county management teams relating to player welfare appear somewhat ad-hoc.

HEALTH AND QUALITY OF LIFE

Project or Programme Title	Client/Funding Agency	Researchers	Status [EOY 2018]
Research programme in healthcare reform	Department of Health	M.-A. Wren A. Nolan S. Connolly C. Keegan A. Brick B. Walsh J. Eighan A. Bergin R. Whyte A. Fitzpatrick	In progress
Research on the salaried dental service	Department of Health	A. Nolan	In progress
Alternative approaches to achieving universal healthcare: potential costs, outcomes and challenges	Health Research Board	M.-A. Wren S. Connolly C. Keegan A. Brick R. Whyte	In progress
An inter-sectoral analysis by geographic area of the need for and supply & utilisation of health services in Ireland	Health Research Board	M.-A. Wren S. Smith R. Layte (TCD) B. Walsh J. Eighan S. Lyons E. Morgenroth	In progress
Inequalities in access to GP care in Ireland	Health Research Board	A. Barrett A. Nolan S. Lyons G. Mohan	In progress
The StrokeCog study: modelling and modifying the consequences of stroke-related cognitive impairment through intervention	Health Research Board	M. A. Wren N. Donnelly	In progress
Do we die as we live? Age, socioeconomic status, healthcare utilisation and pathways to death in Ireland	Health Research Board	A. Nolan R.A. Kenny (TCD) C. Normand (TCD)	In progress
Health, safety and wellbeing at work	Health and Safety Authority	H. Russell D. Watson B. Maître O. Kenny	In progress
Sexual health and crisis programme	HSE	A. Nolan E. Smyth	In progress
Welfare of senior inter-county GAA players	Gaelic Athletic Association; Gaelic Players Association	E. Kelly D. Watson J. Banks S. McGuinness	Completed
Participation in rugby in Ireland	Irish Rugby Football Union	P. Lunn E. Kelly	In progress

JOURNAL ARTICLES

“Managing cognitive impairment following stroke: protocol for a systematic review of non-randomised controlled studies of psychological interventions”, *BMJ Open*, Vol. 8, 2018, e019001, Niamh Merriman, Eithne Sexton, **Nora-Ann Donnelly**, Grainne McCabe, Mary Walsh, Daniela Rohde, Ashleigh Gorman, Isabelle Jeffares, Niall Pender, David Williams, Frances Horgan, Frank Doyle, **Maev-Ann Wren**, Kathleen Bennett, Anne Hickey.⁶

“Measuring healthcare expenditure: different methods, different results”, *Irish Journal of Medical Science*, Vol. 187, Issue 1, February 2018, pp. 13–23, **Conor Keegan**, **Sheelah Connolly**, **Maev-Ann Wren**.

“The buffering role of the family in the relationship between job loss and self-perceived health: longitudinal results from Europe, 2004–2011”, *Health & Place*, Vol. 52, July 2018, pp. 55–61, Giulia Tattarini, **Raffaele Grotti**, Stefani Scherer.

“The effect of a training programme on school nurses’ knowledge, attitudes, and depression recognition skills: the QUEST cluster randomised controlled trial”, *International Journal of Nursing Studies*, Vol. 83, July 2018, pp. 1–10, Mark Haddad, Vanessa Pinfold, Tamsin Ford, **Brendan Walsh**, Andre Tylee.

“The value of education to health: evidence from Ireland”, *Economics & Human Biology*, Vol. 31, September 2018, pp. 14–25, Yuanyuan Ma, **Anne Nolan**, James P. Smith.

“Universal GP care in Ireland: potential cost implications”, *Economic and Social Review*, Vol. 49, No. 1, Spring 2018, **Sheelah Connolly**, **Anne Nolan**, **Brendan Walsh**, **Maev-Ann Wren**.

“What is the impact of rerouting a cancer diagnosis from emergency presentation to GP referral on resource use and survival? Evidence from a population-based study”, *BMC Cancer*, Vol. 18, 2018, p. 394, Mauro Laudicella, **Brendan Walsh**, Elaine Burns, Paolo Li Donni, Peter C. Smith.

REPORTS AND OTHER PUBLICATIONS

Analysis of work-related injury and illness 2001 to 2014: Agriculture, Fishing and Forestry Sector, HSA Sectoral Analysis No. 4, Dublin, **Oona Kenny**, **Bertrand Maître**, **Helen Russell**.

Analysis of work-related injury and illness 2001 to 2014: Construction Sector, HSA Sectoral Analysis No. 2, Dublin, **Oona Kenny**, **Bertrand Maître**, **Helen Russell**.

Analysis of work-related injury and illness 2001 to 2014: Health Sector, HSA Sectoral Analysis No. 1, Dublin, **Oona Kenny**, **Bertrand Maître**, **Helen Russell**.

Analysis of work-related injury and illness 2001 to 2014: Industry Sector, HSA Sectoral Analysis No. 3, Dublin, **Oona Kenny**, **Bertrand Maître**, **Helen Russell**.

Analysis of work-related injury and illness 2001 to 2014: Transport and Storage Sector, HSA Sectoral Analysis No. 5, Dublin, **Oona Kenny**, **Bertrand Maître**, **Helen Russell**.

Job stress and working conditions: Ireland in comparative perspective – an analysis of the European Working Conditions Survey, ESRI Research Series No. 84, ESRI, Dublin, **Helen Russell**, **Bertrand Maître**, **Dorothy Watson**, **Éamonn Fahey**.

Playing senior inter-county Gaelic games: experiences, realities and consequences, ESRI Research Series No. 76, ESRI, Dublin, **Elish Kelly**, **Joanne Banks**, **Seamus McGuinness**, **Dorothy Watson**.

ESRI RESEARCH BULLETINS

“A profile of physiotherapy supply in Ireland”, ESRI, Dublin, **James Eighan**, **Brendan Walsh**, **Samantha Smith**, **Maev-Ann Wren**, Steve Barron, Edgar Morgenroth.

“How many beds? Capacity implications of hospital care demand projections in the Irish hospital system, 2015–2030”, ESRI, Dublin, **Conor Keegan**, **Aoife Brick**, **Brendan Walsh**, **Adele Bergin**, James Eighan, **Maev-Ann Wren**.

“The effect of accessibility to GP services on healthcare utilisation among older people”, **Gretta Mohan**, **Anne Nolan**, **Seán Lyons**.

“Switching benefits and costs in the Irish health insurance market: an analysis of consumer surveys”, ESRI, Dublin, **Conor Keegan**, **Conor Teljeur**, **Brian Turner**, Steve Thomas.

“Universal GP care in Ireland: potential cost implications”, ESRI, Dublin, **Sheelah Connolly**, **Anne Nolan**, **Brendan Walsh**, **Maev-Ann Wren**.

ESRI WORKING PAPERS

“An examination of activity in public and private hospitals in Ireland, 2015”, ESRI, Dublin, **Conor Keegan**, **Aoife Brick**, **Maev-Ann Wren**.

“Review of the Irish and international literature on health and social care unit cost methodology”, ESRI, Dublin, **Richard Whyte**, **Conor Keegan**, **Aoife Brick**, **Maev-Ann Wren**.

PRESENTATIONS/PAPERS READ TO CONFERENCES AND LEARNED SOCIETIES

“A comparative European analysis of the link between work stressors and worker outcomes”, *International Congress on Occupational Health*, Dublin, April, **Helen Russell**, **Bertrand Maître**.

“Acute care utilisation patterns post-stroke: an analysis from Ireland”, *SPHeRE Conference 2018*, Royal College of Surgeons in Ireland, Dublin, January, **Nora Ann Donnelly**, Niamh Merriman, Eithne Sexton, Kathleen Bennett, Anne Hickey, **Maev-Ann Wren**.

⁶**Bold type** indicates ESRI staff members. An asterisk (*) indicates an ESRI Research Affiliate.

"Acute care utilisation patterns post-stroke: an analysis from Ireland", *Royal College of Surgeons in Ireland Research Day*, Dublin, March, **Nora Ann Donnelly**, Niamh Merriman, Eithne Sexton, Kathleen Bennett, Anne Hickey, **Maev-Ann Wren**.

"Addressing post-stroke cognitive impairment through psychological intervention: systematic review and meta-analysis of non-randomised interventions", *21st Annual Stroke Conference*, Irish Heart Foundation Council, Dublin, April, Niamh Merriman, Eithne Sexton, **Nora Ann Donnelly**, Kathleen Bennett, **Maev-Ann Wren**, Anne Hickey.

"Addressing post-stroke cognitive impairment through psychological intervention: systematic review and meta-analysis of non-randomised interventions", *32nd Conference of the European Health Psychology Society*, Galway, August, Niamh Merriman, Eithne Sexton, **Nora Ann Donnelly**, **Maev-Ann Wren**, Niall Pender, David Williams, Frances Horgan, Kathleen Bennett, Anne Hickey.

"Convergence in age standardised mortality in Europe 1955–2015", *European Health Economics Association Conference*, University of Maastricht, Maastricht, The Netherlands, July, **Brendan Walsh**.

"Examining access to GP services in Ireland – investigating the supply side", *12th European Conference on Health Economics 2018*, European Health Economics Association, Maastricht, The Netherlands, July, **Gretta Mohan**, **Anne Nolan**, **Seán Lyons**.

"Expanding the Irish longitudinal dataset on ageing to assess the influence of supply-side factors on utilisation of primary healthcare services and health outcomes", *Society of Lifecourse and Longitudinal Studies Conference*, Milan, Italy, July, **Gretta Mohan**, **Anne Nolan**.

"Exploring the impacts of proposed system change", *Planning for the Future Irish Healthcare System*, ESRI, Dublin, May, **Brendan Walsh**, **Sheelah Connolly**.

"Free GP care for under-6s and use of Emergency Department services in Ireland", *Department of Economics Seminar*, Lancaster University, Lancaster, UK, March, **Anne Nolan**.

"Gender differences in health and social care utilisation among older people", *European Health Economics Conference*, Maastricht, The Netherlands, July, **Maev-Ann Wren**, **Conor Keegan**, **Brendan Walsh**, **Aoife Brick**, **Sheelah Connolly**.

"How many beds? Capacity implications of hospital care demand projections in the Irish hospital system, 2015–2030", *European Health Economics Association Conference*, Maastricht University, Maastricht, The Netherlands, July, **Conor Keegan**.

"Post-stroke cognitive impairment: a systematic review of disease progression models", *4th European Stroke Organisation conference*, Gothenburg, Sweden, May, Eithne Sexton, Niamh Merriman, **Nora Ann Donnelly**, Kathleen Bennett, **Maev-Ann Wren**, Anne Hickey.

"Prevalence of cognitive impairment no dementia (CIND) post-stroke: systematic review and meta-analysis", *21st Annual Stroke Conference*, Irish Heart Foundation Council, Dublin, April, Eithne Sexton, Niamh Merriman, **Nora Ann Donnelly**, Kathleen Bennett, **Maev-Ann Wren**, Anne Hickey.

"Prevalence of cognitive impairment no dementia (CIND) post-stroke: systematic review and meta-analysis", *66th Annual & Scientific Meeting*, Irish Gerontological Society, Cavan, September, Eithne Sexton, Niamh Merriman, Affraic McLoughlin, **Nora Ann Donnelly**, Daniela Rhode, David Williams, Anne Hickey, Kathleen Bennett.

"Projecting demand for Irish healthcare", *Planning for the Future Irish Healthcare System*, ESRI, Dublin, May, **Maev-Ann Wren**, **Adele Bergin**, **Brendan Walsh**, **Conor Keegan**.

"Projecting the incidence of post-stroke cognitive impairment and dementia in the Irish population aged 40+ years from 2015–2025", *7th Lancet Public Health Science Conference*, Queen's University Belfast, Belfast, November, Eithne Sexton, Nora Ann Donnelly, Martin O'Flaherty, Maria Guzman-Castillo, Niamh Merriman, Anne Hickey, Maev-Ann Wren, Kathleen Bennett.

"Projections of demand for healthcare in Ireland, 2015–2030: first report from the Hippocrates model", *Institute for Lifecourse and Society Seminar*, National University of Ireland, Galway, January; *Seminar Society of Actuaries*, Dublin, February; *Joint Oireachtas Committee on Health*, Dublin, February; *Economics Visiting Speaker Series*, UCC, Cork, February; *Department of Public Health Seminar*, RCSI, Dublin, March; *Planning for the Future Irish Healthcare System*, ESRI, Dublin, May; *Workforce Planning Conference*, Irish Nurses and Midwives Organisation, Dublin, September, **Maev-Ann Wren**, **Conor Keegan**, **Brendan Walsh**, **Adele Bergin**.

"The rising demand for healthcare, 2015–2030", *2018 National Health Summit*, Dublin, February, **Maev-Ann Wren**.

"The StrokeCog study: national survey of nursing homes", *66th Annual and Scientific Meeting*, Irish Gerontological Society, Cavan, September, **Nora Ann Donnelly**, Niamh Merriman, Eithne Sexton, Kathleen Bennett, David Williams, Frances Horgan, Anne Hickey, **Maev-Ann Wren**.

"The trends and determinants of work-related musculoskeletal disorders in Ireland between 2002 and 2013", *International Congress on Occupational Health*, Dublin, April, **Helen Russell**, **Bertrand Maitre**.

"What is the impact of rerouting a cancer diagnosis from emergency presentation to GP referral on resource use and survival? Evidence from a population-based study", *Health Economics Study Group Conference*, City University of London, London, UK, January, **Brendan Walsh**.

**Research Area Coordinator:**

Iulia Siedschlag

Others working in this area include:

Mattia Di Ubaldo,
Martina Lawless,
Manuel Tong Koecklin

RESEARCH HIGHLIGHTS

- **Half of imports used by Irish-owned firms are sourced in the UK. This reliance on UK imports could lead to high cost increases for Irish firms after Brexit.**
- **Research finds limited evidence for a negative link between the presence of foreign-owned firms and the productivity of domestic firms in the same industry or the same region. Positive productivity spillovers come from supply chain linkages between domestic firms investing in R&D and foreign affiliates of multinationals with headquarters based outside the EU.**



Alan Barrett, Martina Lawless and Orlaigh Quinn, Secretary-General of the Department of Business, Enterprise and Innovation, at the *Building Stronger Business – Responding to Brexit* conference on 6 July.



(left to right) Martina Lawless, Peter Haug, CompNet, Iulia Siedschlag, Marco Christophori, CompNet and Paloma Lopez-Garcia, CompNet, at the *Joint ESRI/CompNet Research and Data Workshop* on 23 October.

ESRI research in this area focuses primarily on the structural and microeconomic factors and policies underlying competitiveness and economic growth in Ireland, and in other European countries, in the context of international economic integration. In 2018, research in this area addressed the following four themes:

Comparative performance of indigenous and multinational firms operating in Ireland

This study, funded by the **European Commission**, analysed and compared the performance of indigenous and multinational firms operating in Ireland with respect to productivity, investment in R&D and innovation, trade, and access to finance. Results suggested that enabling the integration of local and multinational firms in European and global value chains could be beneficial for expanding and diversifying the exports and imports of Irish-owned firms. The evidence provided by this study has been used to put forward policy guidelines for Ireland in the context of the European Semester in 2018.

Impact of Brexit on trade and foreign direct investment

Research undertaken with the **Department of Business, Enterprise and Innovation** and **Enterprise Ireland** found that half of imports used by Irish-owned firms were sourced in the UK, indicating that Irish firms are very exposed to potential disruptions in the supply chain after Brexit. Additional analysis suggested that Irish services imports from the UK could decline by 33 per cent and exports by 45 per cent. Further research undertaken with the **Department for the Economy in Northern Ireland** found that access to the EU Single Market was an important factor

for the attractiveness of the UK and other EU countries to foreign direct investment, particularly for investors from outside the EU. Results showed that Brexit would reduce the UK's attractiveness to FDI.

Cross-border trade

Research funded by **InterTradeIreland** examined the patterns of cross-border trade on the island of Ireland, focusing on the role of supply chain links, measured by the extent of trade in intermediate products and the contribution to overall trade of two-way traders (firms simultaneously importing and exporting). The study showed a high degree of supply chain integration across the border that could face disruption if Brexit increased costs of trading. Work was also undertaken on the participation of firms in exporting and the role of small firms in cross-border trade to assess in more detail the exposure of different types of firms across the island to Brexit.

The impact of the EU Single Market on trade, competition and productivity

This research funded by the **European Commission** found that compliance with the Single Market legislation has been associated with increased trade, enhanced competition and productivity gains in EU countries. Further results indicated that the quality of the Single Market legal framework was a source of comparative advantage and export specialisation in EU countries.

Reliance on UK exports could lead to high Brexit cost increase for Irish firms

On 6 July 2018, the ESRI and the Department of Business, Enterprise and Innovation published research examining the extent to which exports of Irish firms use imports from the UK as part of their production process. The study aimed to gauge the extent of the risks posed by disruptions in the supply chain post-Brexit and the distribution of risks across different types of firms, particularly focusing on domestic small and medium enterprises. The research found that half of Irish imports used by Irish-owned firms are sourced in the UK.

Irish-owned firms rely heavily on the UK as the source of intermediate inputs, which are goods used to produce a final product. Over half of the total imports used by Irish-owned firms are sourced in the UK with many importing solely from the UK market. Many Irish-owned companies are therefore highly exposed to cost increases in the case of a hard Brexit, which could damage their competitiveness and impact their export performance.

Irish-owned firms are most affected, as foreign-owned firms in Ireland are less likely to source their inputs from the UK. The goods that Irish firms are most likely to source from the UK are from the minerals sector, which includes petrol and other fuels, and many products within the food sector. The report shows evidence that imports of intermediate inputs play an important role in the export performance of firms. This suggests that restrictions following Brexit that result in increased input prices or availability could negatively affect firms' broader export activities.

However, a greater risk to firms' exporting performance is likely to come from tariffs on goods they export to the UK. The average tariff on the types of products imported from the UK as intermediate inputs would be 2 per cent in a hard Brexit scenario. However, food products are the primary export from Ireland, which would be subject to tariffs as high as 18 per cent in a hard Brexit scenario.

While the final Brexit outcome is still uncertain, an understanding of who is most exposed to any changes in trading arrangements is an important step in developing plans and policies to mitigate any negative impacts. Food products stand out as being particularly exposed, with a relatively high dependence on the UK market as an import source and high potential tariffs in the absence of a comprehensive trade agreement.

INTERNATIONALISATION AND COMPETITIVENESS

Project or Programme Title	Client/Funding Agency	Researchers	Status [EOY 2018]
Research programme on exporting, innovation and productivity	Department of Business, Enterprise and Innovation	M. Lawless I. Siedschlag M. Di Ubaldo	Completed
Research programme on enterprises and cross-border trade	InterTradelreland	M. Lawless	Completed
Green innovations and export performance	Environmental Protection Agency	I. Siedschlag M. Tong Koecklin	In progress
The effects of investment in environmental protection on firms' productivity	Environmental Protection Agency	I. Siedschlag M. Tong Koecklin	In progress
Study on the impact of the UK's EU exit on the attractiveness of the UK and Northern Ireland to FDI	Department for the Economy, Northern Ireland	I. Siedschlag M. Tong Koecklin	In progress
Economic studies and analysis related to impact assessment and evaluations	European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs	I. Siedschlag M. Ubaldo M. Tong Koecklin	In progress
Provision of evaluation services to the European Commission in the field of trade	European Commission, Directorate-General for Trade	I. Siedschlag M. Lawless M. Tong Koecklin M. Ubaldo	In progress
The performance of the single market for goods after 25 years	European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs	I. Siedschlag M. Tong Koecklin M. Ubaldo	In progress
The tradability of construction services within the EU single market	European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs	I. Siedschlag	In progress
Studies in the areas of European competitiveness	European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs	I. Siedschlag M. Ubaldo M. Tong Koecklin	In progress



(left to right) Iulia Siedschlag with Mary O'Mahony, King's College London, who was the guest speaker at the seminar titled *Technology and Heterogeneous Capital: Explaining the Decline of the Labour Share* on 11 October.

INTERNATIONALISATION AND COMPETITIVENESS

JOURNAL ARTICLES

"Determinants of R&D offshoring: firm-level evidence from a small open economy", *Economia Politica*, Vol. 35, Issue 2, August 2018, pp. 529–553, Gavin Murphy, **Iulia Siedschlag**.⁷

"Internationalisation, innovation and productivity in services: evidence from Germany, Ireland and the United Kingdom", *Review of World Economics*, Vol. 154, Issue 3, August 2018, pp. 585–615, Bettina Peters, Rebecca Riley, **Iulia Siedschlag**, Priit Vahter, John McQuinn.

REPORTS AND OTHER PUBLICATIONS

Comparative performance of indigenous and multinational firms operating in Ireland, European Commission, Brussels, **Iulia Siedschlag**, **Mattia Di Ubaldo***, **Manuel Tong Koecklin**.

Export participation and performance of firms on the island of Ireland, InterTradelreland, Newry, **Martina Lawless**.

Intermediate goods inputs and the UK content of Irish goods exports, ESRI, Department of Business, Enterprise and Innovation and Enterprise Ireland, Dublin, **Martina Lawless**.

Productivity spillovers from multinational activity to local firms in Ireland, OECD Productivity Working Paper No. 16, OECD, Paris, **Mattia Di Ubaldo***, **Martina Lawless**, **Iulia Siedschlag**.

ESRI WORKING PAPERS

"Corporate taxation and the location choice of foreign direct investment in EU countries", ESRI, Dublin, Ronald B. Davies, **Iulia Siedschlag**, Zuzanna Studnicka.

"Determinants of firms' inputs sourcing choices: the role of institutional and regulatory factors", ESRI, Dublin, **Mattia Di Ubaldo***, **Iulia Siedschlag**.

"Irish–UK services trade and Brexit", ESRI, Dublin, **Martina Lawless**.

"Old firms and new products: does experience increase survival?", ESRI, Dublin, **Martina Lawless**, Zuzanna Studnicka.

"Productivity spillovers from multinational activity to indigenous firms in Ireland", ESRI, Dublin, **Mattia Di Ubaldo***, **Martina Lawless**, **Iulia Siedschlag**.

PRESENTATIONS/PAPERS READ TO CONFERENCES AND LEARNED SOCIETIES

"Are firm imports a driver of exports?" *2018 Annual Conference of the European Trade Study Group*, Warsaw School of Economics, Warsaw, Poland, September, **Martina Lawless**, Zuzanna Studnicka.

"Corporate taxation and the location choice of foreign direct investment in EU Countries", *2018 Conference of the Royal Economic Society*, University of Sussex, Brighton, UK, March and *2018 Annual Conference of the Irish Economic Association*, Central Bank of Ireland, Dublin, May, Ronald B. Davies, **Iulia Siedschlag**, Zuzanna Studnicka.

"Could spillovers from multinationals affect the trade activities of local firms?", *Joint ESRI and CompNet Research and Data Workshop*, ESRI, Dublin, October, **Iulia Siedschlag**, **Mattia Di Ubaldo**.

"Determinants of firms' inputs sourcing choices: the role of institutional and regulatory factors", *2018 Annual Conference of the European Trade Study Group*, Warsaw School of Economics, Warsaw, Poland, September, **Iulia Siedschlag**, **Mattia Di Ubaldo***.

"Experimentation speed across products: evidence from Peru in the USA market", *2018 Conference of the Royal Economic Society*, University of Sussex, Brighton, UK, March, **Manuel Tong Koecklin**.

"Experimentation speed across products: evidence from Peru in the USA market", *Ljubljana Empirical Trade Conference*, Forum of Research on Empirical International Trade, Izola, Slovenia, June, **Manuel Tong Koecklin**.

"Intermediate goods import and the UK content of Irish goods exports", *Building Stronger Business: Responding to Brexit*, ESRI and the Department of Business, Enterprise and Innovation, Dublin, July, **Martina Lawless**.

"Irish–UK services trade", *Building Stronger Business: Responding to Brexit*, ESRI and the Department of Business, Enterprise and Innovation, Dublin, July, **Martina Lawless**.

"Productivity spillovers from multinational activity to indigenous firms in Ireland", 2nd Ministerial summit on productivity, OECD, The World Bank and the Ministry of Foreign Trade of Costa Rica, San José, Costa Rica, April, **Mattia Di Ubaldo***, **Martina Lawless**, and **Iulia Siedschlag**.

"Products or markets: what type of experience matters for export survival?", *2018 Annual Conference of the European Trade Study Group*, Warsaw School of Economics, Warsaw, Poland, September, **Martina Lawless**, Zuzanna Studnicka.

⁷**Bold type** indicates ESRI staff members. An asterisk (*) indicates an ESRI Research Affiliate.



Research Area Coordinator:
Seamus McGuinness

Others working in this area include:

Joanne Banks,
Adele Bergin,
Merike Darmody,
Judith Delaney,
Claire Keane,
Elish Kelly,
Bertrand Maître,
Selina McCoy,
Paul Redmond,
Helen Russell,
Emer Smyth,
Adele Whelan

RESEARCH HIGHLIGHTS

- **Non-permanent employment is not an extensive feature of employment in Ireland. Research found that by 2016 it had fallen back to pre-recession levels and now lies below the EU average.**
- **Post Leaving Certificate (PLC) courses have positive outcomes for students. Students who have completed a PLC course are 16 per cent more likely to be in employment and 27 per cent more likely to have progressed to higher education than those who left education after the Leaving Certificate.**

10 LABOUR MARKETS AND SKILLS



Richard Bruton, then Minister for Education and Skills, launched a report published by the ESRI titled *Evaluation of PLC programme provision*, on 9 January.



Lead author of the report, Seamus McGuinness, presented key findings from the research.

During 2018, research was undertaken on a range of issues and a number of new publications were either released or finalised. The team launched research (funded by **SOLAS**) evaluating the PLC programme. Two reports (funded by the **Low Pay Commission**) were published examining (a) the impact of minimum wage changes on employment and hours and (b) the labour market transitions of minimum waged workers. Reports were also published on barriers to social inclusion (funded by **Pobal**), and contingent employment (funded by the **Workplace Relations Commission**).

Research finalised during the year includes a study of the impact of minimum wage changes to the distribution of income (funded by the **Low Pay Commission**); an evaluation of Intreo (funded by the **Department of Employment Affairs and Social Protection**); a study measuring the impacts of local development policies (funded by the **Department of Rural and Community Development** and managed by **Pobal**); and three book chapters investigating skills mismatch in low- and middle-income countries (funded by the **International Labour Organization**). Researchers also finalised studies on consumption smoothing in retirement and the gender pensions gap, which were funded by the **Pensions Authority** and the **Pensions Council** respectively. Work commenced on an assessment of regional and sector-specific impacts of minimum wage changes (funded by the **Low Pay Commission**). Researchers also continued to provide regular reports on Ireland's labour market progress to the European Commission's **European and Employment Policy Observatory** and a study examining the emigration of skilled labour in Ireland was published as part of this work.

The work on contingent, or non-permanent, employment sought to set an evidence base on both the level and evolution of contingent employment in Ireland. The research found that the incidence of contingent employment in Ireland ranged between 8 and 9 per cent of total employment between 1998 and 2005. It increased to over 10 per cent following the recession before falling back towards its pre-recession level in 2016. Similar patterns were observed throughout the EU. The incidence of contingent employment in Ireland was also found to have remained consistently below the EU average. When the study focused specifically on temporary employment, it found that this type of employment was associated with a 20 per cent pay penalty. However, temporary employees were found not to have lower levels of job satisfaction.

The research on barriers to social inclusion examined the individual and spatial characteristics of individuals more likely to experience social disadvantage including (a) belonging to a jobless household, (b) being a lone parent, (c) having a disability, (d) being homeless or affected by housing exclusion and (e) belonging to an ethnic minority. Those with low levels of educational attainment are more likely to face all five barriers. Individuals in urban areas were more likely than their rural equivalents to report experiencing all barriers except having a disability. This finding suggested that urban environments increase an individual's likelihood of experiencing barriers irrespective of the population density and deprivation level of an area.

PLC programmes lead to positive outcomes for students but could do more to respond to changing labour market needs

On 9 January 2018, the ESRI published new research (funded by Solas) examining the outcomes of students who complete PLC courses.

The research found that PLC courses enhance employment chances and progression to higher education for learners but could be made more responsive to a changing labour market. The study was based on new surveys of PLC principals and PLC and Leaving Certificate leavers.

Outcomes for PLC learners

PLC learners were 16 per cent more likely to be in employment and 27 per cent more likely to have progressed to higher education after completing their courses than those who left education after the Leaving Certificate and had similar characteristics.

PLC programme objectives

PLC courses serve a number of objectives: vocational education and training for young people, second-chance education for older adults, and a progression route into higher education. The research found that a stronger distinction is required between programmes focused on preparing students for immediate entry to the labour market and those where the emphasis is on facilitating progression to higher education.

PLC and the labour market

The study found that the types of PLC courses offered have not changed markedly over time even though there has been a dramatic shift in the kinds of jobs available in the Irish labour market. Decisions around which course to offer tend to be driven by student demand rather than skill needs in the economy. There is therefore a need to develop systems to ensure that the PLC courses focused on the labour market are aligned with employer requirements and responsive to changing labour market needs.

Employer engagement at local level is crucial. Around half of PLC principals report that their staff meets with local employers frequently (at least three times a year), but this is less common for smaller PLC providers.

The study found that not all PLC learners feel prepared for the world of work. Over a fifth report not having taken part in a work experience placement during their studies. Almost a third felt that their learning did not contribute to their employability and a quarter considered that they did not acquire job-related knowledge and skills.

Characteristics and experiences of PLC students

One of the goals of PLC provision is to facilitate social inclusion. PLC learners are more likely to be from less educated family backgrounds, are more likely to be older and have children, and have a higher incidence of special educational needs than those who go on directly to higher education. Thus, PLC provision tends to provide access to educational opportunities for a socially diverse group.

PLC students were mostly satisfied with the relevance of courses and the vast majority felt their teachers and tutors had the required knowledge and were supportive.

PLC courses are still seen as a compromise, in a context of not achieving sufficient grades to pursue higher education, highlighting the continued lower status of further education in Ireland.

Financial challenges constituted the single greatest difficulty for PLC students, mostly because of less financial support from family and a higher incidence of caring responsibilities (compared to higher education students), which restricted their employment opportunities.

Project or Programme Title	Client/Funding Agency	Researchers	Status [EOY 2018]
Joint research programme on the evaluation of SICAP	Pobal/Department of Rural and Community Development	S. McGuinness E. Smyth M. Darmody H. Russell A. Whelan J. Delaney	In progress
Research programme on community development and social inclusion	Pobal	S. McGuinness E. Smyth A. Whelan J. Delaney A. Bergin M. Darmody H. Russell A. Bergin	Completed
Programme on issues impacting on minimum wage and low pay in Ireland	Low Pay Commission	S. McGuinness E. Kelly B. Maître P. Redmond A. Whelan	Completed
The design and implementation of an initial evaluation of the effectiveness of activation reforms	Department of Employment Affairs and Social Protection	S. McGuinness E. Kelly J.R. Walsh P. Redmond	Completed
Measuring contingent employment in Ireland	Workplace Relations Commission	S. McGuinness A. Bergin C. Keane J. Delaney	Completed
Preparation of a "European Centre of Expertise" thematic review in the field of labour market, employment and labour market policies	European and Employment Policy Observatory (ICF)	S. McGuinness A. Whelan J. Delaney	In progress
An evaluation of PLC programme provision	Solas	S. McGuinness S. McCoy D. Watson E. Smyth E. Kelly A. Bergin A. Whelan	Completed
Skills mismatch in low- and middle-income countries	International Labour Organisation	S. McGuinness P. Redmond	In progress



Guest speaker Luis Ortiz (left), Associate Professor at Pompeu Fabra University in Barcelona, presented his seminar, *What Shapes Great Expectations? Gender, Social Origin and Cross-country Differences in Students' Expectations of University Graduation* on 14 June. He is pictured here with Seamus McGuinness of the ESRI.

JOURNAL ARTICLES

"Overeducation in Europe: trends, convergence, and drivers", *Oxford Economic Papers*, Vol. 70, Issue 4, October 2018, pp. 994–1015, Oxford, **Seamus McGuinness, Adele Bergin, Adele Whelan**.⁸

"Skills mismatch: concepts, measurement and policy approaches", *Journal of Economic Surveys*, Vol. 32, Issue 4, September 2018, pp. 985–1015, **Seamus McGuinness, Konstantinos Pouliakas, Paul Redmond**.

"The labour market in Ireland, 2000–2016", *IZA World of Labor*, January 2018, 410, **Adele Bergin, Elish Kelly**.

REPORTS AND OTHER PUBLICATIONS

An examination of the labour market transitions of minimum wage workers, ESRI Research Series No. 75, ESRI, Dublin, **Paul Redmond, Seamus McGuinness, Bertrand Maître**.

Estimating the effect of an increase in the minimum wage on hours worked and employment in Ireland, ESRI and The Low Pay Commission, Dublin, **Seamus McGuinness, Paul Redmond**.

European Centre of Expertise (ECE) in the Field of Labour Law, Employment and Labour Market Policy — labour market policy thematic review 2018: an in-depth analysis of the emigration of skilled labour: Ireland, European Commission, Brussels, **Seamus McGuinness, Adele Whelan, Judith Delaney, Paul Redmond**.

Evaluation of PLC programme provision, ESRI Research Series No. 61, ESRI, Dublin, **Seamus McGuinness, Adele Bergin, Elish Kelly, Selina McCoy, Emer Smyth, Dorothy Watson, Adele Whelan**.

Measuring contingent employment in Ireland, ESRI Research Series No. 74, ESRI, Dublin, **Seamus McGuinness, Adele Bergin, Claire Keane, Judith Delaney**.

Profiling barriers to social inclusion in Ireland: the relative roles of individual characteristics and location, Dublin, ESRI, **Seamus McGuinness, Adele Whelan, Adele Bergin, Judith Delaney**.

CHAPTERS IN BOOKS AND REPORTS

"Gender and school to work transitions research", Robert A. Scott, Stephen Michael Kosslyn and Marlis Buchmann (eds), *Emerging Trends in the Social and Behavioral Sciences*, Chichester: Wiley, **Emer Smyth**.

"Post-Leaving Certificate education in Ireland: managing different goals", *New Frontiers for College Education: International Perspectives*, Jim Gallacher and Fiona Reeve (eds), Chapter 3, London: Routledge, **Adele Bergin, Emer Smyth, Adele Whelan**.

"The future of work — good jobs for all", *Rethinking Society for the 21st Century: Report of the International Panel on Social Progress*, Vol. 1: *Socio-economic Transformations*, Chapter 7, pp. 255–312, Cambridge: Cambridge University Press, Werner Eichhorst, André Portela de Souza, Pierre Cahuc, Didier Demazière, Colette Fagan, Nadya Araujo Guimarães, Huiyan Fu, Arne Kalleberg, Alan Manning, **Frances McGinnity, Hillel Rapopor**.

OTHER PAPERS

"Estimating the effect of an increase in the minimum wage on hours worked and employment in Ireland", IZA Discussion Paper No. 11632, IZA, Bonn, **Seamus McGuinness, Paul Redmond**.

"Exploiting the Irish border to estimate minimum wage impacts in Northern Ireland", IZA Discussion Paper No. 11585, IZA, Bonn, Duncan McVicar, Andrew Park, **Seamus McGuinness**.

"Minimum wages and the gender gap in pay: new evidence from the UK and Ireland", IZA Discussion Paper No. 11502, IZA, Bonn, Olivier Bargain, **Karina Doorley, Philippe Van Kerm**.

PRESENTATIONS/PAPERS READ TO CONFERENCES AND LEARNED SOCIETIES

"A statistical profiling model of long-term unemployment risk in Ireland", *Good Practices and Mutual Learning Within the National Employment System*, Public Employment Services Knowledge Centre of the European Commission, Santiago de Compostela, Spain, October, **Elish Kelly**.

"An examination of the labour market transitions of minimum wage workers in Ireland", *Nevin Economic Research Institute Annual Labour Market Conference*, National University of Ireland, Galway, May, **Paul Redmond, Seamus McGuinness, Bertrand Maître**.

"Educational attainment and skill utilisation in the Irish labour market: an EU comparison", *Nevin Economic Research Institute Annual Labour Market Conference*, National University of Ireland, Galway, May, **Adele Whelan**.

"Estimating the effect of an increase in the minimum wage on hours worked and employment in Ireland", *Irish Economics Association Annual Conference*, Central Bank of Ireland, Dublin, May, **Paul Redmond, Seamus McGuinness**.

"How can third-level institutions improve the labour market outcomes of their graduates?", Keynote presentation, *Graduate Employment Conference Europe*, Amsterdam, December, **Seamus McGuinness**.

"The effectiveness of a second-chance education scheme as an unemployment activation measure: evidence from Ireland", *Transitions in Youth Workshop*, Mannheim Centre for European Social Research, University of Mannheim, Mannheim, Germany, September, **Elish Kelly, Seamus McGuinness, Adele Bergin, Adele Whelan**.

"Profiling barriers to social inclusion in Ireland: the relative roles of individual characteristics and location", *Focus Ireland Lunchtime Seminar Series*, Dublin, October, **Seamus McGuinness, Adele Whelan, Adele Bergin, Judith Delaney**.

"What has been happening to temporary employment among young people in Europe?", *Transitions in Youth Workshop*, Mannheim Centre for European Social Research, University of Mannheim, Mannheim, Germany, September, **Seamus McGuinness, Adele Bergin, Adele Whelan**.

⁸**Bold type** indicates ESRI staff members. An asterisk (*) indicates an ESRI Research Affiliate.

11 MACROECONOMICS



Research Area

Coordinators:

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Others working in this area include:

Achim Ahrens, Matthew Allen-Coghlan, Adele Bergin, Kelly de Bruin, Philip Economides, Abian Garcia Rodriguez, Elish Kelly, Ilias Kostarakos, Edgar Morgenroth, Maria Martinez-Cillero, Conor O'Toole, Iulia Siedschlag, Rachel Slaymaker, Mattia Di Ubaldo, Petros Varthalitis, Dorothy Watson, Aykut Mert Yakut

RESEARCH HIGHLIGHTS

- **A hard Brexit would increase the cost of living for all households in Ireland by 2 per cent to 3.1 per cent – an annual increase of €892 to €1,360 per household. Costs would rise the most for lower-income households. These households spend a greater share of their expenditure on food products, many of which are imported from the UK.**
- **If the current pattern of regional growth in Ireland continues, it will lead to a further gap in prosperity between Dublin and the rest of the country. In Dublin, it will lead to additional housing demand and increased long-distance commuting.**



Conor O'Toole, Eoin Corrigan, Department of Housing, Planning and Local Government, Rachel Slaymaker, Trevor Fitzpatrick, Central Bank of Ireland, Kieran McQuinn and Dorothy Watson at *Exploring Developments in the Irish Housing and Mortgage Market* held in the ESRI on 21 June.



Eoghan Murphy, TD, Minister for Housing, Planning and Local Government delivered the opening address at *Exploring Developments in the Irish Housing and Mortgage Market* held at the ESRI on 21 June.

The macroeconomic research area in the ESRI has a wide-ranging remit to examine major issues affecting the performance of the Irish economy. Regular assessments of economic developments and consumer and business sentiment and forecasts of key economic indicators are central components of this area.

In 2018, further contributions were made to the ongoing joint research programme with the **Department of Housing, Planning and Local Government**. This programme focuses on estimating housing demand, supply and affordability in order to draw policy implications. In June, a working paper examined housing affordability in Ireland by looking at the distribution of housing costs across households. The study identified key vulnerabilities among low-income households in the private rental sector that pay, on average, 40 per cent of their income on housing costs. The paper concludes that affordability challenges are a structural rather than a cyclical issue. The ESRI has continued producing a hedonic rent index for the Residential Tenancies Board, which incorporates details on rental properties across the country. This work enables the measurement of average rent price growth at a county and electoral area level.

A number of projects were undertaken as part of the joint research programme with the **Department of Finance** and the **Office of the Revenue Commissioners**. Researchers first examined how different carbon tax rates would impact both the economy and the level of carbon dioxide emissions. The research used a detailed matrix of the structure of the economy including productive sectors, households and the government in order to quantify economic transactions, energy flows and emissions. The study estimated how changes in the carbon tax would affect GDP and consumer and producer prices, in addition to estimates of associated reductions

in emissions that could be achieved at each tax level.

Work under the same programme develops the capability of fiscal policy modelling by building a fiscal satellite to the COSMO macroeconomic model and providing robust estimates of fiscal multipliers by estimating and comparing different methodologies. Fiscal policy instruments can potentially have strong macroeconomic effects. Well-founded quantitative estimates of the size of their multiplier effects are therefore important for developing policy.

As part of the banking stream added to the **Department of Finance** and **Office of the Revenue Commissioners** research programme in 2017, researchers undertook a detailed analysis of the investment decisions of small and medium enterprises in Ireland. They investigated the extent to which investment levels were being constrained by financing availability. Also as part of this research programme, researchers carried out an assessment of the Irish mortgage market and the extent of arrears among mortgage holders. They developed a detailed model of the determinants of arrears, which can be used for future stress-testing scenarios.

The Quarterly Economic Commentary continued to convey the Institute's outlook for the Irish economy in 2018. While noting the substantial growth experienced over recent quarters, the *Commentary* has been primarily concerned with underlying trends in growth and potential exposure to external risk factors, such as Brexit. The Institute's model of the macroeconomy, COSMO, informed analyses of economic developments including the National Development Plan and various Brexit scenarios.

Brexit price increases could affect poorer households most

On 21 March 2018, the ESRI published new research that examined the share of imported products from the UK in household spending and estimated the effects of a hard Brexit scenario, incorporating tariffs and other increases in costs of trade between the EU and UK. The Competition and Consumer Protection Commission funded the research.

The study found that a hard Brexit would increase the cost of living for all households in Ireland by 2 per cent to 3.1 per cent – an annual increase of €892 to €1,360 per household. Costs would rise the most for lower-income households. These households spend a greater share of household expenditure on food products, many of which are imported from the UK and would be subject to tariffs.

Households with the lowest incomes would face a 4 per cent price increase in the highest-impact scenario. Households in the highest-income group would face a 2.4 per cent price increase. The percentage increase faced by the poorest households would be 70 per cent more than the percentage increase faced by the wealthiest households.

As Ireland imports a considerable amount of food products from the UK, a hard Brexit could have an immediate impact on the cost of living. Unfortunately, we find that this impact would likely fall disproportionately on lower-income households.

The study used a number of Brexit scenarios to examine the price increase of a range of imported goods. It found that if tariffs were introduced and other trade costs also increase following a hard Brexit, the price of bread and cereals could rise by up to 30 per cent, while milk, cheese and egg prices could increase by 46 per cent.

These estimates do not take account of switching of products or changes in expenditure patterns in response to the cost increases. For this reason, they are likely to reflect the maximum increase in the cost of living.

Development of second-tier cities key to sustainable economic growth

On 24 January 2018, the ESRI published new research that provided projections for regions and counties across Ireland up to the year 2040 and examined what will happen if current spatial planning patterns continue. The Department of Housing, Planning and Local Government funded the research to feed into Ireland 2040: National Planning Framework, the government's policy and planning framework for the social, economic and cultural development of the country.

The ESRI study concluded that spatial planning policies should aim to rebalance growth by encouraging regional development led by a small number of large urban centres outside Dublin. If the current pattern of growth continues, it will lead to a further gap in prosperity between Dublin and the rest of the country. In Dublin, this outcome would lead to additional housing demand and increased long-distance commuting.

Over-concentration in Dublin and Mid-East region

Projections show that if current trends continue, population growth, employment growth and jobs growth will be concentrated in Dublin and the mid-east of Ireland.

Population growth will be greatest in and around the major cities, particularly Dublin. The share of the population in the Dublin and Mid-East region will grow from 40 per cent to 41.7 per cent by 2040. This means the population in this area will increase from 1.91 million in 2016 to 2.35 million in 2040.

Above-average employment growth is projected for the Mid-East (1.6% annually) and to a lesser extent in the South-West (1.5%), West (1.5%) and Border (1.4%) regions.

Dublin and the Mid-East are projected to have above average growth in the number of jobs available (1.7% annually). Jobs growth is projected to be slowest in the Border, South-East and Mid-West regions (0.9%).

Developing second-tier cities

The research finds that the most positive outcomes would result from a scenario in which growth is split equally between the East and Midland region and the rest of the country. This would relieve pressure in the Dublin region, while still allowing significant growth there.

Investing in second-tier cities is essential to ensure sustainable economic growth outside of Dublin. This necessitates developing essential infrastructure, including water and wastewater infrastructure, urban public transport and schools. Affordable housing and other amenities must be provided in these cities to attract people to live there and to avoid further sprawl.

Project or Programme Title	Client/Funding Agency	Researchers	Status [EOY 2018]
Joint research programme on housing economics	Department of Housing, Planning and Local Government	K. McQuinn C. O'Toole R. Slaymaker D. Watson	In progress
Spatial economic and demographic modelling	Department of Housing, Planning and Local Government	E. Morgenroth A. Rodriguez A. Ahrens	Completed
Joint research programme on the macroeconomy, taxation and banking	Department of Finance; Office of the Revenue Commissioners	K. McQuinn M. Lawless I. Siedschlag C. O'Toole A. Rodriguez M. Di Ubaldo P. Varthalitis R. Slaymaker M. Martinez-Cillero A. Bergin K. De Bruin P. Economides I. Kostarakos A. Yakut	In progress
RTB average rent report	Residential Tenancies Board	C. O'Toole M. Martinez-Cillero M. Allen-Coghlan	In progress
Sentiment indices	KBC Bank; Bank of Ireland	K. McQuinn C. O'Toole M. Allen-Coghlan P. Economides	In progress
IDEAS project	Department of Foreign Affairs and Trade	C. O'Toole	In progress
Dublin sentiment index	DKM	K. McQuinn	In progress
Modelling the Irish economy	Irish Fiscal Advisory Council	A. Bergin A. Garcia Rodriguez P. Economides	In progress

JOURNAL ARTICLES

"Credit conditions, macroprudential policy and house prices", *Journal of Housing Economics*, Vol. 41, September 2018, pp. 153–167, Robert Kelly, Ferghal McCann, **Conor O'Toole**.⁹

"Determinants of mortgage arrears in Europe: evidence from household microdata", *International Journal of Housing Policy*, Vol. 18, Issue 4, 2018, Petra Gerlach-Kristen, **Seán Lyons**.

"Fiscal policy design in Greece in the aftermath of the crisis: an algorithmic approach", *Computational Economics*, Vol. 51, Issue 4, April 2018, pp. 893–911, **Ilias Kostarakos**, Stelios Kotsios.

"Identifying rent pressures in your neighbourhood: a new model of Irish regional rent indicators", *Economic and Social Review*, Vol. 49, No.1, Spring 2018, pp. 73–92, **Martina Lawless**, **Kieran McQuinn**, **John Walsh**.

"Mortgage default, lending conditions and macroprudential policy: loan-level evidence from UK buy-to-lets", *Journal of Financial Stability*, Vol. 36, June 2018, pp. 322–335, Robert Kelly, **Conor O'Toole**.

"The cyclicity of Irish fiscal policy", *Economic and Social Review*, Vol. 49, No. 1, Spring 2018, pp. 1–6, David Cronin and **Kieran McQuinn**.

"The effects of direct payments on technical efficiency of Irish beef farms: a stochastic frontier analysis", *Journal of Agricultural Economics*, Vol. 69, Issue 3, 2018, pp. 669–687, **Maria Martinez-Cillero**, Fiona Thorne, Michael Wallace, James Breen, Thia Hennessy.

CHAPTERS IN BOOKS AND REPORTS

"Europe's long-term growth prospects: with and without structural reforms", in N. Campos, P. De Grauwe and Ji Yuemei (eds), *The Political Economy of Structural Reforms in Europe*, Oxford: Oxford University Press, **Kieran McQuinn**, Karl Whelan.

REPORTS AND OTHER PUBLICATIONS

Cross-border trade & supply chain linkages report, InterTradeIreland, Newry, **Martina Lawless**, Zuzanna Studnicka.

Prospects for Irish regions and counties: scenarios and implications, ESRI Research Series No. 70, ESRI, Dublin, **Edgar Morgenroth**.

Quarterly economic commentary, Spring 2018, ESRI, Dublin, **Kieran McQuinn**, **Conor O'Toole**, **Philip Economides**, **Teresa Monteiro**.

Quarterly economic commentary, Summer 2018, ESRI, Dublin, **Kieran McQuinn**, **Conor O'Toole**, **Philip Economides**, **Teresa Monteiro**.

Quarterly economic commentary, Autumn 2018, ESRI, Dublin, **Kieran McQuinn**, **Conor O'Toole**, **Philip Economides**.

Quarterly economic commentary, Winter 2018, ESRI, Dublin, **Kieran McQuinn**, **Conor O'Toole**, **Matthew Allen-Coghlan**, **Philip Economides**.

QEC SPECIAL ARTICLES AND RESEARCH NOTES

"Brexit and Irish consumers", *QEC Special Article*, ESRI, Dublin, **Martina Lawless**, **Edgar Morgenroth**.

"Capacity constraints in the Irish economy? A partial equilibrium approach", *QEC Research Note*, ESRI, Dublin, **Kieran McQuinn**.

"Exploring SME investment patterns in Ireland: new survey evidence", ESRI, Dublin, Eric Gargan, **Martina Lawless**, **Maria Martinez-Cillero**, **Conor O'Toole**.

"National accounts for a global economy: the case of Ireland", *QEC Special Article*, ESRI, Dublin, **John FitzGerald***.

"The financial crisis and the changing profile of mortgage arrears in Ireland", *QEC Research Note No. 2018/4/2*, ESRI, Dublin, Mike Fahy, **Conor O'Toole**, **Rachel Slaymaker**.

ESRI RESEARCH BULLETINS

"The scale of 'fuel tourism' across the Irish border", ESRI, Dublin, Sean Kennedy, **Seán Lyons**, **Edgar Morgenroth**, Keith Walsh.

ESRI WORKING PAPERS

"Dynamic tax revenue buoyancy estimates for a panel of OECD countries", ESRI, Dublin, **Yota Deli***, **Abian Garcia Rodriguez**, **Ilias Kostarakos**, **Petros Varthalitis**.

"Estimating an SME investment gap and the contribution of financing frictions", ESRI, Dublin, **Martina Lawless**, **Conor O'Toole**, **Rachel Slaymaker**.

"Exploring affordability in the Irish housing market", ESRI, Dublin, **Eoin Corrigan***, Daniel Foley, **Kieran McQuinn**, **Conor O'Toole**, **Rachel Slaymaker**.

"How openness to trade rescued the Irish economy", ESRI, Dublin, **Kieran McQuinn**, **Petros Varthalitis**.

"VAT revenue elasticities: an analytical approach", ESRI, Dublin, Jean Acheson, **Yota Deli***, **Edgar Morgenroth**, Derek Lambert, **Martin Murphy**.

OTHER PAPERS

"Capital allocation, credit access, and firm growth in Viet Nam", WIDER Working Paper 2018/67, UNU-WIDER, Helsinki, Christina Kinghan, **Conor O'Toole**, Carol Newman.

"Scenarios and distributional implications of a household wealth tax in Ireland", ifo DICE Report Vol. 16 (2), pp. 27–31, Article number: 11112018002006, ifo Institute, Munich, **Martina Lawless**, Donal Lynch.

⁹**Bold type** indicates ESRI staff members. An asterisk (*) indicates an ESRI Research Affiliate.

PRESENTATIONS/PAPERS READ TO CONFERENCES AND LEARNED SOCIETIES

"Financing and lifecycle of European SMEs: a comparative analysis", *IFABS 2018 Conference*, Santiago, Chile, **Maria Martinez-Cillero, Conor O'Toole, Martina Lawless**.

"A regional perspective on industrial production in Ireland over 1979–2009: a spatial stochastic frontier approach", *XII World Conference of the Spatial Econometrics Association*, Webster Vienna Private University, Vienna, Austria, June, **Achim Ahrens, Edgar Morgenroth**.

"Accounting for technology heterogeneity and policy change in farm level efficiency analysis", *Irish Economics Association Conference*, Central Bank, Dublin, May, **Maria Martinez-Cillero**.

"Brexit and the Irish housing market", *Local Government Management Agency Annual Conference*, Dublin, December, **Kieran McQuinn**.

"Brexit and the implications for the Irish economy", *Annual Meeting of the Association d'Instituts Européens de Conjuncture Economique*, Brussels, Belgium, November, **Kieran McQuinn**.

"Capacity constraints in the Irish construction sector", *Society of Chartered Surveyors Ireland Conference*, Kilkenny, November, **Kieran McQuinn**.

"Challenges to financial stability", *Workshop on Financial Stability*, University College Cork, Cork, March, **Kieran McQuinn**.

"Comments on estimating potential output", *Path for the Public Finances Conference 2018: Too Hot, Too Cold! The Irish Cycle*, Irish Fiscal Advisory Council, Dublin, March, **Kieran McQuinn**.

"COSMO and capacity output", *Path for the Public Finances Conference 2018: Too Hot, Too Cold! The Irish Cycle*, Irish Fiscal Advisory Council Dublin, Dublin, March, **Abian Garcia-Rodriguez, Adele Bergin**.

"Cross border spillovers of macroprudential mortgage restrictions", *Cross-border Aspects of Macroprudential Policy*, Central Bank of Slovenia/European Central Banking Network, Ljubljana, Slovenia, October, **Conor O'Toole**.

"Exploring affordability in the Irish housing market", *The Broken Housing Market*, National Institute of Economic and Social Research, Royal Institute of Chartered Surveyors and the UK Collaborative Centre for Housing Evidence, London, UK, June, **Kieran McQuinn, Rachel Slaymaker, Conor O'Toole**.

"Housing affordability in Ireland", *Exploring Developments in the Irish Housing and Mortgage Market*, ESRI, Dublin, June, **Conor O'Toole, Rachel Slaymaker**.

"International banking: what the future holds", *Federation of International Banks in Ireland Conference*, Dublin, June, **Kieran McQuinn (discussant)**.

"Ireland and the digital economy", *Transforming Vietnam's Digital Economy*, Irish Aid, Hanoi, Vietnam, November, **Conor O'Toole**.

"Macroeconomic assessment", *National Economic Dialogue*, Department of Finance, Dublin, June, **Kieran McQuinn, Conor O'Toole, Philip Economides**.

"Macroeconomic developments in the Irish housing market", *Exploring Developments in the Irish Housing and Mortgage Market*, ESRI, Dublin, June, **Kieran McQuinn**.

"Macroprudential policy, uncertainty and household savings behaviour", *Irish Economics Association Annual Conference*, Central Bank, Dublin, May; *International Finance and Banking Society Annual Conference*, Porto, Portugal, June, **Kieran McQuinn, Conor O'Toole, Philip Economides**.

"Measuring SME investment gaps", *Annual Policy Conference*, Department of Finance, Dublin, March, **Conor O'Toole, Martina Lawless, Rachel Slaymaker**.

"Public debt consolidation and its distributional effects", *9th Conference on Growth and Business Cycle in Theory and Practice*, University of Manchester, Manchester, UK, July, **Stelios Sakkas and Petros Varthalitis**.

"Research evidence on housing affordability in Ireland", *Affordable Housing Seminar*, Housing Agency, Dublin, December, **Conor O'Toole**.

"SME investment patterns in Ireland", *Energy Efficiency Investment*, European Investment Bank/Sustainable Energy Authority of Ireland/Strategic Banking Corporation Ireland, Dublin, November, **Conor O'Toole**.

"Spillovers from macroprudential mortgage market restrictions", *International Finance and Banking Society Annual Conference*, Porto, Portugal, July, **Conor O'Toole**.

"Was it openness or structural reforms that rescued the Irish economy?", *Second Workshop on Structural Reforms in the EU*, London School of Economics European Institute, London, UK, May; *Association of Southern European Economic Theorists Annual Conference*, Florence, Italy, November, **Kieran McQuinn, Petros Varthalitis**.

"Where now for the Irish economy? Opportunities, challenges and longer-term developments", *9th Annual Tourism Policy Workshop*, Dromoland, November, **Kieran McQuinn**.



Research Area Coordinators:
Frances McGinnity,
Emma Quinn

Others working in this area include:
Samantha Arnold,
Adele Bergin,
Elaine Byrne, Merike Darmody, Éamonn Fahey,
Sarah Groarke,
Elish Kelly,
Bernard Maître,
Seamus McGuinness,
Ivan Privalko,
Helen Russell,
Anne Sheridan,
Emer Smyth

RESEARCH HIGHLIGHTS

- **Non-Irish nationals are matching Irish nationals on several key economic and social indicators, but some groups remain disadvantaged, according to the latest integration monitoring research. The employment rate was very low for African nationals. The consistent poverty rate was very high for non-EU nationals.**
- **The changeover to new asylum procedures and the housing crisis have contributed to significant increases in the length of time it takes asylum applicants to move through the asylum and reception systems.**



Alan Barrett and Bryan McMahon, Former Chair of the Working Group on Improvements to the Protection Process, pictured at *Looking to the Future for Unaccompanied Minors in Ireland and Europe*, a conference held by EMN Ireland on 4 December.



(left to right) Samantha Arnold, Jyothi Kanics, University of Lucerne, Sarah Groarke, Maria Hennessy, UNHCR Ireland, and Michele Clark, Department of Children and Youth Affairs, at the EMN Ireland conference *Looking to the Future for Unaccompanied Minors in Ireland and Europe* on 4 December.

Research in the area of Migration, Integration and Demography is conducted under a number of strands. The first relates to the ESRI being Ireland's National Contact Point for the European Migration Network (EMN) and related funding, which is provided by the **European Commission** and the **Department of Justice and Equality**.

In June, the EMN Ireland team published a study examining Ireland's response to recent trends in international protection applications. The study shows that new programmes were introduced in Ireland during the "migration crisis" period (2014–2016) and that a new system for processing asylum applications was implemented from December 2016. The study highlighted that the system for accommodating asylum applicants is under strain, in part because the housing crisis is preventing refugees and others from moving on. The research also noted steep increases in waiting times for first asylum application interviews. The report was launched at an event that also marked 10 years since the legal establishment of the European Migration Network. The 10th anniversary was marked in Brussels with a high-level conference, organised in part by EMN Ireland. In December, EMN Ireland launched the study *Approaches to Unaccompanied Minors Following Status Determination*, at a conference with speakers drawn from the Department of Justice and Equality, TUSLA and other stakeholders. In addition to the topic reports, the EMN published the *Annual Report on Migration and Asylum 2017: Ireland*, a review of asylum and migration policy developments.

The second strand of research in the area falls under the research programme on integration and equality, funded by the **Department of Justice and Equality**. The first programme output, the *Monitoring Report on Integration 2018*, considers immigrant integration in employment, education, social

inclusion and active citizenship, with a special theme on Muslim integration using the 2016 Census. David Stanton, TD, Minister of State for Equality, Immigration and Integration, launched the report in November. The second programme output, now being finalised, investigates data needs for migrant integration from both administrative and survey sources, complementing the activities of a working group under the *Migrant Integration Strategy*. A third report, currently under review, examines residential patterns of immigrants in Ireland using geocoded data from the 2011 and 2016 Censuses. In May, researchers presented work on attitudes to diversity to a meeting of the Migrant Integration Policy Committee.

In other research, a chapter about immigrant student achievement and educational policy in Ireland was published in an international comparative book. A journal article estimates the demographic, labour market and welfare effects of 3.5 million displaced Syrians on the Turkish economy. Researchers also participated in an international COST network, funded by **COST Action** with support from the **Horizon 2020 Framework Programme of the European Union**. This network compiles surveys of immigrants and ethnic minorities in Europe and evaluates indicators of migrant integration.

Many non-Irish nationals have similar employment and education levels to Irish people, but some remain disadvantaged

On 7 November 2018, David Stanton, TD, Minister of State with special responsibility for Equality, Immigration and Integration, launched the latest Monitoring Report on Integration. The report was published jointly by the ESRI and the Department of Justice and Equality.

Many non-Irish nationals are at least as likely to be employed and highly educated as Irish people. The research examines how well migrants are settling into Ireland, now one of the most diverse countries in the EU, with 17 per cent of the population born in another country. The study finds that non-Irish nationals are matching Irish nationals on several key economic and social indicators, but that some groups remain disadvantaged.

Employment

According to the report, 4 per cent of Western European nationals (excluding the UK), were unemployed in 2017, compared to 7 per cent of Irish nationals and 16 per cent of African nationals. Employment rates were slightly higher for non-Irish nationals (70 per cent) than Irish nationals (66 per cent). However, employment rates varied across national groups and the employment rate was very low for African nationals (circa 45 per cent).

Education

37 per cent of Irish people of working age had third-level education in 2017. The percentage was higher across almost all non-Irish groups. Western European nationals (excluding the UK) were most likely to have third-level education, at 74 per cent. Eastern European nationals were least likely, but the figure remained high at 35 per cent.

In English reading, 15-year-old immigrants from non-English speaking backgrounds had lower English reading scores, on average, than their Irish peers. However, on average there was no difference between Irish and non-Irish 15-year-olds in either science or mathematics scores.

Poverty and deprivation

In 2016, some 23 per cent of non-Irish nationals were living below the income poverty line (drawn at 60 per cent of median household income) compared to just under 16 per cent of Irish nationals. Consistent poverty rates (the proportion of a group that is income poor and experiencing basic deprivation) were 13 per cent for non-Irish as a whole, compared to 8 per cent for Irish. This rate was very high for non-EU nationals (29 per cent).

Citizenship

Ireland is now one of the most diverse countries in the European Union, with approximately 17 per cent of the resident population born in another country. In 2017, over 8,000 immigrants became Irish citizens, many of whom were Polish, Romanian or Indian. However, this figure is 68 per cent lower than the 2012 peak, when 25,100 naturalisation certificates were issued.

Muslim community

Each Monitoring Report on Integration includes a special focus on a specific issue. The 2018 report focuses on Muslims in Ireland using Census data. The Muslim population increased from less than 20,000 in 2002 to over 62,000 in 2016. Muslims are a diverse group in terms of faith, language and nationality. Just under 30 per cent were born in Ireland. Compared to the total population, Muslims are highly educated but are also more likely to be unemployed. They are disproportionately young and urban-based, and are twice as likely as the entire population to be students. The origin of Muslim immigration has shifted in recent years, with more people arriving from South Asia and fewer from Sub-Saharan Africa.

HOW WELL ARE MIGRANTS SETTLING INTO IRELAND?



Overview of Migration in Ireland >> **17%** of the population resident in Ireland is foreign born >> **Net migration** just shy of **20,000** in 2017

POVERTY (2016)

Percentage who experience consistent poverty*



Irish
7.9%



UK
16.4%



EU-West
3.2%



EU-East
8.2%



Non-EU
29.0%

* At risk of income poverty and deprived of two or more basic items

EDUCATION (2017)

Percentage of working-age adults who have third-level education



Irish
36.6%



UK
51.0%



EU-West
73.7%



EU-East
34.9%



Africa
48.7%



North America & Oceania
74.1%



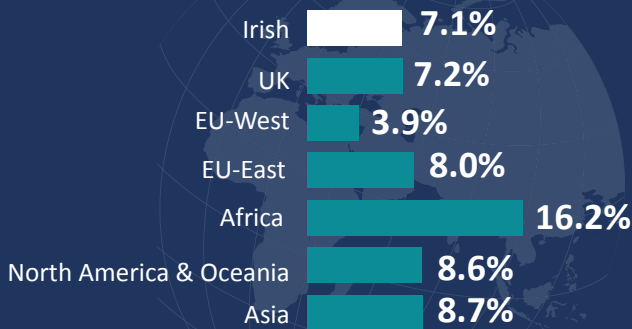
Asia
68.4%



English Reading scores at age 15

Immigrants from a non-English speaking background had significantly lower scores.

UNEMPLOYMENT RATE (2017)



NATURALISATION



8,196 people naturalised in 2017

Most common former nationality

Polish **1,358** PEOPLE

POLITICAL PARTICIPATION



1 in 166 members of the Dáil is a naturalised Irish national



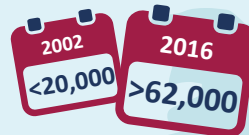
2 people elected to local authorities are non-Irish nationals

5.1% of people on the voting register are non-Irish although non-Irish residents of voting age make up 13% of national population

MUSLIMS IN IRELAND

Each *Monitoring Report on Integration* includes a special focus on a specific issue. The 2018 report focused on Muslims in Ireland using Census data.

Muslim population



Proportion of Muslims born in Ireland



83% of total population born in Ireland

26 is the average age of Muslims resident in Ireland compared to 37 for all Irish people



1/5 are students national average 1/10

MIGRATION, INTEGRATION AND DEMOGRAPHY

Project or Programme Title	Client/Funding Agency	Researchers	Status [EOY 2018]
European Migration Network	European Commission; Department of Justice and Equality	E. Quinn A. Sheridan S. Arnold E. Byrne S. Groarke	In progress
Research programme on integration and equality	Department of Justice and Equality	F. McGinnity E. Quinn M. Darmody É. Fahey S. Groarke B. Maître I. Privalko H. Russell P. O'Connell (UCD)	In progress
Bilateral partnership agreement with the Migration Policy Group	European Commission	E. Smyth	In progress
ALFIRK—Collaborative Networks for Migrant Parent Empowerment	ERASMUS+	M. Darmody—the ESRI is a partner in a consortium led by Europaisches Forum fur Migrationsstudien	Completed
International Ethnic and Immigrant Minorities' Survey Data Network	COST Action, EU Framework Programme Horizon 2020	F. McGinnity	In progress



(left to right) David Stanton, TD, Minister of State for Equality, Immigration and Integration, Frances McGinnity, Oonagh Buckley, Deputy Secretary-General of the Department of Justice and Equality, Alan Barrett, Mary Gilmartin, Maynooth University, and Salome Mbugua, founder of AkiDWA at the launch of the *Monitoring report on integration 2018* on 7 November.

JOURNAL ARTICLES

"The experience of discrimination among newly arrived Poles in Ireland and the Netherlands", *Ethnic and Racial Studies*, Vol. 41, Issue 5, 2018, pp. 919–937, **Frances McGinnity**, Merove Gijsberts.

REPORTS AND OTHER PUBLICATIONS

Monitoring report on integration 2018, ESRI/Department of Justice and Equality, Dublin, **Frances McGinnity**, **Eamonn Fahey**, **Emma Quinn**, **Samantha Arnold**, **Bertrand Maître**, **Philip O'Connell**.*

Ireland's response to recent trends in international protection applications, ESRI Research Series No. 72, ESRI, Dublin, **Samantha Arnold**, **Conor Ryan**, **Emma Quinn**.

Annual report on migration and asylum 2017: Ireland, ESRI, Dublin, **Anne Sheridan**.

Approaches to unaccompanied minors following status determination in Ireland, ESRI Research Series No. 83, ESRI, Dublin, **Sarah Groarke**, **Samantha Arnold**.

OTHER PAPERS

"Implications of forced migration on demographics, labor market, and welfare", SSRN, Rochester, New York, **Aykut Mert Yakut**.

"The empirical content of marital surplus in matching models", IZA Discussion Paper No. 11823, IZA, Bonn, **Karina Doorley**, **Arnaud Dupuy**, **Simon Weber**.

PRESENTATIONS AND PAPERS READ TO CONFERENCES AND LEARNED SOCIETIES

"Asylum and migration policy in the EU and Ireland: a comparative overview", Study Abroad Programme Students, National University of Ireland, Galway, July, **Anne Sheridan**.

"Monitoring integration in Ireland" Working Session II: International Perspectives on Migrant Integration. Good Practices and Lessons Learned. *OSCE/OHCHR Expert Workshop on Facilitating Integration of Migrants: Experience of Armenia, Georgia, Republic of Moldova and Ukraine*, Tbilisi, Georgia, November, **Samantha Arnold**.

"2018 monitoring report on integration", *Trinity College Dublin's Changing City Series on Dublin's Migrants*, Dublin, November, **Emma Quinn**.

"Approaches to unaccompanied minors following status determination: Ireland in an EU context", *Looking to the Future for Unaccompanied Minors in Ireland and Europe*, EMN Ireland/ESRI, Dublin, December, **Sarah Groarke**, **Samantha Arnold**.

"Child refugee and subsidiary protection appeals in Ireland", *Safeguarding Children's Rights in Immigration Law*, Leiden University, Leiden, The Netherlands, November, **Samantha Arnold**.

"Child refugee and subsidiary protection appeals in Ireland", *The Rights of Migrants and Refugees: Exploring the Role of Courts and Tribunals*, NUI Galway, Galway, May, **Samantha Arnold**.

"Implications of refugee influx on demographics, labour market, and welfare", *21st Annual Conference on Global Economic Analysis*, Center for Global Trade Analysis, Purdue University and Universidad de Cartagena, Cartagena, Colombia, June, **Aykut Mert Yakut**.

"Migration, refugees and immigration law", *Bitesize Workshop Series: Migration*, Trinity Research in Social Sciences/Institute of International and European Affairs, Dublin, September, **Samantha Arnold**.

"Reception conditions directive (recast) and child asylum seekers: possible implications for Ireland", *Irish Refugee Council/European Council on Refugees and Exiles Conference*, Dublin, March, **Samantha Arnold**.

"Refugees, migrants and the right-wing vote share: evidence from Sweden", *4th Workshop on the Economics of Migration*, Institute for Employment Research of the German Federal Employment Agency, Nuremberg, Germany, May; *Irish Economics Association Conference*, Central Bank of Ireland, Dublin, May; and *National Institute of Economic and Social Research Seminar*, London, UK, June, **Rachel Slaymaker**.

"Separated children at the interplay between children's rights and the immigration framework: Ireland as a case study", *Safeguarding Children's Rights in Immigration Law*, Leiden University, Leiden, The Netherlands, November, **Sarah Groarke**, **Samantha Arnold**.

"The refugee definition and the rights of the child", *UNHCR Multi-agency Training: Children in the Protection System*, UNHCR Ireland, Dublin, November, **Samantha Arnold**.

"The rights of asylum-seeking children", *UNHCR Roundtable on Reception and Care Arrangements for Asylum-Seeking Children*, Bangkok, Thailand, October, **Samantha Arnold**.



(left to right) Raffaele Grotti, Éamonn Fahey, Helen Russell and Emily Logan, Chief Commissioner of the Irish Human Rights and Equality Commission at the launch of *Discrimination and inequality in housing in Ireland* on 15 June.



(left to right) Bertrand Maître, Dorothy Watson, Regina Doherty, TD, Minister for Employment Affairs and Social Protection, Alan Barrett and Raffaele Grotti at the launch of *Poverty dynamics of social risk groups in the EU: An analysis of the EU statistics on income and living conditions, 2005 to 2014* on 31 January.

13 SOCIAL INCLUSION AND EQUALITY



Research Area

Coordinators:

Bertrand Maître,
Frances McGinnity,
Dorothy Watson

Others working in this

area include: Joanne Banks, Adele Bergin, Merike Darmody, Judith Delaney, Éamonn Fahey, Sarah Groarke, Raffaele Grotti, Claire Keane, Elish Kelly, Pete Lunn, Seán Lyons, Bernard Maître, Selina McCoy, Seamus McGuinness, Anne Nolan, Ivan Privalko, Emma Quinn, Helen Russell, Emer Smyth, John R. Walsh, Dorothy Watson, Adele Whelan

Work was also undertaken in collaboration with Research Affiliates

Eoin Corrigan, Brian Nolan, Philip J. O'Connell and Christopher T. Whelan.

RESEARCH HIGHLIGHTS

- **There is a significant gap between the rate of persistent deprivation experienced by vulnerable adults and the rate experienced by other adults across 11 EU countries examined in a study. The gap in Ireland was the largest and increased the most over time.**
- **High childcare costs are linked to lower employment among mothers, with a 10 per cent increase in childcare costs leading to 30 minutes less paid employment per week for mothers.**

13 SOCIAL INCLUSION AND EQUALITY

Research on social inclusion and equality investigates factors influencing access to the material and other resources required to participate in economic and social life and the processes that lead to inequalities in opportunities and outcomes.

Four reports were published under the programme of research with the **Irish Human Rights and Equality Commission**. Findings included:

- Attitudes to diversity in the Irish-born population in the period 2002–2014 closely followed the economic cycle, becoming more negative during the recession. Positive social contact with minority groups was associated with more favourable attitudes.
- Discrimination in access to housing in Ireland particularly affects people with disabilities, lone mothers, young people and ethnic minority groups.
- People with disabilities continue to experience higher levels of discrimination compared to those without, and for almost half of them, it has a serious impact on their lives.
- Black non-Irish jobseekers are five times as likely to experience discrimination seeking work as White Irish jobseekers.

Two further studies – a list experiment on attitudes to minorities and a study of care and unpaid work – will be published in 2019.

Research funded by the Department of Employment Affairs and Social Protection (DEASP) published in January examined the trends in poverty dynamics for selected European countries.

The report found a significant gap between the rate of persistent deprivation experienced by vulnerable adults, including lone parents and adults with a disability, and the rate experienced by other adults. The study found that the deprivation gap in Ireland is large and increased over time. Ongoing research for **DEASP** examines the association between social inclusion and access to services. It will be published in 2019.

An analysis of social housing in Ireland funded by the **Department of Housing, Planning and Local Government** finds evidence of a greater use of the private rented sector to source housing for low-income families, and that the quality of social and privately rented accommodation has improved since 2004.

In September, research was published as part of a research programme on community development and social inclusion funded by **Pobal**. The study used data from the *Growing Up in Ireland* infant cohort and found that high childcare costs in Ireland had a negative impact on mothers' subsequent paid working hours.

ESRI researchers contributed to several international initiatives in this research area, including a chapter on the future of work in *Rethinking Society for the 21st Century*, published in July as part of the **International Panel on Social Progress**. ESRI researchers were also awarded the Distinguished Article Award 2018 by the *Irish Journal of Sociology* for work on the recession and economic stress in Ireland.

DOES THE COST OF CHILDCARE AFFECT MATERNAL LABOUR SUPPLY?

Data on costs were collected in 2011 when the study child was age three, before they enrolled for the free pre-school year. Calculations are for average costs based on one child. Paid care for additional children is likely to have a greater impact on working hours.

What type of childcare do parents use?

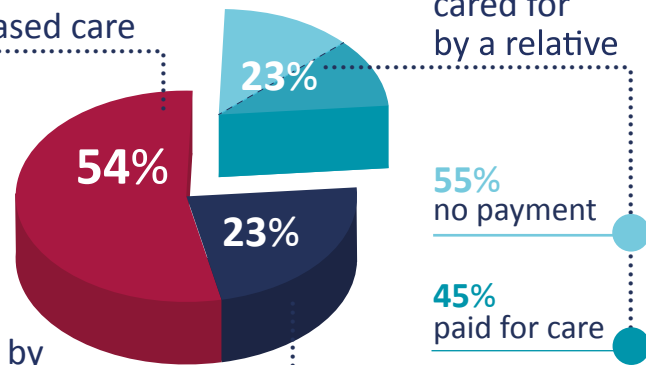
50% Use childcare for at least 8 hours per week

Average number of hours of paid care per week

24

centre-based care

cared for by a childminder



cared for by a relative

55% no payment

45% paid for care

€ How much does childcare cost for parents?

€5.70 PER HOUR Childminder in the family home
€6.13 in 2017 prices

€4.43 PER HOUR Childminder outside the family home
€4.76 in 2017 prices

€4.48 PER HOUR Centre-based care
€4.82 in 2017 prices

Average share of disposable income spent on childcare (for one child aged three)

Across all families



Lone parents

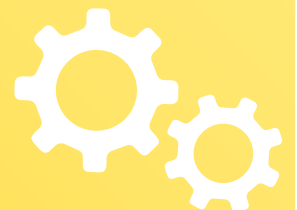


Low-income families



Increased childcare costs lead to fewer paid working hours for mothers

10% increase in childcare costs leads to a **30** minute reduction in hours of work per week



The infographic above highlights key findings from *Maternal employment and the cost of childcare in Ireland* published on 4 September.

Black non-Irish five times more likely to experience discrimination seeking work in Ireland, more than twice as likely to experience workplace discrimination

On 18 December 2018, the ESRI and the Irish Human Rights and Equality Commission published research that uses Central Statistics Office data from the Quarterly National Household Survey Equality Modules from 2004, 2010 and 2014 to capture how labour market outcomes and the experience of discrimination have changed through the economic boom, recession and early recovery.

The research showed that Black non-Irish people are five times more likely to experience discrimination when seeking employment in Ireland when compared to White Irish people. Black non-Irish people are over two and a half times more likely to experience discrimination when in employment compared to White Irish people.

The research examines the experience of immigrants and minority ethnic groups in the Irish labour market across four measures: employment rates; occupation; discrimination when seeking work; and discrimination in the workplace.

Key findings include the following:

- People from the Black non-Irish group are less than half (0.4 times) as likely to be employed as White Irish and five times as likely to experience discrimination when seeking work.
- People from the Black Irish group are twice as likely to experience discrimination seeking work and 3.4 times as likely to experience discrimination in the workplace as White Irish.
- Both the Black Non-Irish and Black Irish groups are much less likely to hold a managerial or professional job.
- The White EU–East nationals group are much less likely to hold a managerial or professional job but show no difference in their rates of employment.
- The Asian Irish group of people do not differ in terms of employment rates and are more likely to be working in professional/managerial occupations but are almost twice (1.9 times) as likely to experience workplace discrimination.

Overall it seems that the disadvantage experienced by some groups in relation to securing employment in top jobs (managerial/professional level) appears to be narrowing over the period since 2004.

The report's analysis includes lessons from the findings for Ireland:

- Future labour market policies should consider the significant variation found in outcomes of ethnic groups.
- Lack of recognition of foreign education qualifications may account for some difficulties faced by non-Irish nationals. It is important that awareness of recognition of skills and qualifications attained abroad is promoted among both immigrants and employers to prevent skills being underutilised and to enable job mobility.
- Raising awareness and the provision of information about equality legislation and the supports available to immigrant and resident communities is identified as an important mechanism to prevent discrimination.

High childcare costs linked to lower employment among mothers

On 4 September, the ESRI and Pobal published new research, which used data from the *Growing Up in Ireland* study to examine if the cost of childcare affects the employment of mothers.

The study found that parents spent an average of 12 per cent of their disposable income on childcare for their three-year-old. This cost posed a significant barrier to employment for women, especially lone parents. For those who pay, the average hourly cost of care for one child was €4.50 at the time of the *Growing Up in Ireland* survey in 2011, or €4.84 in 2017 prices.

The study found that mothers who face high childcare costs work fewer hours. All else being equal, mothers with higher childcare costs at age three tended to work fewer hours when their child was aged five. For example, 10 per cent higher childcare costs were associated with 30 minutes less paid work by mothers per week. The study used *Growing Up in Ireland* data to track the employment of mothers across the first five years of the child's life. As this estimate is based on one child, it is likely to represent the minimum impact on working hours.

The study finds that working arrangements for mothers with young children are dynamic and more complex than the choice between working full-time and staying at home. When children were between the ages of three and five years almost half of mothers (45%) changed their employment hours, including 9 per cent who left employment, and 7 per cent who entered employment.

How much do parents pay for childcare?

Half of the children were in non-parental care for at least eight hours a week at the time of the survey in 2011, when the child was aged three. However, 15 per cent of families did not pay for the care the child received and in almost all cases this unpaid care was provided by relatives. Families who paid for care paid for an average of 24 hours per week.

The average costs depended on the type of childcare used:

- For a childminder in the family home: €5.70 per hour (€6.13 in 2017 prices)
- For a childminder outside the home: €4.43 per hour (€4.76 at 2017 prices)
- For centre-based care parents paid an average of €4.48 per hour (€4.82 at 2017 prices)

Costs were higher for those living in Dublin, East Leinster and other urban areas. The financial burden was greatest for lone parents, who spent an average of 16 per cent of their disposable income on childcare, and for low-income families, who spent 20 per cent of income on care. The costs are based on one child and so the burden is more severe for families with more than one child in childcare.

These figures represent the cost before the child was eligible for the free pre-school year and are therefore indicative of the costs that families face before they are eligible for this support.

Policy implications

The research indicates that greater government support for childcare costs will increase maternal employment. Childcare costs are a greater barrier to employment for households with lower incomes, indicating that targeted supports are required for low-income families. Policies to address childcare costs are also important from a poverty perspective, as exclusion from the labour market due to childcare costs is associated with poverty risks and household joblessness. Additionally, increased female employment contributes to the sustainability of the welfare state through increased tax receipts.

13 SOCIAL INCLUSION AND EQUALITY

Project or Programme Title	Client/Funding Agency	Researchers	Status [EOY 2018]
Research programme on human rights and equality	Irish Human Rights and Equality Commission	F. McGinnity H. Russell É. Fahey D. Watson I. Privalko S. Groarke	In progress
Joint research programme on gender and pensions	Department of Employment Affairs and Social Protection	A. Nolan S. McGuinness B. Maître A. Whelan	In progress
Measuring and analysing household income and living conditions	Department of Employment Affairs and Social Protection	D. Watson B. Maître R. Grotti I. Privalko C.T. Whelan (UCD)	In progress
Research programme on integration and equality	Department of Justice and Equality	F. McGinnity M. Darmody É. Fahey S. Groarke B. Maître P. O'Connell (UCD) I. Privalko E. Quinn H. Russell	In progress
Research programme on community development and social inclusion	Pobal	S. McGuinness E. Smyth A. Whelan J. Delaney A. Bergin M. Darmody	Completed
Understanding inequalities	Economic and Social Research Council (UK)	E. Smyth – ESRI is a co-applicant in an application led by University of Edinburgh	In progress
International panel on social progress	International Panel on Social Progress	F. McGinnity	In progress

13 SOCIAL INCLUSION AND EQUALITY

JOURNAL ARTICLES

"Social class and conversion capacity: deprivation trends in the Great Recession in Ireland", *Social Indicators Research*, Vol. 140, Issue 2, November 2018, pp. 549–570, **Dorothy Watson, Christopher T. Whelan*, Bertrand Maître, Helen Russell.**

"Economic stress and the Great Recession in Ireland: the erosion of social class advantage", *Economic and Social Review*, Vol. 49, No. 3, Autumn 2018, pp. 259–286, **Christopher T. Whelan*, Brian Nolan*, Bertrand Maître.**

REPORTS AND OTHER PUBLICATIONS

Attitudes to diversity in Ireland, ESRI and the Irish Human Rights and Equality Commission, Dublin, **Frances McGinnity, Raffaele Grotti, Helen Russell, Eamonn Fahey.**

Disability and discrimination in Ireland: evidence from the QNHS equality modules 2004, 2010, 2014, ESRI and the Irish Human Rights and Equality Commission, Dublin, **Joanne Banks, Raffaele Grotti, Eamonn Fahey, Dorothy Watson.**

Discrimination and inequality in housing in Ireland, ESRI and the Irish Human Rights and Equality Commission, Dublin, **Raffaele Grotti, Helen Russell, Eamonn Fahey, Bertrand Maître.**

Ethnicity and nationality in the Irish labour market, ESRI and the Irish Human Rights and Equality Commission, Dublin, **Frances McGinnity, Raffaele Grotti, Sarah Groarke, Sarah Coughlan.**

Maternal employment and the cost of childcare in Ireland, ESRI Research Series No. 73, ESRI, Dublin, **Helen Russell, Frances McGinnity, Eamonn Fahey, Oona Kenny.**

Poverty dynamics of social risk groups in the EU: an analysis of the EU Statistics on Income and Living Conditions, 2005 to 2014, Department of Employment Affairs and Social Protection and ESRI, Dublin, **Dorothy Watson, Bertrand Maître, Raffaele Grotti, Christopher T. Whelan*.**

Profiling barriers to social inclusion in Ireland: the relative roles of individual characteristics and location, ESRI Research Series No. 71, ESRI, Dublin, **Seamus McGuinness, Adele Whelan, Adele Bergin, Judith Delaney.**

The goals and governance of the Social Inclusion and Community Activation Programme (SICAP) 2015–2017: a mixed methods study, ESRI Research Series No. 68, ESRI, Dublin, **Merike Darmody, Emer Smyth.**

CHAPTERS IN BOOKS AND REPORTS

"Low pay, in-work poverty and economic vulnerability", Henning Lohmann and Ivo Marx (eds), *Handbook on In-Work Poverty*, Chapter 8, pp. 124–145, Cheltenham: Edward Elgar, **Bertrand Maître, Brian Nolan*, Christopher T. Whelan*.**

"Social housing in the Irish housing market", ESRI, Dublin, **Eoin Corrigan*, Dorothy Watson.**

PRESENTATIONS AND PAPERS READ TO CONFERENCES AND LEARNED SOCIETIES

"Access to services and social exclusion in the EU", *European Consortium on Sociological Research Annual Conference*, Sciences Po, Paris, France, October, **Raffaele Grotti, Bertrand Maître, Dorothy Watson, Christopher T. Whelan*.**

"Childcare costs and maternal employment in Ireland", *10th Annual Growing Up in Ireland Research Conference*, ESRI, Dublin, November, **Helen Russell, Frances McGinnity, Eamonn Fahey.**

"Gender inequality in senior civil service positions in Ireland", *European Consortium for Sociological Research Annual Conference*, Sciences Po, Paris, France, October, **Helen Russell, Raffaele Grotti, Emer Smyth, Selina McCoy.**

"Job stress and working conditions: Ireland in comparative perspective", *Launch of Job Stress and Working Conditions Report*, ESRI, Dublin, November, **Helen Russell.**

"Maternal employment and the cost of childcare in Ireland", *Work, Employment and Society Annual Conference*, British Sociological Association, Belfast, Northern Ireland, September, **Helen Russell, Frances McGinnity, Seamus McGuinness.**

"Reaching for the top: gender imbalance in senior civil service positions in Ireland", *Work, Employment and Society Annual Conference*, British Sociological Association, Belfast, September, **Helen Russell, Emer Smyth, Selina McCoy, Raffaele Grotti.**

"Religion, social contact and global terrorism: investigating attitudes to Muslim immigrants in Ireland", *European Consortium on Sociological Research Annual Conference*, Sciences Po, Paris, France, October, **Raffaele Grotti, Frances McGinnity, Eamonn Fahey, Helen Russell.**

"Social housing in the Irish housing market", *Exploring Developments in the Irish Housing and Mortgage Market*, ESRI, Dublin, June, **Dorothy Watson, Eoin Corrigan*.**

"Still out of work? Genuine state dependence and unemployment inertia in Europe", *Conference of the Italian Society of Economic Sociology*, Catholic University, Milan, Italy, January, **Raffaele Grotti, Giorgio Cutuli.**

"When it rains, it pours: the stratification of unemployment inertia in Europe", *26th Annual Workshop of the European Research Network on Transitions in Youth*, Mannheim Centre for European Social Research, University of Mannheim, Mannheim, Germany, September, **Raffaele Grotti, G. Cutuli.**



(left to right) Pete Lunn, Claire Keane, Alan Barrett, Paschal Donohoe, TD, Minister for Finance and Public Expenditure and Reform, and Tim Callan at the *Budget Perspectives 2019* conference on 10 July.



(from left to right) Mark Regan, Claire Keane, Pete Lunn, Deirdre Robertson and Maxime Bercholz at the *Budget Perspectives 2019* conference on 10 July.

14 TAXATION, WELFARE AND PENSIONS



Research Area

Coordinators:

Claire Keane,
Tim Callan

Others working in this area include:

Alan Barrett, Maxime Bercholz, Adele Bergin, Karina Doorley, Elish Kelly, Seán Lyons, Bernard Maître, Seamus McGuinness, Sanna Nivakoski, Anne Nolan, Paul Redmond, Mark Regan, Barra Roantree, Abian Garcia Rodriguez, Michael Savage, John R. Walsh, Adele Whelan

RESEARCH HIGHLIGHTS

- Changes to the tax and benefit system between 2008 and 2018 led to greater income reductions for women than for men, according to research examining the gender impact of Irish budgetary policy.
- A study found that Ireland's long-run income growth has been evenly distributed. Ireland was once towards the high end of the inequality spectrum for an advanced country but is now close to the OECD average for income inequality.

14 TAXATION, WELFARE AND PENSIONS

This research area spans a variety of topics, with a focus on the distributional impact of tax-benefit policy. Research in this area was supported by funding from the **Departments of Employment Affairs and Social Protection, Health, Children and Youth Affairs and Finance**, as well as through the grant-in-aid provided by the **Department of Public Expenditure and Reform**.

The **Parliamentary Budget Office** also funded work examining the gender impact of tax-benefit policies. This research found little differing effect of tax-benefit policy by gender among single people. However, within couples, the past decade of budgetary policy resulted in sharper reductions to women's disposable income compared to that of their spouse. This was particularly the case in households with children. Team members presented results from this research to the Oireachtas Committee on Budgetary Oversight. The ability to carry out gender impact analysis is now available to government users of the ESRI tax-benefit model.

Research launched at the annual Budget Perspectives conference, which the team organised and contributed research to, examined how recent changes to lone-parent benefits impacted lone-parent incomes and work incentives. It found small reductions in lone-parent incomes as a result of the changes. Other research launched at the conference looked at the long-run income distribution in Ireland. It showed that it has remained remarkably constant over time, particularly in comparison to a general worldwide trend of rising income inequality.

Other research outputs in the area of income distribution examined the implications of the Great Recession for income mobility in Ireland and the impact of minimum wages on the gender pay gap in Ireland and the UK. Research also examined the role of the tax-

benefit system in stabilising inequality in Ireland and other EU countries throughout the economic crisis. Research was carried out in the area of childcare costs and subsidies and how such subsidies can affect work incentives and maternal labour supply. Work on healthcare entitlements included examining approaches to placing a value on medical and GP-visit cards and estimating the impact such entitlements have on the financial incentive to work. Childcare subsidies were found to strengthen the financial incentive to work while medical and GP-visit cards weaken it, as they are often withdrawn upon entering employment.

Regular analysis of the distributive impact of budgetary policy continued. Budget 2019 was found to have led to small losses for all income groups relative to growing wages. Analytical capability was expanded to be able to examine indirect as well as direct taxation measures after the completion of a collaborative project with the **Department of Finance**. This expansion of capability will be of use in the future, particularly in light of anticipated rises in carbon taxes.

The programme of research with the **Pensions Authority** examined issues associated with pensions and retirement in the older population in Ireland. A new programme with the **Pensions Council** commenced, examining gender differences in pensions cover in Ireland.

Women's disposable income more affected by long-term budgetary policy

On 24 October 2018, the ESRI published a study examining the gender impact of budgetary policy in Ireland over a ten-year period. The Parliamentary Budget Office funded the research.

The analysis found that changes to the tax and benefit system between 2008 and 2018 led to greater income reductions for women than for men. Gender differences in the impact of budgetary policy were most pronounced during the period of austerity budgets (2008–2012), while more gender-neutral policy reforms occurred from 2013 to 2018.

Gender differences in the impact of Irish budgetary policy over the past decade can be traced back to the fact that women are more likely than men to be lone parents, to be out of the labour force and to benefit from child-related supports. For example, the past decade of budgetary policy has affected single men and women without children in a similar manner. Equally, there is little evidence of a gender difference in the impact of budgetary policy for men and women who engage in paid work.

However, lone parents (who are mainly women) lost proportionally more due to budgetary policy over the past decade than singles without children. Within couples, the past decade of budgetary policy resulted in reductions to women's disposable income compared to that of their spouse, particularly in households with children. However, the significance of this difference is lessened by the fact that spouses tend to share resources.

Most of the gender difference in the impact of budgetary policy can be attributed to reductions in Child Benefit and other welfare payments during the austerity period and to the fact that welfare payments failed to keep pace with inflation during the recovery period. As a result, much of the differential impact of tax and benefit changes is concentrated in the lower half of the income distribution. That is, in instances where women lost out by more than men, the difference was most noticeable when comparing women and men from low-income households.

The gender budgeting tool developed in this project will allow an assessment of the gender impact of any future budgetary changes.

14 TAXATION, WELFARE AND PENSIONS

Project or Programme Title	Client/Funding Agency	Researchers	Status [EOY 2018]
Research programme on taxation, welfare and pensions	Department of Employment Affairs and Social Protection; Department of Health; Department of Children and Youth Affairs; Department of Finance; Department of Public Expenditure and Reform	C. Keane T. Callan K. Doorley B. Roantree M. Bercholz M. Regan J.R. Walsh	In progress
Joint research programme on TILDA and financial dimensions of retirement	The Pensions Authority	A. Barrett A. Nolan S. McGuinness P. Redmond K. Doorley S. Nivakoski	In progress
Joint research programme on gender and pensions	Department of Employment Affairs and Social Protection	A. Nolan S. McGuinness B. Maitre A. Whelan	In progress
Gender impact of budgetary policies	Parliamentary Budget Office	K. Doorley M. Bercholz T. Callan C. Keane J.R. Walsh	In progress
Financial security in the older population in Ireland: assessing the impact of austerity and policy change	Health Service Executive	A. Nolan S. Lyons S. Nivakoski R.A. Kenny (TCD)	In progress
A review of Ireland in EUROMOD, the tax-benefit microsimulation model for the European Union	University of Essex	T. Callan C. Keane J. Walsh M. Savage K. Doorley M. Regan B. Roantree	In progress
Evaluation of NEXtWORK intervention	Institute for Fiscal Studies; Rockwool Foundation	B. Roantree	In progress
Economic analysis of auto-enrolment options	The European Commission's Directorate-General for Employment, Social Affairs and Equal Opportunities	C. Keane A. Bergin T. Callan A. Garcia Rodriguez M. Bercholz	In progress

14 TAXATION, WELFARE AND PENSIONS

JOURNAL ARTICLES

"Income-tested health entitlements: microsimulation modelling using SILC", *Journal of The Statistical and Social Inquiry Society of Ireland*, Vol. XLVI, 2016–17, pp. 97–109, **Tim Callan, Brian Colgan, Claire Keane, Caitríona Logue, John R. Walsh.**

"To own or not to own? Household portfolios, demographics and institutions in a cross-national perspective", *Journal of Income Distribution*, Vol. 25, Issue 1, March 2018, pp. 1–43, Eva Sierminska, **Karina Doorley.**

"What a difference a day makes: inequality and the tax and benefit system from a long-run perspective", *Journal of Economic Inequality*, Vol. 16, Issue 1, March 2018, pp. 23–40, **Barra Roantree, Jonathan Shaw.**

REPORTS AND OTHER PUBLICATIONS

The gender impact of Irish budgetary policy 2008–2018, ESRI and Parliamentary Budget Office, Dublin, **Karina Doorley, Maxime Bercholz, Tim Callan, Claire Keane, John R. Walsh.**

QEC SPECIAL ARTICLES AND RESEARCH NOTES

"Budget 2019: tax and welfare changes", ESRI, Dublin, **Barra Roantree, Maxime Bercholz, Karina Doorley, Claire Keane, Mark Regan, John R. Walsh.**

"The tax treatment of pension contributions in Ireland", *QEC Special Article*, ESRI, Dublin, **Karina Doorley, Tim Callan, Mark Regan, John R. Walsh.**

ESRI RESEARCH BULLETINS

"Minimum wages and the gender gap in pay", ESRI, Dublin, **Karina Doorley.**

NEWSPAPER/MAGAZINE ARTICLES

"Budget 2019: No significant boost in disposable income in real terms", *The Irish Times*, 11 October 2018, **Claire Keane.**

OTHER PAPERS

"Demographic change and the European income distribution", IZA Discussion Paper No. 11440, IZA, Bonn, Mathias Dolls, **Karina Doorley**, Alari Paulus, Hilmar Schneider, Eric Sommer.

"Income growth and income distribution: a long-run view of Irish experience", *Budget Perspectives 2019/3*, ESRI, Dublin, **Tim Callan, Maxime Bercholz, John R. Walsh.**

"Inequality in EU crisis countries: how effective were automatic stabilisers?", IZA Discussion Paper No. 11439, IZA, Bonn, **Tim Callan, Karina Doorley, Michael Savage.**

"Lone parent incomes and work incentives", *Budget Perspectives 2019/1*, ESRI, Dublin, **Mark Regan, Claire Keane, John R. Walsh.**

"Taxation, work and gender equality in Ireland", IZA Discussion Paper No. 11495, IZA, Bonn, **Karina Doorley.**

"Using behavioural experiments to pre-test policy", *Budget Perspectives 2019/2*, ESRI, Dublin, **Pete Lunn, Deirdre Robertson.**

"The role of self-employment in Ireland's older workforce", IZA Discussion Paper No. 11663, IZA, Bonn, **Anne Nolan, Alan Barrett.**

"Working beyond 65 in Ireland", IZA Discussion Paper No. 11664, IZA, Bonn, **Anne Nolan, Alan Barrett.**

PRESENTATIONS/PAPERS READ TO CONFERENCES AND LEARNED SOCIETIES

"Income taxes and the careers of women", Department of Economics Seminar Series, Trinity College Dublin, Dublin, November and Department of Economics Seminar Series, National University of Ireland, Maynooth, December, **Barra Roantree.**

"Inequality in EU crisis countries: how effective were automatic stabilisers?" European Association of Labour Economists Annual Conference, Groupe d'Analyse et de Théorie Economique, Lyon, France, September, **Karina Doorley.**

"Taxation, work and gender equality", Barrington Lecture, Statistical and Social Inquiry Society of Ireland, Dublin, January and Labour Market Conference, Nevin Economic Research Institute, National University of Ireland, Galway, May, **Karina Doorley.**

"The effect of tax-benefit systems on gender earnings gaps in Europe", IZA Institute of Labour Economics World Conference, Berlin, Germany, June, **Karina Doorley.**

"The impact of free childcare policy on childcare and maternal supply decisions: evidence from a regression discontinuity design", Labour Market Conference, Nevin Economic Research Institute, National University of Ireland, Galway, May, **Claire Keane.**

"The take-up of medical and GP visit cards", Annual Conference of the Irish Economic Association, Dublin, May, **Mark Regan, Claire Keane.**



(left to right) Desmond O'Mahony, Daráine Murphy, Katherine Zappone, TD, Minister for Children and Youth Affairs, Eoin McNamara, Emer Smyth, Aisling Murray and Dorothy Watson at the *Growing Up in Ireland* conference and launch of the key findings reports on 8 November 2018.



Cillian Murphy, Katherine Zappone, TD, Minister for Children and Young People, and Carrie Staunton at the launch of *The lives of 13-year-olds* on 17 October.

Growing Up in Ireland is the national longitudinal study of children in Ireland. It is funded by the Department of Children and Youth Affairs (DCYA), with a contribution from The Atlantic Philanthropies. The research is conducted by a consortium of independent researchers at the Economic and Social Research Institute (ESRI) and Trinity College Dublin.

The study follows almost 20,000 children throughout Ireland as they grow up. The objective is to provide evidence to inform the development of effective policies and services for children, young people and families. In order to do this, the study monitors the physical, cognitive and socio-emotional development of children and identifies factors that help or hinder their wellbeing. Data collection focuses on four areas: health and physical development; socio-emotional development; cognitive and educational development; and (from 17 years of age) economic and civic participation.

Information is collected from children, their caregivers, principals and teachers by face-to-face interviews and postal questionnaires. *Growing Up in Ireland* emphasises direct participation in the study by children themselves from as early an age as possible, to ensure that it captures the voice of the child – in line with the UN Convention on the Rights of the Child. From the age of three, children complete cognitive tests. As the children grow older, they record their views in detail, using age-appropriate methods and questionnaires.

There are two cohorts in the study:

- Cohort '98 (most of whom were born in 1998, formerly called the 'Child Cohort') consists of 8,500 children and their families first approached in 2007/08 when the study children were 9 years old. They were re-interviewed at ages 13, 17 and 20 (in 2011/12, 2015/16 and 2018/19).
- Cohort '08 (most of whom were born in 2008, formerly called the 'Infant Cohort') were recruited when the children were 9 months old in 2008/09. The families were re-interviewed when the Study Children were 3, 5 and 9 years old (in 2010/11, 2013 and 2017/18). There was also a postal survey with the main caregiver in 2015/16 when the children were 7/8 years old. The DCYA is currently discussing with the ESRI the possibility of re-interviewing this cohort at age 13 in 2021.

The availability of in-depth information on two cohorts of children born a decade apart, and covering the period from 2007 to the present, makes it possible to address important questions about the consequences of economic recession and recovery on outcomes for children and young people at different ages. Identifying the factors that promote resilience and protect children from the effects of adverse circumstances provides important insights for policy on children and families.

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