Joint Research Programme on The Macroeconomy, Taxation and Banking

Annual Report for 2023

The joint research programme between the Department of Finance, the Revenue Commissioners and the ESRI on *The Macroeconomy and Taxation* began in January 2015 with the objective of undertaking research on a range of macroeconomic and taxation issues in Ireland. The programme was later expanded to also undertake research on issues related to banking and financial stability in Ireland.

This report has been prepared on behalf of the Steering Committee for submission to the Secretary General of the Department of Finance and the Director of the ESRI to describe the work undertaken in 2023. This report provides an overview of the projects completed along with associated costs. It also includes a brief overview of the proposed research for the programme's extension into 2024, which was approved by the steering committee in Q4 2023.

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1. Description and Progress of Research Topics during 2023

Economic impact of the war in Ukraine

This project uses the ESRI's macro-econometric model COSMO to generate a range of model-based estimates of the potential medium-term impact of the war in Ukraine on the Irish economy. The main shocks to the Irish economy include higher global commodity prices especially for energy and a slowdown in Ireland's main training partners. Initial findings were presented to the SC last year. For this project, scenarios were calibrated using commodity price projections from the European Central Bank's staff (Sept 2022) projections. These projections were updated in December and incorporate a more benign outlook for energy prices, especially for gas prices. We have updated the scenarios to reflect this**.** Following final approval at the last SC, the working paper was published in Sept (ESRI WP No. 759) available at https://www.esri.ie/publications/the-potential-impact-of-the-war-in-ukraine-on-the-irish-economy The authors have also submitted a version of the paper to a journal.

Entrepreneurship

The establishment and growth of new businesses are key ingredients for economic growth and job creation. A related set of questions are what characteristics determine the entry and exit of new entrepreneurs and how does this vary across the business cycle? This project will use employment status information from the Labour Force Survey (LFS) to examine the characteristics of the self-employed and the extent to which the determinants of becoming self-employed changed against the background of dramatic changes in economic conditions. We find evidence of pro-cyclicality in the entry and exit rates for self-employment and examine the extent to which the determinants of becoming self-employed changed against the background of dramatic changes in economic conditions.

A draft paper was circulated to the Steering Committee in March and the research was presented at the Irish Economics Association Conference in Athlone (May 4th-5th) and at the NERI Labour Market Conference in Belfast (May 23rd). The research has been updated, incorporating feedback from these events, and a draft has been submitted to the ESR. An update version of the paper will be circulated to the steering committee once feedback has been obtained. The authors received feedback from the ESR to review and the paper has been resubmitted. They have just finished taking these comments into account and an updated version will be circulated. A version of the paper has also been published by the Department of Finance https://www.gov.ie/en/press-release/57da6-minister-mcgrath-welcomes-department-of-finances-publication-of-research-on-self-employment/.

The Impact of the Global Tax Reforms on Ireland's Foreign Direct Investment and the Wider Economy

This research examines the impact of the proposed changes to the international tax system on Ireland's attractiveness to foreign direct investment (FDI) and its wider economy. More specifically, the following questions are being addressed:

- How would the proposed tax changes affect the location choice of multinationals and the attractiveness of Ireland to foreign direct investment?
- How sensitive would Ireland's foreign direct investment be to the proposed tax changes?
- What economic impacts would the proposed tax changes have in the medium and long term on employment and productivity?
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Since the last SC meeting , work has been progressed on all three research ***questions***. While Pillar One will impact on the distribution of tax revenues across jurisdictions, international evidence suggests that it will not affect investment decisions to a significant degree. In contrast, the global minimum tax is expected to affect the location choice and the scale of FDI with consequences for Ireland's wider economy. Taken together, preliminary research results suggest that the effects of the global minimum tax on Ireland's attractiveness to FDI and its wider economy are likely to be negative but not sizeable.

Preliminary key findings were presented to the Department of Finance at a research meeting on the 15th of March 2023. Following from the discussion at the meeting, further analysis was progressed and completed in April 2023. This paper was finalised for approval and published as an ESRI working paper on September 26 2023, https://www.esri.ie/publications/the-impact-of-the-global-tax-reforms-on-irelands-attractiveness-to-foreign-direct.

Study of Cross-Border Employment in Ireland

This study seeks to estimate the number of cross-border workers in Ireland, to describe their socio-demographic characteristics as well as to provide information on the motives, opportunities and barriers to cross-border employment.

The study has two components. First, we are using a combination of Census and Revenue data to estimate cross-border (north-south and south-north) worker flows over time. We have received data from Revenue that we are using to bring forward Census estimates. For Northern cross-border workers, the Revenue data for more recent years are aligned with the 2011 NI Census estimates and suggest that north to south cross-border working has been increasing over time. However, the approach to estimating Southern cross-border workers needs further refinement. Drawing on Revenue data for workers in border counties who either have information recorded under Transborder Workers Relief or foreign employment income suggests there has been a very substantial fall in southern cross-border workers since the 2016 Census. We have gone back to Revenue to see if they can provide us with the same data for 2016 so that we can cross-check it with the Census data and also to see if there is another way to capture these workers in the data.

The second component of the study involves a web-based survey designed to provide information on the profile, experience and motives of cross-border workers. The survey work has now been completed and a draft is expected by September 2023. Initial results were presented at a previous steering group meeting and the work will be finalised in early Q1 2024.

Assessing the Potential Impact of Population Ageing on the Public Finances

This project will use long-term demographic projections generated using the ESRI's demographic model. Projections of net migration are determined in the ESRIs macroeconomic model (COSMO) and are driven by the relative attractiveness of alternative labour markets. Using COSMO (and the fiscal satellite) and the demographic model, we will generate alternative macro scenarios from which the implications of ageing for the evolution of the public finances can be analysed. For this project, we need the 2022 population defined on a 'usual residence' basis by single year of age and gender as this will be used for base year in the model. This data was due to be released by the CSO in Q2 2023, however, the team are still waiting on the necessary data. Preliminary results from the study were presented at the next steering group meeting on September 7th 2023. Following the presentation at the last SC: (1) the authors have refined the fiscal satellite to take account of comments from the SC, (2) they have incorporated new data from the Population and Migration Estimates and have developed demographic scenarios, (3) population projections have been incorporated into COSMO and (4) they are also in the process of developing scenarios.

The role of firm dynamism in aggregate productivity growth

The establishment and growth of new businesses are key ingredients for economic growth and job creation. This project uses CSO micro-data on services and manufacturing firms to examine the patterns of growth of newly entered firms and the pre-exit patterns for declining firms to give a deeper understanding of the dynamics of growth and exit at the firm level

Our key findings are that there appears to be a U-shaped pattern in the productivity distribution of entrants and exitors, with these firms concentrated in the top and bottom productivity deciles. Foreign-owned entrants and exitors make up a larger share of those in upper decile. We find evidence of catch-up in productivity levels of new entrants towards that of incumbents. Exitors show a decline in their productivity performance compared to incumbents in the years preceding exit. We find strong persistence in productivity rank, with the degree of persistence gradually increasing over time for all types of firms and both sectors. This may suggest a decreasing lack of dynamism over the period, enhancing the need for policies to support entry and to reduce the costs of business exit. The authors received access to a larger CSO firm-level dataset last week and are in the process of cleaning this data before the analysis can be replicated and the paper is finalised, which is likely to be early 2024 Q1.

Wage Subsidies

In response to the onset of the COVID-19 health pandemic in February 2020, the Irish government introduced substantial labour market support measures to subsidise wages and to enhance unemployment benefits. This project is using the extensive individual-level data from Revenue's real-time PAYE system to track the coverage of the wage subsidy schemes and the impact on firms and employees. Work on this project is ongoing. Progress was made on some of the outstanding data issues (i.e. multiple job holders will be excluded). Revenue are currently working on the data, and we will be inputting to the research once Revenue have completed the work that is required on the data for it to be analysed for this project. Consequently, this project will be carried into the 2024 work programme.

2. Research papers and other publications in 2023

- "A Cross Country Perspective on Irish Enterprise Investment: Do fundamentals of constraints Matter?" by Eric Gargan, Eoin Kenny, Cynthia Regan and Conor O'Toole. ESRI Working Paper No.754 (August 2023).
- "Interest Rate Snapback and the Impacts on the Irish Economy" by Paul Egan, Eoin Kenny and Conor O'Toole. ESRI Working Paper No.757 (August 2023).
- "The Potential Impact of the War in Ukraine on the Irish Economy" by Paul Egan, Adele Bergin and Conor O'Toole. ESRI Working Paper No.759 (September 2023).
- "The Impact of Global Tax Reforms on Ireland's Attractiveness to Foreign Direct Investment and the Wider Economy" by Iulia Siedschlag, Juan Duran Vanegas, Robert McLoughlin and Daire De Hora. ESRI Working Paper No.761 (September 2023).

3. Proposed Research Topics for 2024

A range of proposals for new topics are being drawn up for the 2023 work plan. The following provides a brief summary of the agreement research topic.

Cosmo Research Module

In recent years, the Department of Finance/ESRI Joint Research Programme (JRP) on Macroeconomy, Taxation & Banking has facilitated a number of research projects which applied the ESRI's **CO**re **S**tructural **MO**del of the Irish economy, COSMO. This has included projects such as modelling the macroeconomic impacts of Brexit, the COVID-19 pandemic, the war in Ukraine and the changing interest rate environment. In this document, we set out a proposal for a specific research module within the JRP concentrating on COSMO. The module envisages continued development of the COSMO model through focussed projects together with work on its development and maintenance. All practical elements and advancements based on the work would be shared between the ESRI and the Department of Finance. As the proposed module will seek to take a more systematic approach to research and model development, it provides an opportunity for the generation of higher quality research outputs and the development of a more sophisticated modelling framework. The proposed module will also contribute to the development of research capacity on macro-modelling issues in both organisations.

Assessing the Potential Impact of Deglobalisation on the Irish Economy.

After periods of increasing globalization in trade, investment and immigration, the global economy is becoming increasingly decentralized. Brexit, COVID-19 pandemic and Russia's invasion of Ukraine have further tested international relations and increased scepticism about the benefits of globalization (IMF 2023). Measures of trade openness have been on a steady decline as restrictions on movements of goods rise. This project will use COSMO to examine the potential implications of global fragmentation for the Irish economy. Such global shocks would be expected to have an increased effect on Ireland due to its small and open economy. Compared to larger, more diversified economies, Ireland's small, highly integrated economy presents more macro-financial risks on the downside. The specifics and extent of the fragmentation could have a significant impact on the global and Irish economies over the next few years. Possible scenarios would include external shocks to world demand, import prices and Ireland's competitiveness.

Assessing the Labour Market Impact of the Green Transition in Ireland

The green transition will see a reduction in jobs in the "brown" sector and job creation in the "green" sector. To ensure a just transition, policies will be needed to improve the allocation of workers and minimise any potential scarring effects associated with job losses in brown industries. However, data on the incidence of green and brown jobs is limited, making analysis of the impacts of the green transition on the labour market challenging. This analysis will build on the OECD's ongoing work in this area (Sutherlnd et al, 2023), which maps the US O*NET framework to Labour Force Survey data to identify green jobs and uses European emission data by industry to identify brown jobs. The project will begin by identifying the incidence of green and brown jobs in Ireland, and how this has been evolving over-time, to assess the extent to which employment trends in Ireland are in line with both

the EU average and a specific EU member states. This project will also use the Irish LFS to map the distribution of both brown and green by worker and other characteristics (age, gender, education, migration status, tenure, region etc) and will test for any changes in these characteristics over time. Finally, the 2022 European Jobs and Skills Survey will be used identify the key tasks and competencies involved in both green and brown jobs in Ireland and a comparison with similar jobs in other EU countries will be conducted within a multivariate framework.

Monitoring SME Investment in Ireland

The SME sector is facing considerable headwinds in the form of increased energy and input prices, increased interest rates and a decline in the general economic outlook arising to a considerable from the impact of the war in Ukraine on global energy markets and the consequent reduction in consumer and business sentiment. This followed relatively quickly from the economic disruptions caused by the COVID-19 pandemic. This research project proposes to examine how these combined external shocks are affecting SME investment activity and the way in which it is financed.

This will build on previous work by the research programme (e.g., Cantillion, 2022) using the Department of Finance SME Credit Demand Survey (CDS). Specifically, we will examine the "Investment activity and company assets" module which is included in the survey once a year and contains a series of questions specifically asking about firms' investment and assets. In addition, the module also contained questions regarding investment financing sources, barriers and firms' attitudes. These data allow an empirical picture to be built up across Irish firms addressing the following questions:

- Which type of assets are SMEs investing in and is investment activity relatively larger when scaled against the level of existing total assets?
- Do firms consider their investment activity to be optimal and, if not, what are the barriers to investment?
- How are firms financing this investment?

Assessing the Impact of Wage Subsidies[1]

In response to the onset of the COVID-19 health pandemic in February 2020, the Irish government introduced substantial labour market support measures to subsidise wages and to enhance unemployment benefits. This project is using the extensive individual-level data from Revenue's real-time PAYE system to track the coverage of the wage subsidy schemes and the impact on firms and employees. Work on this project is ongoing. Progress was made on some of the outstanding data issues (i.e. multiple job holders will be excluded). Revenue are currently working on the data, and we will be inputting to the research once Revenue have completed the work that is required on the data for it to be analysed for this project.

[1] This project has been carried over from the 2023 workplan

4. Budget 2023[2]

Researcher Days	Entrepreneur	Pop Ageing	Global tax	Cross border Employment H1	Rate Env	Wage Subsidies	Ukraine	Proj Man	Total
Martina Lawless	4								4
Conor O'Toole					19				19
Adele Bergin		11.5		12			6		29.5
Anne Devlin				5.5					5.5
Paul Egan		18			40		22		80
Eoin Kenny					35				35
Elish Kelly						0.1			0.1
Iulia Siedschlag			20						20
Janez Kren									0
Juan Duran Vanegas			25						25
Seamus McGuinness				6				7	13
Days by project	**4**	**29.5**	**45**	**23.5**	**94**	**0.1**	**28**	**7**	**231.1**

[2] The study on Cross border working for H2 is financed under a separate agreement and therefore not included in the budget information.

	Entrepreneur	Pop Ageing	Global tax	Cross border Employment H1	Rate Inv	Wage Subsidies	Ukraine	Proj man	Total
Martina Lawless	€5,692								€5,692
Conor O'Toole					€23,446				€23,446
Adele Bergin		€13,478		€14,064			€7,032		€34,574
Anne Devlin				€2,112					€2,112
Paul Egan		€11,610			€25,800		€14,190		€51,600
Kelly DeBruin									€0
Janez Kren									€0
Eoin Kenny					€10,150				€10,150
Elish Kelly						€99			€99
Iulia Siedschlag			€25,340						€25,340
Juan Duran Vanegas			€8,650						€8,650
Mert Yakut									€0
Seamus McGuinness				€9,954				€11,613	€21,567
Total by project	**€5,692**	**€25,088**	**€33,990**	**€26,130**	**€59,396**	**€99**	**€21,222**	**€11,613**	**€183,230**