

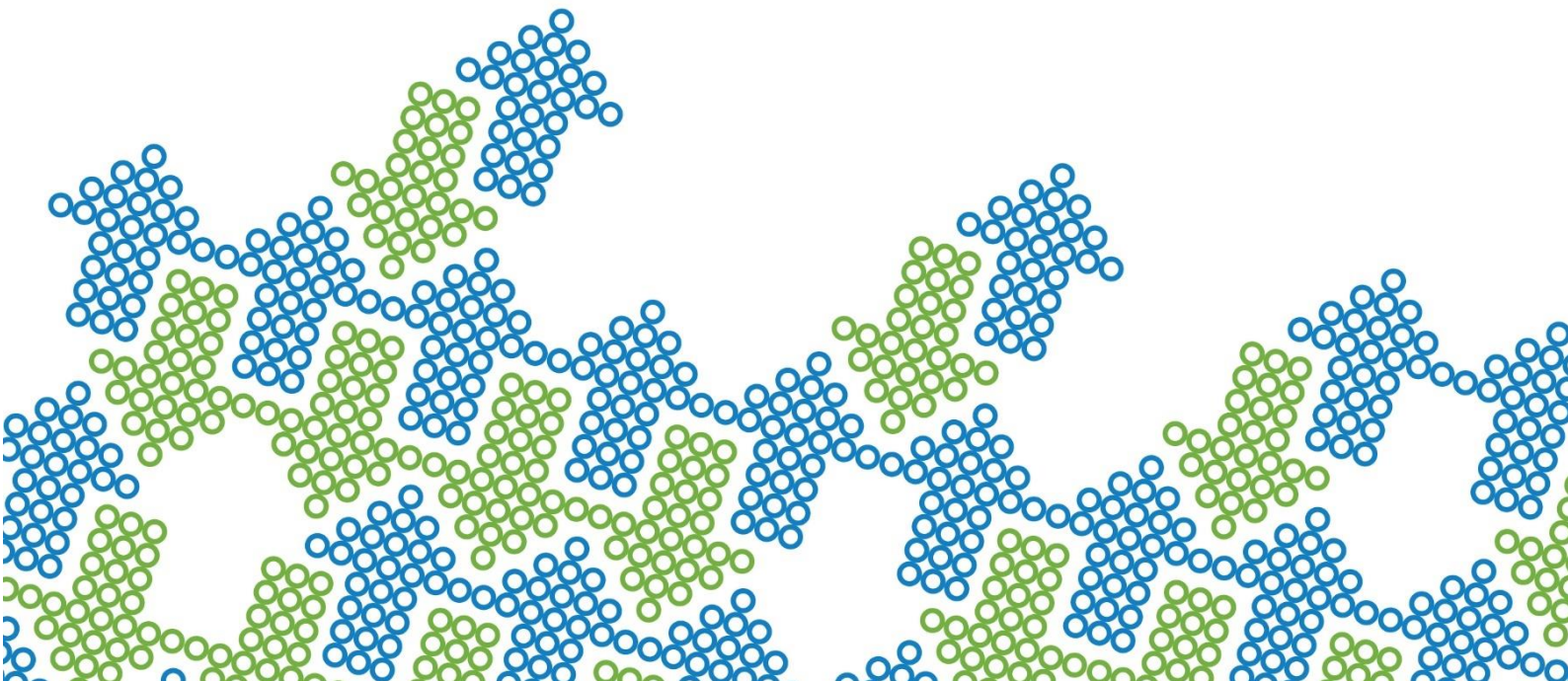
# NCPC

National Competitiveness  
& Productivity Council  
An Chomhairle Náisiúnta  
Iomaíochais agus Táirgiúlachta



# Ireland's Competitiveness Challenge 2023

September 2023



## Introduction to the National Competitiveness and Productivity Council

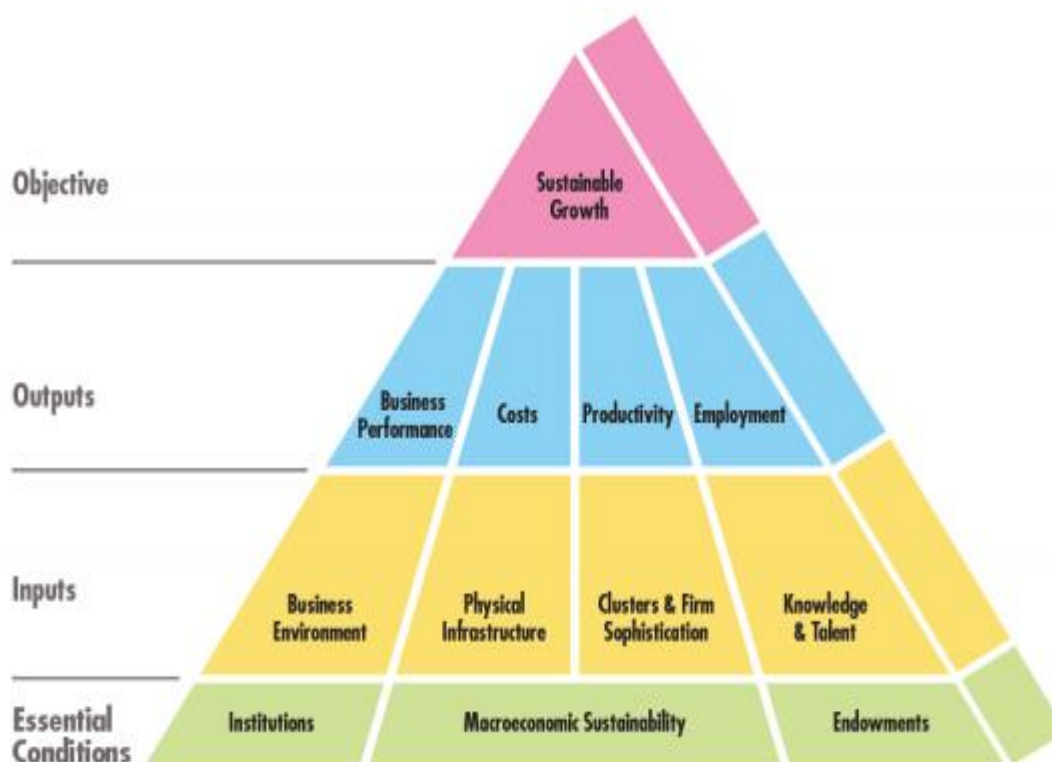
The National Competitiveness Council (NCC) was established in 1997. It reports to the Taoiseach and the Government, through the Minister for Enterprise, Trade and Employment on key competitiveness and productivity issues facing the Irish economy and offers recommendations on policy actions required to enhance Ireland's competitive position.

In accordance with the European Council recommendation of September 2016 on the establishment of National Productivity Boards by euro area countries, in March 2018, the Government mandated the National Competitiveness Council as the body responsible for analysing developments and policies in the field of productivity and competitiveness in Ireland. This expanded mandate underpins the decision to rename the Council, in November 2020, as the National Competitiveness and Productivity Council (NCPC).

Each year the Council publishes an annual report for Government on the key competitiveness and productivity challenges facing the Irish economy and suggests specific policy actions to address these challenges.

As part of its work, the NCPC also periodically publishes:

- A Competitiveness Scorecard;
- A series of competitiveness bulletins and other papers on specific competitiveness and productivity issues.



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Leo Clancy	Chief Executive, Enterprise Ireland
Ciaran Conlon	Director of Public Policy, Microsoft, Ireland
Luiz de Mello	Director of Policy Studies, Economics Department, OECD
Maeve Dineen	Chair of Ireland's Financial Services and Pensions Ombudsman
TBC	Chairperson, Competition and Consumer Protection Commission
David Hegarty	Assistant Secretary, Department of Enterprise, Trade and Employment
Michael Lohan	Chief Executive, IDA Ireland
Liam Madden	Adjunct Professor and Technical Director SystemX, Stanford University
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Paul Hogan	Department of Housing, Local Government and Heritage
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## Taoiseach's Foreword



In recent years, Ireland has faced extraordinary challenges, from the uncertainty of Brexit to the pandemic, the war in Ukraine and inflation. Yet time and again, our nation has proven its resilience, emerging stronger and more determined than ever before. Throughout this time, the National Competitiveness and Productivity Council has provided informed and insightful policy guidance which has helped the Government ensure our country can be a prosperous and thriving place in which to work and do business. This *Competitiveness Challenge 2023* report provides an updated analysis of our economic landscape and advice on areas where we need to focus our efforts.

There's a lot to be positive about. A record 2.6 million people are at work, over 700,000 more people than the day I was first appointed to Government in 2011. Income tax receipts are growing strongly. The domestic economy and consumer spending are robust. The public finances are in good order, better than any point in nearly 20 years. However, we recognise that we cannot be complacent if we are to maintain our progress. In order to continue the success we have achieved in recent years we must strike the correct balance. This means careful management of our public finances, and affordable actions that target those who need help most, and investment in the right areas to secure future economic prospects. The *Competitiveness Challenge 2023* provides welcome input into how this can be achieved.

As we finalise our options for Budget 2024, the Government, informed by several important partners including the National Competitiveness and Productivity Council, will take the necessary steps to focus on the pressures which households and businesses are now facing. We are committed to providing stability, investing in essential services, and preparing for the challenges ahead. Education and training, healthcare, housing, transport, renewable energy, and environmental sustainability are central to our vision of Ireland's future.

In light of this, I welcome the Council's analysis and recommendations put forward in the *Competitiveness Challenge 2023* which include important insights into productivity, infrastructural constraints, energy developments and our climate change objectives, and labour market needs. This report also focuses on the importance of the national and international context to our competitiveness and compliments the risks and actions needed also identified in the *White Paper on Enterprise 2022-2030*.

The annual *Competitiveness Challenge* serves as a reminder that the challenges we face are interlinked and demand our collective effort. A formal Government response to the recommendations will be published before the end of the year.

I would like to thank the Council for its work in compiling this report, and I look forward to engaging with its members over the coming months as we continue to build and develop a prosperous future for all.

Leo Varadkar, T.D.,  
Taoiseach

## Chair's Preface



Over the past twelve months, it has become increasingly apparent that changes in industrial policies across larger OECD countries, driven primarily by global geopolitical events, have created challenges for smaller countries. In the EU, for example, larger countries are committing significant fiscal resources to influencing their positions in markets, and state aid policies are being rolled back. Such dirigiste approaches, accompanied by reduced emphasis on competition, has lessened the Single Market bonus available to smaller countries. It has potentially major consequences for Ireland as an export production platform for sales in the EU, and into the US, which appears increasingly protectionist.

Consequently, maintaining competitiveness and productivity will prove key to strengthening Ireland's position as a sustainable economy, and keeping pace with developments in global markets.

Since our last Challenge Report, the Irish economy has moved even closer to full employment, reflecting our success in recovering from the pandemic and addressing supply chain challenges. While low unemployment rates are great news, they indicate our limited capacity to address many outstanding challenges, such as in infrastructure, where Ireland's international performance is relatively weak (see our 2023 Scorecard). This poor performance reflects low levels of investment in key domestic infrastructure, including housing, by government and businesses, as we emerged from the 2008 global financial crisis. While the Government has scaled up its capital budgets significantly in recent years, it has faced difficulties in prioritising investments and challenges in delivering on them. The key to addressing the Government's concern while not contributing to inflationary pressures, is more efficient prioritisation and a better planning and delivery capacity. While steps have been taken in this direction, faster progress is needed. Key to more progress is having the relevant expertise, for example, in digital and renewable energy, and allocating resources to areas of maximum benefit.

While the Council understands the current motivation of the Government to help families and businesses deal with the impact of inflation, it is important that support is highly targeted and designed to be consistent with policies directed at long-run competitiveness and more widespread productivity growth. The Council reiterates its previous calls to the Government to take consistent long-term approaches so that Irish businesses face as much certainty as possible and have no less favourable operational environments than their competitors. This places an urgency on addressing the lack of competition in the Irish banking market, particularly with the rapidly increased interest rates in the past year. Support is needed for enterprises to enhance their productivity through investment in innovation (which our analysis has shown to be mixed), and for greater investment in key skills, so that employees can be agile in the face of the challenges of the twin transitions. These competing policies involve difficult choices, but with careful prioritising and planning, our goals can be achieved.

As in previous reports, the Council calls for the Government to maintain a strong focus on building a sustainable competitive and productive economy that will deliver sustainable economic growth and benefit all of society in the years ahead. Failure to develop and implement appropriate policies now to address new developments, including decarbonisation opportunities and tipping points in digital technologies (such as AI and quantum computing), could leave Ireland in a laggard position in the years ahead. This *Competitiveness Challenge* Report identifies several key areas where further policy interventions are required, supported by strategic implementation. We look forward to the Government's response to our 19 recommendations in October 2023.

Dr. Frances Ruane,  
Chair, National Competitiveness and Productivity Council.

## Overview

Ireland's economy has demonstrated substantial resilience over the past number of years and into 2023, reaching full employment despite international economic challenges, including persistent inflation and the associated response of rising interest rates. Indeed, the National Competitiveness and Productivity Council (NCPC)'s triennial *Competitiveness Scorecard* published in May 2023 established that the essential conditions underpinning Ireland's competitiveness position are relatively robust. Ireland enjoys a positive fiscal balance, with sound institutions, a supportive business environment and strong demographic endowments. However, we must ensure that there is no complacency in taking for granted the underpinnings of our success, and in addressing our weaknesses. In particular, high business costs continue to drag on our overall competitiveness, with inflation compounding this. In this context the Council welcomes the Competition and Consumer Protection Commission (NCPC)'s commitment to conduct more sectoral competition studies to provide a better understanding of the effectiveness of competition within selected sectors (**Recommendation 1.1**)

The slow delivery of infrastructure represents a threat to our competitiveness position. However, capacity constraints, which are most acute in our labour market, may limit the degree to which we can improve the speed of infrastructure delivery. In a state of full employment, achieving a significant expansion in such areas as housing, energy and water infrastructure will require labour which is not in immediate supply. The Government must be cognisant of these constraints in the planning and prioritisation of key infrastructure projects, while working to ease the degree to which these constrain our potential growth, looking towards the attraction and retention of international labour, reengaging older males in our labour market (**Recommendation 1.2**), as well as seizing the opportunities presented by modern methods of construction and the digital transition to boost construction sector productivity.

Labour productivity among advanced economies has been relatively flat over the last two decades. While Ireland has outperformed the UK and the OECD average during this time, it has lagged more productive economies, such as Denmark, Germany and the US on a GNI\* basis. Most of the growth in Ireland's labour productivity since 2015 has been driven by sectors dominated by multinational enterprises. The release by the CSO of productivity statistics informed by firm-level data, has highlighted the productivity gap between foreign-owned and domestic-owned enterprises within the same sectors. These data show that within the most productive sectors of the economy, foreign-owned firms are much more productive than their indigenous counterparts (although indigenous firms remain significant contributors to employment).

Ireland must also be alert to developments in terms of global trade and protectionism. Supply chain issues highlighted in the aftermath of the COVID-19 pandemic, alongside energy security concerns in the wake of the Russian invasion of Ukraine, have resulted in a growing agenda for open strategic autonomy within the EU. This has resulted in an evolving position on State Aid, mirrored also in the United States of America, which has facilitated increased state support for green industry, semi-conductors and chip manufacturing. While some of the new flexibilities in EU State Aid policy may benefit Ireland, overall, a more permissive regime could well present a competitiveness threat to Ireland if larger countries are able to outbid smaller countries for strategic investments.

In order to improve our competitiveness position along with our productivity performance, the Council recommends to Government that action should be taken on four key challenges:

- **Reduce the cost of doing business in Ireland.** Cost competitiveness is a core component of our overall competitiveness position. While Ireland is a price-taker on most international markets, and as such many drivers of the recent rise in price inflation are outside of domestic control, policy should focus on ensuring reductions in costs that are within our control. Competition in the banking sector continues to be a concern, with now only two full-service banks in Ireland. The publication of the Retail Banking Review and the implementation of its actions is critical for consumers and SMEs. The Council would welcome continued implementation of the recommendations from the Retail Banking Review as a priority (**Recommendation 2.1**). Legal costs also remain an issue, as noted previously by the Council on several occasions. A range of actions are needed in this area including: the publication of the economic analysis on reducing litigation costs commissioned by the Department of Justice, the expansion of the SPPI survey to increase data granularity with respect to legal services, and the establishment of a specialist conveyancer profession in the context of digital reforms in order to enhance the efficiency of legal services (**Recommendation 2.2**).
- **Significantly improve the planning, development and delivery of infrastructure.** Ireland has experienced exceptional population growth over the past decade and alongside this the Irish economy has undergone significant expansion – reflected both in the levels of economic activity and employment and in the substantial increase in tax revenue. The delivery of infrastructure has not kept pace with the demands driven by population growth or indeed with our economic prosperity. If we are to maintain the high standard of living achieved to date, we need greater and more effective investment in our infrastructure at scale, so that Ireland has the capacity to continue to grow sustainably. The swift enactment of the new Draft Planning and Development Bill 2022 (**Recommendation 3.1**) will be important in stepping up the pace of future key infrastructure delivery. The benefits offered by modern methods of construction also offer an avenue for improved delivery of housing, and these methods should be adopted in the delivery of public housing (**Recommendation 3.2**). Infrastructure has fallen behind due to our burgeoning population not being reflected in investment patterns and it is important that upcoming revision of the National Planning Framework considers this (and future) growth (**Recommendation 3.3**). The delivery of water and wastewater infrastructure continue to present challenges; the Council believes that improved project management and delivery processes are critical in order to meet the operational targets of this important public infrastructure (**Recommendation 3.4**). One of the most significant determinants of our capacity to deliver infrastructure is the supply of skilled labour. In line with the OECD review of Ireland's National Skill Strategy, the Government should strengthen pathways from school into further education, training and apprenticeships to ensure a diversified supply of skills, particularly into the construction sector.
- **Step up action on energy generation and consumption towards meeting our climate targets.** The Council acknowledges the significant steps that have been taken towards delivering renewable energy and to reducing our greenhouse gas emissions. However, as a country we are not progressing sufficiently to keep on track for a 51% reduction in emissions by 2030. Stepping up our performance in this area will be a key determinant of competitiveness in the long-term. Ireland can significantly improve the security of its energy supply, demonstrate that it has the capacity for ongoing inward investment, and generate significant employment in the area of energy supply and through the green transition itself. Micro-generation and more efficient use of energy by firms has a role to play here. The Council recommends that Government closely monitor the uptake of micro-generation support and efficiency schemes, with a particular focus on small firms (**Recommendation 4.1**). The evolving interest rate environment has been identified as a threat to investment in the green transition. This places further importance on the role of Government in ensuring that offshore wind infrastructure for Ireland is delivered at speed and at significant



scale (**Recommendation 4.2**). In order to deliver our energy infrastructure at the scale and speed necessary to move towards meeting our targets, it is critical that there is sufficient resourcing of the planning system in order to minimise delays (**Recommendation 4.3**). If Ireland can facilitate an upward shift in the rate at which it is delivering energy infrastructure, it can make a significant progress towards meeting climate targets and ensuring that energy supply plays a positive role in our competitiveness position.

- **Enable stronger productivity growth through research, development, and innovation.** Innovation is a fundamental driver of productivity and an important determinant of international competitiveness. Through innovation, firms can introduce new processes, products, and services, and deliver value and secure advantages over their competitors. Investment in research and development (R&D) is key for Irish enterprises to innovate, allowing them to compete and thrive in competitive domestic and international markets. The economic impact of R&D activity depends not only on the scale and quality of firm investment, but on how this interacts with the broader innovation ecosystem. This important ecosystem comprises firms, higher education institutions, and Government, as well as education and training systems, the labour market, and the financial system. It is imperative then, that State intervention in support of R&D activity is effective and accessible, irrespective of firm size or sector (**Recommendation 6.1**). A future-focused, resilient and sustainable enterprise base depends on a proactive, forward-looking and systematic approach to innovation. For this reason, it is crucial that we are able to benchmark accurately our innovation performance against international competitors in a way that fully accounts for the specificities of the Irish economic model (**Recommendation 6.2**). This is particularly true at the current juncture, as we set our ambition to become a global leader in disruptive technologies and grapple with the implications of this for Irish industrial policy. Indeed, to be best placed to reap the benefits of early adoption, it is critical that Government is proactive in developing and implementing strategies in break-through technological areas – including cyber-security (**Recommendation 6.3**), A.I. (**Recommendation 6.4**) and quantum computing (**Recommendation 6.5**). Policy needs to be oriented to facilitate the twin digital and green transitions to ensure the future competitiveness and sustainability of the Irish economy. This means that Government must be responsive as sector specific obstacles emerge (**Recommendation 6.6**). Similarly, skills and life-long learning will be a key enabler of the twin transitions, and Government should prioritise the deployment of the National Training Fund (NTF) surplus to deliver programmes of relevance to critical areas and to address skills gaps in emerging technological fields (**Recommendation 6.7**).

## Summary of National Competitiveness and Productivity Council Recommendations 2023

The annual *Competitiveness Challenge* identifies a specific range of recommendations that address both immediate competitiveness issues, and more medium- and long-term challenges that require urgent action, aimed at enhancing Ireland's competitiveness and productivity performance. The National Competitiveness and Productivity Council has a primary focus on competitiveness and productivity, and through this lens it identifies broad areas where reform is needed to support a sustainable and inclusive economy. The Council has focused this year's analysis and recommendations on specific issues where progress is required and acknowledges that there are other areas that will also need to be addressed but are outside the scope of this year's report. The 19 tangible, actionable policy recommendations to Government are intended to lay solid foundations today for sustainable growth in order to secure an improvement in the standard of living for all of society.

It is imperative that progress is made on these recommendations by the relevant Government Departments and State agencies over the coming year so that Ireland remains competitive. In recognition of the fact that some recommendations require the co-ordinated action of a number of bodies, the Council lists all of the key responsible actors. In these cases, the first mentioned actor is regarded as having overall responsibility for the recommendation. Last year the Council welcomed the publication of the Government's third formal response<sup>1</sup> to the recommendations in *Competitiveness Challenge 2022*<sup>2</sup> and looks forward this year to further fruitful engagement on the key competitiveness and productivity issues facing the Irish economy.

### Chapter 1: Immediate Issues Facing the Irish Economy

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**Recommendation 1.1:** The NCPC recommends that the CCPC:

- (i) undertakes additional analysis of local level competition; and
- (ii) conducts more high-level targeted market studies, to better understand the degree to which competition within selected sectors is effective.

**Responsibility:** Department of Enterprise, Trade and Employment; Competition and Consumer Protection Commission

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**Recommendation 1.2:** The NCPC recommends that, given the recent fall in labour market participation by older males with lower levels of education, a specific focus on reengaging this cohort by rolling out engagement programmes through INTREO should be introduced in order to boost participation.

**Responsibility:** Department of Social Protection; Department of Further and Higher Education, Research, Innovation and Science

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<sup>1</sup> [Response to Ireland's Competitiveness Challenge 2022 – Publication of the Government's response to the National Competitiveness and Productivity Council report](#), 29<sup>th</sup> November 2022.

<sup>2</sup> [Ireland's Competitiveness Challenge 2022](#), National Competitiveness and Productivity Council, September 2022.

## Chapter 2: Cost of Doing Business in Ireland

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**Recommendation 2.1:** The NCPC recommends that the recommendations from the Retail Banking Review are addressed as a matter of priority, by all responsible parties.

**Responsibility:** Department of Finance; Central Bank of Ireland; CCPC; Retail Banking Sector

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**Recommendation 2.2:** The NCPC recommends that:

- (i) the report commissioned by the Department of Justice to carry out an economic analysis of models or approaches to reducing litigation costs is published, and that its findings are progressed as a priority;
- (ii) the CSO continues to expand the SPPI survey with a specific focus on developing a more granular sectoral dataset with respect to legal services on a scale that is statistically robust; and
- (iii) the longstanding recommendation for the provision of a specialist conveyancer profession be implemented in the context of reforms on the digitalisation of conveyancing that will enhance efficiency and competition in legal services.

**Responsibility:** Department of Justice; Central Statistics Office

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## Chapter 3: Infrastructure – Planning, Development and Delivery

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**Recommendation 3.1:** The NCPC recommends that the Draft Planning and Development Bill 2022 is progressed and enacted without delay.

**Responsibility:** Department of Housing, Local Government and Heritage

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**Recommendation 3.2:** To speed up the delivery of housing supply, the NCPC recommends:

- (i) the accelerated implementation of *Housing for All*, with a particular emphasis on tackling the viability challenge; and
- (ii) increased emphasis on driving innovation and productivity through Modern Methods of Construction (MMC), by monitoring and reporting on progress of the *Roadmap for increased adoption of Modern Methods of Construction (MMC) in Public Housing Delivery*.

**Responsibility:** Department of Housing, Local Government and Heritage; Department of Enterprise, Trade and Employment

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**Recommendation 3.3:** To adequately prepare and plan for the development of Ireland's economy, the NCPC recommends that detailed demographic analyses of the Census 2022 results, with a particular focus on the future composition of housing demand in Ireland, is undertaken to inform the First Revision of the *National Planning Framework*.

**Responsibility:** Department of Housing, Local Government and Heritage

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**Recommendation 3.4:** To improve delivery of water and wastewater infrastructure, the NCPC recommends that there should be increased effort and innovation in Uisce Éireann's project management capability and delivery processes in order to meet important targets in its operations.

**Responsibility:** Department of Housing, Local Government and Heritage

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**Recommendation 3.5:** To increase the capability of the construction sector to deliver on Ireland's infrastructural commitments, the NCPC recommends that, in line with the recommendations as outlined in the OECD's review of *Ireland's National Skill Strategy*, the Government should promote and strengthen pathways from schools into further education and training and apprenticeships, particularly in relation to the construction sector.

**Responsibility:** Department of Further and Higher Education, Research, Innovation and Science

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#### Chapter 4: Energy: generation, consumption and costs

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**Recommendation 4.1:** The NCPC recommends that the Government

- (i) Closely monitor the uptake by enterprise, and in particular that of small firms, of micro-generation support and efficiency schemes - with the view to ensuring targets are reached with potential to review scheme arrangements if uptake is below target.
- (ii) Generate a profile of firms availing of micro-generation and efficiency support schemes in order to better target sectors and firms which are not availing of supports.

**Responsibility:** Department of the Environment, Climate and Communications

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**Recommendation 4.2:** The NCPC recommends that the Government should continue its efforts to deliver offshore wind infrastructure *at significant scale*, in order to increase the cost competitiveness of Ireland's renewable energy.

**Responsibility:** Department of the Environment, Climate and Communications; Department of Enterprise, Trade and Employment

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**Recommendation 4.3:** The NCPC recommends that the Government:

- (i) Ensures sufficient resourcing within the planning system to minimise delay of energy infrastructure; and
- (ii) Monitors resourcing and considers active international recruitment for specific planning and related skills in light of domestic labour market tightness.

**Responsibility:** Department of the Environment, Climate and Communications; Department of Housing, Local Government and Heritage; Department of Further and Higher Education, Research, Innovation and Science

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## Chapter 6: Enablers of Productivity – Research, Development, and Innovation

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**Recommendation 6.1:** The Council recommends that obstacles impacting SME engagement with the R&D tax credit be reviewed, with amendments made to the design of the measure, as appropriate. This review should address:

- The benefits of the R&D tax credit by firm size and sector and analysis of the trends that have emerged regarding the profile of claimants and the primary cost drivers;
- The capacity to introduce a pre-approval mechanism for potential claimants of the R&D tax credit, the merits of this, and the potential resource implications; and,
- The scope for a recalibration of the R&D tax credit to support innovation as defined in line with the Oslo manual.

**Responsibility:** Department of Finance; Department of Enterprise, Trade and Employment; Office of the Revenue Commissioners

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**Recommendation 6.2:** The Council recommends that further research be undertaken to provide a more robust view of Ireland's performance across all dimensions of innovation. This should include:

- (i) An assessment of Ireland's performance on international indices such as the GII, having accounted for the impact of globalisation on Irish GDP, for example, through the use of alternative metrics where appropriate, such as GNI\*; and,
- (ii) Engagement with international data providers, where required, to identify and address data gaps that may be undermining Ireland's performance in international indices of innovation or the interpretation of this performance. This will provide a more robust evidence base on which to frame and develop innovation policy.

**Responsibility:** Department of Enterprise, Trade and Employment; Department of Further and Higher Education, Research, Innovation and Science

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**Recommendation 6.3:** Recognising the key role that the security of digital systems will play in the adoption of digital technologies and the success of digitalisation more broadly, the Council recommends that:

- (i) The required supports be provided to the National Cyber Security Centre, to empower it to fulfil the expanded mandate set-out in the National Cyber Security Strategy; and,
- (ii) As a priority, Government should bring forward legislative proposals giving effect to the planned expansion of the NCSC and the establishment of the NCSC Advisory Council.

**Responsibility:** Department of Environment, Climate and Communications; National Cyber Security Centre

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**Recommendation 6.4:** The Council recommends that outstanding actions set-out in the Government's AI strategy, and the AI Skills report, be progressed as a priority, and, in support of this, the Council recommends the publication of targets and timelines for its implementation. In addition, the Council recommends that the required supports should be provided to facilitate rapid implementation of the AI Standards and Assurance Roadmap, with annual reporting on progress made.

**Responsibility:** Department of Enterprise, Trade and Employment; Department of Further and Higher Education, Research, Innovation and Science; Department of Public Expenditure, NDP Delivery, and Reform; National Standards Authority of Ireland

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**Recommendation 6.5:** The Council recommends that the Government publish a comprehensive action plan for supporting the growth of Ireland's quantum computing ecosystem, to be informed by international best practice, with specific priority actions and key delivery milestones. This action plan should:

- (i) Identify the infrastructural needs of Ireland's quantum sector, including quantum hubs and open-access research facilities.
- (ii) Examine the skills needs of Ireland's quantum sector and consider the training programmes, including postgraduate courses, that will assist in meeting the long-term skills needs of the quantum sector.
- (iii) Consider policies that seek to attract specialist skillsets from abroad as well as inward investment by firms operating in the quantum sector.
- (iv) Identify existing funding vehicles and policy tools that could be leveraged in support of the development of Ireland's quantum sector, for example, the Irish Innovation Seed Fund, the Seed and Venture Capital Scheme, the Disruptive Technologies Innovation Fund, and the R&D tax credit.

**Responsibility:** Department of Further and Higher Education, Research, Innovation and Science; Department of Enterprise, Trade and Employment; National Standards Authority of Ireland

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**Recommendation 6.6:** The Council recommends the adoption of a sector-specific approach to tackling the barriers to digitalisation faced by Irish enterprises, to be reinforced by the Government's existing *Harnessing Digital* framework.<sup>3</sup> This approach should address:

- (i) The relatively low incidence of online or e-sales for smaller firms, and the fall in the share of expenditure on digitalisation for medium and large firms over 2019 to 2021;
- (ii) The low uptake of digital technologies for firms operating in the construction sector; and,
- (iii) Barriers relating to the broader digital infrastructure, including access to a skilled digital workforce, and barriers arising from the costs of finance, that may be prohibiting firms from investing in digitalisation.

**Responsibility:** Department of Enterprise, Trade and Employment

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<sup>3</sup> [Harnessing Digital – The Digital Ireland Framework](#), Department of the Taoiseach, February 2022.

**Recommendation 6.7:** The Council recommends:

- (i) The Government should reform the National Training Fund (NTF) to better foster lifelong learning in workplaces in line with the recommendations outlined in the OECD's review of *Ireland's National Skills Strategy*.
- (ii) The Government should ensure that the NTF surplus is deployed to deliver training programmes that assist in meeting skills needs in the areas of the digital and green transitions, AI, and quantum computing.

**Responsibility:** Department of Further and Higher Education, Research, Innovation and Science; Department of Enterprise, Trade and Employment

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## Chapter 1: Immediate Issues Facing the Irish Economy

### 1.1 Introduction

The National Competitiveness and Productivity Council is primarily concerned with developments in Ireland's productivity and economic performance which have a lasting impact on Ireland's competitiveness internationally. This performance is key to improving living standards and the ability of citizens to enjoy the benefits of sustainable economic growth. Recommendations on policy changes to improve Ireland's competitiveness performance are therefore targeted at areas where the impact of such changes are more likely to be seen over the medium to long-term. However, the experience of citizens and their wellbeing is rooted in the present, and as such it is useful to also reflect on Ireland's current position in order to add context to the subsequent recommendations. This chapter examines the current global and domestic economic outlook and Ireland's current competitiveness position. It then looks at developments across 2022 and 2023 which may impact on Ireland's future competitiveness position, including; global developments in trade and strategic value chains influencing industrial policy, the impact of rising interest rates, fiscal planning in the context of significant windfall tax revenue, developments in consumer and producer prices and finally Ireland's current labour market position and its constraints.

#### 1.1.1 Current Economic Performance and Outlook

Last year's *Competitiveness Challenge* was framed against a global economic outlook which was highly uncertain, and much of this uncertainty has continued in 2023. While global economic performance has stabilised, growth remains weak with the OECD projecting global growth of 2.7% in 2023 – the lowest level of growth since the global financial crisis<sup>4</sup>. The IMF, European Commission and OECD have generally revised down their growth projections when compared to the estimates they made in 2022 – although there has been an upward adjustment in projections since spring 2023.

With weak growth forecast, the balance of risks for growth is also tilted to the downside. This reflects several factors including the ongoing geo-political tension and especially the economic impacts related to the Russian invasion of Ukraine. It also reflects persistently high levels of inflation, monetary tightening in the form of rising interest rates in the EU and USA which has led in turn to some turbulence in the financial sector. Sovereign debt stresses are increasing in the face of rising rates, which seem likely to continue, with further tightening in the EU likely. Much of this depends on the persistence or otherwise of inflation, with potential for an improved outlook should inflation decline more quickly than predicted.

Figure 1.1.1: Forecasts for Global GDP – percentage change Global (GDP)

	2022	2023	2024
IMF <sup>5</sup> (July 2023)	3.5	3.0	3.0
European Commission <sup>6</sup> (May 2023)	3.3	2.8	3.1
OECD <sup>7</sup> (June 2023)	3.3	2.7	2.9

Source: OECD Economic Outlook, European Commission Spring Economic Forecast, IMF World Economic Outlook

<sup>4</sup> [OECD Economic Outlook](#)

<sup>5</sup> [World Economic Outlook Update, July 2023: Near-Term Resilience, Persistent Challenges \(imf.org\)](#)

<sup>6</sup> [Spring 2023 Economic Forecast: an improved outlook amid persistent challenges \(europa.eu\)](#)

<sup>7</sup> [OECD Economic Outlook](#)



Despite low and fragile global growth, the Irish economy has continued to demonstrate resilient growth. Modified domestic demand – a proxy for domestic economic performance – is expected to grow by 2.5% in 2023 and is currently substantially above its pre-pandemic peak. Added to this the Irish economy is now essentially at full employment, with 2.643 million people in employment in Q2 2023 and a monthly unemployment rate of 4.1% recorded in July 2023<sup>8</sup>. Indeed, it could be argued that the economy is currently operating at (or beyond) sustainable capacity, with domestic demand limited by supply constraints. While some redundancies in high-value sectors of the economy occurred across late 2022 and into 2023, employment remains strong in aggregate with sectoral employment continuing to expand to Q2 2023.

Figure 1.1.2: Forecasts for Ireland's Modified Domestic Demand GDP – percentage change

	2022	2023	2024
Central Bank of Ireland (June 2023)	8.2	3.7	2.5
ESRI (June 2023)	8.2	3.6	4.0
Department of Finance (April 2023)	8.2	2.1	2.5

Source: CBI Quarterly Bulletin, ESRI Quarterly Economic Commentary, Department of Finance SPU

### 1.1.2 Global Competitiveness Position

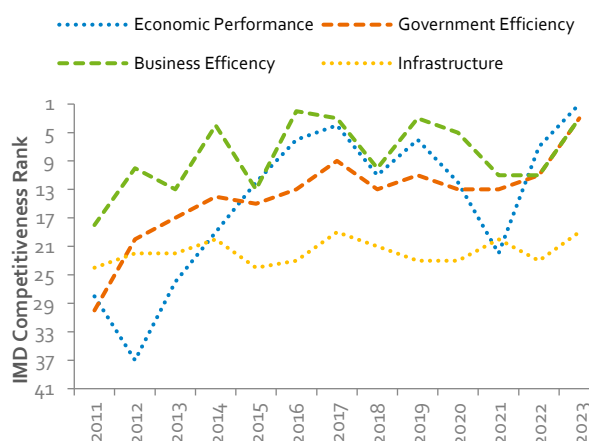
Despite the uncertain economic outlook, Ireland remains in a strong position to compete internationally. In June 2023 the Institute for Management Development (IMD) ranked Ireland as the second most competitive economy in the world, up from 11<sup>th</sup> position in 2022<sup>9</sup>. Ireland's performance in the 2023 rankings was driven by strong economic results which boosted our ranking under the area of 'Economic Performance', while we also made gains in 'Government Efficiency' and 'Business Efficiency', as set out below.

Figure 1.1.3: IMD Competitiveness Rankings 2001-2022



Source: IMD

Figure 1.1.4: Ireland's Ranking across Four Pillars 2011-2022



Source: IMD

The IMD rankings largely align with the analysis in the Council's *Competitiveness Scorecard* published in May 2023. The Scorecard provides an analysis of Ireland's competitiveness performance based on internationally

<sup>8</sup> [Monthly Unemployment July 2023 - CSO - Central Statistics Office](#)

<sup>9</sup> [World Competitiveness – IMD business school for management and leadership courses](#)

comparable data. Based on the *Scorecard*, the Council found that the essential conditions underpinning Ireland's competitiveness position are relatively robust. Ireland has a strong and stable fiscal position, with sound institutions, a supportive business environment and strong demographic endowments. Ireland is recognised as a highly open economy, with net trade contributing significantly towards economic activity. Strong public finances are imperative to a country's sustainable economic growth, with performance in this area bolstered by recent strong Corporation Tax receipts (the windfall nature of these receipts is discussed further in Section 1.1.4).

Ireland performs well in terms of demographics, with a comparably younger population than our European neighbours. In addition, net migration has also provided an important source of highly skilled labour to the Irish economy in recent years. Ireland's skilled labour force is one of the key positive drivers of its competitiveness. Ireland currently has the second highest share (after Japan) of working age population with tertiary education in the OECD and leads the EU in terms of STEM graduates per 1,000 of population aged 20-29. This is also reflected in the strong productivity growth in the highly globalised foreign-dominated sectors. While higher productivity in these globalised sectors benefits the Irish economy, it leaves Ireland more exposed to the risk of a firm or sector shock, given the concentration of high productivity by both firm and sector.

The *Competitiveness Scorecard* identified a number of areas where Ireland could improve its performance, in particular on infrastructure delivery and R&D expenditure. These findings have informed the development of *Ireland's Competitiveness Challenge 2023*, see Chapters 3, 4 and 6.

### 1.1.3 EU Competitiveness

The competitiveness of the EU economy has increasingly come into focus post-pandemic. In March 2023 the European Commission published a Communication "Long-term competitiveness of the EU: looking beyond 2030" which identified nine mutually reinforcing drivers essential for the long-term competitiveness of the EU: Functioning Single Market, Access to private capital, Public investment & infrastructure, Research and innovation, Energy, Circularity, Digitalisation, Education and skills, Trade and Open Strategic Autonomy. The Communication on long-term competitiveness recognises that the Single Market is the key driver of the EU's competitiveness – a view which is shared by the Council. It also points to the importance of issues such as infrastructure and energy to competitiveness, which the Council has highlighted in several *Competitiveness Challenge* reports over previous years.

One aspect of the EU competitiveness agenda concerns Trade and Open Strategic Autonomy. Open Strategic Autonomy refers to the EU's commitment to remain open to trade, while also building capacity to increase resilience in areas such as supply chains and energy security. The pursuit of open strategic autonomy in response to global developments has led to changes in the EU State Aid policy - particularly in green technology - which also have implications for Ireland's competitiveness (as set out below).

In March 2023 the European Commission adopted a new *Temporary Crisis and Transition Framework*<sup>10</sup> to support measures in the transition to a net-zero economy and in line with the *Green Deal Industrial Plan*. The introduction of the *Temporary Crisis and Transition Framework* is seen as a response to increased levels of protectionism internationally. It follows the USA introducing the *Inflation Reduction Act* which contains \$500 billion in spending and tax measures aimed to increase the provision of clean energy, and the \$280 billion *CHIPS*

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<sup>10</sup> [Temporary Crisis and Transition Framework \(europa.eu\)](https://european-council.europa.eu/media/e3000000/1/press-2023-03-16_en.pdf)

and Science Act which targets increased investment in the US' semiconductor industry. The EU has itself introduced the *European Chips Act* to bolster its competitiveness in semiconductor technologies and applications. The Department of Finance finds that "given the proportion of manufactured goods that Ireland imports, any restructuring of global semiconductor value chains would likely have significant effects on the Irish economy".<sup>11</sup> These industrial policy developments are set out in greater detail in Box A.

#### **Box A: EU and USA Industrial and State Aid Developments**

##### *Temporary Crisis and Transition Framework*

The Temporary Crisis and Transition Framework amends and prolongs in part the Temporary Crisis Framework, which was introduced to support the economy in the context of Russia's war against Ukraine. Alongside amendments to the General Block Exemption Regulation (GBER) the Framework is intended to speed up investment in clean tech production in Europe. Specifically, the Framework will<sup>1</sup>:

- Allow Member States to further support measures needed for the transition towards a net-zero industry out to end-2025.
- Amend the scope of such measures to make schemes to support renewable energy, energy storage and decarbonisation of industrial production processes easier to design .
- Enabling investment support for the manufacturing of strategic equipment, namely batteries, solar panels, wind turbines, heat-pumps, electrolysers and carbon capture usage and storage and production of key components and for production and recycling of critical raw materials.

##### *European Chips Act*

The European Chips Act aims to address semiconductor shortages and strengthen Europe's technological leadership. Since 2020 there has been significant price increases for microchips along with supply shortages leading to longer delivery times. Europe currently produces 10% of the worlds chips, with global demand expected to double by 2030 the Chips Act sets out an ambition for Europe to make up 20% of global supply in that time. Over €43 billion of investment will support the Chips Act until 2030, which will be broadly matched by long-term private investment. It aims to:

- Strengthen Europe's research and technology leadership towards smaller and faster chips.
- Put in place a framework to increase production capacity to 20% of the global market by 2030.
- Build and reinforce capacity in the design, manufacturing and packaging of advanced chips.
- Develop an in-depth understanding of the global semiconductor supply chains
- Address the skills shortage, attract new talent and support the emergence of a skilled workforce.

##### *US Inflation Reduction Act*

The act will invest to expand domestic manufacturing capacity, encourage procurement of critical supplies domestically or from free-trade partners, and promote R&D and commercialisation of green technologies. The measures will fund over €500 billion on health (€108 billion), and climate and energy (€392 billion).

##### *US CHIPS and Science Act*

The US CHIPS and Science Act will boost American semiconductor R&D and production. Similar to the EU, the US produces circa 10% of the total supply of semiconductors, with The White House identifying lack of advanced chip manufacturing and reliance on East Asia for supply as a weakness<sup>1</sup>. The CHIPS Act amounts to \$280 billion in expenditure over a ten-year period. \$200 billion will be targeted primarily at science and technology R&D and commercialisation, while \$53 billion will fund investment in semiconductor manufacturing. It is envisaged that this funding will unlock multiples in further private sector investment in this area.

These developments are motivated by a desire to accelerate the green transition and by concerns around EU strategic autonomy in the face of energy security concerns following the Russian invasion of Ukraine, and the continued dominance of (and reliance on) Asia in the semiconductor and chips market. Vulnerabilities in these

<sup>11</sup>Economic Insights – Summer. July 2023. Department of Finance. [Here](#)

areas were highlighted by supply chain disruptions in the wake of pandemic restrictions. Concerns around vulnerabilities relating to chips have escalated with the US restricting the export of advanced integrated computing systems to China in late 2022<sup>12</sup>, with speculation that it will now seek to limit US tech Investments into China<sup>13</sup>.

There has been a significant shift in how State Aid is utilised within the EU, which has consequences for industrial policy and for our competitiveness. While the increased flexibility in State Aid may open up some opportunities for industrial development in Ireland, it will likely affect the balance of industrial investment across the EU. For example, the majority of the €672 billion in State Aid approved following Russia's invasion of Ukraine was notified by Germany (53%) and France (24%)<sup>14</sup>. Ireland's relatively small size and fiscal capacity may leave it at a disadvantage when attracting investments of significant scale if such investments become increasingly determined by the level of State Aid available. (For example, Germany has won an Intel investment of approx. €30 billion to construct a new plant with state aid of €10 billion).

The evolving geopolitical context is identified as a potential risk in the White Paper on Enterprise 2022-2030<sup>15</sup>. In response the best approach for Ireland will likely involve a number of elements:

- Continuing to advocate at an EU and global level for an open rules-based trading system. Like other small, advanced economies, the open rule-based economic and trade system has benefited Ireland in the last number of decades as highlighted in the Trade and Investment Strategy 2022-2026<sup>16</sup>.
- Engaging with EU programmes such as Important Projects of Common European Interest (IPCEI), and pursuing investments in digital and green technologies in line with the flexibilities under the Chips Act and Green Deal Industrial Plan.
- Continuing to develop the Irish workforce as a key competitive differentiator in a changing State Aid environment.

### 1.1.4 Fiscal Developments

The increase in Ireland's corporation tax receipts over the past decade has been well documented. Corporation tax receipts have increased from an average level of €4 billion across 2010 to 2014, to over €22.6 billion in 2022. A substantial portion of this increase has arisen from a small subset of firms – in 2022, over 57% of corporation tax receipts were from the 10 largest payers<sup>17</sup>. This has led to significant concentration risk, based on potential windfall gains that are not assured into the future. The risk associated with this concentration has become more pronounced over the last number of months with the uncertain global economic environment, combined with job losses in the global ICT sector (which has impacted the Irish jobs market), alongside a contraction in GDP in that sector of 9% in Q1 2023 in Ireland. The Department of Finance estimates that approximately €12 billion of the corporation tax take in 2023 will be windfall in nature – if these revenues were excluded it would turn a planned budgetary surplus into a deficit<sup>18</sup>.

Given these uncertainties the decision by Government to transfer €6 billion in receipts to the *National Reserve Fund* is welcome. The Council also welcomes plans by Government to allocate a further €2.25 billion from windfall receipts for investment in infrastructure over the 2024 to 2026 period. This is a positive development

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<sup>12</sup> [2022-21658.pdf \(govinfo.gov\)](#)

<sup>13</sup> [US ramps up China semiconductor restrictions - Tech Monitor](#)

<sup>14</sup> [EU asks member states for proposals on how to ease state aid rules | Reuters](#)

<sup>15</sup> [white-paper-on-enterprise-2022-2030.pdf](#)

<sup>16</sup> [trade-and-investment-strategy-2022-2026-value-for-ireland-values-for-the-world.pdf \(enterprise.gov.ie\)](#)

<sup>17</sup> [Corporation Tax - 2022 payments and 2021 returns \(revenue.ie\)](#)

<sup>18</sup> Future-proofing the public finances – the next steps. [Here](#)

for increased delivery of infrastructural priorities in the coming years (see Chapter 3). However, fiscal resources has not been the key limiting factor in the delivery of infrastructure in recent years, with labour market constraints combined with planning delays presenting significant challenges for delivery. It is not immediately clear that allocating further funding on its own will lead to additional capacity, unless other constraints are also relieved – these are further discussed in Chapter 3.

The policy consideration of a longer-term saving vehicle is also welcome as a means of removing any risk that windfall gains would be factored into current expenditure and increasing the resilience of the public finances.

### 1.1.5 Interest and Exchange Rate Developments

2022 and 2023 have seen significant developments in monetary policy. In response to heightened inflation central banks have increased interest rates to levels not seen in twenty years. The ECB has adjusted rates upwards eight times over the last year, with deposit rates moving from -0.5% in July 2022 to 3.75% in August 2023. The US Federal Reserve raised rates earlier and more aggressively to tackle inflation, with its first rate increase in March 2022. The Federal Funds Rate now stands at 5.5%. While rising interest rates are primarily intended to achieve price stability goals, there have been wider impacts such as the follow-on impact on banks adjusting to a particularly rapid increase in the rates. This has seen the collapse of a number of American banks arising from losses realised on bonds as a result of rising rates. In March 2023 the globally and systemically important bank Credit Suisse was bought by UBS Group following concerns around its stability as clients withdrew cash. More broadly, rising rates will have significant impacts on the funding of public investment and private investor appetite in areas such as housing and energy infrastructure. Rising interest rates (Figure 1.1.5) have also led to increased household mortgage interest payments which have been a significant contributor to CPI growth. While Irish banks had been slower to pass on mortgage rate increases in late 2022 to 2023 compared to banks in other euro area countries, rates on new mortgages are now rising and stood at 4.04% in June 2023 – now marginally above the euro area average of 3.79%<sup>19</sup>.

Although Ireland is a net exporter for many goods and services, it is exposed to movements in commodity prices globally through its imports. 'Imported' price increases have in turn played a significant role in driving headline inflation and increases in energy and commodity prices have a direct impact on consumer prices in Ireland. Ireland's import dependency on imported energy was 76% in 2021, the 4<sup>th</sup> highest in the EU and well above the EU average of 55%<sup>20</sup>. In the case of energy imports, there is evidence that international wholesale prices have declined significantly but this has taken time to feed through to domestic consumers (in part, at least, due to the hedging strategies adopted by energy companies).

## 1.2 Consumer and Producer Prices

The recently published NCPC Competitiveness Bulletin on inflationary dynamics<sup>21</sup> provides a detailed review of consumer and producer price indices including the latest developments in these indices for the Irish economy. The following sections explores the drivers of recent increases for both consumers and enterprise.

### 1.2.1 Producer Prices

Figure 1.2.1 shows developments in the Producers Price Index (PPI) for Ireland, the broader euro area (hereafter:

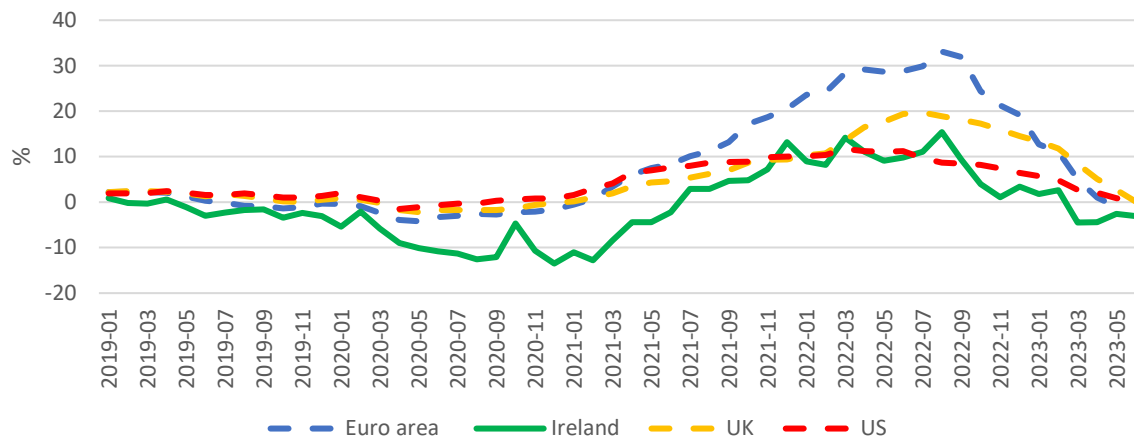
<sup>19</sup> [2023m06\\_ie\\_retail\\_interest\\_rate\\_statistics.pdf\(centralbank.ie\)](#)

<sup>20</sup> [Eurostat: Energy Imports Dependency](#)

<sup>21</sup> [Bulletin 23-3 Understanding Recent Inflationary Dynamics in Ireland - Competitiveness](#)

EA), the UK, and the US from 2019-2023. Ireland's PPI fell at a faster rate than the EA, UK and the US following the impact of COVID-19, before rising again in early-mid 2021. Ireland's PPI started to fall again in mid-2022, alongside the broader EA, the UK, and the US. By May 2023 Ireland's PPI had fallen 2.6% year-on-year.

Figure 1.2.1: Annual changes in industrial PPI for Ireland and selected jurisdictions, January 2019 – June 2023



Source: Eurostat, Office for National Statistics and U.S. Bureau of Labour Statistics

### 1.2.2 Consumer Prices

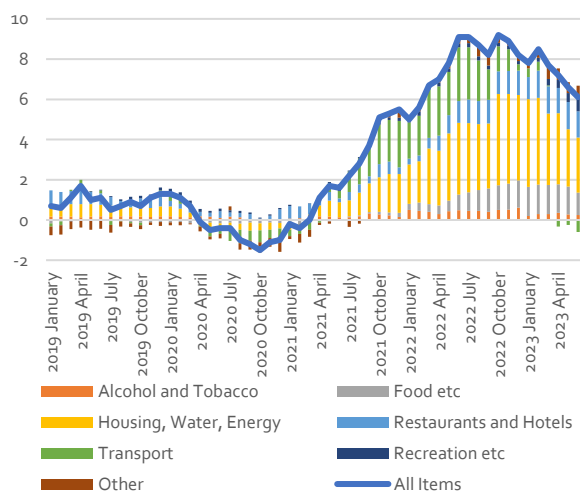
The rise in consumer price inflation commenced in 2021 as the effects of the COVID-19 pandemic unwound with a rapid resumption in economic activity, and amid heightened geopolitical uncertainty following Russia's invasion of Ukraine. These geopolitical tensions have disrupted supply chains, causing large rises in international prices for energy, food, and other commodities.

Figure 1.2.2 shows how the CPI has evolved in Ireland since 2019, and tracks the contribution of individual components, such as transport, food, and recreation. As shown, the CPI peaked at annual growth of 9.2% in October 2020, before falling to 6.1% in June 2023.

The main drivers of overall inflation are observed in two categories illustrated in Figure 1.2.3: 'Housing, Water, Electricity, Gas and Other Fuels' as well as in 'Food and Non-Alcoholic Beverages'. For the former, the key drivers over the past 12 months are increases in the cost of Electricity, Natural Gas and Mortgage Interest.<sup>22</sup> These sectors are the most exposed to international price changes (including interest rate increases).

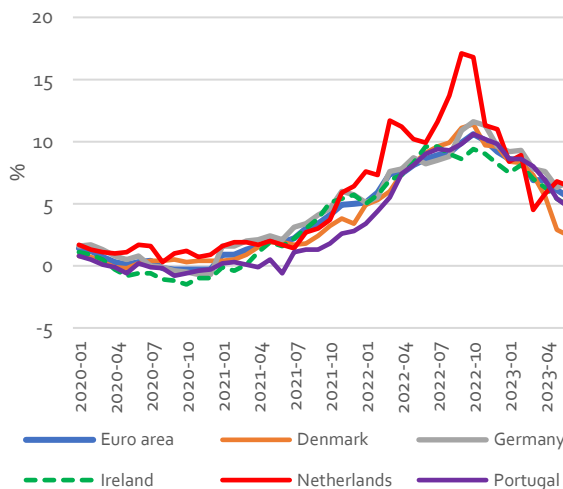
<sup>22</sup> Mortgage interest repayment costs have increased by 44.1% over 12 m

Figure 1.2.2: Contributions to CPI, Ireland, January 2020 - June 2023



Source: CSO

Figure 1.2.3 HICP for selected European countries (annual rate of change) January 2020 – June 2023



Source: Eurostat

### 1.2.3 The influence of corporate profits

Against this backdrop of inflationary pressures, consumer retail prices have been subject to considerable scrutiny. This, in part, appears to follow the publication of Eurostat data showing that, in 2022, Ireland was highest in terms of the price level index for final household expenditure among EU Member States. However, in some respects, Ireland performs better than, or on par with, other small and open European economies. When it comes to the price of food and non-alcoholic beverages, Ireland outperforms economies such as Norway, Denmark, Luxembourg, and Malta; and Switzerland and Iceland which are EEA members. Ireland also outperforms in terms of clothing and furniture, for which we are below the euro-area average price level. Furthermore, public health initiatives in respect of the consumption of alcohol and tobacco products inflate the price of affected products but are part of a considered national strategy. There has also been considerable commentary on the profit margins of enterprises in the wake of the COVID-19 pandemic.

#### Box B: The contribution of unit profits to inflation

The ECB examined the contribution of wages and profits to inflation, finding that in the euro-area, unit profits have increased at a faster rate than unit labour costs since the start of 2022<sup>23</sup>. Firm unit profits accounted for two thirds of the increase in the EU's GDP Deflator (a measure of inflation) in 2022. Companies have been able to expand their profits without facing significant losses of market shares due to demand exceeding supply. Over the next three years, as mismatches in demand and supply are resolved the ECB expects unit profits to grow more moderately. Similarly, the ECB predict that the growth in unit labour costs will moderate as euro area inflation eases due to lower energy and commodity costs.

Analysis from the Central Bank of Ireland has also suggested that unit profits have contributed significantly to GVA inflation across 2021 and 2022<sup>24</sup>. Unit profits have increased by c.10.5% in 2021 and by just below 9% for 2022. Conversely, since March 2020, the contribution of labour costs to domestic price rises has been relatively flat, declining from 1.3% in 2020 to 0.8% in 2022. Developments relating to the labour and profit shares of Gross Value Added are further examined in section 5.2.

<sup>23</sup> [How tit-for-tat inflation can make everyone poorer \(europa.eu\)](https://www.europa.eu)

<sup>24</sup> Box E: Wages, profits and productivity in and inflationary environment, [Quarterly Bulletin 2 2023 \(centralbank.ie\)](https://www.centralbank.ie)

A recent analysis of Ireland's grocery retail sector by the Competition and Consumer Protection Commission (CCPC)<sup>25</sup> found that although food prices in Ireland remain high when compared internationally, the rate of food inflation in Ireland has been the lowest in the EU for several years. The CCPC also noted that there is no indication in their analysis to suggest market failure (or "excessive pricing") as a result of an abuse of dominance at this time. The CCPC sets out that Irish consumers have historically experienced relatively high grocery retail prices due in part to a number of structural factors, these include: (i) remote geographic location results in higher-than-average costs for Irish importers; (ii) population size means less economies of scale can be achieved; and (iii) higher costs associated with construction, legal services, insurance etc.. The CCPC report establishes that retail is a high volume, low margin industry – with profit margins typically between 1% to 4%.

The Council welcomes planned work examining sectors of the economy to understand better the degree to which competition is effective, including the extent to which it is putting downward pressure on prices. These sectoral analyses are of particular importance during periods of high inflation, to ascertain profit levels and to unravel the extent to which competition is putting downward pressure on prices.

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**Recommendation 1.1:** The NCPC recommends that the CCPC:

- (i) undertakes additional analysis of local level competition; and
- (ii) conducts more high-level targeted market studies, to better understand the degree to which competition within selected sectors is effective.

**Responsibility:** Department of Enterprise, Trade and Employment; Competition and Consumer Protection Commission

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### 1.3 Labour Market

In Q2 2023, there were 2.6 million people in employment (full-time and part-time), 121,200 people unemployed and 31,900 people in long-term unemployment in Ireland (see Figure 1.3.1). Over the past five years long-term unemployment has fallen steadily, apart from during the years of the pandemic when it increased alongside a drastic increase in overall unemployment. Long-term unemployment has now started to decline again as the economy has recovered post-pandemic. In 2022 Ireland's share of underemployed part-time workers<sup>26</sup> (as a % of total population) was 2.8%. Ireland's rate has been on a downward trend (from 4.6% in 2012), but remains relatively high in the euro area/EEA (coming after Netherlands 3.8%, Spain 3.2% and Switzerland 3.1%).

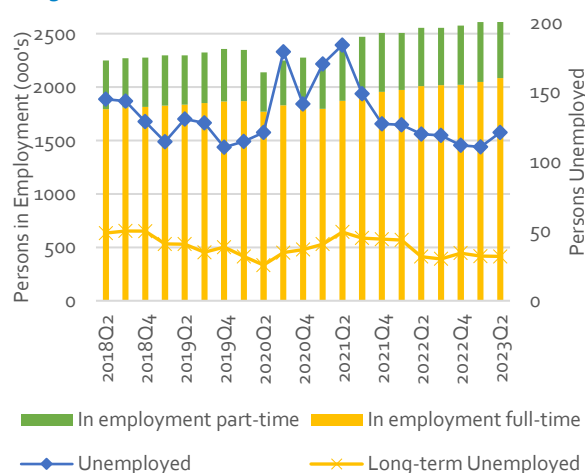
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<sup>25</sup> [High-level analysis of the Irish Grocery Retail Sector - CCPC Business](#)

<sup>26</sup> An underemployed part-time worker is a person aged 15-74 working part-time who would like to work additional hours and is available to do so.

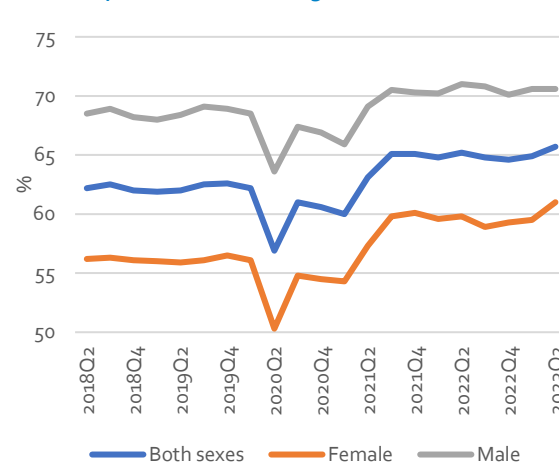


Figure 1.3.1 Employment Overview, Q2 2018 – Q2 2023



Source: CSO, Labour Force Survey

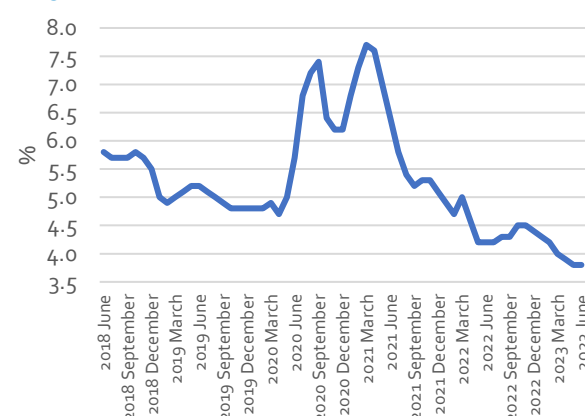
Figure 1.3.2 Labour Market Participation, 15 Years and over, Q1 2018 – Q1 2023



Source: CSO, Labour Force Survey

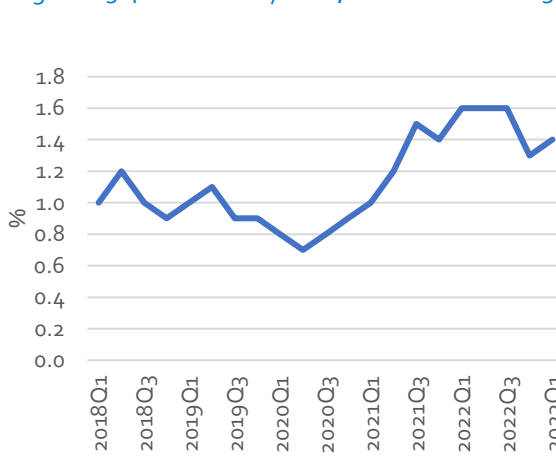
The unemployment rate has fallen to 4.1% in July 2023, down from 5.8% in June 2018) while the job vacancy rate has increased to 1.4% in Q1 2023, up from 1.0% in Q1 2018 (see Figures 1.3.3 and 1.3.4).

Figure 1.3.3 Unemployment Rate, June 2018 – June 2023



Source: CSO

Figure 1.3.4 Job Vacancy Rate, Q1 2018 – Q1 2023



Source: CSO

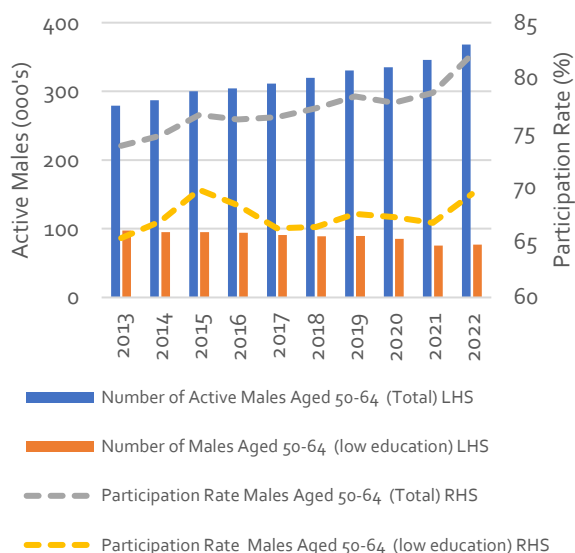
### Labour Market Participation

Overall participation in Ireland has increased in the past decade and is higher now than it was before the pandemic (see Figure 1.3.2). Participation rates for males have remained relatively constant over the last five years - with the exception of the pandemic period – and by Q1 2023 was 71% (higher than the EU average of 64%). Female participation is now higher than pre-pandemic (60% in Q1 2023 and higher than the EU average of 53%) – a rise linked to factors such as remote working, underlying societal and structural reasons. The affordability of childcare costs (see Chapter 2) remains a barrier for female participation, particularly for those in a couple earning a median wage with two children, as identified in *Scorecard 2023*. However, the *Scorecard* also identified that the recent reform of childcare support in Ireland provided significantly higher benefits to low-income families, driving the net childcare costs for low-income lone parents close to zero. This may also be a contributing factor behind the increase in female participation and our better performance in this area than many EU countries.

Recent international evidence has found falling participation rates for older workers and/or low skilled workers in other advanced economies. Although no general fall in overall employment numbers or participation rates has occurred in Ireland, when considering the older age cohort of 50 to 64 years old with a lower education level<sup>27</sup>, there is evidence of a sizeable reduction in the number of active males in the labour force – approx. 20,000 from c.97,000 in 2013 to c.77,000 in 2022 (a fall of 21%) (see Fig 1.3.6). This, however, does not hold for all males. Total males in this age cohort have seen an increase of 32%, from c.279,000 in 2013 to c.368,000 in 2022.

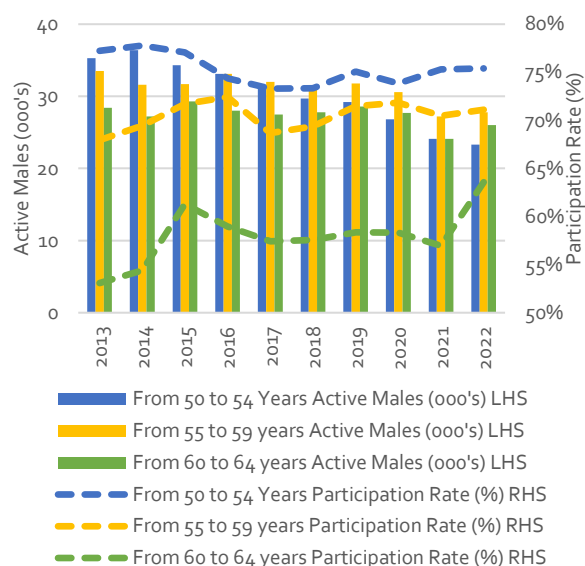
Moreover, this appears to be driven specifically by males in the age 50 to 54 years old age bracket (see fig 1.3.7). Over the period 2013 to 2022, the number of males in the 50-54 years age cohort has fallen by 34%, and the participation rate has fallen by 1.8%. In contrast, older males in this cohort (aged 55 to 59 and 60 to 64 years old) have seen a rise in their participation rates (from 68% to 71% and 54% to 64%, respectively).

Figure 1.3.6 Active Numbers and Participation of Males aged 50 – 64 years, All education level and low education level



Source: CSO, Labour Force Survey<sup>28</sup>

Figure 1.3.7 Active Numbers and Participation of Males with low levels of education, by age



Source: CSO, Labour Force Survey

This analysis suggests that the fall in the number of low-skilled males aged 50-64 years old has had a disproportionate impact on the Agriculture, Forestry & Fishing, Construction and Industry sectors. While these sectors have seen some recovery from 2021 to 2022, the Transportation and Storage and Wholesale and Retail sectors continued to see a fall in male participation from 2021 to 2022, suggesting males employed in these sectors prior to the pandemic have been less likely to re-enter employment. The Administrative and Support services sector had a strong recovery in 2022, which may be due to the more likely availability of flexible types of working and less strenuous type of manual labour in this sector, in comparison to the more contact-intensive and manual labour in sectors such as Agriculture, Forestry & Fishing and Construction.

<sup>27</sup> Less than primary, primary and lower secondary education (levels 0-2).

<sup>28</sup> Following each Census the Labour Force Survey (LFS) series is revised back to the previous Census to account for revisions to population estimates which are used to calibrate the model. LFS revisions for the period 2016-2024 are scheduled for February 2024.

In addition, an IGEEES paper on '*Labour Market Dynamics and the Rising Incidence of People Working Multiple Jobs in Ireland*' finds a rising incidence in the number of people employed in more than one job - rising from c.30,000 in 2002 to c.80,000 in 2022 – with males far more likely to have a second job than females<sup>29</sup>. The greatest share of persons are in the 45-64 age bracket (51 %). In addition, the paper finds that second (or indeed, third) jobs tend to be concentrated in the agricultural and services sectors.

The Council noted in last year's *Challenge* report that, while there has been some increase in employment rates of older workers in recent years in Ireland, there is considerable scope to increase participation further. In 2021, the Pensions Commission had recommended abolishing mandatory retirement clauses in contracts of employment to allow workers willing and able to remain in their jobs after 65 to continue working<sup>30</sup>. This recommendation has since been accepted by Government and Department of Enterprise, Trade and Employment is to bring forward the necessary legislation. Given the current tightness in labour supply, the Council encourages that this legislation should be prioritised.

Ireland has recently seen a fall in the number of low-skilled males aged 50-64 years old, which has primarily been driven by those in the 50-54 years age bracket. Given the tighter labour market constraints, demographic changes, and skills shortages, it is important for Ireland's competitiveness that it utilises the available domestic workforce. The Council has identified a specific cohort - males aged 50-54 with lower levels of education – for which policy intervention is required to re-engage these back into the labour force. (See Chapter 3 for further discussion on the labour market with respect to the construction sector.)

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**Recommendation 1.2:** The NCPC recommends that, given the recent fall in labour market participation by older males with lower levels of education, a specific focus on reengaging this cohort by rolling out engagement programmes through INTREO should be introduced in order to boost participation.

**Responsibility:** Department of Social Protection, Department of Further and Higher Education, Research, Innovation and Science

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### *Wage Growth*

Surging inflation and tight labour market dynamics have contributed to a pick-up in Irish wage growth across 2022 and 2023. Wage growth accelerated from 1.9% in Q4 2021 to stand at 4.5% in Q1 2023. In the period preceding the global rise in inflation, wage growth had generally exceeded the rate of inflation. However, since late 2021, the annual inflation rate has been in excess of growth in wages. It should be noted, that despite inflation eroding real wages, the €12 billion in support Government has provided has cushioned the impact of inflation for households (and business)<sup>31</sup>.

With inflation peaking at 9.1% in October 2022, and declining to 5.6% in July 2023, wages are now converging with the rate of inflation (see Figure 1.3.5). As set out in Box B above, profits have been a larger driver in the pick-up in inflation to date in Ireland. However, with expectations that strong wage growth will continue into 2024, wage growth may become a more significant influence on inflation going forward<sup>32</sup>.

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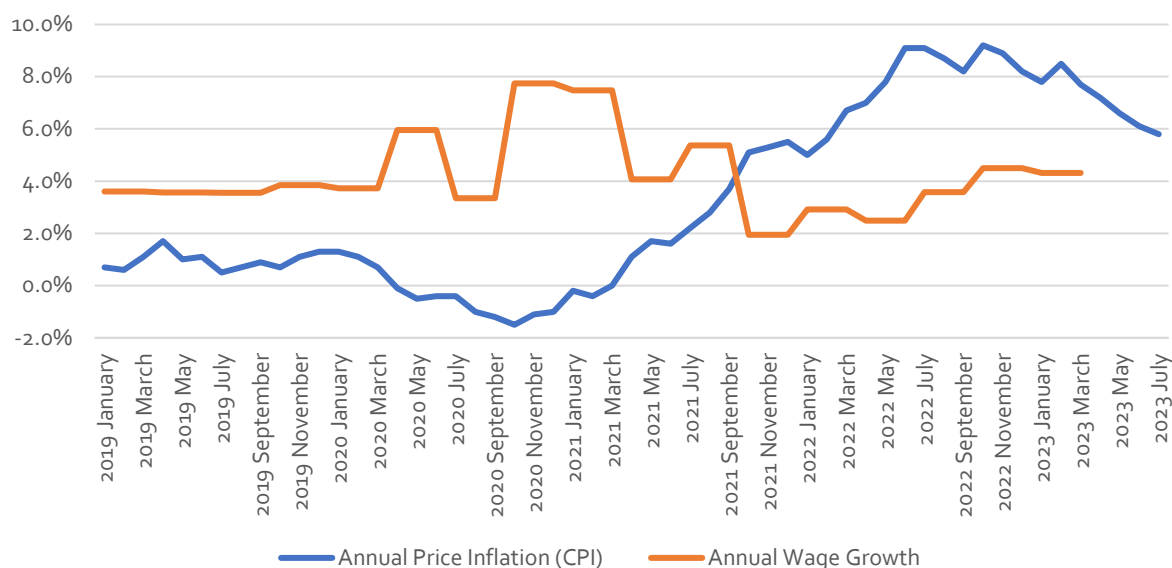
<sup>29</sup> [Microsoft Word - Labour Market Dynamics and the Rising Incidence of Secondary Employment FINAL Draft - a7356b8e-7c31-44e4-ae2f-3a08182dc373.pdf \(www.gov.ie\)](#)

<sup>30</sup> [gov.ie - Report of the Commission on Pensions \(www.gov.ie\)](#)

<sup>31</sup> [gov.ie - Minister McGrath publishes assessment of State's €12 billion fiscal response to the cost of living challenge \(www.gov.ie\)](#)

<sup>32</sup> [Quarterly Bulletin 2 2023 \(centralbank.ie\)](#)

Figure 1.3.5 Annual Consumer Price Inflation and Annual Wage Growth



Source: CSO CPI; CSO Earnings, Hours and Employment Costs Survey

## 1.4 Remainder of Report

This Chapter has set out the main recent developments in the Irish and global economy. While global growth has been sluggish, Ireland has demonstrated resilience – with the jobs market remaining particularly strong. However, there are concerns relating to job losses of some high-value multinational sectors, which, could weigh on the labour market and the performance of the Irish economy.

A number of these developments are directly influencing the competitiveness of Ireland in the short term. While many competitor countries are also experiencing high levels of inflation, it is important that we seek to control domestic inflation where possible so as to minimise its impact on our cost competitiveness. While the degree of labour market tightness evident in Ireland currently is presenting a significant challenge to recruitment across sectors, it is also significantly impacting our ability to achieve on infrastructural targets which if missed will have longer-term competitiveness impacts. Other developments, such as trends towards de-globalisation and increased use of state aid and subsidies could also have significant longer-term changes to Ireland in terms of the level of inward investment coming into the Irish economy.

The Council was established in 1997 to report to Government on key competitiveness issues facing the Irish economy and to offer recommendations on policy actions to improve Ireland's competitiveness position. The remainder of this report looks at these competitiveness challenges across five thematic areas to improve Ireland's competitiveness. Chapter 2 will focus on the major costs for businesses in Ireland, building on the producer price discussion from last year's report. Escalated costs for enterprises impact Ireland's competitiveness as a small, open economy. Chapter 3 will return to consider infrastructure, an area which the Council also focused on in 2022. Infrastructure, and its delivery remains a critical issue for Ireland, with significant competitiveness benefits to be realised from the timely and cost-effective delivery of key infrastructure. Chapter 4 examines energy as an area impacting competitiveness, in terms of how Ireland generates and consumes it and the associated costs. Ireland continues to lag on meeting its climate

commitments and on taking action on delivery of renewable energy. Renewable energy is key to ensuring progress towards targets, while enabling greater energy security. Chapter 5, on boosting productivity, looks at Ireland's performance, focusing on the latest national productivity statistics with an emphasis on the long-term dynamics of labour productivity. Productivity growth has been relatively flat over the last two decades, and a labour productivity gap between domestic SMEs and foreign-owned multinationals has persisted. Finally, Chapter 6 examines issues relating to Research, Development and Innovation, including the take-up of the R&D tax credit, Ireland's innovation performance, enterprise digitalisation, disruptive technologies, and the green transition.

## Chapter 2: Cost of Doing Business in Ireland

### 2.1 Introduction

As an open economy, the relative cost of doing business is a significant determinant of competitiveness and, ultimately, economic growth, employment, and our standard of living. The Council's *Scorecard 2023* publication found that while price levels have been high in Ireland historically, a lower rate of inflation in recent times when compared to international competitors had helped Ireland to maintain cost competitiveness. This is no longer the case. As a price-taker on most international markets, many of the drivers of Irish inflation are outside of domestic control and external shocks, such as disruptions to global supply chains, can inflate consumer and producer prices. The policy focus, then, should be on implementing reforms to boost productivity and reduce those costs that are within domestic control.

Whilst Chapter 1 discussed the short-term implications arising from the recent rise in inflation, this Chapter focuses on the medium- to long-term impacts on business. Section 2 begins by examining the rise in Irish labour costs and provides an overview of forthcoming improvements to working conditions in Ireland that will impact on enterprise, specifically the living wage and pension auto-enrolment. Following this, the section addresses enterprise financing, examining trends in access to finance by SMEs, across banking and non-banking sectors as well as State-backed SME lending. This section goes on to examine the impact of monetary policy tightening on firms and households, gives an overview of some of the key findings from the Retail Banking Review; it then examines the implications for firm viability of the debt overhang arising from the COVID-19 pandemic.

Finally, other elements of business costs are examined, both direct and indirect. These include the issue of high legal costs in Ireland and the recent rise in transport costs (driven by supply chain disruptions and fuel prices). Developments in the affordability of housing and childcare are also revisited – both long-standing issues that remain a key competitiveness challenge for Ireland. Section 3 then sets out the actions that the Council considers to be crucial for curbing business costs in Ireland.

### 2.2 Current Situation in Ireland

#### 2.2.1 Rising Labour Costs

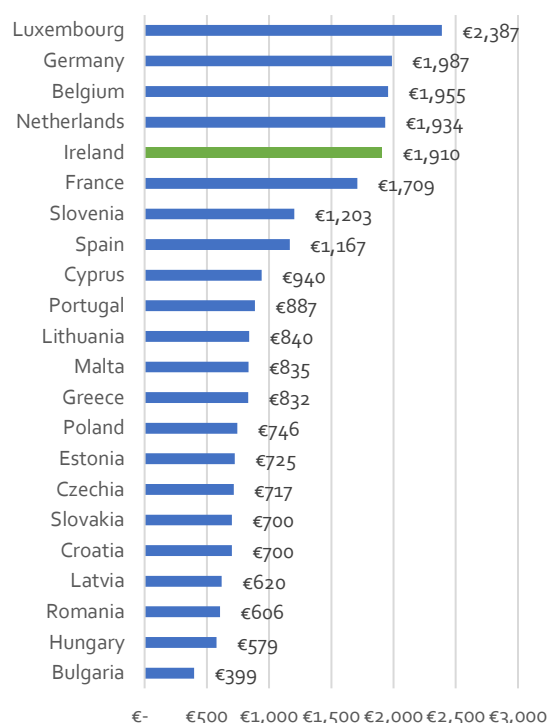
Over the past year, the Government has introduced or progressed major initiatives on working conditions, such as the right to request remote work, sick pay legislation (mandatory paid sick days), pension auto-enrolment, parent's leave and parent's benefit, an additional bank holiday and the move to a living wage. The Council supports the extension of employment rights in the interests of a more inclusive economy and promoting quality employment. These changes are crucial to improve working conditions and bring Ireland into line with other OECD and EU countries. However, the Council is cognisant that these measures also represent a cost to employers, which could be particularly burdensome for SMEs.

In *ICC 2022*, the Council recommended that the Departments of Enterprise, Trade and Employment, and Social Protection, commission and publish an assessment of the combined impact of the measures proposed to improve working conditions in Ireland, within a comparative EU framework, by end 2023. The Council is pleased that this work is underway and due to be completed before the end of the year.

There is also ongoing work with respect to the EU's recently published Directive on Adequate Minimum Wages (see Box C below). In 2023, Ireland ranked fifth highest in the EU for national gross monthly minimum wages, at €1,910 per month (see Figure 2.2.1a), down from second in January 2022.<sup>33</sup> When adjusted for purchasing power standards (PPS) which takes account of price differences between countries, Ireland falls to seventh place (see Figure 2.2.1b) and is placed at the lower end of the higher income countries, down from sixth in January 2022.

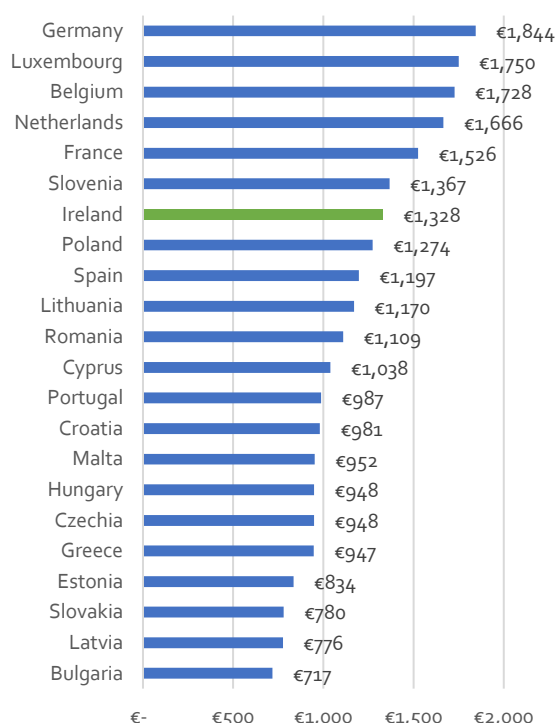
The OECD have recently stated that nominal minimum wages set by Governments are keeping pace with inflation in most OECD countries, however any real gains could fade quickly if inflation remains high.<sup>34</sup> In contrast, wages negotiated in collective agreements between employees or employers' organisations and trade unions, are reacting with some delay.<sup>35</sup>

Fig 2.2.1a Monthly National Minimum Wages, €, EU Countries, January 2023



Source: Eurostat

Fig 2.2.1b Monthly National Minimum Wages, PPS, EU Countries, January 2023



Source: Eurostat

Ireland has comparatively high wage levels but lower hourly labour costs.<sup>36</sup> *Scorecard 2023* showed that Ireland's hourly non-wage costs, which include employers' social insurance contributions, are lower than the euro area average (at €7 versus €8.80 respectively, see Figure 2.2.2a). However, Ireland's hourly non-wage costs have risen significantly since 2021 (from €4). Overall, between 2021 and 2022, Ireland's total hourly labour costs increased by almost twice the euro area average (by 9.3% versus 4.7%, see Figure 2.2.2b).

<sup>33</sup> Currently, 22 of the EU's 27 member states have a statutory minimum wage. EU countries without a statutory minimum wage set their minimum wage through collective bargaining/union-employer negotiated agreements (e.g. Denmark, Italy, Austria, Finland and Sweden). See: Eurostat Minimum Wage Statistics [here](#).

<sup>34</sup> Although this was not the case in Ireland across 2022 and early 2023, wages now appear to be converging with the rate of inflation. See Chapter 1 for further discussion on wage growth in Ireland.

<sup>35</sup> [Under pressure: Labour market and wage developments in OECD countries | READ online \(oecd-ilibrary.org\)](#)

<sup>36</sup> Within this section, the terms 'employee compensation' and 'labour costs' are used interchangeably and refer to the cost of wages and salaries plus non-wage costs such as employers' social contributions.

Figure 2.2.2a Total economy employee compensation and other costs (hourly)\* 2022

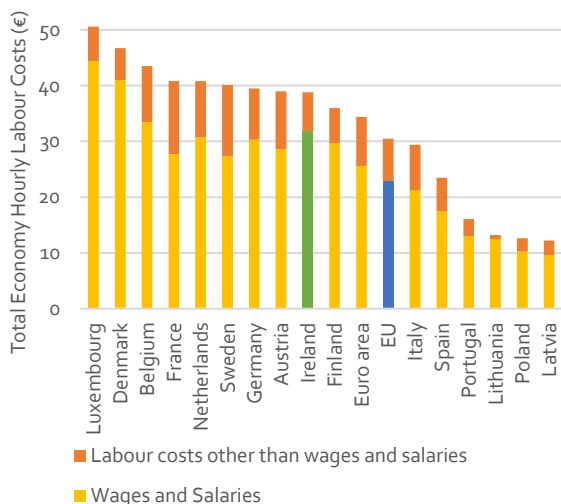
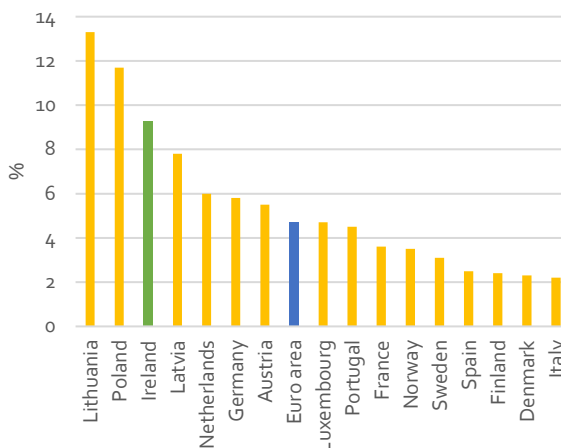


Figure 2.2.2b Growth in Hourly Labour Costs, 2022



Source: Council based on data from Eurostat. Notes. Eurostat total economy data refers to enterprises with 10 or more employees in the industry, construction and services sectors, excluding public administration, defence and compulsory social security. Wages and salary costs include: direct remuneration, bonuses, and allowances paid by an employer in cash or in kind to an employee in return for work done, payments to employees saving schemes, payments for days not worked and remuneration in kind such as food and drink. Labour costs other than wages and salaries include the employers' social contributions plus employment taxes regarded as labour costs less subsidies. They do not include vocational training costs or other expenditures such as recruitment costs or spending on work clothes.

**Box C: EU Directive on Adequate Minimum Wages**

The Directive on Adequate Minimum Wages in the European Union was published on 19th October 2022 and must be transposed into legislation in Ireland by 15th November 2024. The Directive aims to ensure that workers in the EU are protected by adequate minimum wages allowing for a decent living wherever they work and to promote collective bargaining on wage-setting.

The Directive requires that Member States with statutory minimum wages put in place a procedural framework to set and update these minimum wages according to a set of clear criteria. It states that *“Member States shall use indicative reference values to guide their assessment of adequacy of statutory minimum wages. To that end, they may use indicative reference values commonly used at international level such as 60 % of the gross median wage and 50 % of the gross average wage, and/or indicative reference values used at national level.”* (See further discussion in section 2.2.2 on living wage.)

The Directive also aims to increase the number of workers who are covered by collective bargaining on wage setting. It will require Ireland to develop an action plan to enhance collective bargaining coverage. While the Directive requires Member States in which the collective bargaining coverage rate is less than a threshold of 80% (Ireland's current rate of collective bargaining coverage is approximately 34%) to provide *“for a framework of enabling conditions for collective bargaining”* and to establish an action plan to promote collective bargaining, there is no obligation on Member States to reach any prescribed level of coverage within any defined timeframe. The European Commission has established an expert group on the transposition of the directive, with the main deliverable to issue a final report to by November 2023.

The High-Level Working Group on Collective Bargaining was set up by the Government on 30 March 2021 to review collective bargaining and the industrial relations landscape in Ireland. The final report of the Group including its recommendations were submitted to the Government in August 2022. The Department of Enterprise, Trade and Employment is currently considering the recommendations of the High-Level Group



with a view to formulating proposals for Government consideration before the end of 2023 regarding the preparation of legislation.

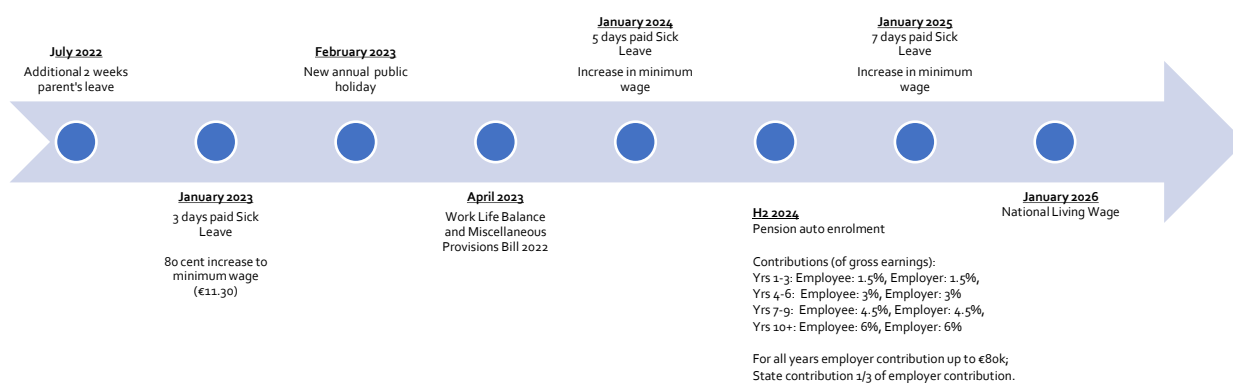
See also section 1.3 of Chapter 1 for further discussion of the labour market and wage growth, and section 5.2.4 of Chapter 5 for a discussion of long-run developments in the Irish labour share of GVA.

## 2.2.2 Forthcoming Improvements to Minimum Working Conditions

As stated earlier, over the past number of years, the Government has introduced or progressed several initiatives relating to working conditions. The scale of these changes and their impact on both employees and employers is substantial. These impacts are likely to vary by sector, depending on employment composition and status. The timeline in Figure 2.2.3 sets out the government's commitments under these initiatives.

The Council acknowledges the complexity of these measures for employers, which started in 2019<sup>37</sup> with parent's leave. While the staggered roll-out of some of these will run in parallel with others, the Council also acknowledges the long lead-in period for some, for example, pension auto-enrolment which is being phased in over a period of ten years, from 2024 to 2034.

Figure 2.2.3 Timeline for roll-out across all new working condition measures



The remainder of this sub-section will examine two of the major changes arising from government policy, namely, the living wage and pension auto-enrolment proposals.

### Living Wage

In November 2022 the Government decided to introduce a national living wage for employees (set at 60% of hourly median wages), to be rolled out over a four-year period. This will be affected through annual changes to the National Minimum Wage (NMW) and will be in place by 2026. Research commissioned by the Low Pay Commission and undertaken by the National University of Ireland Maynooth,<sup>38</sup> found international evidence to support setting the living wage rate at 60% of the median wage, as this strikes a balance between moving low-paid workers to an acceptable standard of living while also showing no significant negative effects on employment. The Report also notes the evidence of positive effects for employers, such as lowering staff turnover – a key cost for employers.

<sup>37</sup> The Parental Leave (Amendment) Act 2019 commenced on 19 July 2019. Parent's Benefit increased from 5 weeks to 7 weeks in July 2022.

<sup>38</sup> Research on the Introduction of a Living Wage in Ireland. Doris, O'Neill and Sweetman (31 March 2022). National University of Ireland Maynooth. See [here](#)

The following sets out some of the preliminary findings of an analysis being undertaken by the Departments of Enterprise, Trade and Employment, and Social Protection, relating to the impact of moving to a living wage.

Figure 2.2.3a shows the gap between the forecast median hourly wage<sup>39</sup> and 60% of the median wage (the target living wage) for 2023, 2024, 2025 and 2026. In 2022, the hourly median wage is estimated as €20.63. This means that the target living wage is €12.38, leaving a gap between the two of €8.25. In 2026, the hourly median wage is forecast to rise to €25 on average, resulting in a targeted living wage of €15, and therefore a difference of €10.

Figure 2.2.3a: Median Hourly Wage Forecasts and Living Wage (60% Target) Forecasts

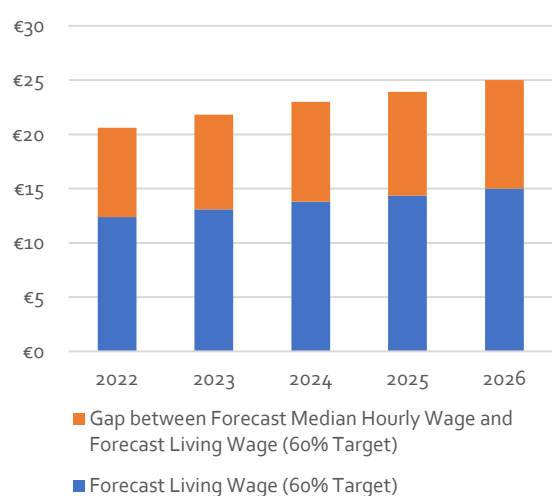
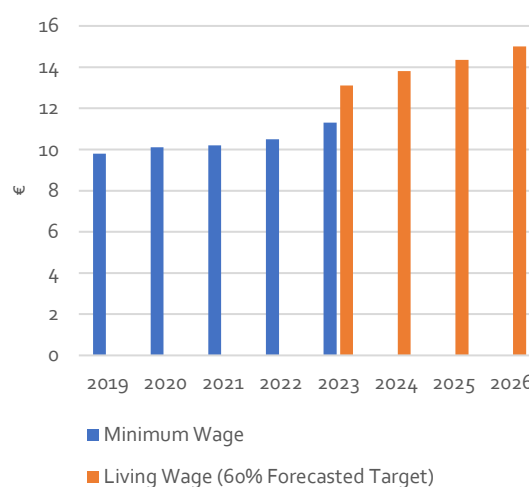


Figure 2.2.3b: Minimum Wage and Living Wage (60% Target) Forecasts



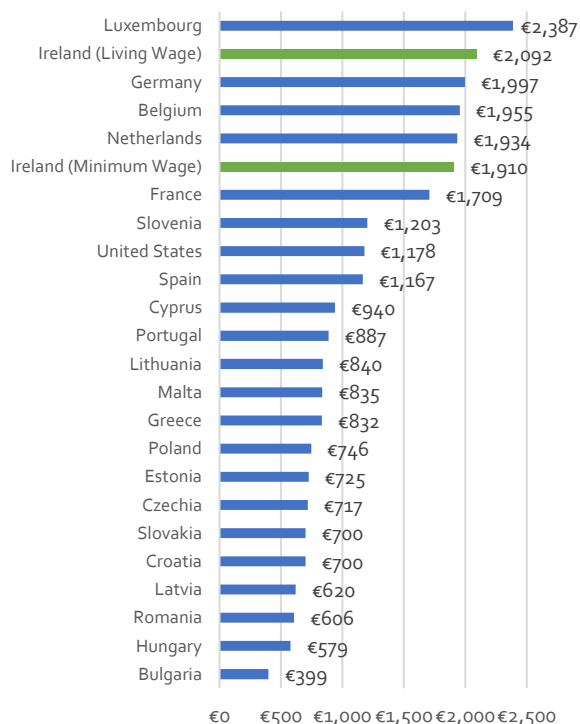
Source: Council based on findings from Department of Enterprise, Trade and Employment analysis. Median wage: Labour Force Survey and Revenue data supplied by the CSO; Wage Forecasts: Department of Finance Stability Programme Update 2023, April 2023; Central Bank of Ireland Quarterly Bulletin 1, March 2023.

If the minimum wage had moved to the targeted living wage for 2022, estimated as €12.38, this would place Ireland second after Luxembourg in terms of monthly national minimum wages across European countries (Figure 2.2.4a).<sup>40</sup> However, the EU Directive on Adequate Minimum Wages will also put pressure on other Member States to increase their minimum wages up to 60% of the median wage (see Box C).

<sup>39</sup> Taking the average of three available wage growth forecasts from: the Department of Finance, the Central Bank of Ireland, and the European Commission.

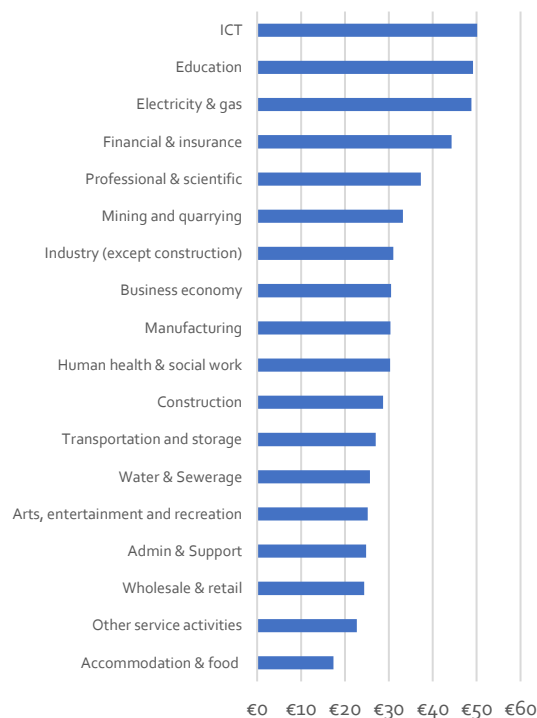
<sup>40</sup> Eurostat provides national minimum wages at monthly rates. For the countries where the national minimum wage is not fixed at a monthly rate, its hourly or weekly rate is converted into a monthly rate according to conversion factors supplied by the countries. For Ireland this is: (hourly rate x 39 hours x 52 weeks) / 12 months).

Fig 2.2.4a Monthly National Minimum Wages (And Ireland Living Wage), €, EU Countries, January 2023



Source: Council based on findings from Department of Enterprise, Trade and Employment analysis, Eurostat.

Fig 2.2.4b Average Hourly Wages by Sector, €, Ireland, 2022



Source: Eurostat

The move to a Living Wage impacts most on those sectors with the greatest concentration of people on the national minimum wage. Evidence from the ESRI published in 2021 found that just over 3% of all firms have more than half of their employees working at the minimum wage.<sup>41</sup> According to the CSO's Labour Force Survey, in 2022, 148,000 employees (7.1% of employees in Ireland) were earning the minimum wage or less.<sup>42</sup> The highest proportion of these were in the 'Wholesale and Retail Trade' sector (45,100) and the 'Accommodation and Food Services' sector (40,400). Combined, these account for 58% of all employees earning the minimum wage or less.

Figure 2.2.4b shows the variance of wages by sector with average annual hourly wages the lowest in the 'Accommodation and Food Services' sector (€17.4), 'Other Service Activities' (€22.7), 'Wholesale and Retail' (€24.4), 'Administrative and Support' (€24.8) and 'Arts, Entertainment and Recreation' (€25.2) sectors, and highest in the 'ICT' (€50.1), 'Education' (€49.2), 'Electricity and Gas' (€48.8), 'Financial & Insurance' (€44.3) and 'Professional, Scientific and Technical' (€37.3) sectors.

Given that the Living Wage will be set at 60% of the median wage, it is important to consider the minimum wage in percentage terms rather than an absolute figure. In 2018 (the most recent data available), Ireland's national minimum wage was 53% of median gross hourly earnings, 10<sup>th</sup> highest among the 23 EU Member states which have a statutory minimum wage. In Ireland, 8% of employees were earning close to the national minimum wage rate of pay (the 7<sup>th</sup> highest proportion of minimum pay workers in the EU).<sup>43</sup>

<sup>41</sup> [Increase on average labour costs, hours worked and employment in Irish firms \(esri.ie\)](https://www.esri.ie/publications/increase-on-average-labour-costs-hours-worked-and-employment-in-irish-firms)

<sup>42</sup> As well as uplifting the pay of those earning the minimum wage or less, the move to a living wage will also uplift those currently earning the 60% median wage. In their *Research of the Introduction of Living Wage in Ireland* report, the Low Pay Commission estimated that 15.27% of employees were earning at or below the 60% median wage in Ireland in 2019.

<sup>43</sup> [Minimum wage statistics - Statistics Explained \(europa.eu\)](https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&plugin=1)

The minimum wage is currently €11.30 in 2023, which is estimated as 51.8% of the median hourly wage. Therefore, the remaining 8.2 percentage points required to reach the 60% target will need to be made over the following three years (see Figure 2.2.4b). If the forecast median wage of €25 is correct for 2026, this indicates an hourly living wage for 2026 of €15, requiring an average increase of around €1.23 per year.

### *Pension auto-enrolment*

Among the most significant reforms to working conditions set to be introduced is a system of automatic enrolment (AE) into pension savings. Ireland is currently the only OECD country that does not operate an auto enrolment or similar workplace pension savings scheme. The Government has committed to the implementation of automatic enrolment from 2024.

The Department of Social Protection is working with parliamentary draft-persons to prepare a Bill that will provide the legislative underpinning of the AE system. This system is designed to expand the level of pension coverage among private sector workers, and to address the potential drop in living standards resulting from inadequate income in retirement. Notably, as the population ages and pension auto-enrolment is established (i.e. people are drawing down their savings), the disposable incomes of those in retirement should increase from prior levels.

The draft design principles will mean that an employee earning at least €20,000 *per annum* will be automatically enrolled into the saving system, and along with their employer, will pay a set rate of earnings into the system.<sup>44</sup> When the scheme is fully implemented, both employees and employers will contribute 6% of gross earnings each, with the State matching one-third of the employee contribution. Neither employers nor the State will make contributions on earnings above €80,000. AE will not occur where an employee has another pension arrangement meeting minimum standards.<sup>45</sup>

Employees can opt-out of AE; evidence from the UK suggests that opt-out rates were between 8% and 10% between 2020 and 2022.<sup>46</sup> An evaluation of AE by the UK Department of Work and Pensions included a survey-based assessment of the employer response to an increase in pension contributions. A majority of respondents indicated that increased costs were absorbed as part of existing overheads (68% total; 68% of small firms and 61% of large firms). Following this, 52% indicated that they reduced their profits (54% of small firms and 41% of large firms). Among the remaining responses, 13% reported having increased their prices, while just 7% reported lowering wage increases.

The AE system can be expected to impact differently by sector and firm size, due to varying levels of occupational coverage and the distribution of earnings. In 2019, the ESRI estimated the sectors with the most workers likely to be auto enrolled. Similar to the impact of the living wage, AE will mostly impact the Wholesale and Retail Trade sector (estimated to have 21.8% of auto-enrolled workers). Using workplace size as a proxy for firm size, the ESRI analysis showed that auto-enrolled workers would mostly be working in smaller workplaces (of less than 50 workers) at 57.6%, versus larger workplaces (of at least 50 workers) at 42.4%.

The Council is conscious of the cost impact of the AE system for employers, particularly those in the Wholesale and Retail Trade sector who will also be among the most impacted by moves toward the living wage.

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<sup>44</sup> [Overview of findings from the Strawman Public Consultation Process for an Automatic Enrolment Retirement Savings System for Ireland, June 2019.](#)

<sup>45</sup> Where an employee is already a member of a company's pension scheme that meets the auto-enrolment minimum standards.

<sup>46</sup> [Ten years of Automatic Enrolment in Workplace Pensions: statistics and analysis](#), Department for Work and Pensions, 26<sup>th</sup> October 2022.

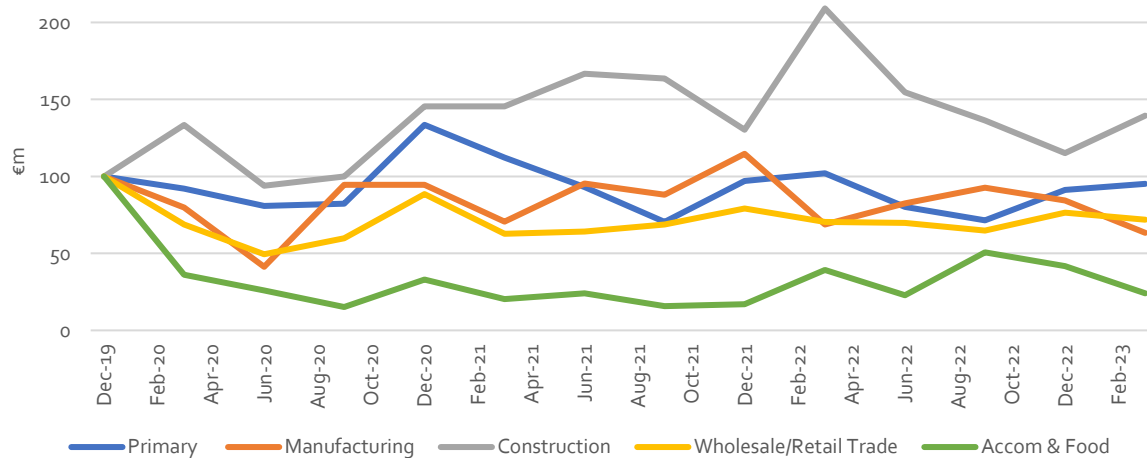
As noted in *ICC 2022*, while the Council believe that initiatives to improve employee conditions, such as the living wage and pension AE system are vital, it is important to take a holistic view and consider the combined impact of all of these measures on enterprise, particularly given ongoing challenges relating to inflation, supply chain issues, and the digital and green transitions. This impact must also be understood in terms of the differences by sector and firm size. The Council recognises the additional costs these measures will have on businesses, but going forward, there is also an economic and societal benefit which will be delivered. For example, the living wage can boost the economy and productivity and help with staff retention, while pension auto-enrolment will lead to an increase in disposable incomes for retirees over time, which will provide a benefit to the economy through increased spending.

### 2.2.3 Enterprise Financing

#### *Domestic competition: the Banking Sector*

Looking at gross new lending to SMEs, this was higher in 2022 (€4,235m) than 2021 (€4,059m) but still 22% lower than in 2019 (€5,396m).<sup>47</sup> The trajectory of new lending has varied widely by sector (see Figure 2.2.5), with 'Accommodation and Food' seeing by far the largest decline (over 75%) followed by the 'Manufacturing' sector with a decline of over 35% since end-2019. New lending has nearly returned to pre-pandemic levels for some sectors, for example, in the agricultural sector.<sup>48</sup> Notably, lending for the 'Construction' sector (see also Chapter 3) is higher than in the pre-pandemic period.

Figure 2.2.5: New Bank Lending to SMEs in Selected Sectors, Index December 2019=100



Source: Central Bank of Ireland – "Credit Advanced to Irish Resident Small and Medium Sized Enterprises"<sup>49</sup>

According to the latest Bank Lending Survey<sup>50</sup> by the Central Bank of Ireland, demand for loans by firms increased slightly in Q2 2023 with an increase in demand among all types of enterprises except SMEs.

The Council welcomes the most recent release of the SME Credit Demand Survey which monitors trends in access to credit by SMEs in Ireland. The Survey (published by the Department of Finance) reported that 15% of

<sup>47</sup> [Trends in SME and Large Enterprise Credit and Deposits.pdf \(centralbank.ie\)](#)

<sup>48</sup> Primary enterprises are those in the Agriculture, Forestry & Fishing and Mining & Quarrying sectors, but is dominated by the agricultural sector.

<sup>49</sup> New lending from Irish registered banks to Irish non-financial, non-real estate SMEs by sector, indexed to Dec-2019 levels.

<sup>50</sup> Bank Lending Survey July 2023 – Central Bank of Ireland.

SMEs applied for bank finance in the 6 months to September 2022, with credit demand remaining unchanged.<sup>51</sup> Expectations of the need for bank finance among SMEs in the six months after September 2022 increased to 17%. The industries with the highest demand for credit were 'Construction' (20%), 'Wholesale' (17%) and 'Business Services' (17%). The average reported cost of credit has increased to 5.13% from 4.59% in September 2021. Notably, the number of SMEs which have reported missing repayments on bank loans was down to 2% from 5% in the previous year. The proportion of SME credit applications remained almost stagnant, standing at 10% in September 2022, only slightly ahead of the 9% reported in September 2021. Overall, SME demand for credit remains subdued although expectations surrounding the need for bank finance in the coming months have increased even in the face of elevated interest rates.

### *Interest Rates*

The rise in interest rates set by central banks (as outlined in Section 1.1.5) has been impacting businesses and households differently. Figure 2.2.6a and Figure 2.2.6b show Irish deposit and loan interest rate increases for both households and non-financial corporations, along with the recent ECB deposit facility and refinancing rate increases, for the period from January 2022 to August 2023. For Irish non-financial corporations, loan interest rates for loans of less than one year, between one and five years, and over five years, have increased in line with ECB interest rate increases. For example, the interest rate for one-to-five-year loans has increased by 277 basis points during this period. Similarly, deposit rate increases on business accounts with up to 2 years agreed maturity, have increased in line with rises in the ECB deposit facility, increasing from 0.09 in August 2022 to 2.81 (an increase of 272 basis points) in June 2023. In contrast, the interest rate for corporate redeemable at notice accounts has remained relatively stagnant for this period, with this deposit rate experiencing an increase of just 22 basis points.

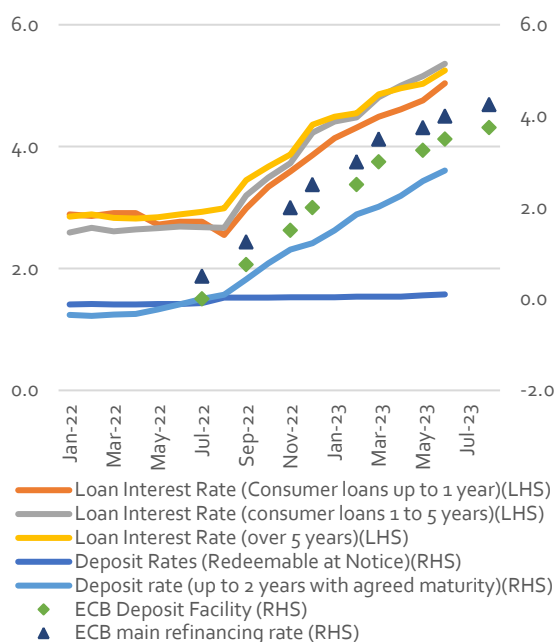
In comparison, for Irish households, the passthrough in deposit interest rates has lagged. Notably, household deposits stood at €151.7 billion at the end of April 2023,<sup>52</sup> but deposit rates for households increased marginally (90 basis points) for deposit accounts with up to two years agreed maturity. The largest increases in loan interest rates for Irish households was for loans in excess of five years where the interest rates have increased by 140 basis points since January 2022.

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<sup>51</sup> [Credit Demand Survey April 2022 – September 2022](#)

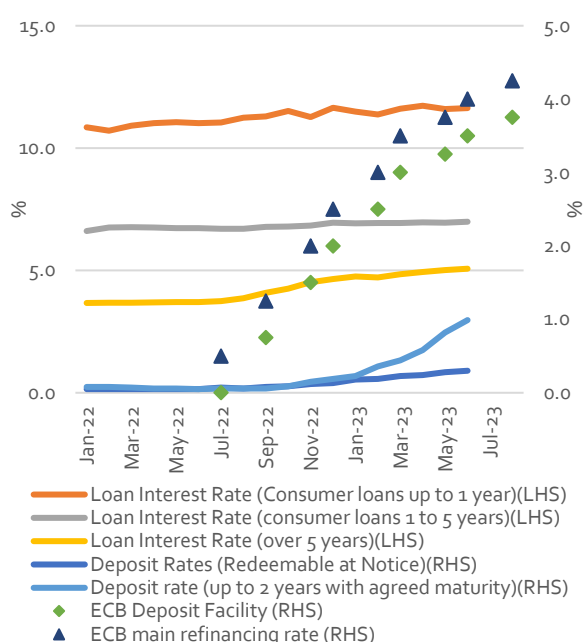
<sup>52</sup> [Central Bank Quarterly Bulletin – Q2 2023](#)

Figure 2.2.6a: Retail Deposit and loan interest rates and loan interest rate spread for non-financial corporations with ECB deposit and refinancing rates (Jan 2022 to August 2023)



Source: Central Bank of Ireland, European Central Bank

Figure 2.2.6b: Retail deposit and loan interest rate spread for households with ECB deposit and refinancing rates (Jan 2022 to August 2023)



Source: Central Bank of Ireland, European Central Bank

### Non-Banking Sector

Ireland has a growing non-banking sector, defined as a financial institution that does not have a full banking license. These firms mainly consist of special purpose vehicles that directly or indirectly finance companies and households. Suppliers of credit from the non-banking sector have become more prevalent in the last decade, lending €1.6 billion to SMEs in 2020 compared to total bank lending of €4.3 billion in that year; on this relative basis, Ireland's non-banking sector is the fifth largest in the world.<sup>53</sup> The volume of non-bank lending varies depending on the sector, with real estate, wholesale/retail and business/admin being the most prevalent markets for non-bank lenders in Ireland. In particular, non-banks provided €1.7 billion in loans to SME real estate firms between 2019 and 2020<sup>54</sup>. The non-banking sector promotes greater credit choice for businesses and greater competition in the credit market.<sup>55</sup> Notably, in the mortgage market, the share of PDH (Private Dwelling House) mortgages held by non-banks has increased from 6.7% to 16.2% from 2017 to 2022.<sup>56</sup> Overall, the growth of the non-banking sector is a significant development that will increasingly contribute to the financial sector over the coming years.

<sup>53</sup> [Beyond Big-Measuring Ireland's Non-Bank Financial Intermediation | Central Bank of Ireland](#)

<sup>54</sup> There were 63 non-bank lenders to Irish SMEs in 2019 and 2020. 17 of the legal entities that provided SME lending are structured as SPEs, established under Section 110 legislation. These are predominantly involved in real estate lending and account for €1.1 billion or 40% of the non-bank lending to SMEs in 2019 and 2020. Loans are held within the SPE for the purpose of ring-fencing the loans for asset backed funding. Many originators of these loans have a significant business presence in terms of staff and physical offices, and are not simply pass-through vehicles, as is the case of some other Irish SPEs.

<sup>55</sup> [The role of non-bank lenders in financing Irish SMEs | Central Bank of Ireland](#)

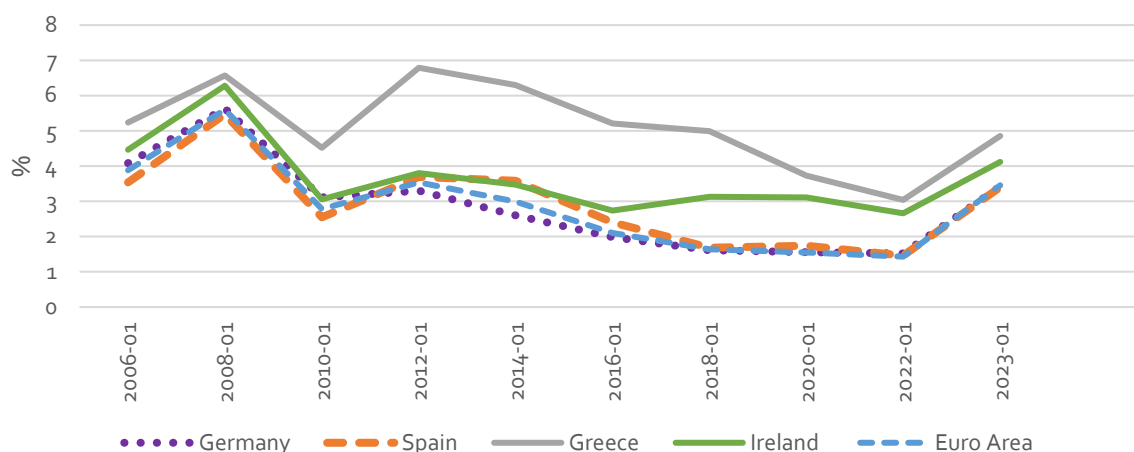
<sup>56</sup> [Non-Bank Mortgage Lending: A Look into the Interest Rate Distribution | Central Bank of Ireland](#)

*Retail Banking Review*

The Council welcomes the release of the Retail Banking Review<sup>57</sup> which notes the increased market share of the remaining traditional banks following the departure of KBC and Ulster Bank from the market. There are now only two full-service banks in Ireland for consumers and enterprises to choose from. Over time, this lack of competition can lead to higher prices, a lack of innovation and reduced services. However, the review highlights the growth of non-bank lenders in the mortgage market with a 13% market share of new mortgage lending in 2021. Notably, the ability of the non-banking sector to compete with full-service firms may be limited due to their lack of access to deposit funding.

The Retail Banking Review also acknowledged the impact of rising interest rates on the business models of some non-bank lenders in the market. Irish non-financial businesses have been paying increasingly higher rates of interest than have businesses in the euro-area, Germany and Spain, since 2017 (see Figure 2.2.7). The current rate is just over half a percentage point below that of Greece.

Figure 2.2.7: Average interest rates from banks to non-financial companies, on loans over €1 million (new business)<sup>58</sup>



Source: European Central Bank

The review recommended assisting enterprises in these uncertain times by utilising financing options from the European Investment Fund, if possible, with the assistance of the Department of Enterprise, Trade and Employment and agencies such as the SBCI, and Enterprise Ireland among others.

In terms of SME lending, the incidence of lending by unregulated firms to SMEs is flagged as a risk. SMEs borrowing from unregulated firms do not benefit from protections in the Central Bank's SME Regulations, and this situation results in an un-level playing field for the traditional banks, credit unions and regulated non-banks. The review recommended legislation to bring these unregulated firms under the supervision of the Central Bank to level the playing field.

In relation to SME lending, in recent years the State has played a significant role in providing loan schemes to address market failures and in response to emergencies such as Brexit and COVID-19. Box D gives an overview of some of these loan schemes, as well as the role played by the State in Ireland's equity ecosystem.

<sup>57</sup> Retail Banking Review November 2022.

<sup>58</sup> Banking sector interest rates to non-financial companies [ECB Statistical Data Warehouse \(europa.eu\)](https://www.ecb.europa.eu/press/pr/date/2022/html/ecb.pr220801.en)



**Box D: The role of the State in SME lending and early stage investment**

State-backed loan schemes reduce the cost of borrowing for SMEs, and remove the need for collateral, which can act as a barrier for many. Schemes such as the COVID Credit Guarantee Scheme (CCGS) and the Brexit Impact Loan Scheme (BILS) provided liquidity to SMEs at a time of severe shock to the business environment. State supported loan schemes provided €1.17 billion in lending to business in response to the twin impact of Brexit and COVID-19.

The Future Growth Loan Scheme, with a value of €300m<sup>59</sup> was initially launched in June 2019 with the aim of funding capital expenditure. The fund closed for new applications on 31<sup>st</sup> March 2023. In total, the Future Growth Loan Scheme (FGLS), now fully allocated, sanctioned 3,512 loans with a value of over €771 million.

Building on the uptake of the FGLS, the Growth and Sustainability Loan Scheme (GSLS) is a new long-term loan guarantee scheme which has a capacity of €500 million to provide low-cost investment loans of up to 10 years available to SMEs, including farmers and fishermen and small mid-caps, with no collateral required for loans up to €500,000. A minimum of 30% of the lending volume will be targeted towards environmental sustainability. Some 70% of lending will be for strategic investments with a view to increasing productivity and competitiveness and thus underpinning future business sustainability and growth. It is anticipated that the scheme will be launched in the market in Q3 2023.

Another Government Loan scheme, the Ukraine Credit Guarantee Scheme (UCGS) was launched in response to the rising costs and supply-chain issues for businesses arising from Russia's invasion of Ukraine. The UCGS has €1.2 billion to provide low-cost loans for working capital and medium-term investment purposes, to SMEs, primary producers, and small mid-caps. Loans from €10,000 to €1 million, of up to 6 years are available with no collateral required for loans up to €250,000. The scheme is operated by the Strategic Banking Corporation of Ireland (SBCI) and available through both bank and non-bank lenders, including credit unions. The scheme will run until 31 December 2024.

In addition, Microfinance Ireland (MFI) provide loans to microenterprises with fewer than 10 employees and with an annual turnover of less than €2 million, which do not meet the conventional risk criteria applied by commercial lenders. Since its establishment, and as of the 30th of June 2023, MFI has approved a total of 4,878 loans to the value of €80.5 million supporting over 10,200 jobs. MFI provide loans of €2,000 up to €25,000 to businesses and applies interest rate charges for its lending which are not reflective of its credit risk. MFI also provides post approval mentoring services to its borrowers through the Local Enterprise Office Network.

Innovative businesses often require risk capital (i.e., equity) to help fund their growth and investment in innovation is an essential component of supporting an enterprising and productive economy. The private equity investment market has grown significantly over the last decade, but there are sections of the market that are still in need of intervention, primarily seed/start-up and scale-up.

The State, through Enterprise Ireland (EI) and the Ireland Strategic Investment Fund (ISIF), is a significant player at the early stage of the investment cycle *via* the Seed and Venture Capital scheme and the Irish Innovation Seed Fund. Since 1994 Enterprise Ireland (EI) has operated the Seed and Venture Capital Scheme. The current programme of the Scheme delivers an allocation of €175 million to be committed over 2019 to

<sup>59</sup> [Strategic Banking Corporation of Ireland – Future Growth Loan Scheme](#)

2024. The Irish Innovation Seed Fund Programme, launched in 2022, is a €90 million fund-of-funds made up of a €30m investment from the Department of Enterprise, Trade and Employment through EI, which is matched by a €30m investment from the European Investment Fund, and a €30m co-investment from Ireland Strategic Investment Fund. The programme acts a fund-of-funds and aims to invest in other specialist fund managers who will target high growth innovative companies based on disruptive intellectual property, who are at the early stages of external funding for innovative, high growth, scalable sectors.

#### *Post COVID-19: Debt Overhang*

The factors presented earlier in this Chapter – including the living wage, pension auto-enrolment and access to finance - may well add some additional cost to enterprises (in at least some sectors) but there are other factors to consider, such as warehoused debt. COVID-19 related debt repayments are another substantial overhead faced by Irish enterprises, and the viability of firms in Ireland is not just a function of rising labour costs or difficulties in accessing equity but is also concerned with the amount of debt being carried over. The outstanding stock of SME loans on the balance sheets of Irish banks stood at €18.4 billion at end-March 2023.<sup>60</sup> Post COVID-19, some firms have been carrying a debt overhang from supports that were given in the form of warehoused Revenue tax debt and debt outstanding in relation to the Future Growth Loan Scheme (FGLS)<sup>61</sup>. Servicing these debts can pose a challenge to certain firms, in particular SME's, in the wake of rising bank debt and increasing difficulties accessing credit to refinance.

According to the Department of Finance, at the end of Q1 2023, there was €2.2bn in warehoused tax debt owed to Revenue from 64,000 companies<sup>62</sup>, down significantly from early-2022. As of Q1 2023, 2,000 customers had agreed payment arrangements with Revenue totalling €73m. The latest data indicate that there are 1,569 medium-sized SMEs with a total warehoused debt of €634m (an average of €405,000 per firm). This does not include any debt under State-loan back schemes and/or bank debt. The deadline to repay the warehoused debt has been extended to 1<sup>st</sup> May 2024 or up to 5 years if a Phased Payment Agreement has been approved; businesses are still able to avail of the reduced interest rate of 3% applicable to the outstanding revenue tax debt.

This debt overhang will not just affect the issue of firm viability but have a range of consequences impacting on the competitiveness of Irish firms. The increased costs of debt repayments in the short term will impact firm's abilities to invest in current innovation and growth opportunities, and thus could hamper long term competitiveness and productivity growth. Importantly, the increased incidence of servicing these debts puts pressures on firms to deal with other business costs.

#### **2.2.4 Addressing High Costs in the Legal Sector**

High costs in the legal sector are a longstanding issue for Ireland and proposals for reforms in the area have been tabled as far back as the Legal Services Regulation Bill 2011 which was advocated by the Troika.<sup>63</sup> The Council has made recommendations seeking to address the high costs in these areas in previous *Challenge* reports, and while there has been some progress, more remains to be done to ensure that our businesses can compete successfully on international markets (see also Section 3.2.1 in Chapter 3 for further discussion of the legal system).

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<sup>60</sup> [2023q1 trends in sme and large enterprise credit and deposits.pdf\(centralbank.ie\)](#)

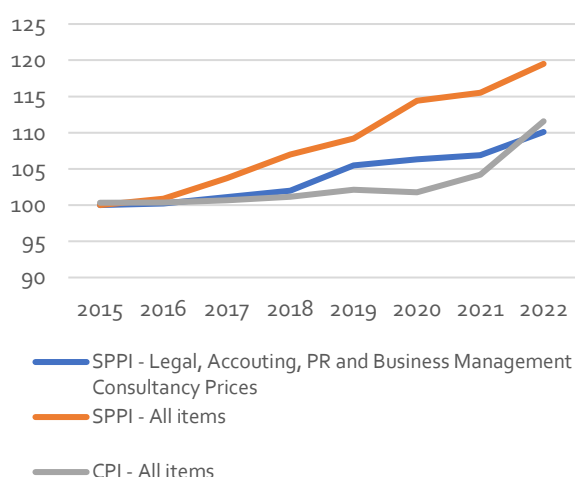
<sup>61</sup> As of 30th June 2023, the outstanding balance on the FGLS was €538.2m. There have been 16 loan defaults to the value of €2.5m.

<sup>62</sup> [COVID-19 Support Schemes – Debt Warehousing](#)

<sup>63</sup> [Legal Services Regulation Bill 2011](#)

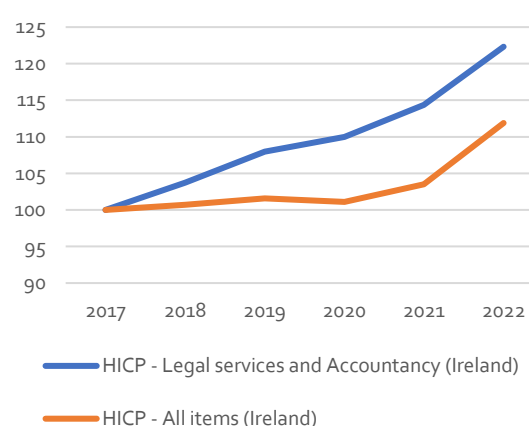
The accurate measurement of legal costs in Ireland is inhibited by data limitations in this area. The CSO's Service Producer Price Index (SPPI) is the main source of quantitative data on the cost of legal (and other) services. The SPPI is formed from a set of individual price indices that measure changes in the average level of prices charged by producers on a range of services provided to both the private and public sectors. Notably, there are some limitations when using the SPPI to track legal costs. Firstly, the data is an index and thus is limited by the fact that it only shows price increases for the service and not information on the absolute cost of the service. In addition, the SPPI data published on legal costs forms only one part of a SPPI sub-index that covers legal, accounting, PR and consultancy costs; it is not possible at present to discern what is driving increases in this index. Figure 2.2.8a and Figure 2.2.8b show that the overall SPPI rose by close to 20% between 2015 and 2022 whilst the SPPI sub-component measuring Legal, Accounting, Public Relations and Business Management Consultancy costs rose at a more modest pace over the same period (+10%). In contrast, the HICP for legal and insurance costs rose by 22% in the five-year period from 2017 to 2022 compared to an increase of 12% for overall HICP.

Figure 2.2.8a: Irish SPPI & Irish CPI, 2015=100



Source: Central Statistics Office

Figure 2.2.8b: HICP - Irish legal fees, 2017=100



Source: Eurostat<sup>64</sup>

High litigation costs have been flagged in previous iterations of *Ireland's Competitiveness Challenge*. Most recently in 2022, the NCPC recommended that the CSO continue to expand the SPPI survey with a strong focus on developing more granular sectoral data on order to measure these important services prices from an enterprise competitiveness perspective. The Council has been liaising with the CSO on the SPPI survey and welcomes the CSO's ongoing work in this area. The Council recognises the CSO's primary responsibility of meeting its regulatory requirements but sees the need for more data in this area in order to gain more evidence with respect to legal (as well as insurance) costs, and therefore is drawing attention to this area once again.

In addition, delays and uncertainty caused by the legal system are a source of indirect costs. These failings have been highlighted by the European Commission in its Rule of Law annual report which specifically emphasises Ireland's prohibitive legal costs. The report recommended that Ireland continue to incorporate measures with the aim of reducing litigation costs and helping to ensure efficient access to justice.<sup>65</sup>

<sup>64</sup> This Eurostat index comes from data sourced from the CSO. Since the CSO does not measure Accountancy fees this Eurostat index is an index of purely legal fees.

<sup>65</sup> [European Commission Rule of Law Report 2022 \(oireachtas.ie\)](https://oireachtas.ie/legislation/eu-commission-rule-of-law-report-2022)

Understanding what drives the higher prices in the Irish legal system is imperative. The Review of the Administration of Civil Justice was established in March 2017 to reform the administration of civil justice in the State. The Review Group was given the responsibility of proposing policy reforms to reduce the high cost of litigation, including costs to the State. The Review's report<sup>66</sup> was published in December 2020 and proposed two alternative options to lower litigation costs. The majority view<sup>67</sup> proposed non-binding guidelines, which would help to improve certainty and transparency of legal costs. These non-binding guidelines would be of assistance to parties and their representatives by reference to individual items that could be outlined in a table. The minority view proposed a mechanism for prescribing the maximum levels of litigation costs chargeable, in the form of a table of costs, with suitable safeguards to deal with exceptional circumstances.

Following this, the Department of Justice commissioned an external consultant to carry out an economic analysis of models or approaches to reducing litigation costs. As noted in *Ireland's Competitiveness Challenge 2022*, this report was expected to have been completed in Q4 2022; however, it has not yet been published. The Council notes that this work is at an advanced stage and is expected to be finalised imminently. However, the Council acknowledges that no one singular action is going to have the effect of sufficiently addressing legal costs on its own. For example, setting the maximum amount that a solicitor may charge for a particular legal service (e.g. discovery of documents, or certain procedural elements) will only have a sustained impact if some of those legal processes are themselves reformed/modernised.

Additional developments in respect of reforms for the legal sector include the commencement of the Courts and Civil Law (Miscellaneous Provisions) Act 2023 which will provide for legal partnerships between solicitors and barristers and between barristers themselves to be established. The Legal Services Regulatory Authority (LSRA) is currently considering whether to recommend the introduction of a profession of conveyancer to the Minister for Justice. There have been calls for the introduction of such a licensed profession that currently exists in other common law jurisdictions. In addition, there have been requests for additional reforms on the digitalisation of conveyancing (e.g. e-conveyancing). These reforms and amendments are all aimed at improving the efficiency of the conveyancing process and reducing direct and indirect costs to business.

### 2.2.6 Transport costs

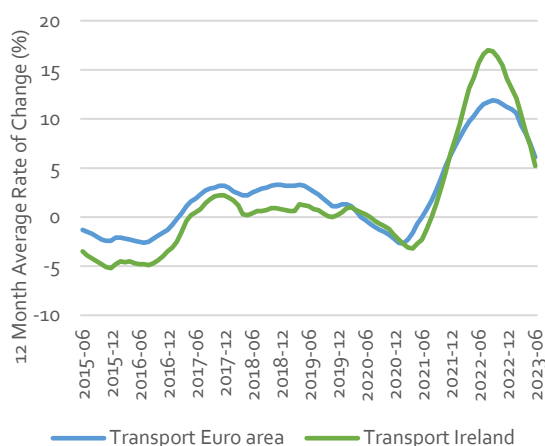
Transport costs represent an ever-increasing expense to businesses in the face of global developments. COVID-19 had a significant impact on the transport sector. This was compounded by the rising costs of fuel following the invasion of Ukraine by Russia. Irish transport prices have been falling since August 2022, due to Government initiatives as part of the response to the cost-of-living crisis and have been below the euro area index since May 2023 (see Figure 2.2.9a and Figure 2.2.9b).

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<sup>66</sup> [gov.ie](http://gov.ie) - [Review of the Administration of Civil Justice \(www.gov.ie\)](http://www.gov.ie)

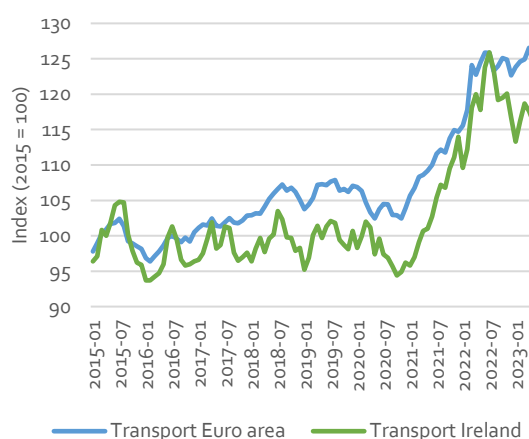
<sup>67</sup> A majority of the Review Group comprised of the representatives of the Supreme Court, Court of Appeal, High Court, Circuit Court, District Court, Bar Council and Law Society, while the minority consisted of the representatives of the Department of An Taoiseach, the Department of Public Expenditure and Reform, the Department of Justice and Equality and the Courts Service.

Figure 2.2.8a HICP 12-Month Average Rate of Change, Health, Transport, Education, Ireland and Euro Area



Source: Eurostat

Figure 2.2.8b HICP Index (2015 = 100), Health, Transport, Education, Ireland and Euro Area



Source: Eurostat

### Shipping overheads for enterprises

As a highly open island economy, shipping costs are an important consideration for businesses in Ireland as many goods need to be imported and exported by sea or air. The IMF have recently noted that about 80% of the world's traded goods are shipped by sea, most inside 40-foot-long steel containers stacked atop some of the largest sea-going vessels ever built<sup>68</sup>.

The daily charter rates for feeder vessels (medium size containerships), had a sixfold increase from \$6,727 to \$48,478 from Q1 2019 to Q1 2022.<sup>69</sup> This price increase arose from a disequilibrium between supply and demand with excess demand for physical goods taking up containership capacity whilst the manufacturing of containership vessels was constrained due to COVID-19 restrictions. These supply chain issues are one of the sources of the shipping cost increases for importing and exporting enterprises. Additionally, the impact of Russian sanctions will mean higher transport costs for US and EU oil tanker companies which will face higher transport costs as a result importing oil from further afield.<sup>70</sup>

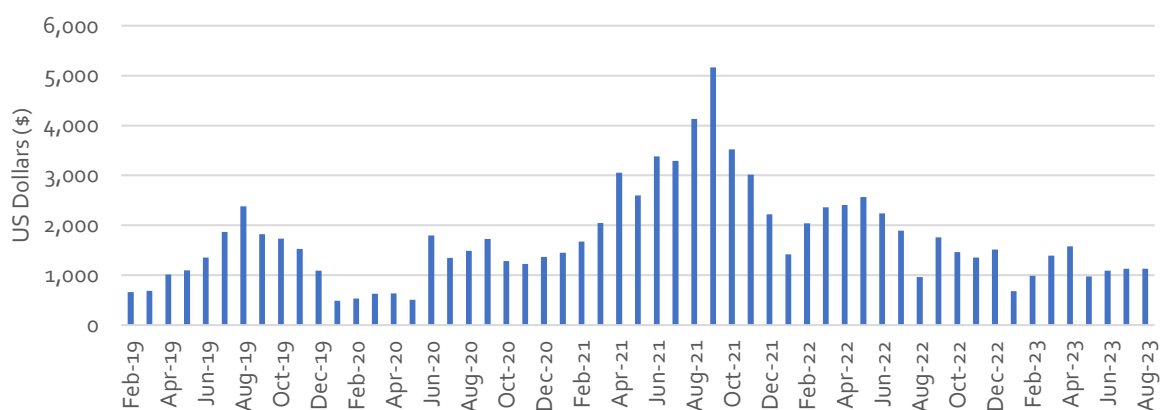
The London Baltic Dry Index (BDI) measures the cost of shipping goods worldwide via chartered cargo ships. Not only are the products these cargo ships carry essential to global food supplies and industrial production but an increase in these shipping costs results in increased transport costs for enterprises and final product costs for consumers. The index rose significantly in 2021, peaking in September with a value of \$5,167, before falling, albeit with some volatility (see Figure 2.2.9). The index has been rising gradually since May 2023, and in August 2023 it amounted to \$1,128, higher than 12 months previous in August 2022 (\$965), but lower than in August 2019 (\$2,378).

<sup>68</sup> [How Soaring Shipping Costs Raise Prices Around the World \(imf.org\)](https://www.imf.org/en/News/Articles/2023/01/27/23-01-27-how-soaring-transport-costs-raise-prices-around-the-world)

<sup>69</sup> [The Irish Maritime Transport Economist – Volume 19](#)

<sup>70</sup> *Ibid.*

Figure 2.2.9 Baltic Dry Index January 2019 – July 2023



Source: Reuters

### 2.2.7 Indirect costs – Housing

#### *Housing Affordability*

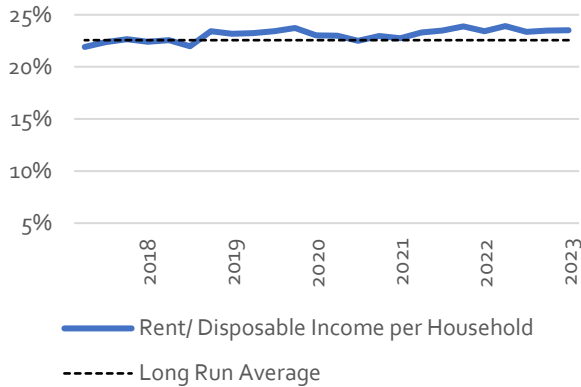
Housing costs are a key component of competitiveness, as they impact upon the attractiveness of Ireland as a location for investment and directly impact on the cost of doing business through wage effects, and indirectly on the price of Irish goods and services. The cost of housing also influences labour mobility and contributes to an economy's ability to adjust to adverse shocks. Housing affordability remains a significant concern in Ireland, and a key capacity constraint representing a real risk to international competitiveness (see further discussion in Chapter 3.)

Figure 2.2.10a and Figure 2.2.10b illustrate the increased cost of average rents and average house prices as a share of income in Ireland since 2018. Average national rent as a share of household income has risen from 21.9% in 2018 to 23.5% in 2023, while the average house price to disposable income per capita has risen from 12.6 in 2018 to 13.4 in 2023.

Further, the RTB Rent Index for 2022 Q4 records a standardised average rent of €1,507 per month – a 7.6% increase on 2021 Q4 and the highest average rent recorded in the Index to date. There is also added pressure in the form of high and rising input costs, with the Wholesale Price Index for Building and Construction materials up 9.1% in the year to May 2023.<sup>71</sup> Without a significant increase in the affordability (and availability) of housing stock, Ireland's attractiveness as a place to live, work and invest is at serious risk of deterioration (see further discussion on housing in Chapter 3.)

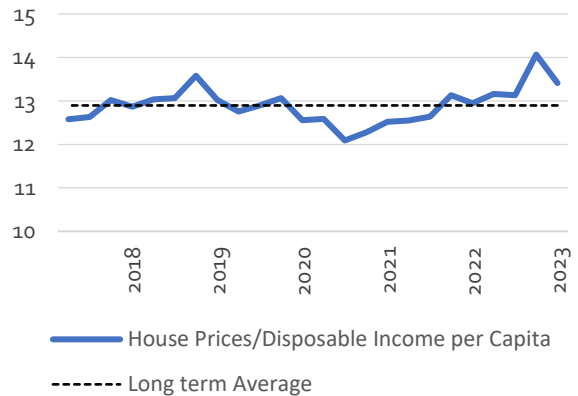
<sup>71</sup> [Wholesale Price Index May 2023 - CSO - Central Statistics Office](#)

Figure 2.2.10a: Average National Rent as a share of Household Income



Source: Department of Finance

Figure 2.2.10b: Average House Price to Disposable Income per capita

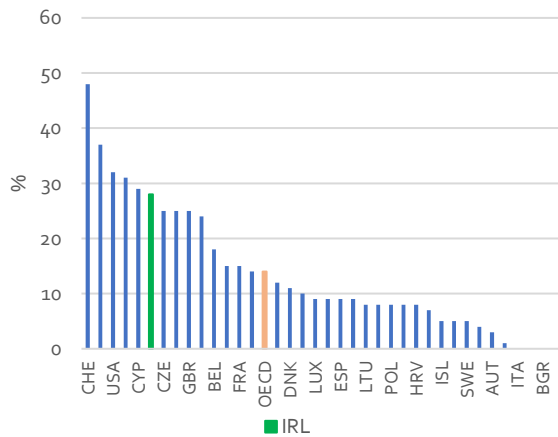


Source: Department of Finance

### 2.2.9 Indirect costs – Early Learning and Childcare Costs

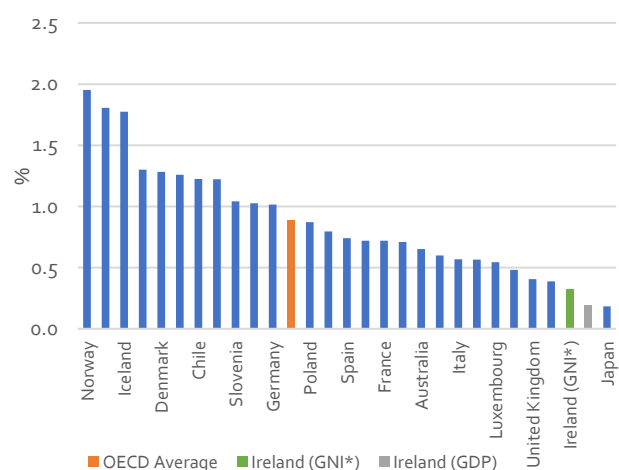
As previously identified in the *Competitiveness Scorecard 2023*, childcare costs remain high for couples earning at or above the median wage. In 2022, Ireland had the sixth highest net childcare costs in the OECD for parents using full-time, centre-based childcare (Figure 2.2.11a) and is one of the countries with the highest average ELC cost relative to average national earnings. In addition, analysing the ELC of 37 OECD countries included in a cross-country comparison, Ireland ranked fourth lowest in terms of expenditure on ELC as a percentage of GDP – at 0.3% of GDP (Figure 2.2.11b). However, this data does not take full account of recent and significant affordability measures introduced.

Figure 2.2.11a: Net Childcare Costs, Couple, 67% of average wage spent on full-time centre-based childcare, 2022



Source: OECD

Figure 2.2.11b: Total Expenditure on Early Childhood Education as a % of GDP/GNI\*, 2019<sup>72</sup>



Source: OECD

In *ICC 2021*, the Council recommended that the Government should make childcare costs more affordable by adopting the recommendations from the Expert Group report, *Partnership for the Public Good: A New Funding*

<sup>72</sup> [OECD Education Spending Data](#). Note 2019 is the most up to date year for this metric.

*Model for Early Learning and Childcare and School-Age Childcare*,<sup>73</sup> to allow for the delivery of accessible, affordable, high-quality, sustainable ELC and SAC services. The Council is pleased to note that, in December 2021, Government adopted the recommendations contained in the Expert Group report. Announcements in Budget 2022 and 2023 signalled the commitment to the first stage of implementation of the Expert Group's recommendations, with State funding increasing by 60% from €638 million in 2021 to €1.025 billion in 2023. The First 5<sup>74</sup> investment target will be exceeded this year – five years ahead of schedule.

The new funding model for early learning and childcare, *Together for Better*, was launched in September 2022. This brings together three major elements of public funding of childcare: the Early Childhood Care and Education Programme (ECCE) including the Access and Inclusion Model (AIM), the National Childcare Scheme (NCS), and the new Core Funding Scheme. A fourth element – Tackling Disadvantage – is under development.

Under *Together for Better*, there has been a number of recent enhancements to the NCS to reduce the cost of early learning and childcare for parents, including:

- The removal of the practice of deducting hours spent in pre-school or school from NCS awards, meaning that parents are able to use their full awarded subsidised NCS hours regardless of whether their children are in pre-school or school from April 2022.
- The increase in the upper age eligibility for the NCS universal subsidy from 3 years to all children under 15 years from August 2022.
- An increase in the NCS minimum subsidy from €0.50 to €1.40 per hour from January 2023. For parents on the minimum subsidy this will mean up to €3,276 off their annual bill per child.<sup>75</sup>

The new Core Funding Scheme<sup>76</sup> has delivered a number of improvements in terms of affordability and capacity in addition to improved conditions for the sector's workforce. For instance, this has led to a 'fee freeze' among 95% of services – which has meant that increases to NCS subsidies were fully felt by parents – alongside a 15% increase in the number of services offering the NCS. These measures widen access to publicly funded essential services bringing down out-of-pocket costs for working parents. In addition, Employment Regulation Orders resulted in improved pay for an estimated 73% of those working in the sector.

Recent data shows record numbers of children are now benefitting from supports under this Scheme. A total of 134,580 children benefited from supports under the NCS within the first six months of 2023 – an increase of 90% from the previous year. This increase in uptake aligns with the goal of the NCS to improve outcomes for children en masse. Under the National Action Plan for Childminding (2021-2028), there is a commitment to widen access to the NCS to families that use childminders from 2024. The introduction of this regulation will help achieve the labour market activation objective of the NCS. The Council welcomes this ongoing work by the Department of Children, Equality, Disability, Integration and Youth.

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<sup>73</sup> [Funding-Model-FINAL-REPORT-2.pdf \(first5fundingmodel.gov.ie\)](#)

<sup>74</sup> The whole-of-Government Strategy to improve the lives of babies, young children and their families [First 5 | A Government Strategy For Babies & Young Children](#)

<sup>75</sup> With up to €1,170 currently available per annum, this represents up to an additional €2,106 off the annual cost of early learning and care and school aged childcare per child. Parents on the maximum subsidies, based on an income assessment and the age of the child, can already receive up to €1,934 off their annual fee. [gov.ie - Minister O'Gorman secures €1 billion investment in early learning and childcare \(www.gov.ie\)](#)

<sup>76</sup> The new funding model supports delivery of ELC and SAC for the public good, for quality and affordability for children, parents and families. To achieve this, there is a need for greater State investment and greater public management of provision. Core Funding is the new funding stream to start this partnership for the public good between the State and providers.



## 2.3 Actions Crucial for Reducing Business Costs

### *Domestic competition: the Banking Sector*

In ICC 2022, the Council recommended that the agreed recommendations made by the Retail Banking Review should be implemented swiftly (Recommendation 5.1). The Review was published in November 2022 and makes 34 separate recommendations to be implemented by the Department of Finance, the Central Bank of Ireland and the retail banking sector itself. The Council welcomes the publication of the Review and believes that the implementation of these recommendations is critical for consumers and SMEs and to help ensure that the sector continues to fulfil the critical function it plays in the Irish economy. The Council recommends that an update on progress in relation to the implementation of these recommendations is published as a matter of priority.

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**Recommendation 2.1:** The NCPC recommends that the recommendations from the Retail Banking Review are addressed as a matter of priority, by all responsible parties.

**Responsibility:** Department of Finance

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### *Legal Costs*

As outlined in previous challenge reports, legal costs and delays continue to be an issue for the economy. Excessive legal fees and inefficient business methods increase the cost of living and the cost of doing business and negatively affect Ireland's competitiveness. The report commissioned by the Department of Justice to carry out an economic analysis of models or approaches to reducing litigation costs is critical to progress on this issue. At present it is not possible to measure the costs of legal services at a granular level. The Council welcomes the engagement with the CSO thus far in this area and looks forward to continuing this engagement on new data series on the legal services sector. The Council has previously pointed to the need for the introduction of a profession of conveyancer in 2016,<sup>77</sup> noting that the development of a specialist conveyancing profession with appropriate regulations and standards would enhance competition – a view shared by the CCPC.<sup>78</sup>

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**Recommendation 2.2:** The NCPC recommends that:

- (i) the report commissioned by the Department of Justice to carry out an economic analysis of models or approaches to reducing litigation costs is published, and that its findings are progressed as a priority;
- (ii) the CSO continues to expand the SPPI survey with a specific focus on developing a more granular sectoral dataset with respect to legal services on a scale that is statistically robust; and
- (iii) the longstanding recommendation for the provision of a specialist conveyancer profession be implemented in the context of reforms on the digitalisation of conveyancing that will enhance efficiency and competition in legal services.

**Responsibility:** Department of Justice, Central Statistics Office

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<sup>77</sup> [legal-costs-bulletin.pdf \(competitiveness.ie\)](#)

<sup>78</sup> [TCA Report Template \(ccpc.ie\)](#)

## 2.4 Summary

This Chapter has examined the broad range of costs faced by firms in Ireland. At this juncture, firms are facing both legacy issues – in the form of legal and insurance costs, long-standing challenges which have been a recurring feature of doing business in Ireland – and new cost pressures, in the form of rising interest costs compounded by COVID-19 related debt overhangs, and transport costs.

The Council welcomes the suite of recent measures designed to improve working conditions in Ireland, such as progress towards a living wage and pension auto-enrolment. However, it is important to acknowledge that the implementation of these changes will pose a challenge for some firms, particularly those in sectors in which multiple reforms are expected to take place, and impact on a significant proportion of staff (for example, those operating in Wholesale and Retail Trade). The implementation of these changes will also take place against a backdrop of rising labour costs.

The Retail Banking Review comes at a time of significant change in the sector – there are now only two full-service banks in Ireland, and there has been growth in non-bank lending. The Review articulates a series of recommendations for reforming the sector which require a policy response by Government. Understanding the drivers of high monetary costs in the Irish legal system, and the associated high time costs, is imperative. A recent economic analysis on approaches to reducing litigation costs, as commissioned by the Department of Justice, could usefully inform changes in the sector, and should be published and actioned as a priority. Meanwhile, further work by the CSO in the provision of data on the costs of legal services would provide more granular insight into cost drivers than what is currently possible.

Housing affordability remains a significant issue and threatens Ireland's international competitiveness position. Ireland's investment in housing as a proportion of GNI\* is below that of most EU countries (relative to GDP), and well below the EU average. Housing is a key topic addressed in Chapter 3, which follows. Chapter 3 also examines the infrastructural challenges facing the State and outlines key actions to be taken in addressing the acute capacity constraints that Ireland is facing.

## Chapter 3: Infrastructure – Planning, Development and Delivery

### 3.1 Introduction

Improving the quality of infrastructure is essential to ensure a country has the capacity to achieve sustainable long-term growth and plays a key role in enhancing productivity. The delivery of current commitments is a key consideration, and the timely delivery of infrastructural projects relies on an efficiently functioning planning and delivery system. Labour market constraints and developments also present a challenge in terms of Ireland's capacity to deliver on the level of capital investment required.

The Council's *Scorecard* report, published in May 2023, found that infrastructure is negatively impacting Ireland's competitiveness, and Ireland's relative position is not keeping pace with its competitors. While the *IMD World Competitiveness Rankings 2023* shows Ireland's performance in Infrastructure has improved marginally (ranked 19th up from 23rd in 2022), it remains the pillar which most significantly drags on Ireland's competitiveness position.

This chapter focuses on three infrastructural elements: the planning system, housing, and water and wastewater. The capacity of the public sector and the labour market - in particular skills relating to construction - also has implications for the delivery of infrastructure and these issues are also examined within this chapter.

### 3.2 Current Situation in Ireland

The State plays a central role in the planning and delivery of certain public goods, such as public transport, roads, and schools. In many instances, these goods can only be delivered by Government and any delay can lead to constraints on the entire economy.

Figure 3.2.1 Major Government Commitments

Major Government Commitments		
<p><b>Housing for All</b> Increase supply of total new housing up to 330,000 units</p> <p>Increase social housing</p> <ul style="list-style-type: none"> <li>- Provide more than 10,000 social homes each year with an average of 9,500 new build units to 2030</li> <li>- Deliver an average of 2,000 new "cost rental homes" per annum</li> <li>- Deliver "affordable homes"</li> </ul> <p>Urban and rural regeneration</p> <p><small>Note: Housing for All commits to an increase in the supply of total new housing units by an annual average of 34,750 over 2022-2030, including an annual average of 9,822 new social homes, 5,978 new affordable and cost rental homes, and 18,950 new private rental and private ownership homes.</small></p>	<p><b>National Development Plan</b></p> <p><b>Public Transport</b></p> <ul style="list-style-type: none"> <li>- BusConnects</li> <li>- DART+</li> <li>- MetroLink</li> </ul> <p><b>Roads</b></p> <ul style="list-style-type: none"> <li>- N69 Foynes</li> <li>- N/M20 Cork to Limerick</li> <li>- M28 Ringaskiddy</li> </ul> <p><b>Schools</b></p> <ul style="list-style-type: none"> <li>- Delivery of 150 to 200 school building projects annually over 2021 to 2025</li> </ul> <p><b>Water Infrastructure</b></p> <ul style="list-style-type: none"> <li>- Eastern and Midlands Water Supply Project</li> <li>- Greater Dublin Drainage Project</li> </ul> <p><b>Public Hospital Building Programme</b></p> <ul style="list-style-type: none"> <li>- New Elective Hospitals and Surgical Hubs</li> <li>- Completion of National Children's Hospital</li> </ul>	<p><b>Climate, Energy and Communications</b></p> <p>Achieve a 51% reduction in GHG emissions from 2021 to 2030, and achieve net-zero emissions no later than 2050;</p> <p>Increase the proportion of renewable electricity to 80% by 2030</p> <ul style="list-style-type: none"> <li>- A target of 9 GW from onshore wind</li> <li>- A target of 8 GW from solar</li> <li>- A target of 5 GW of offshore wind energy</li> </ul> <p>Retrofitting 500,000 homes to a BER B2 rating or cost optimal equivalent standard by 2030;</p> <p>Expanding the electric vehicle recharging infrastructure</p> <p>National Grid upgrade</p> <ul style="list-style-type: none"> <li>- Powering Up Dublin (installation of new cabling and upgrading substations)</li> <li>- Deliver Celtic Interconnector by 2026</li> <li>- Infrastructure upgrades across multiple regions</li> </ul> <p>National Broadband Plan</p>

Figure 3.2.1 lists some of the targets and projects for infrastructure the Government has committed to under the three key policy documents: *Housing for All*, the *National Development Plan*, and the *Climate Action Plan*.

Meeting these commitments will be a significant challenge for Government, and all are critical for Ireland's competitiveness and for long-term sustainable growth. The Council notes that in the face of the current capacity constraints within the Irish economy (see Section 3.2.4), the strategic sequencing of the priorities among these commitments for delivery is critical.

### 3.2.1 Planning

An on-going area of concern in relation to the delivery of infrastructure – including energy (see Chapter 4) - is planning. The length of time taken to receive a grant of planning permission remains a constraint. The direct costs of delays to infrastructure delivery, in terms of additional finance risk and increased cost of delivery due to rising input costs, are borne by those delivering infrastructure, but indirect costs are also experienced by enterprises and the wider population who do not benefit from earlier provision of this infrastructure.

In September 2021, the Government approved a comprehensive review of Irish planning legislation, acknowledging that planning legislation has become overly complicated and difficult to navigate, contributing to significant delays and additional costs in the delivery of infrastructure and housing in particular. This review was initially intended to be completed by September 2022, later delayed to December 2022. The product of this 15-month review is the Draft Planning and Development Bill 2022, published in January 2023<sup>79</sup>.

The primary aim of the Bill is to ensure that planning legislation is aligned with policy, more legally accessible (in terms of the ability of different parties to access justice) and streamlined, as well as bringing greater clarity, consistency and certainty to how planning decisions are made. Among the main provisions in the Bill are:

- Strengthened legal status for Ministerial guidelines
- Amended focus and lifespan of Local Development Plans
- Statutory mandatory timelines for all consent processes, including An Bord Pleanála (ABP) decisions, to bring certainty to the planning consent process
- Changes to Judicial Reviews (JRs) of planning decisions

The Planning and Development Bill 2022 is the third largest piece of legislation in the history of the State. It contains 467 sections and presently runs to 738 pages in length, and it is expected that the final Bill will be longer. Since the draft Bill was published, the Department of Housing, Local Government and Heritage along with the Office of the Attorney General and the AG Working Group have been reviewing the draft Bill to prepare it for final approval and publication. The Attorney General has committed to provide a final stamped Bill by late Summer, which will then be brought to Government for approval in September and published. It will then be commenced in the Oireachtas, subject to its timetable.

In addition, the Department of Housing, Local Government and Heritage is currently identifying which existing secondary legislation will need updating, and also whether any new secondary legislation is required. Initial findings indicate that the number of regulations currently in place is in excess of 100 individual statutory instruments with a total combined page count of approximately 1,200 pages. This work cannot be fully completed until the Planning and Development Bill is finalised. Once the Bill is finalised, work will then commence on updating the existing regulations and drafting new ones in line with the transitional arrangements for the commencement of the new legislation. This work is expected to continue into 2024.

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<sup>79</sup> [gov.ie](http://www.gov.ie) - Draft Planning and Development Bill 2022 ([www.gov.ie](http://www.gov.ie))

*The Aarhus Convention*

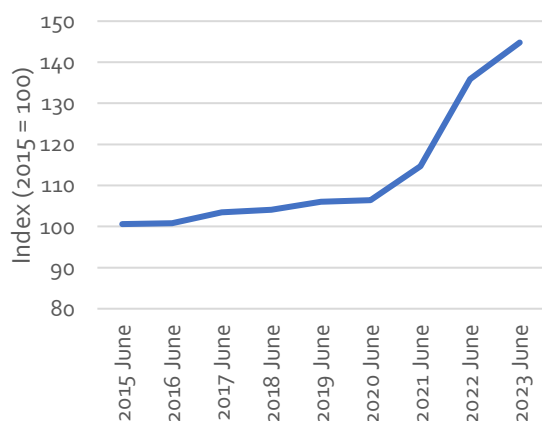
The final Planning and Development Bill must also be compatible with the protections around access to justice and meaningful public participation afforded under the Aarhus Convention<sup>80</sup> and EU law. Under the Convention the public has a right to participate effectively in decision-making in environmental matters. For example, in the planning system, members of the public may submit observations on planning applications and may appeal planning decisions to An Bord Pleanála. The 'access to justice' part of the Convention also requires that adequate review procedures are in place to safeguard the rights granted by the other pillars of the Convention and under national law. The Aarhus Convention also requires that costs in certain environmental cases must not be prohibitively expensive.

Delays and difficulties in planning may arise as a result of a growing willingness of courts to intervene, and the tendency of third parties to take Judicial Reviews. The Council recognises the potential impact to the delivery of infrastructure arising from the current (and increasing) level of intervention by the courts in detailed planning procedural issues. (See also Chapter 2 for discussion on legal costs.)

*Rising Costs: Construction Prices and Public Infrastructure Delivery*

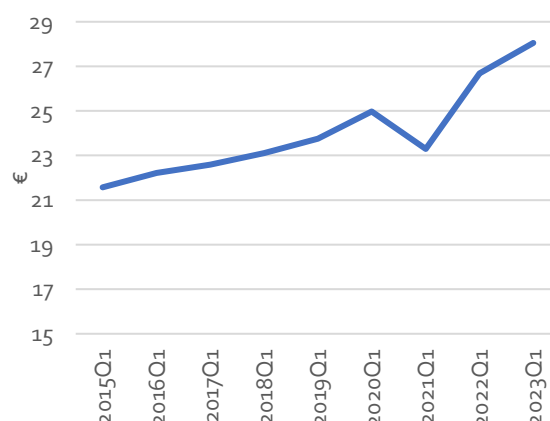
As well as delays in planning, higher inflation (see Chapter 1) also has an impact on the delivery of infrastructure in Ireland, through rising cost of inputs and tender prices. The construction market has been experiencing a period of price uncertainty, predominately due to the COVID-19 recovery. Rising material (see Fig 3.2.2a) and labour costs (see Fig 3.2.2b) is an ongoing concern for the construction sector, and further rising material costs may also follow through to Tender Prices. Recent analysis commissioned by the National Transport Authority shows that tender price inflation has also been strong for transport projects (see Chapter 2 for more on transport costs), increasing by an average of between 25 and 30 percentage points from 2020 to 2022<sup>81</sup>.

Fig 3.2.2a Wholesale Price Index for Building and Construction Materials, June 2015 – June 2023



Source: CSO

Fig 3.2.2b Average Hourly Total Labour Costs, Construction Sector, Q1 2015 – Q1 2023



Source: CSO

Action 19.1 of Housing for All Update committed to conduct an analysis of the cost of construction of house and apartment development, informed by cost comparisons with comparable EU countries. The findings of this study were published in May 2023 as a shared Construction Sector Group and Government initiative, facilitated

<sup>80</sup> [gov.ie - Aarhus Convention \(www.gov.ie\)](http://www.gov.ie)

<sup>81</sup> [Portrait report \(nationaltransport.ie\)](http://nationaltransport.ie)

by the Department of Housing, Local Government and Heritage<sup>82</sup>. Within the study, Irish residential construction costs, processes and models in Dublin were contrasted with four European comparator cities: Berlin, Utrecht, Copenhagen and Birmingham.

When considering scheme houses, the study found lower construction costs in Birmingham than Dublin<sup>83</sup>. Cost differences were identified due to differences in scope, unit sizing and specification, including that typically no-ensuite or fitted wardrobes are included in the 3-bedroom semi-detached scheme house in Birmingham, and houses being delivered in Birmingham are up to 15% (93 sqm vs 110 sqm) smaller than Dublin.

In relation to suburban and urban apartments, lower construction costs were evident in Copenhagen, Berlin and Utrecht when compared Dublin (and Birmingham) for actual apartment buildings when built using the typical specifications for those locations on a cost-per-sqm rate (up to 30% differences identified). Cost differences were identified also in relation to differences in scope, unit sizing and specification. For example, the report notes that it is common in Copenhagen, Berlin and Utrecht to sell or rent apartments with exposed concrete slab (bare ceilings), no floor finish, no fitted wardrobes, no light fittings and sometimes minimal or no fitted kitchen. In addition, it is common for apartments in these locations to have a single bathroom shared between two or three bedrooms and no ensuites.

The report also found that an increased use of standardisation in construction systems and specification of components such as windows is evident in Copenhagen, Berlin and Utrecht for apartments. Manufactured panel systems (a type of Modern Methods of Construction (MMC)) are more common in these locations than labour-intensive site-based activities (such as block- or brick-laying).

### 3.2.2 Housing

#### *Changing Demography and Housing Stock*

The long-run level of demand for housing and other infrastructure is influenced by population growth and changes in household formation (amongst other things<sup>84</sup>). According to Census 2022, the current population of Ireland is 5,149,139 million people (see Figure 3.2.3a), an increase of 387,274 people or 8.1% since April 2016 (an annual average increase of 1.3%)<sup>85</sup>. Ireland's population is projected to increase to approximately 6 million by 2050. Furthermore, Ireland's population is ageing: the projected old-age dependency ratio is expected to fall from 4.5 people of working age to every older person in 2020 to 3.5 in 2030 and then to a little over 2 by 2050.<sup>86</sup> The young-age dependency ratio<sup>87</sup> is also projected to decrease from 30.2 people of working age to every child in 2022 to 24.7 in 2030 before rising moderately to 26.5 in 2050. The current housing stock<sup>88</sup> is 2,112,500 permanent habitable dwellings, an increase of c.5% since 2016. Of this, 1,846,938 units are occupied by households, 34,794 units are temporarily empty, 66,956 units are unoccupied holiday homes and 163,433 units are vacant dwellings.

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<sup>82</sup> [gov.ie](http://www.gov.ie) - Residential Construction Cost Study Report ([www.gov.ie](http://www.gov.ie))

<sup>83</sup> The comparison on scheme houses is between Dublin and Birmingham only as this dwelling type is not typically built in Copenhagen, Berlin and Utrecht, based on discussions on European cost consultants, and cost range data is not available.

<sup>84</sup> For example, numbers of housing falling into dereliction, changing patterns of settlements (e.g. movement away from rural areas).

<sup>85</sup> [Population Changes - CSO - Central Statistics Office](https://www.cso.ie)

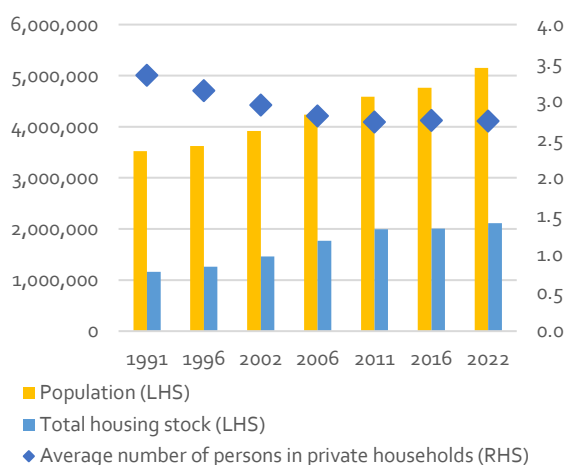
<sup>86</sup> Population and Labour Force Projections Technical Sub-Committee – Working Paper 1 July 2021, The Pensions Commission. See [Here](#)

<sup>87</sup> Compares the number of children (0-14 years old) with the number of people in the working-age population (15-64 years old). Further info: [Population projections in the EU - Statistics Explained \(europa.eu\)](https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&plugin=1)

<sup>88</sup> Properties which were not fit for habitation were not included in the housing stock or vacancy figures. These included properties which were under construction, derelict and commercial only at the time of the census field operation.

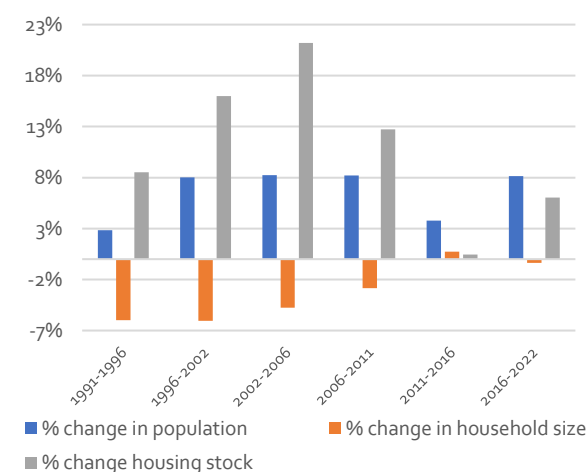
The housing stock rose faster than population up until 2006 (see Figure 3.2.3b) but, since then, it has grown much less rapidly, by 6% compared with a growth of 8.1% in population. Average household size was falling up until 2011, but since then has risen up to 2016 before falling again albeit marginally up to 2022. A rising average household size may reflect a lack of housing supply as well as demographic structure. The average number of people in households was 2.74 in 2022, which was significantly higher than the EU average of 2.2. Using the EU-SILC survey, Ireland ranked 4th in the EU for the average number of people in households (2.6) after Slovakia (3.1), 2.9 in Poland (2.9) and Croatia (2.7). Lowest ranking countries were Finland (1.9) and Sweden (2.0).

Fig 3.2.3a Population, housing stock, and household size, 1991 – 2022



Source: CSO, Census Data

Fig 3.2.3b % Change in population, household size and housing stock, 1991 – 2022

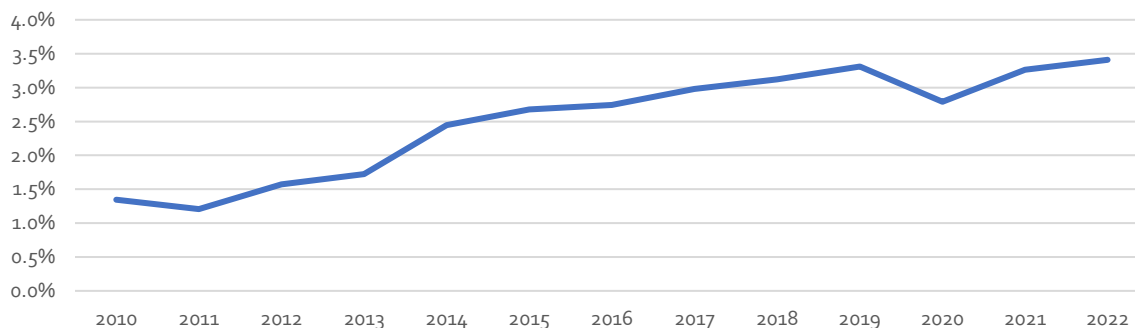


Source: CSO, Census Data

### Turnover Rate

The turnover rate is a typical measure of the operation of a 'healthy' housing market and reflects total residential transactions as a percentage of the total housing stock. The Central Bank has previously noted that in a functioning residential property market, approximately one in every 25 units (or 4%) would be transacted in a given year.<sup>89</sup> Using CSO RPPI data, we calculate that the rate of turnover, although increasing in recent years, remains at 3.4% in 2022 (up from 1.6% in 2012), but is still below the functioning rate of 4% (see Fig 3.2.4).

Fig 3.2.4 Turnover Rate, Ireland, 2010 - 2022



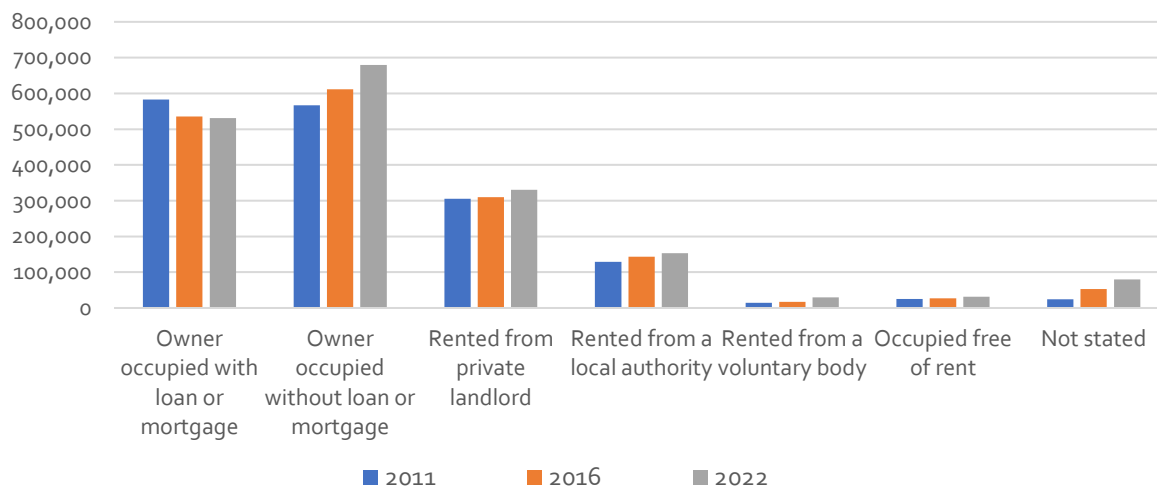
Source: CSO Residential Property Price Index, Department of Housing, Local Government and Heritage

<sup>89</sup> [estimating-cash-buyers-and-transaction.pdf \(centralbank.ie\)](#)

### Home Ownership and Rent

In July 2023, the CSO published a detailed breakdown on home ownership and rents using data from the Census. The data showed that home ownership rates have fallen as the total number of households living in rental accommodation have increased to over half a million (see Fig 3.2.5).

Fig 3.2.5 Permanent private households by nature of occupancy, 2011, 2016, 2022



Source: CSO, Census data

The proportion of owner-occupied dwellings was 66% in 2022, down from 68% in 2016. The number of dwellings owned with a mortgage or loan fell by 1% to 531,207. In contrast, between 2011 and 2016, the decrease in this category was 8%. Overall, the number of dwellings owned without a mortgage or loan was up 11% to nearly 680,000.

The total number of occupied rental properties in the 2022 census was 513,704 (up from 469,671 in 2016). The majority of these properties were rented from a private landlord (330,632). This increase in households renting privately showing in the Census is in contrast to other sources showing a decline, such as RTB registrations – with the RTB noting an 8.2% decline in the number of newly registered tenancies in Q1 2023<sup>90</sup>. The number of private tenancies registered with the RTB has fallen significantly between 2016 and 2021, and the number of landlords associated with private-rented tenancies registered with the RTB has also fallen over recent years.<sup>91</sup>

Private rental accommodation was more prevalent among younger households, however, compared with the previous census, significant increases were recorded in the number of dwellings rented by households headed by a person aged 60 years or over. Where the householder was aged over 65, the number of dwellings owned outright was up 17%. This same age group, 65 years and over, saw an increase of 83% in the number of properties rented from a private landlord to nearly 17,000.

### Affordability

In considering the affordability of housing for those looking to purchase a home, Figure 3.2.6a shows the ratio of the median house price to median annual earnings by age. Younger prospective buyers can face lower affordability due to lower incomes, high rents and/or no equity. In 2021, those aged 60 years and over had the

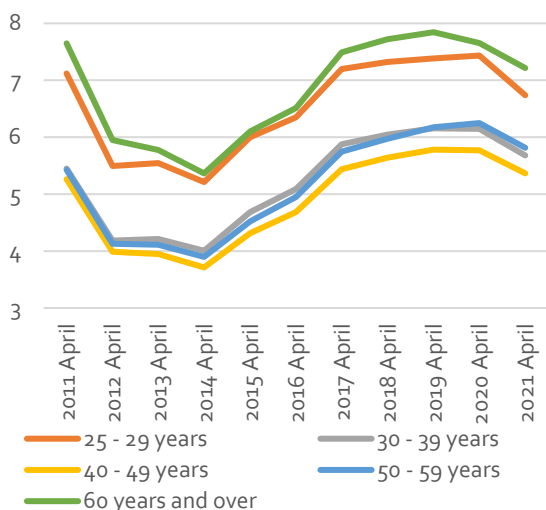
<sup>90</sup> Rent Index Q1 2023. Residential Tenancies Board. [Here](#)

<sup>91</sup> [RTB Private Tenancy Registration Statistics | Residential Tenancies Board](#)



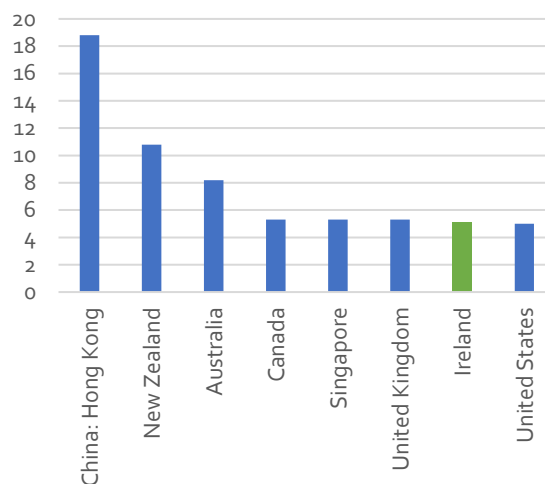
highest ratio, followed by 25 to 29 years old's, with house prices 7.0 and 6.7 times the earnings respectively, while for those aged 30-39 years house prices were six times their earnings. Those aged 40-49 years had the lowest ratio, with house prices five times their annual earnings.<sup>92</sup>

Fig 3.2.6a House Price/Income Ratio by age, 2011 – 2021



Source: CSO

Fig 3.2.6b Demographia International Housing Affordability by Nation, 2022



Source: Demographia

A paper examining housing affordability in a cross-country context was published by the ESRI in July 2023 using data based on 2019 Eurostat cross-country Survey on Living Conditions (EU-SILC) data<sup>93</sup>. One of the key findings was that younger households in particular face significant affordability challenges in Ireland. Between 2015 and 2019 Ireland saw the largest rise in the share of young adults aged 25-34 remaining in their family home. Furthermore, while Ireland has the fourth highest rate of homeownership for households aged 40+ across the 15 countries analysed (just under 80%), it has only the tenth highest rate for households aged below 40 (34%). While Ireland is not unique in seeing falling homeownership rates over time, it does have one of the biggest gaps in ownership rates between younger and older generations (second only to Greece). The difficulty in purchasing a home for those in younger age cohorts is further confirmed in CSO data published in 2022, which found the median age of residential property purchasers rose from 35 to 39 years between 2010 and 2021, across all transactions<sup>94</sup>.

Another affordability index is the Demographia International Housing Affordability Survey which covers 293 metropolitan housing markets in eight nations<sup>95</sup>. This index measures affordability using the "Median Multiple" which is the median house price divided by the median household income, and rates "affordable" as 3.0 and under, up to a "severely unaffordable" measure of 5.1 and over. In 2022, Dublin (the only Irish city included in the study) was rated a severely unaffordable 5.1 (see Fig 3.2.6b).

<sup>92</sup> This is similar to other results, for example Yao (2022) found a rise of 8% in the House Price to Income ratio in Ireland over the period 2015 to 2021. See here: [Estimating the Trend of the House Price to Income Ratio in Ireland \(centralbank.ie\)](#).

<sup>93</sup> [Housing Affordability across Europe: mixed picture for Ireland | ESRI](#)

<sup>94</sup> [Age of Purchasers - CSO - Central Statistics Office](#)

<sup>95</sup> Demographia International Housing Affordability rates middle-income housing affordability in 94 major housing markets in eight nations: Australia, Canada, China, Ireland, New Zealand, Singapore, the United Kingdom and the United States. Dublin is classed as Ireland's single major metropolitan area and is therefore the only housing market included in Ireland. See more: [Demographia International Housing Affordability, 2023 Edition](#)

### *Credit Demand and Credit Access for First-Time Buyers*

Research published by the ESRI in a July 2020 paper examines credit demand and credit access for potential Irish first-time buyer households living in the rental sector from January 2018 to February 2019<sup>96</sup>. Unsurprisingly, results found a higher demand amongst younger households (aged 18-35) and a much lower demand for credit amongst those over 50. Under the macroprudential mortgage regulations introduced in 2015, first time buyers in Ireland can borrow 4 times their gross annual income (Loan-to-income limit (LTI)) and are permitted a maximum loan-to-value ratio (LTV) of 90 per cent, meaning they must make a down-payment of at least 10 per cent of the value of the property. The paper finds savings for a down-payment to be the most critical factor relative to income or affordability issues, and notes: "*The relatively high market rents paid by some households undoubtedly inhibit such households from overcoming the LTV constraint, as their potential to save for a deposit is eroded by high rents.*" (Corrigan, O'Toole, Slaymaker, 2020, p38).

The Government have a number of schemes to help first-time buyers overcome this barrier, such as the First Home Scheme (shared equity scheme) and the Help to Buy (HTB) Scheme, albeit these are solely available to purchasers of newly-built houses or apartments only. Other supports available for those looking to purchase a home include the Local Authority Affordable Purchase Scheme, Local Authority Home Loan Scheme, Cost Rental, Mortgage to Rent scheme, Vacant Property Refurbishment Grant and the Ready to Build Scheme.<sup>97</sup>

### **3.2.3 Water and Wastewater**

An effective and efficient clean water supply infrastructure is essential both for ensuring the healthy lives of citizens and for the proper functioning of the economy. Similarly, wastewater services are critical in achieving sustainable development and a clean environment, as well as ensuring compliance with national and EU law. As water/wastewater infrastructure is a critical first step in project planning and development, delays in the delivery of water and wastewater infrastructure have follow-on implications for the delivery of other infrastructure, including housing and industrial investments.

As identified in *Challenge 2022*, Ireland is continuing to perform poorly in relation to its water and wastewater infrastructure. A 2022 report by the Environmental Protection Agency (EPA) highlighted an increasing incidence of water users deemed to be 'at-risk'.<sup>98</sup> The EPA has identified a priority list of 'at-risk' drinking water supplies, called the Remedial Action List (RAL), that must be improved to ensure that these water supplies are safe to drink and are also secure in the future. The number of people served by public water supplies on the EPA's RAL has increased to 481,000 people in 2022, up from 374,000 people at the end of 2021. Furthermore, at the end of 2022, 18 supplies on the RAL do not have a plan for upgrade or improvement with a completion date. The EPA report states that these supplies must be addressed as a priority for Uisce Éireann.

In 2023, the Commission for the Regulation of Utilities (CRU) published the CRU's monitoring report<sup>99</sup> on Uisce Éireann's progress in delivering against its Performance Assessment Framework in which it expressed concern that while some areas have observed good improvements and targets have been met, there are metrics where targets have not been met and the gap that remains against targets set is of concern. In 2021, Uisce Éireann met nine and missed ten of the 19 targets set for it that year. The CRU did note that these targets, while fair and appropriate, were decided and published in August 2021, and therefore, Uisce Éireann would not have been in a position to put in place all improvements for the years of 2020 and 2021.

<sup>96</sup> Corrigan, O'Toole, Slaymaker. (2020) *Credit demand in the Irish mortgage market: What is the gap and could public lending help?* [Here](#)

<sup>97</sup> [gov.ie - Housing for All: Available supports \(www.gov.ie\)](#)

<sup>98</sup> [Drinking Water Quality in Public Supplies - 2022 \(epa.ie\)](#)

<sup>99</sup> [CRU202340 Uisce Éireann Performance Assessment Framework 2021 Annual Report.pdf \(divio-media.com\)](#)

A high-level strategic assessment of water services in Ireland and the role of Uisce Éireann /Irish Water (UÉ) was published by the Irish Academy of Engineering in June 2023<sup>100</sup>. In order to meet target metrics for water and wastewater treatment plants and networks UÉ is required to deliver a very large number of capital projects. With regards to the delivery of capital projects, the report identifies planning as a significant issue impacting delivery, noting that both regulators (CRU and EPA) have criticised UÉ for having too frequently to revise project time and cost estimates in order to address priorities identified by them. Further, the report points out that not allowing for uncertainties in the planning process, land acquisition and other issues (which are not under the direct control of Uisce Éireann) in the EPA's requirement for detailed delivery dates for completion of entire projects can be unhelpful.

The report also notes a growing concern about the capacity of the sector to meet projected demands due to the disruption to supply chains and the availability of skilled labour in the construction sector. Significant cost inflation and supply chain delays and disruption affected delivery and cost of projects in 2022 and is expected to continue into 2023 and beyond. The report states that developing measures such as better delivery strategies through mature risk allocation, collaborative working, the encouragement of innovation, the adoption of new technologies, apprenticeship schemes, graduate training programmes and other steps, can grow supply chain capacity, maximise value and optimise the delivery of projects and programmes.

### 3.2.4 Labour Market Constraints in Construction Sector

Labour market constraints can negatively impact on the delivery of Ireland's infrastructure and on inflation. *Housing for All, Project 2040*, the *National Development Plan*, and the *National Retrofitting Scheme* are expected to increase demand for construction-related skills in particular. The ESRI recently estimated that the construction sector is likely to be operating at, or close to, capacity at present given the extremely low unemployment rate and tight labour market, which is likely to put upward pressure on wages in the period ahead and could dampen output.<sup>101</sup> (see also Chapter 1 for further discussion on the labour market).

In its most recent *Difficult-to-fill Vacancies Survey* published in October 2022, SOLAS reported 28% of difficult-to-fill vacancies were in the construction sector.<sup>102</sup> In its *Spring Skills Bulletin 2023*, SOLAS also reported that an additional 7,200 young people were employed in the sector in Q3 2022, which made up one third of the total increase (+34.1%) in employment in the sector (+21,100).<sup>103</sup> This suggests that new recruits are more likely to be employed in the construction sector than workers transferring from other sectors.

Capacity constraints in the construction sector are of particular importance for infrastructure delivery, and could potentially lead to higher prices, lower real output, and poorer value for money in terms of the Government's planned investments. IFAC have previously estimated that around 180,000 workers would be required in the construction sector over the years 2022-2025 to achieve the Government's planned increases in public investment as set out in the NDP.<sup>104</sup> The report warns that getting to this level could be difficult as there are already limited numbers of unemployed construction workers domestically. Estimating a construction sector unemployment rate, IFAC finds that this could have been as low as 2 to 3% at the end of 2019 — well below historical rates. In addition, the Department of Further and Higher Education, Research, Innovation and Science have estimated that 50,831 new entrants will have to be recruited in managerial, professional, skilled,

<sup>100</sup> Uisce Éireann, *Irish Water Services in the 21st Century, A Review of Progress to Date and a View of the Near Future*. See here: [ACEI](#)

<sup>101</sup> [Quarterly Economic Commentary, Summer 2023 \(esri.ie\)](#)

<sup>102</sup> [Difficult-to-fill vacancies survey October 2022 \(solas.ie\)](#)

<sup>103</sup> [Spring Skills Bulletin 2023 \(solas.ie\)](#)

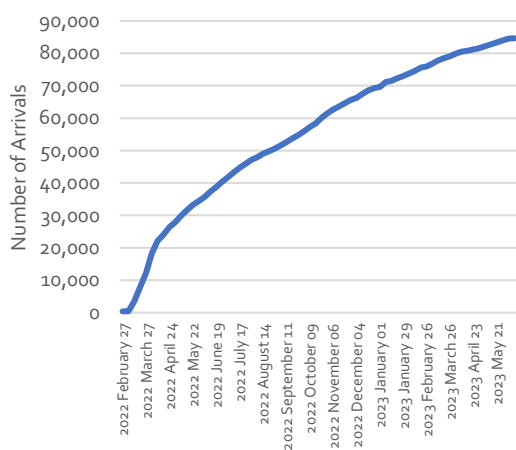
<sup>104</sup> [Irelands-next-ramp-up-in-public-investment-Nov-2021.pdf \(fiscalcouncil.ie\)](#)

and semi-skilled occupations over the period 2023-2030 in order to deliver the Government's targets in housing and retrofitting and to continue to engage in general repair and maintenance of the housing stock.<sup>105</sup> These new entrants may be a combination of workers currently employed in the industry who are seeking to upskill, or jobseekers who wish to pursue a career in building or retrofitting.

In recent decades, Ireland has relied on strong inward migration to boost its supply of labour for the construction sector, either from returning Irish citizens or foreign nationals. However, it is unclear whether inward migration can provide what is required to plug the current gap. The recent influx of people from Ukraine following the invasion of Ukraine by Russia has provided some resource into the labour market. According to the most recent CSO statistics,<sup>106</sup> there have been 84,613 arrivals from Ukraine (see Figure 3.2.7a) under the Temporary Protection Directive. As of 6<sup>th</sup> June 2023, 13,070 arrivals were employed, with the most common sector of employment being Wholesale, Transport and Accommodation (52% or 6,817 arrivals), followed by Financial, Real Estate, Administrative (1,790 arrivals) and Industry (1,752 arrivals). Some 32,756 arrivals have attended an employment support event arranged by Intreo Public Employment Services (see Figure 3.2.7b). Of those, 15,811 had recorded previous occupations, with Professionals being the largest group at 31% (or 4,928 persons). Of the 24,640 persons where the highest level of education was recorded, 62% had achieved an NQF level equivalent to 7 or higher.

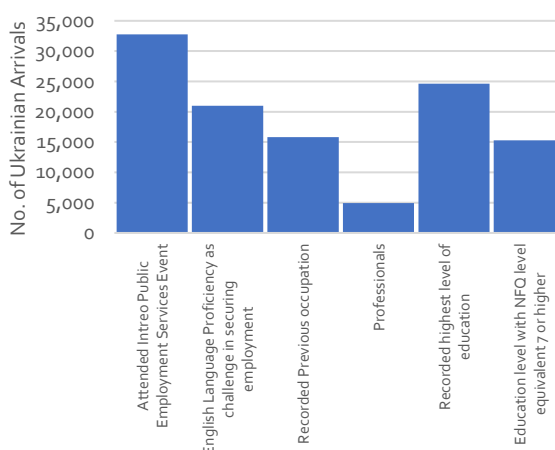
Further, the Council notes that the current shortage of housing also creates difficulty in housing additional migrant workers for the construction sector. Consequently, increased labour productivity in the construction sector through greater capital intensity, increased skill levels or digitalisation is vital (section 6.4.6 highlights the low incidence of digitalisation in the construction sector, with reference to recent joint ESRI-Department of Enterprise, Trade and Employment research).

Fig 3.2.7a Cumulative Number of Arrivals from Ukraine (PPSN Registrations)



Source: CSO

Figure 3.2.7b Ukraine Arrivals Who Have Attended Intreo Public Employment Services Event



Source: CSO. Data as of 6 June 2023

### Employment Permits

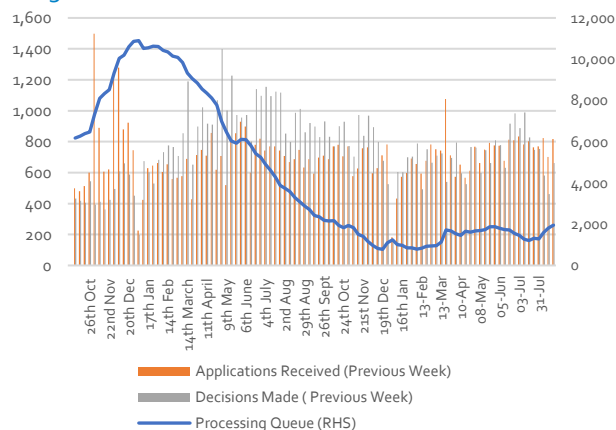
An efficiently operating permit system is critical as delays can impact the supply of labour and this can be a constraint on growth. In last year's *Ireland's Competitiveness Challenge* report, the Council highlighted that the Department of Trade, Enterprise and Employment had experienced a significant increase in applications for

<sup>105</sup> [gov.ie](http://gov.ie) - Report on the Analysis of Skills for Residential Construction & Retrofitting, 2023 to 2030 ([www.gov.ie](http://www.gov.ie))

<sup>106</sup> [Arrivals from Ukraine in Ireland Series 10 - CSO - Central Statistics Office](#)

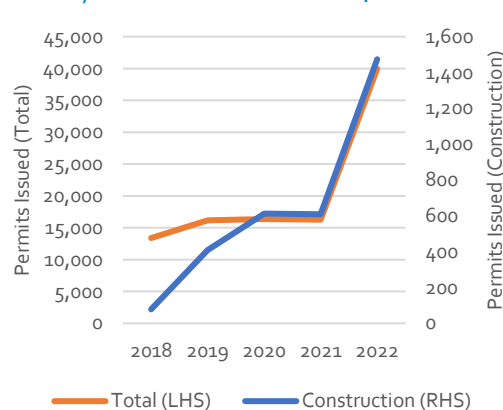
employment permits over the course of 2021, which resulted in a significant backlog of applications. The number of applications awaiting processing has now been reduced from approximately 11,000 in January 2022 to under 2,000 as of 21 August 2023 (see Figure 3.2.8a), and processing times have fallen from a high of 21 weeks to 12-14 business days. The total number of permits issued has increased considerably over the past five years but particularly from 2021. The total number of permits rose from c.13,000 in 2018 to c. 16,000 in 2021, and to c.40,000 in 2022 (see Figure 3.2.8b), reflecting the tighter labour market post-COVID-19.

Fig 3.2.8a Employment Permits, October 2021 – August 2023



Source: Department of Enterprise, Trade and Employment

Fig 3.2.8b Number of Permits issued, Total Economy and Construction Sector, 2018 - 2022



Source: Department of Enterprise, Trade and Employment

In recognition of the strong evidence of continued labour shortages and challenges faced by the construction sector, almost all roles in the construction sector are now eligible for employment permits. Highly skilled occupations including engineers, site managers, architects and façade designers are all eligible for the Critical Skills Employment Permit, while occupations remaining on the Ineligible Occupations List are in general at the low to unskilled end of the skillset, such as General Labourer or Construction Operative. Most recently in June 2022, the quota restriction on permits for bricklayers and plasterers, which was first introduced as part of a package of occupations in 2019, was eliminated giving these occupations full unrestricted access to the General Employment Permit. In October 2021 a second package of occupations was made eligible which included roles such as tilers, painters and decorators. The Council acknowledges the ongoing work by the Department of Trade, Enterprise and Employment in this space, particularly given the important role that permits play in addressing skills and labour shortages in the construction sector.

The number of permits issued to the construction sector has increased significantly over the past five years (see Figure 3.2.8b). In 2022, the Department of Trade, Enterprise and Employment issued 1,474 employment permits for roles in the construction sector, up from 608 in 2021, and there have been a further 728 issued to date<sup>107</sup> in 2023. On 26<sup>th</sup> June 2023 a consultation period for a new review was opened, which is scheduled to last for 8 weeks, providing time for sectoral representatives and employers to make their evidence-based submissions to seek changes to be made to the employment permits occupational lists.

<sup>107</sup> As of 14 July 2023.

### 3.2.5 Public Sector Carrying Capacity

As has been well-documented, the size of the economy has increased significantly over the past 20 years. Increases in population, the labour force and economic activity have resulted in an unprecedented level of demand for physical and social infrastructure including transport, housing, electricity generation, water and wastewater, schools and childcare, as well as hospitals and other health care facilities. When we consider delays and/or blockages in the delivery of critical public infrastructure – whether energy, roads, or schools – we can sometimes look upon these as discrete challenges. However, these are better viewed as symptoms of an underlying issue of absence of 'capacity'. There is a need for investment in infrastructure, but we must also recognise the importance of the capacity of the public sector to develop, manage and deliver on these commitments. This includes the need for specialist skills, such as those relating to the appraisal, management and execution of what are often complex capital projects.

In *JCC 2022*, the Council noted the interdependence of the public sector – as an underlying support to the broader economy – and the 'carrying capacity' of the economy overall. Furthermore, it also emphasised the likely link between this and the growing incidence of delays and blockages and the impact on Ireland's competitiveness and productivity. More specifically, the Council pointed towards the emergence of pent-up demand as a consequence of the retrenchment in public capital spending post-2008.

There is a growing complexity of work to be undertaken by the public sector in areas such as the twin transitions, a changing global trading environment (including a shifting State Aid ecosystem – see Chapter 1) and new technologies (i.e. A.I and quantum – see Chapter 6). There is also the issue of recruitment and retention issues arising from the current tight labour market conditions and skills shortages. The core 'Civil Service' component – for instance, in areas such as administration, budgeting, planning and regulation – has not kept pace with the expansion of Ireland's economy and society overall. The same is true for the Local Government sector.<sup>108</sup> For many parts of the public sector, there has been significant growth in the requirement for more advanced skills, which represents a new recruitment challenge for the public sector at a time when the business sector demand for these skills is also growing rapidly.

The effective delivery of capital projects also depends to a large extent on the absorptive capacity of the broader economy. In other words, it is not simply a question of whether the State can allocate the financial resources to a given project and/or provide the necessary human resources (say, planners and regulators) but whether the private sector has the capacity (and specifically, labour resources) to undertake the work envisaged. If not, the work may be delayed, targets missed, with allocated funds remaining unspent.

The *Mid-Year Expenditure Report* for 2022<sup>109</sup> noted that the majority of Government Departments had reported underspending their capital allocations with an underspend of c. €600m. (with Housing and Transport accounting for more than 50% of same). The equivalent underspend across all Government Departments was less than €200m by mid-2018. It is worth noting, however, that an under-spend does not necessarily mean a 'capacity constraint' across the broader economy. For instance, it could also be a function of overly ambitious targets (with this perhaps suggesting a capacity issue within the public sector).

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<sup>108</sup> There are a variety of factors at play here which will have impacted staffing capacity over time, including the previous public sector recruitment moratorium and successive agreements (i.e. Haddington Road).

<sup>109</sup> [gov.ie](http://www.gov.ie) - [Mid-Year Expenditure Reports \(www.gov.ie\)](http://www.gov.ie)

IDA Ireland recently referred to the need to address 'competitive issues that relate to the carrying capacity of the economy that have come under pressure due to significant growth'.<sup>110</sup> A recent report by the National Economic and Social Council (NESC, 2023)<sup>111</sup> also highlights the presence and impact of a capacity challenge across the Irish economy. This report cites the ICC 22 report and notes the impact of these constraints in terms of increased vulnerability and decreased resilience when it comes to infrastructure and the labour market.

Delays in the delivery on commitments in spheres such as housing and other areas of public infrastructure (i.e., roads, energy, water, wastewater, and broadband) act as not merely a constraint on general economic activity but can inhibit quality of life, in the form of rising prices or an inability to access certain goods and services. Moreover, these pose a risk to Ireland's competitiveness and productivity position and could come to negatively impact on Ireland's FDI reputation as a place to locate and thrive. The timely delivery of projects in areas such as housing, energy, water, and wider infrastructure will be important determinants of Ireland's future success and our ability to compete internationally. The Council will be revisiting this issue in a further publication this year.

### 3.3 Actions Crucial for Infrastructure - Planning, Development and Delivery

#### 3.3.1 Planning

Delays to the delivery of infrastructure pose a serious risk to the achievement of the State's targets across housing and energy. The Council has previously made recommendations on the resourcing of planning authorities (Recommendation 4.2 in ICC 2022 and Recommendation 4.3 in ICC 2021); however, this area warrants continued attention as it continues to contribute to delays in the delivery of infrastructure.

*Housing for All* committed to a comprehensive review and consolidation of planning legislation. As set out in section 3.2.1 the Government recently approved the Draft Planning and Development Bill 2022, which, if enacted, will bring comprehensive changes to the planning system in Ireland. The Council is cognisant that this Bill does not offer a whole solution, given existing legal complexities which also exist, but the changes will enable appropriate development to be planned and executed with a degree of confidence and certainty about how and when a planning consent decision will be made.

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**Recommendation 3.1:** The NCPC recommends that the Draft Planning and Development Bill 2022 is progressed and enacted without delay.

**Responsibility:** Department of Housing, Local Government and Heritage

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#### 3.3.2 Housing

'*Housing for All - a New Housing Plan for Ireland*' is the government's housing plan to 2030 which was launched in August 2021. Its objectives include supporting home ownership, improving affordability, and increasing new housing supply. *Housing for All* contains 213 actions which will deliver a range of housing options for individuals, couples and families. In the Challenge report 2021, the Council welcomed the scale and ambition of the *Housing for All* strategy, while noting its concern that the Housing Policy Objectives (HPOs) and the large number of related actions identified in the strategy will be challenging to deliver in the timescales outlined.

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<sup>110</sup> [IDA-Annual-Report-2021-English-Version \(1\).pdf](#)

<sup>111</sup> Understanding the Irish Economy in a Time of Turbulence. National Economic and Social Council. April 2023. [Here](#)

The *Residential Construction Cost Study Report*<sup>112</sup>, published by the Department of Housing, Local Government and Heritage in May 2023, was undertaken on the basis of a concern that high and rising construction costs is making the delivery of homes economically unviable in certain key areas. The report identified a number of potential cost reduction opportunities on unit sizing and specifications, which could be implemented in Ireland. If the European approaches were adopted, the report estimates the construction cost of a two-bed apartment in Ireland has the potential to be reduced by up to 14%.

The Report also highlights the potential benefits of increased standardisation of design and components through Modern Methods of Construction (MMC). Support is needed for more offsite construction systems and components, such as MMC. It was noted that any guidance on standardisation of plans and/or components should be accompanied by performance and economic best practice guidance.

The Department of Enterprise, Trade and Employment (with the Department of Housing, Local Government and Heritage) is leading on the promotion of MMC in residential buildings. According to the Housing for All Progress Reports for Q2 2022 and Q2 2023, progress in this space over the past two years include the establishment of a cross-Departmental MMC Leadership and Integration Group<sup>113</sup>. One of the priority actions in *Housing for All* is the delivery of a MMC Roadmap on Public Procurement and this was published on 11th July 2023<sup>114</sup>. The recommendations identified in the Roadmap reflect the need for collective action across the construction ecosystem, including public and private sector actors, to create the conditions for MMC to thrive. A key measure to support the initiative is a programme of accelerated delivery being overseen by the Department of Housing, Local Government and Heritage, which will see over 1,500 new social homes commence construction during 2023 and 2024, utilising various MMC building systems. In addition, supporting implementation of *Housing for All*, Enterprise Ireland is leading the drive for productivity and innovation in residential construction through the establishment of Construct Innovate and the expansion of their innovation and productivity supports to the domestic residential construction sector which will sit alongside the Build Digital project led by TU Dublin, the forthcoming MMC Demonstration Park at Mount Lucas, and other related initiatives.

A well-functioning housing and construction sector is critical to the overall health of society and the economy. High construction costs need to be addressed to enable a functional housing market, particularly for apartment construction. Increasing the supply of housing - particularly in the context of higher construction costs - is crucial to address Ireland's housing needs and ultimately Ireland's competitiveness. The Council is pleased that the Roadmap for increased adoption of MMC in Public Housing Delivery has been published. There must be a continued focus on driving increased innovation and productivity through MMC, so that the sector can deliver on infrastructure targets more efficiently. Critical to this will be monitoring the progress of the implementation of the Roadmap.

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<sup>112</sup> [gov.ie](http://www.gov.ie) - Residential Construction Cost Study Report ([www.gov.ie](http://www.gov.ie))

<sup>113</sup> [gov.ie](http://www.gov.ie) - Housing for All - Q2 2022 Progress Report ([www.gov.ie](http://www.gov.ie))

<sup>114</sup> [gov.ie](http://www.gov.ie) - Roadmap for increased adoption of MMC in Public Housing delivery ([www.gov.ie](http://www.gov.ie))



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**Recommendation 3.2:** To speed up the delivery of housing supply, the NCPC recommends:

- (iii) the accelerated implementation of *Housing for All*, with a particular emphasis on tackling the viability challenge, and
- (iv) Increase emphasis on driving innovation and productivity through Modern Methods of Construction (MMC), by monitoring and reporting on progress of the *Roadmap for increased adoption of Modern Methods of Construction (MMC) in Public Housing Delivery*.

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**Responsibility:** Department of Housing, Local Government and Heritage

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#### *Land Development Agency*

The Programme for Government 2016 committed to commissioning an audit of land holdings by State bodies and local authorities that might be used for housing<sup>115</sup>, and this was reiterated in the Programme for Government 2020. The Land Development Agency Act 2021 requires the LDA to establish and maintain a register of all relevant public land and land owned by the agency or a subsidiary<sup>116</sup>. Relevant public land is defined in the Land Development Agency Act 2021 as land in all cities, towns and urban centres with a population exceeding 10,000 that is owned by the State or State agencies and bodies, including local authorities.

Under the LDA Act 2021, the LDA is required to assess and report to Government on relevant public lands (S52 LDA Act 202) that may have potential for future sustainable development, including the provision of new affordable homes. In March 2023 the LDA published its first report on the potential of state-owned lands identified to deliver affordable and social housing<sup>117</sup>.

*The Report on Relevant Public Land* identifies 83 State-owned land sites and assesses them as having the development potential for up to 67,000 homes in the medium to long-term. The lands identified are in key locations and many may currently be in operational use for other purposes and or may be underutilised but have been identified as having potential to be developed for housing. This first LDA report focuses on the five cities (Dublin, Cork, Limerick, Galway and Waterford (and the five regional centres (Drogheda, Dundalk, Letterkenny, Sligo and Athlone) as identified in the National Planning Framework (NPF). The next report will consider the remaining c.38 settlements of over 10,000 population.

The LDA has advised that of the public lands identified and assessed, up to 9,760 of the potential homes identified in the report could be delivered in the next five to ten years, subject to the land involved being made available, due diligence and the planning process. Much of the land involved is brownfield and located in existing urban centres in cities and towns with strong public transport links, suitable infrastructure, and other facilities nearby. These homes are proposed on Class 1 public lands which are classified as the least constrained, with potential for progression to development for residential delivery, subject to due process and should a decision be taken by Government to act on them. A further 17,440 homes are proposed on Class 2 sites, which are considered as appropriate for development subject to overcoming constraints to have medium to long-term potential, while there are a further 39,710 on long-term, Class 3 sites. Class 3 are generally large and complex long-term sites that are regarded to have the potential for residential development but involve several existing constraints that generally require a framework or masterplan to plan for phased redevelopment together with consolidation/relocation of existing uses and significant investment in new infrastructure. These are likely to take several decades as these sites are currently in use by various arms of the State.

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<sup>115</sup> [programme for partnership government.pdf \(merriestreet.ie\)](#)

<sup>116</sup> This Register is now available to view on the LDA website at [www.lda.ie](http://www.lda.ie)

<sup>117</sup> [LDA launches Report on Relevant Public Land - lda](#)

The LDA must now provide updated reports at least every two years. The lands assessed in this first report – *The Report on Relevant Land* – are focussed in key Cities and regional centres where up to 75% of the relevant public land is identified nationally<sup>118</sup>, which is consistent with the National Planning Framework objectives to achieve compact and sustainable growth and balanced regional development. Relevant public land is land owned by state bodies in settlements with a population of greater than 10,000 persons rounded to the nearest 500. The remaining 38 settlements with a population of over 10,000 will be considered as part of the LDA's next report to Government, due in 2024. The Report on Relevant Public Land will enable the Government and Department of Housing to plan ahead to deliver affordable homes on State-owned land. The Report is with the Department of Housing who are now considering its contents and intends to work with the LDA and the public bodies involved regarding the high potential sites that could be prioritised for affordable housing development into the future to build the ongoing delivery pipeline.

### *National Planning Framework*

The *National Planning Framework* (NPF) is the long-term, 20-year strategy for the spatial development of Ireland to promote a better quality of life for all, with sustainable economic growth and an environment of the highest quality as key underlying principles. Since the publication of the NPF in 2018, there have been a number of significant and critical developments in relation to planning policy, guidance and legislation, as well as governance and institutional change.

In June 2023, the Government announced the commencement of the process to revise the NPF and it published the Roadmap for this First Revision, which outlines the process and timeline. As part of the next steps, an undertaking and subsequent completion of the high-level review of the NPF by an Expert Group is to take place. In order to properly and robustly inform the revision, the full suite of final Census results regarding population distribution demographic trends and housing will be reviewed and analysed. The ESRI have recently stated that the relatively unprecedented changes in Irish demographic levels which are apparent from the latest Census data are set to have a number of important policy impacts.<sup>119</sup> The ESRI will provide a draft report to the Department of Housing, Local Government and Heritage with a number of scenarios to determine projections for population and associated housing demand in December 2023. Subsequently, the high-level review of the NPF by an Expert Group is to take place.

The Council recognises the importance of the NPF for the development and delivery of infrastructure and ultimately, for Ireland's competitiveness. The Council has highlighted in Section 3.2 that the growth in Ireland's housing stock has not kept pace with population growth in recent years. Given these changes in Irish demographic levels which are apparent from the latest Census data, the Council believe it is crucial that changes in population growth be considered in the First Revision of the NPF.

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**Recommendation 3.3:** To adequately prepare and plan for the development of Ireland's economy, the NCPC recommends that detailed demographic analyses of the Census 2022 results, with a particular focus on the future composition of housing demand in Ireland, is undertaken to inform the First Revision of the *National Planning Framework*.

**Responsibility:** Department of Housing, Local Government and Heritage

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<sup>118</sup> This initial report covers the five cities and five regional centres, assessing approximately 75% of the public land database assembled. The LDA's next report, to be published in 2024, will include consideration of the remaining census towns (population higher than 10,000), covering the 25% of remaining relevant public land.

<sup>119</sup> [Quarterly Economic Commentary, Summer 2023 \(esri.ie\)](https://www.esri.ie/quarterly-economic-commentary-summer-2023)

### 3.3.3 Water and Wastewater

The Council has highlighted the existing issues in the delivery of water and wastewater infrastructure previously – most recently in *ICC 2022*. However, the Council believes it necessary to bring attention to this area again. In *ICC 2022*, the NCPCC recommended that (i) the reasons for ongoing delays in the delivery of water and wastewater infrastructure are investigated, and (ii) actions are taken to remove the identified barriers to efficient delivery of a robust and efficient public utility for water and wastewater (Recommendation 4.4).

Policy work in this area includes the *Framework for the Future Delivery of Water Services*, published in June 2022, which set out the next phase in the transformation of the water sector in Ireland. In December 2022 the Water Services (Amendment) (No. 2) Bill 2022 was signed into law, establishing Irish Water (known as Uisce Éireann from January 2023) as the stand-alone national water services authority. The *Water Services Policy Statement 2018-2025* is also currently being reviewed.

As pointed out in Section 3.2.3, Uisce Éireann missed ten of its 19 targets in 2021. The recently published high level strategic assessment of water services in the Republic of Ireland discussed earlier in Section 3.2.3 makes a number of recommendations aimed at addressing the challenges Uisce Éireann is likely to face in the period to 2040. Included in these recommendations is the need for improvement in the accuracy of both cost and time estimates in the capital programme if greater confidence is to be placed in the utility's project planning capabilities; and similar improvement is required with regard to project delivery. Significant ongoing effort and innovation in its project management capability and delivery processes is needed to meet important targets in its operations. In order to improve planning and delivery in water and wastewater infrastructure, the Council believes that these recommendations should be actioned swiftly.

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**Recommendation 3.4:** To improve delivery of water and wastewater infrastructure, the NCPCC recommends that there should be increased effort and innovation in Uisce Éireann's project management capability and delivery processes in order to meet important targets in its operations.

**Responsibility:** Department of Housing, Local Government and Heritage

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### 3.3.4 Labour Market Constraints in the Construction Sector

#### *Apprenticeships*

Apprentices are playing a vital role in increasing Ireland's construction sector capacity to meet Ireland's national targets under *Housing for All*, the *National Development Plan* and the *Climate Action Plan*.

A report from the Department of Further and Higher Education, Research, Innovation and Science estimates that a total of 30,014 new entrants with craft qualifications are required between 2023 and 2030 to deliver the Government's targets in housing and retrofitting and to continue to engage in general repair and maintenance<sup>120</sup>. This is broken down into 15,300 required for building houses, 12,266 for retrofitting and 2,448 for repair and maintenance. The report provides the supply required in the shorter term as 5,057 in 2023, 4,544 in 2024 and 3,289 in 2025. These new entrants may be a combination of workers currently employed in the industry who are seeking to upskill, or jobseekers who wish to pursue a career in building or retrofitting.

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<sup>120</sup> [gov.ie - Report on the Analysis of Skills for Residential Construction & Retrofitting, 2023 to 2030 \(www.gov.ie\)](https://www.gov.ie/en/publications-and-resources/reports/gov-ie-report-on-the-analysis-of-skills-for-residential-construction-and-retrofitting-2023-to-2030/)

Total craft apprenticeship registrations were slightly lower in 2022 (37,491) than 2021 (37,871). However, monthly registrations in 2023 to date have exceeded registrations of the same month in 2022 and 2021 (see Fig. 3.3.1a). Total registrations over the period January to July 2023 were 14,366, compared with the same period in 2022 (12,511) and 2021 (11,822). Out of the total craft apprenticeship population in July 2023, the majority are in electrical (9,197), plumbing (2,787), carpentry and joinery (2,285) apprenticeships (see Fig. 3.3.1b).

Fig 3.3.1a New Craft Apprenticeship Registrations, 2021, 2022, 2023 (YTD)

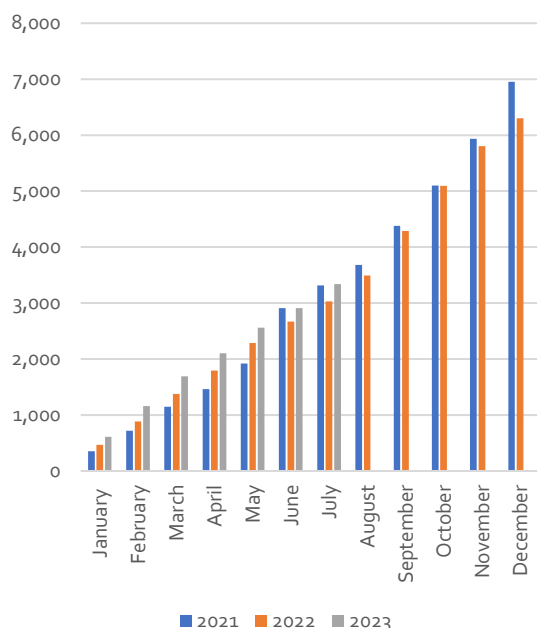


Fig 3.3.1b Total Craft Apprenticeship Population by Type, July 2023



Source: Department of Further and Higher Education, Research, Innovation and Science

Source: Department of Further and Higher Education, Research, Innovation and Science

In relation to construction apprenticeships specifically, there were 1,471 construction-related apprenticeship registrations in Q1 2023, a 22% increase on Q1 2022 where there were 1,202 construction-related apprenticeship registrations. Construction-related apprenticeship certifications also increased by 33% in Q1 2022 from Q1 2022<sup>121</sup>. However, the completion rate of apprenticeships is rarely above 75%<sup>122</sup>.

The Government's strategy for public services to 2030, *Better Public Services*<sup>123</sup>, states that the Public Service will grow the number of apprenticeship registrations across its sector, including local authorities, to reach 750 annual registrations by 2025, in line with the *Action Plan for Apprenticeship 2021-2025*<sup>124</sup>. The recently launched *Public Service Apprenticeship Plan* sets out a clear roadmap for achieving this target. In *ICC 2023*, the Council recommended that the *Action Plan for Apprenticeship 2021-2025* adopted by Government is implemented quickly and in full in order to deliver a modern apprenticeship system with expanded programme options and increased take-up. The Council welcomes the ongoing work by the Department of Further and Higher Education, Research, Innovation and Science in this area.

<sup>121</sup> [gov.ie](http://www.gov.ie) - Housing for All - Q1 2023 Progress Report ([www.gov.ie](http://www.gov.ie))

<sup>122</sup> [gov.ie](http://www.gov.ie) - Report on the Analysis of Skills for Residential Construction & Retrofitting, 2023 to 2030 ([www.gov.ie](http://www.gov.ie))

<sup>123</sup> Better Public Services ([here](#))

<sup>124</sup> [gov.ie](http://www.gov.ie) - Action Plan for Apprenticeship, 2021 to 2025 ([www.gov.ie](http://www.gov.ie))

In the recently published review of Ireland's Skill Strategy<sup>125</sup>, the OECD note that the move away from craft apprenticeships after the economic crash in 2008 contributed to the critical shortage of workers in construction and craft professions that Ireland is now experiencing. The review notes that financial obstacles could play a role in increasing both demand by students and supply by employers, arising from potentially low rates pay of apprentices and low grants to employers. The OECD highlight that FET (Further Education Training) and apprenticeships are well-positioned to respond to some of the most urgent skills pressures in the construction sector. In addition, the demand for workers in sectors and occupations linked to FET pathways and apprenticeships is projected to remain high, with the construction sector among the sectors projected to expand the most in the upcoming decade. This is underpinned by Government investment through *Housing for All*, the *Climate Action Plan* and the *National Development Plan*, thereby mitigating against previous boom-bust cycles experienced in the sector.

The OECD recommended that Ireland should 'Promote and strengthen pathways from schools into further education and training and apprenticeships to develop a well-balanced tertiary system and diversified supply of skills', with four sub-recommendations listed as:

- 4.1. Change perceptions of further education and training and apprenticeships through improved career guidance, communication and rebranding.
- 4.2. Better promote pathways into further education and training and apprenticeships by strengthening work-based learning in schools and developing a unified application process.
- 4.3. Increase take-up of apprenticeships by identifying and overcoming financial obstacles for employers.
- 4.4. Continue to address non-financial obstacles for employers to take on apprentices by providing employers with practical support and information and promoting more flexible forms of apprenticeship.

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**Recommendation 3.5:** To increase the capability of the construction sector to deliver on Ireland's infrastructural commitments, the NCPC recommends that, in line with the recommendations as outlined in the OECD's review of Ireland's Skill Strategy, the Government should promote and strengthen pathways from schools into further education and training and apprenticeships, particularly in relation to the construction sector.

**Responsibility:** Department of Further and Higher Education, Research, Innovation and Science

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### 3.4 Summary

Improving the planning, development and delivery of infrastructure plays a key role in enhancing productivity and competitiveness, and ultimately to ensure that Ireland has the capacity to achieve sustainable long-term growth.

The length of time taken to receive a grant of planning permission remains a constraint in the development and delivery of infrastructure in Ireland. The Council believes that the swift progression and enactment of the Draft Planning and Development Bill 2022 will play a key role in speeding up the development and delivery of all infrastructure in Ireland.

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<sup>125</sup> [gov.ie](http://www.gov.ie) - OECD Skills Strategy Ireland: Assessment and Recommendations ([www.gov.ie](http://www.gov.ie))

Speeding up the delivery in the supply of housing, particularly in the context of higher construction costs, is crucial to address Ireland's housing needs. The Council is calling for the accelerated implementation of the *Housing for All* strategy and for monitoring and reporting on the *Roadmap for increased adoption of Modern Methods of Construction (MMC) in Public Housing Delivery*. To secure an adequate housing market into the future, the Council also highlights the need for detailed demographic analyses of the Census 2022 results with a particular focus on the future composition of housing demand in Ireland to be undertaken to inform the First Revision of the *National Planning Framework*

Delays in the delivery of water and wastewater infrastructure have follow-on implications for the delivery of other infrastructure, including housing and industrial investments. The Council believes that improvements in Uisce Éireann's project management capability and delivery processes is vital if it is to meet its targets.

Enhancing the capacity of the construction sector is a key constraint in Ireland's infrastructure development and delivery. Apprenticeships will play a key role in the construction sector particularly, and the Council is therefore calling for the Government to promote and strengthen pathways from schools into further education and training and apprenticeships, particularly in relation to the construction sector.

## Chapter 4: Energy: generation, consumption and costs

### 4.1 Introduction

How Ireland generates and consumes energy – and the cost of that energy – is a major factor in determining the country's competitiveness. The ultimate goal of a competitive economy is sustainable economic growth, to ensure the future wellbeing of society. Ireland now must take action to ensure that its generation and consumption of energy is on a sustainable growth path.

Across a number of years the Council has called for greater action on climate and energy. In Ireland's *Competitiveness Challenge 2020* the Council made a number of recommendations on climate and energy, including actions to be taken to incentivise enterprise to decarbonise, to speed up the decarbonisation of Ireland's gas network, and to establish a one-stop shop environmental hub for enterprise. Most recently, in *Ireland's Competitiveness Scorecard 2023*, the Council noted that Ireland continues to fall far behind its environmental commitments – echoing comments made in the previous Scorecard published in 2020. Ireland is currently poorly positioned to meet its targets, such as the commitment to reduce carbon emissions by 51% by 2030, or to achieve carbon neutrality by 2050. Given that Ireland was the second highest carbon emitter per capita in the EU in 2020, for this goal to be realised, major change will need to occur on an individual, firm, industry and societal level.

The instability of global energy markets in the wake of the Russian invasion of Ukraine has underscored the importance of a reliable and secure energy supply for a competitive economy – to avoid disruptions to supply and to maintain stability. Risks to Ireland's energy supply have been identified in the National Risk Assessment since 2014<sup>126</sup>. Following from similar calls in *Challenge 2020*, *Ireland's Competitiveness Challenge 2022* called for increased investment in green energy, for a full review of the regulatory process to expedite green infrastructure, and for continued consideration of energy storage solutions to improve the security of our energy supply. The importance of energy, both in terms of ensuring its security of supply for competitiveness and the need to quickly increase Ireland's production of green energy, has led the Council to re-visit this theme.

### 4.2 Current Situation in Ireland

#### 4.2.1 Energy Generation and Consumption

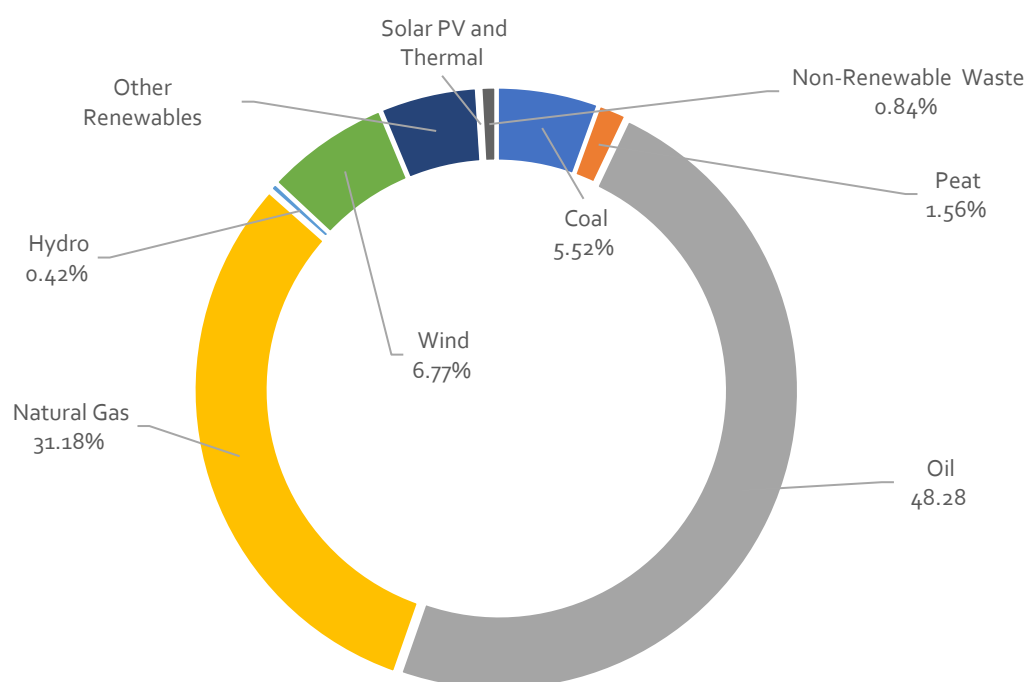
Ireland had a primary energy requirement of 14,359 kilotonnes of oil equivalent (ktoe) in 2022, a 3.7% increase on 2021. This represents Ireland's total energy requirement across multiple domains including transport, industry, services and residential. Oil (48.2%) and Gas (31.1%) remain the largest sources of Ireland's energy supply, together accounting for just under four-fifths of our national energy requirement. In 2022, a total of 86.4% of Ireland's energy was derived from fossil fuels, a similar figure to 2021<sup>127</sup>. Ireland's energy supply by fuel type in 2022 is set out in Figure 4.2.1.

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<sup>126</sup> [draft-nra-2014.pdf \(merriestreet.ie\)](#)

<sup>127</sup> [National Energy Balance | Key Publications | SEAI](#)

Figure 4.2.1: Primary Energy Supply by Fuel Type



Source: SEAI National Energy Balance

Despite the continued dominance of fossil fuels within Ireland's energy mix the role that renewable energy plays has continued to grow. Some 12.6% of Ireland's energy requirement in 2022 was sourced from renewable energy sources, up from 11.9% in 2021. 2022 saw significant relative increases in the renewable energy captured by both solar-PV and heat-pumps. Boosted by the first grid-connected solar-farms, solar-PV increased by 42.9% over the previous year, to deliver over 100 GWh of electricity. Heat pumps delivered 1,166 GWh of renewable ambient heat, up 26.6% on the previous year<sup>128</sup>. Wind energy also continues to grow in importance with 10,879 GWh<sup>129</sup> generated in 2022 (up 15% from 2021) – making up 6.77% of Ireland's total energy requirement.

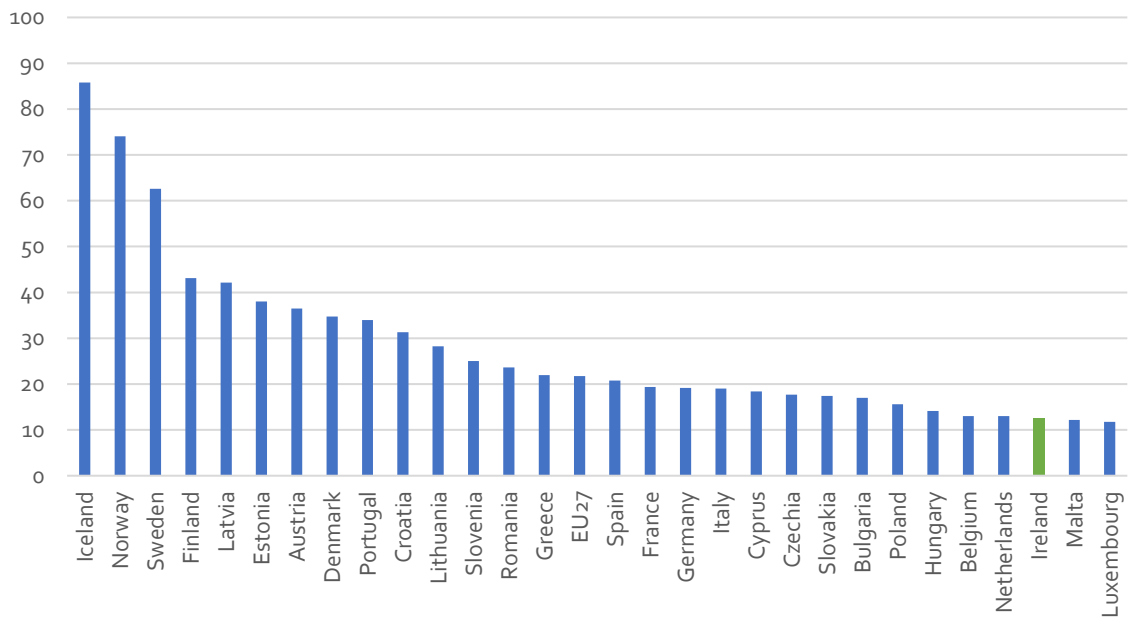
Ireland continues to have a large and increasing reliance on imported energy, up from 69.0% in 2018, to 80.5% in 2021 and 83.4% in 2022 – primarily due to declining domestic gas supplies from Corrib gas field. This reliance on imported energy is primarily in the form of fossil fuels. Ireland's need for progress in this area can be seen in comparison with EU countries where we lag significantly on the share of our energy derived from renewables, with major progress needed to meet the EU target of 32% of energy consumed to be renewable.

<sup>128</sup> [National Energy Balance | Key Publications | SEAI](#)

<sup>129</sup> [System Information \(eirgridgroup.com\)](#)



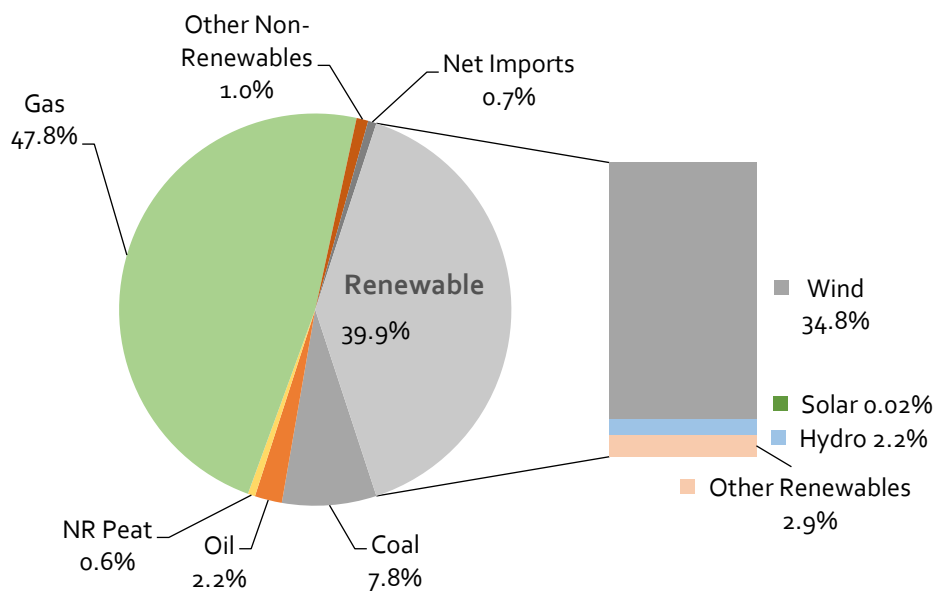
Figure 4.2.2: Share of final energy consumption from renewable energy sources, 2021



*Electricity Demand*

Total electricity demand in Ireland stood at 32,283 GWh in 2022, down from 33,072 GWh in 2021. This marks a break in the upward trend in electricity demand over a number of years, with demand rising from 27,957 GWh in 2014 to its peak in 2021 – representing an 18% increase in electricity generation and demand over a seven-year span<sup>130</sup>. In terms of fuel mix, Ireland continues to rely on fossil fuels for the majority (58.4%) of its electricity requirements, with gas used to generate almost half of Ireland’s electricity. In 2022, 39.9% of our electricity was generated from renewable sources – the majority of this being generated from wind power.

Figure 4.2.3: Electricity Fuel Mix, 2022



Source: Eirgrid

<sup>130</sup> Eirgrid Statistics available at: [System Information \(eirgridgroup.com\)](https://www.eirgridgroup.com/system-information)

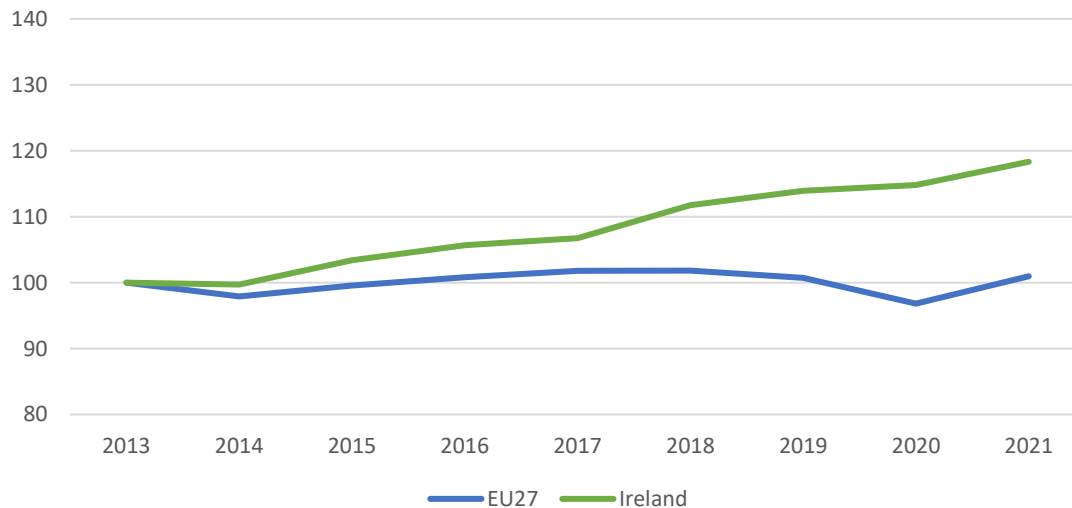
While the share of renewables in Ireland's electricity fuel mix continues to grow, this trend can vary year to year depending on prevailing weather conditions. For example, the share of renewable energy in electricity (in 2022) is down from a peak of 42.3% in 2020. Emissions associated with Ireland's electricity generation also continue to decline, even though total electricity production continues to increase. Despite this progress, Ireland is lagging behind targets. At the end of 2022 (40% of the way through the 2021-2025 carbon budget period), the electricity sector had emitted 49.4% of its sectoral emission ceiling. There is therefore a need for much greater progress over 2023-2025 in order to remain within budget.

*Energy Security*

Energy security and the management of electricity demand continues to be an issue for Ireland. Over the course of 2022 and 2023 there has been significant concerns around the capacity of Ireland's electricity system to meet demand combined with concerns around gas market volatility amid disruptions emerging from the Russian invasion of Ukraine. Eirgrid's Generation Capacity Statement projects capacity deficits in the years out to 2031, with the outlook particularly challenging in the near term due to power plants coming off-line in combination with continued rising demand.

As set out in electricity generation and demand section above, electricity demand has grown over the last number of years, in particular the level of electricity associated with data centres. The latter increased by 32% in 2022 and now accounts for 18% of total electricity use in Ireland. Ireland stands out when compared to EU27 countries over the past decade in terms of electricity demand which has grown substantially beyond 2013 levels, as set out in Figure 4.2.4.

Figure 4.2.4: Final Electricity Consumption, Indexed to 2013, 2013-2021



Source: Eurostat

The pace at which Ireland can introduce additional generation capacity, coupled with progress on energy efficiency, will determine the degree to which Ireland's capacity issues ease over the medium-term. As discussed in last year's *Competitiveness Challenge*, ensuring a secure electricity supply is critical to the operation of enterprise, and to the view of Ireland as an attractive location for investment and indeed Ireland's competitiveness.

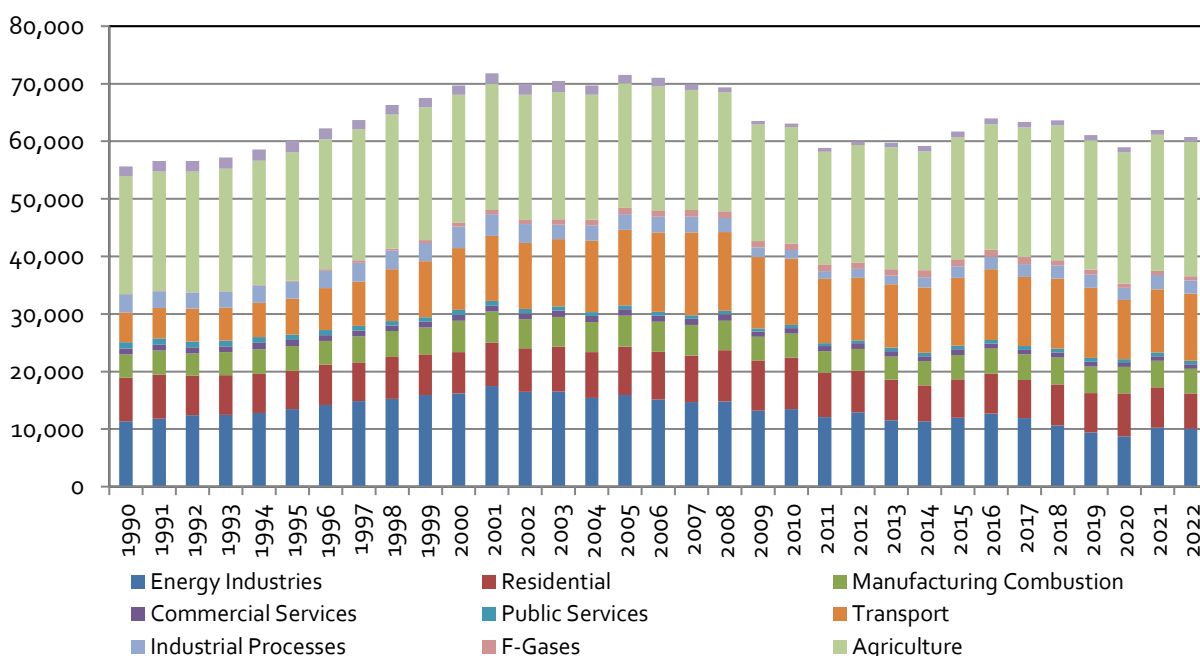
### 4.2.2 Emissions

The Climate Action and Low Carbon Development (Amendment) Act 2021 commits Government to reducing Ireland's greenhouse gas (GHG) emissions by 51% by 2030 relative to 2018 levels. The Act also mandated for the establishment of multi-annual carbon budgets for each sector consistent with the overall targets. These sectoral ceilings were agreed by Government in July 2022 and were set out in Climate Action Plan 2023<sup>131</sup>.

The sectors where emission reductions are required to take place include in electricity generation (75%), the transport sector (50%), the residential (40%) and commercial (45%) built environment, industry (35%) and agriculture (25%). These are substantial reductions.

Figure 4.2.5 below shows sectoral emissions in Ireland from 1990 to 2022. Total sectoral greenhouse gas emissions fell by 1.8% in 2022 compared to 2021. Agriculture represented 38.4% of total greenhouse gas emissions in 2022, followed by transport at 19.1% and energy industries at 16.1%.

Figure 4.2.5: Sectoral Emissions 1990-2022



Source: EPA Greenhouse Gas Provisional 2022 Estimates

\*F-Gases = Fluorinated Greenhouse Gases

Ireland's CO<sub>2</sub> energy-related emissions fell by 1.9% in 2022 compared to 2021 and are now 7.3% below 2018 levels – against which Ireland's 2030 target of a 51% reduction is set against (as set out in Climate Action Plan 2019 and subsequent updates<sup>132</sup>–<sup>133</sup>). However, Ireland is not yet reducing emissions at a sufficient pace to meet these commitments. Ireland's agreed carbon budgets require annual reductions in overall emissions of 4.8% between 2021-2025, followed by further reductions of 8.3% each year between 2026-2030. In order to keep within the ceilings electricity sector annual emissions will now need to be reduced by 17% to stay within budget (i.e to meet the target set for 2025). Annual emissions reductions of 9% for Industry, 8% for Agriculture, 7% for Residential buildings and 5% for Transport are also required across 2023 to 2025. The need for action has

<sup>131</sup> [b5da0446-8d81-4fb5-991e-65dd807bb257.pdf \(www.gov.ie\)](https://www.gov.ie/b5da0446-8d81-4fb5-991e-65dd807bb257.pdf)

<sup>132</sup> [gov.ie - Climate Action Plan 2023 \(www.gov.ie\)](https://www.gov.ie/gov.ie)

<sup>133</sup> [National Energy Balance | Key Publications | SEAI](#)

recently been underscored by the Climate Change Advisory Council report from July 2023 which finds that Ireland will not meet the targets set in either the first or second carbon budget periods unless significant action is taken immediately<sup>134</sup>.

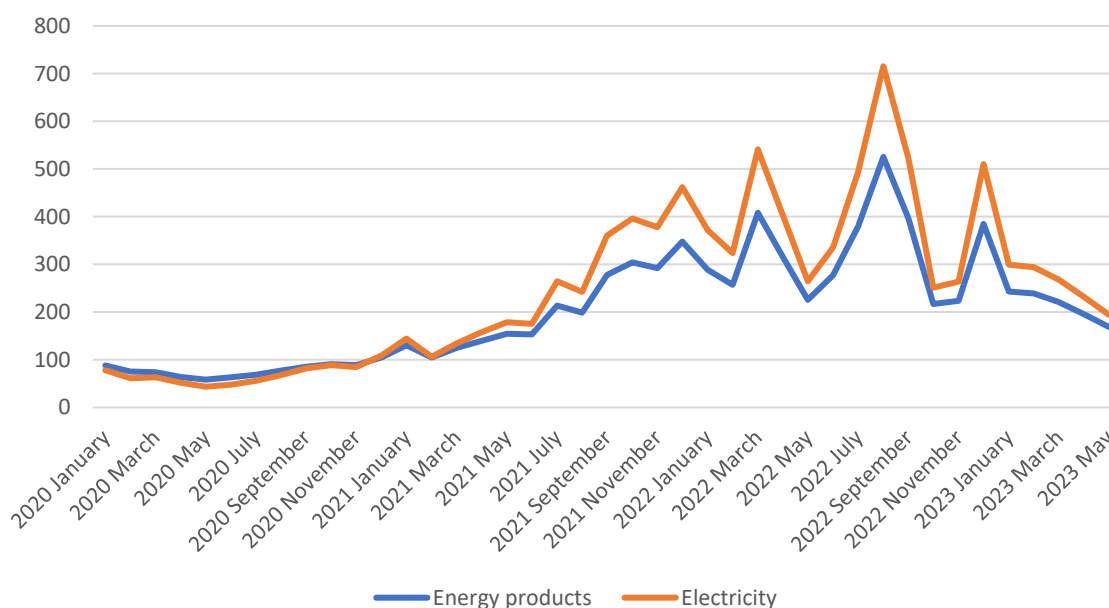
#### 4.2.3 Energy Costs

After a long period of stability, energy prices have demonstrated significant volatility over the period from late 2021 to 2023. Gas (and oil) prices first started rising in the second half of 2021, as the global economy recovered more quickly than expected from the COVID-19 pandemic, leading to energy demand outstripping supply. The Russian invasion of Ukraine further escalated this initial price rise into a global energy crisis. Having traded at c. 50p per therm over the period 2009 to 2019, UK gas prices (a driver of gas prices in Ireland) peaked at over 600p per therm in September 2022.

This rise in gas prices fed through to increases in wholesale electricity prices. In 2022 Irish Day Ahead Market (DAM) electricity prices averaged 235.71 €/MWh compared to 92.4 €/MWh in 2021<sup>135</sup>. Day Ahead Market electricity prices on the Irish electricity market averaged €92.41 for the week commencing July 31<sup>st</sup> 2023<sup>136</sup>.

Energy prices can have a large bearing on firm input costs and as such can be a significant determinant of differences in competitiveness. Ireland's Wholesale Price Index tracks price changes in wholesale prices charged to businesses. Figure 4.2.6 below shows that while wholesale energy prices have fallen significantly compared to their 2022 peak – prices still remain well above their long-run average.

Figure 4.2.6: Wholesale price index, energy products and electricity, 2020-2023



Source: CSO

Elevated energy prices have also fed through to households, which experienced a more gradual rise (and subsequent fall) in energy prices than businesses, reflecting the greater use of hedging and forward markets by energy providers to residential customers. The Central Bank of Ireland expects energy prices to remain elevated

<sup>134</sup> [CCAC-AR-2023-Summary-final compressed web.pdf \(climatecouncil.ie\)](https://www.cacacouncil.ie/CCAC-AR-2023-Summary-final-compressed-web.pdf)

<sup>135</sup> [EirGrid Group - Annual Report 2022](https://www.eirgrid.com/annual-report-2022)

<sup>136</sup> [https://www.semcommittee.com/sites/semc/files/media-files/MMU%20Weekly%20Report%20-%20Euro%20WC%2031\\_07\\_23.pdf](https://www.semcommittee.com/sites/semc/files/media-files/MMU%20Weekly%20Report%20-%20Euro%20WC%2031_07_23.pdf)

compared to 2021 levels out to 2025 at least<sup>137</sup>. Across all EU countries, Ireland had the seventh highest non-household electricity prices<sup>138</sup> (inclusive of taxes) in the second half of 2022, at 31c per kwh.

The structure of energy (and electricity) markets can also lead to cost issues. The elevated price for wholesale gas drove up wholesale electricity prices in 2022, while there was no significant change in the cost of delivery for renewable electricity producers generating power from solar or wind. However, due to the market structure (where the spot price is driven by the final (marginal) cost of production) renewable power generators also received increased windfall revenues. This has been addressed through the introduction of a market revenue cap on non-gas generators which operate at a capacity of more than 1 MW – with a cap of €120 per MWh applied to wind and solar generators<sup>139</sup> and an end-of-year deadline for payment of windfall gains<sup>140</sup>.

This follows on from increased action at EU level in 2023 to reform electricity market design<sup>141</sup>. These reforms aim to make electricity bills less dependent on fossil fuel prices by creating a buffer between short-term markets and the electricity bills paid by consumers. It will do this by incentivising longer-term contracts, increasing the market of power purchase agreements, and curbing excessive revenues of energy producers by requiring the use of two-way contracts for difference for new investments in low carbon generation where public funding is needed, and improving the forward electricity markets.

A contract for difference (CfD) for renewable electricity establishes a 'strike price' for that energy, it then tops up the market price paid for electricity if the price is below a certain level but requires the generator to pay back amounts where the market price is above a certain level. The net effect is that the revenues and the price are stable and aims to have the 'strike price' of the contract close to the costs of production and not exceed such costs. The use of contracts for difference is increasingly seen in new investments for renewable energy in Ireland and is a design feature of all RESS auctions including in the most recent Offshore Renewable Electricity Support Scheme auction in 2023 (ORESS 1).

While there are significant positives in terms of a stable price of electricity from CfDs, regulators must recognise the risks of such contracts which can be costly if the strike price is consistently higher than the wholesale price of electricity. As the share of electricity which is procured through CfDs increases, the importance of contract pricing will itself become more important. If they are incorrectly or uncompetitively priced they can become a detriment to affordability and the competitiveness of Irish energy, and therefore the economy.

#### 4.2.4 Energy Developments

##### *Wind Energy*

There have been a number of positive developments towards significantly boosting the role renewable – and particularly wind – energy plays in meeting the country's energy requirements in 2022 and 2023. Ireland's first offshore wind renewable energy auction (ORESS 1) took place this year<sup>142</sup>. The ORESS 1 auction resulted in the procurement of over 3GW of capacity across four offshore wind projects. This is equivalent to over a quarter of projected 2030 electricity demand, and so is a major development in the delivery of renewable energy capacity in Ireland.

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<sup>137</sup> [Quarterly Bulletin 2 2023 \(centralbank.ie\)](https://www.centralbank.ie/quarterly-bulletin/2023)

<sup>138</sup> Eurostat – consumption band from 500MWh to 1,999 MWh

<sup>139</sup> [gov.ie - Minister Ryan announces measures to address windfall gains in the energy sector \(www.gov.ie\)](https://www.gov.ie/news/department/2022-09-27-minister-ryan-announces-measures-to-address-windfall-gains-in-the-energy-sector/)

<sup>140</sup> [gov.ie - Government approves publication of legislation to address windfalls in the energy sector \(www.gov.ie\)](https://www.gov.ie/news/department/2022-09-27-minister-ryan-announces-measures-to-address-windfall-gains-in-the-energy-sector/)

<sup>141</sup> [Q&A EU's internal electricity market design revision \(europa.eu\)](https://ec.europa.eu/eu-external-press/en/q-and-a/eu-internal-electricity-market-design-revision)

<sup>142</sup> [gov.ie - Minister Ryan welcomes hugely positive provisional results of first offshore wind auction \(www.gov.ie\)](https://www.gov.ie/news/department/2022-09-27-minister-ryan-welcomes-hugely-positive-provisional-results-of-first-offshore-wind-auction/)

Ireland’s Offshore Energy Programme includes a target to deliver 5GW of offshore wind energy by 2030 and a further 2GW of Offshore Wind Energy to be in development by 2030 for non-grid use such as Green Hydrogen. The total target rises to at least 37GW by 2050. This will be supported by the development of a new National Industrial Strategy for Offshore Wind, which is due to be published in spring 2024. This strategy is a key deliverable under the White Paper on Enterprise 2022-2030 and will seek to deliver the enterprise opportunities associated with offshore wind targets. The broad scope of the Strategy will include measures to develop:

- supply chain capacity and opportunities of Offshore Wind Energy
- measures to mitigate the risk to achievement of Ireland’s OWE targets arising from supply chain constraints
- measures to develop both indigenous and export demand for energy derived from offshore wind
- an integrated spatial and economic framework for the development of clusters of economic activity in locations critical to the development of the offshore wind sector

Figure 4.2.7 sets out the significant role renewable energy will play in Ireland’s electricity market by 2030 – as per commitments in Climate Action Plan 2023.

Figure 4.2.7: Renewable electricity targets, 2025 and 2030

Target	2025	2030
Renewable Electricity Share	50%	80%
Onshore Wind	6 GW	9 GW
Solar	Up to 5 GW	8 GW
Offshore Wind	-	At least 5 GW
New Flexible Gas Plant	-	At least 2 GW
Demand Side Flexibility	15-20%	20-30%

Given that (under current plans) the large share of Ireland’s electricity will be generated through renewable sources by 2030, the implementation of offshore wind investment, and other significant renewable energy investments, will have long term competitiveness implications for Ireland. In particular, the pricing of these investments will have significant competitiveness implications. In contrast, to gas-generated electricity where pricing is primarily driven by gas price which can vary based on demand conditions, renewable energy such as wind and solar has a very low marginal cost of production, which increases the importance of the prices agreed for renewable energy capacity, as this pricing will determine the pricing of electricity in Ireland over the next 20 years.

The results of the recent ORESS auction were broadly welcomed, both in terms of the scale of the capacity secured and the price at which it was delivered - at an average of €86.05 per MWh. However, the price achieved at this auction is significantly above that achieved by the UK in July 2022, when it secured 7 GW of new capacity at €43.86 per MWh (£37.35)<sup>143</sup>. Reasons cited for this difference include rising prices (NCPC notes that the 2022 UK auction secured a lower price than it had in 2019), as well as the more developed port and offshore delivery infrastructure in the UK. Market analysts have raised concerns that the UK auction prices may result in projects

<sup>143</sup> Note that UK auction prices are reported in 2012 prices for comparison across rounds. May 2023 price equivalents is circa €51.06/€59.61.

ultimately not being delivered as developers struggle to achieve commercial viability at those prices due to the impact of rising interest rates.

This highlights the need for balanced pricing of long-term energy contracts, which needs to strike a price which encourages adequate interest (and sufficient return) for investors while also ensuring that contracts are priced such that there are not significant differences in the price of electricity generation between Ireland and its close competitors. This will become an increasingly important factor as the range of capacity of electricity which is generated through such contracts increases over time.

It is also important to note that while the State can seek to increase public value for money by ensuring wind energy infrastructure delivery at scale, and taking action in terms of associated investments and through clear signalling on future plans (see section 6.3), there are significant investments to be made in enabling the transition to clean energy and these investments will ultimately have to be paid for primarily through revenues generated by ORE developers, and tariffs levied by Eirgrid, in the form of higher electricity costs.

### *EU Frameworks – Climate and Energy*

The need for progress on Irish climate and energy targets must also be seen in a European context. The European Green Deal<sup>144</sup> committed to turning the EU into the first climate neutral continent by 2050 and pledges to reduce emissions by at least 55% by 2030, compared to 1990 levels. There have been further developments over the last 18 months including the publication of the REPowerEU plan, which is aimed at helping the EU save energy, produce clean energy and diversify energy supplies. In July 2023, in the context of the REPowerEU plan, the Commission agreed an increase to the binding EU energy efficiency target from 9% to 11.7% compared to the 2020 Reference Scenario projections for 2030, with Member States required to achieve an annual energy savings rate of 1.49% between 2024 and 2030<sup>145</sup>.

The Recast Energy Efficiency Directive (EED) which will come into force in Q3 of 2023 increases energy saving requirements on all Member States. For Ireland to meet the national energy savings target (11.7% below the Reference Scenario) by 2030 Ireland will need to reduce national final energy consumption (from all sources and sectors combined) by approximately 20% compared to Ireland's energy use in 2019. This increased energy saving ambition goes beyond what would be delivered by existing policies, including CAP23, so will require additional energy saving policies and measures applicable to all sectors to be identified, developed and introduced

The relevance of progress on climate targets and green technologies to competitiveness was underscored in a Communication on the long-term competitiveness of the EU, published by the European Commission in March 2023<sup>146</sup>. Energy was included as one of nine key pillars of competitiveness for the EU beyond 2030. The Communication sets out the need for a secure and affordable source of energy for the EU, emphasising the importance which renewable energy and the digitalisation of the energy system will play in the continued electrification of the economy.

Part of Europe's future competitiveness will rely on its capacity to develop and manufacture clean technologies. The Green Deal Industrial Plan published in February 2023, sets out how the EU will pursue this. The plan proposes a simplified regulatory framework to better enable technologies – this will be in the form of the Net

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<sup>144</sup> [Delivering the European Green Deal \(europa.eu\)](https://european-council.europa.eu/media/en/press-communications/infographic/infographic_green-deal_en.pdf)

<sup>145</sup> [Energy efficiency targets \(europa.eu\)](https://european-council.europa.eu/media/en/press-communications/infographic/infographic_green-deal_en.pdf)

<sup>146</sup> [Communication Long-term-competitiveness.pdf \(europa.eu\)](https://european-council.europa.eu/media/en/press-communications/infographic/infographic_green-deal_en.pdf)

Zero Industry Act<sup>147</sup> to support the scaling up of the EU's net-zero manufacturing capacities and a Critical Raw Materials Act to ensure sufficient access to materials. The second (of four) pillar of the plan is focused on facilitating increased, and quicker, investment for clean tech production.

The Net Zero Industry Act identifies eight strategic net-zero technologies which will contribute to the EU's decarbonisation targets. As EU countries avail of the increased support facilitated through the Green Deal Industrial Plan as well as through funding available under the REPower EU plan, it is important that Ireland adapts swiftly to these new developments in EU industrial policy if it is to maintain its competitiveness position. Actions which the EU advise for the use of these funds for enhancing competitiveness include (i) the establishment of one-stop shops for the permitting of renewables and net-zero projects (ii) tax breaks or other forms of support for net-zero technologies and (iii) investing in enhancing workforce skills necessary for the green transition<sup>148</sup>.

## 4.3 Actions for a Competitive Energy Environment

### 4.3.1 Enterprise – more active energy consumption and generation

This Chapter has set out the challenge Ireland faces in terms of energy security and energy costs over the short to medium term. Energy security has become a critical competitiveness challenge for Ireland over the past two years. Uncertainty regarding the security of energy supplies and the limited new additional generation capacity which has come online in comparison to growing demand have led to uncertainty regarding the ability of the Irish electricity system to meet demand requirements in the coming years.

Coupled with this, in line with commitments under the Climate Action Plan 2023 and EU Green Deal there is a requirement for Irish enterprise to reduce emissions associated with fossil fuels while also increasing energy efficiency. Final energy consumption by Irish economic sectors – including industry, commercial and public services has increased over the five years 2017 to 2021, increasing 2.3% between 2020 and 2021 (in the context of substantial economic expansion). Research from Cambridge Econometrics finds that increased levels of energy efficiency bring substantial benefits for the economy as well as society and the environment<sup>149</sup>. Higher energy efficiency targets can lead to higher GDP, employment (with losses in certain sectors more than offset in beneficiary sectors) and improved energy security, while contributing to climate targets.

One action which could boost the security of Ireland's energy (and electricity) supply, along with energy efficiency and energy savings, is for Irish enterprise to engage in more active generation and consumption of electricity. Non-residential consumption was 71% of total metered electricity consumption in 2022<sup>150</sup>, so action taken by business can therefore be quite impactful in terms of reducing total demand for electricity at a national level. As the electricity system develops with variable renewable generation, greater flexibility in demand will help reduce energy costs. If firms can increase demand when renewables are high and reduce their demand when renewables are low, they will have much lower bills and much more secure energy supplies. The need to achieve energy savings brought about under the latest Energy Efficiency Directive will intensify the focus on energy efficiency and the need to reduce energy demand in all sectors.

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<sup>147</sup> [Net Zero Industry Act \(europa.eu\)](#)

<sup>148</sup> [COM\\_2023\\_62\\_2\\_EN\\_ACT\\_A Green Deal Industrial Plan for the Net-Zero Age.pdf \(europa.eu\)](#)

<sup>149</sup> [2030 EU energy efficiency target: Multiple benefits of higher ambition \(camecon.com\)](#)

<sup>150</sup> [Key Findings - CSO - Central Statistics Office](#)



The Government has introduced support schemes to encourage the adoption by businesses of renewable energy generation, to support its target of 5GW of solar PV by 2025. In July 2023 the Government approved amendments to the existing Non-Domestic Micro Generation Scheme (which was introduced in 2022) to aid non-domestic customers in installing solar PV equipment. This amendment will see tiered grant supports ranging from €2,700 to €162,600 for solar PV – for installation sizes greater than 6 kWp up to 1,000 kWp (1 MW) capacity. This also represents the first phase of the Small-Scale Renewable Electricity Support Scheme (SRESS)<sup>151</sup>. The installation of additional solar PV equipment by businesses (and now larger businesses with the introduction of the SRESS) will mean they can meet their own electricity demand through solar generation thereby reducing national electricity demand and they can also supply excess electricity back to the grid.

As these support schemes are being advanced and offered by Government, there is now a need for active take-up by Irish enterprise. Government needs to ensure that micro and small generation schemes meet or succeed targets as set out. Research from the ESRI finds that Irish SMEs are not as prepared for climate planning and adaptation as larger companies are. It also establishes that there is a sizeable gap between number of firms which identify climate action as important, and the number of firms who have taken action<sup>152</sup>. This suggests further intervention targeted at small firms is required to build on positive attitudes towards climate action, into actual investment decisions.

There should be close monitoring of the uptake of these schemes in 2024, in particular the uptake of schemes by smaller firms should be closely tracked with a view to adjustment and/or additional measures should uptake fall behind among this group of firms. This is an area where Ireland can take effective action in the short term and which can contribute to Ireland's climate and energy targets for 2025, as well as 2030 (in comparison investments in wind energy will have a longer lead time).

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### **Recommendation 4.1:** The NCPC recommends that the Government

- (i) Closely monitor the uptake by enterprise, and in particular that of small firms, of micro-generation support and efficiency schemes - with the view to ensuring targets are reached with potential to review scheme arrangements if uptake is below target.
- (ii) Generate a profile of firms availing of micro-generation and efficiency support schemes in order to better target sectors and firms which are not availing of supports.

**Responsibility:** Department of the Environment, Climate and Communications

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### **4.3.2 Offshore Wind Delivery – At Scale**

As discussed in Section 4.2, the cost associated with off-shore wind is above those to deliver on-shore wind energy. The nature of long-term pricing contracts for renewable energy production (in comparison to wholesale fossil fuel markets) makes these costs even more relevant to the selection of which energy solution to pursue in meeting Ireland's energy requirements. Added to this is the need to balance delivery costs against the urgency with which renewable energy infrastructure needs to be delivered. Climate Action Plan 2023 seeks to balance this through a mix of offshore and onshore wind energy and solar energy.

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<sup>151</sup> [gov.ie](https://www.gov.ie) - Ministers Ryan and Coveney announce enhanced supports for business through Solar PV Scheme ([www.gov.ie](https://www.gov.ie))

<sup>152</sup> [Firm-level attitudes and actions to the "Twin Transition" challenges of digitisation and climate change \(esri.ie\)](https://www.esri.ie)

Given the significant role planned for offshore wind as an energy source for our electricity system, it is critically important that the State ensure that the energy projects which are delivered achieve value for money in terms of investment by the public, and that they can ensure that Ireland can deliver cost competitive electricity. The results of the recent ORESS auction were broadly welcomed, including the strike price which was achieved (€86.05). While this price was below expectations, it is significantly higher than the price achieved in 2022 UK offshore wind auctions which achieved a price of €37.35 (2012 prices)<sup>153</sup>. However, firms that won capacity at UK auctions are now looking to appeal contracts due to concerns over financial viability. Similarly, developers in the United States have also sought to renegotiate contracts due to rising costs<sup>154</sup>. This points to the importance of balanced pricing. While achieving a competitive price for energy is important in terms of ensuring Ireland's renewable energy market is competitive internationally, the price achieved must also be sufficient to ensure the financial viability of investments.

Rising interest rates present a significant challenge to the financing of the green transition and are the primary reason for issues emerging in the development pipeline in the UK and United States. A 2022 paper from the International Energy Agency (IEA) found that a 2% increase in the cost of capital for wind energy could push up the cost of electricity from such investments by 20%<sup>155</sup>. The ECB find that as fossil fuel-based power plants have lower upfront costs in comparison to renewable energy investments, a rise in the cost of capital may discourage efforts to decarbonise. The analysis suggests that the costs for a gas-fired power plant would change only marginally if discount rates were to double while that of offshore wind could rise by nearly 45%<sup>156</sup>.

At a time of high interest rates impacting investor confidence, it is important that Government continues to invest in infrastructure for renewable energy, and in enabling the green transition through fiscal policy and through clear regulation. One aspect which the State can influence, and which can increase tax-payer value for money, is ensuring that wind energy infrastructure is planned and delivered at sufficient scale to ensure cost efficiencies. Research shows that larger offshore wind turbines and power plants can generate significant savings per megawatt hour over the course of the investment's lifetime (in this case researchers established a 23% saving)<sup>157</sup>. Ensuring delivery of offshore wind infrastructure at scale requires action across multiple spheres, including the need to further develop Irish ports and significant further investment in grid infrastructure to distribute the additional capacity. Successful action on the infrastructure necessary to enable offshore wind energy, and clear signalling around future plans will also encourage lower risk premia on renewable investments – again reducing costs. The publication of the first Designated Maritime Area Plan (DMAP) Proposal for Offshore Renewable Energy in July 2023 signals Ireland's first step into systemic, plan-led development of its off-shore wind potential. DMAPs will be used to determine the broad area where offshore renewable energy projects can be developed and will act as a management plan for a specific area of our marine waters.

Delivery of offshore wind energy infrastructure at scale will also have economic benefits beyond providing clean energy to Ireland. The recently published Hydrogen Strategy<sup>158</sup> demonstrates how offshore wind energy could enable hydrogen production which could form a part of Ireland's energy system, for both internal use and export in the coming decades. Alongside this the recently updated Interconnection Policy Statement sets out an increased ambition for further interconnection with the UK and Europe beyond that previously planned and aims to surpass the EU interconnectivity target of 15% of generation capacity<sup>159</sup>. There are also industrial

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<sup>153</sup> [contracts-for-difference-allocation-round-4-results.pdf \(publishing.service.gov.uk\)](#)

<sup>154</sup> [BP, Equinor revisit US offshore wind projects power sale agreements | Reuters](#)

<sup>155</sup> [World Energy Investment 2022 \(windows.net\)](#)

<sup>156</sup> [Monetary policy tightening and the green transition \(europa.eu\)](#)

<sup>157</sup> [The Future of Offshore Wind Is Big—Literally | Department of Energy](#)

<sup>158</sup> [gov.ie - National Hydrogen Strategy \(www.gov.ie\)](#)

<sup>159</sup> National Policy Statement. Electricity Interconnection. July 2023. [Here](#)

opportunities which will emerge in the delivery of offshore wind infrastructure and the associated value chain, which will be considered in the new National Industrial Strategy for Offshore Wind. In the face of rising interest rates, it is critical that Ireland continue to strongly invest in offshore wind energy in order to realise the full economic and environmental benefits of this investment.

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**Recommendation 4.2:** The NCPC recommends the Government should continue its efforts to deliver offshore wind infrastructure *at significant scale*, in order to increase the cost competitiveness of Ireland's renewable energy.

**Responsibility:** Department of the Environment, Climate and Communications; Department of Enterprise, Trade and Employment

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#### 4.3.3 Improved public delivery

A range of actions have been taken to improve delivery of renewable energy across 2021 to 2023. In particular there has been action taken to improve delivery of offshore wind energy. This can be seen in the introduction of the Maritime Area Planning Act 2021 to establish the legislative foundation for a new maritime planning system, with a new Maritime Area Consent (MAC) regime. The Maritime Area Regulatory Authority (MARA), established in July 2023, will be responsible for regulating development and activity in Ireland's maritime area and will assess MAC applications, which are required before developers of offshore wind and other projects in the maritime area can make a planning application. It will also be responsible for granting licences for certain activities in the maritime area. The approval of the terms and conditions of the Offshore Renewable Electricity Support Scheme in November 2022 and the success of that auction for offshore wind capacity reflects these measures. The establishment of a new Planning and Environmental division of the High Court was also a positive step in improving public sector capacity to efficiently manage applications for energy infrastructure. While following the successful ORESS 1 auction, the Government has now also published an updated Interconnection policy and National Hydrogen Strategy as previously set out.

Early in 2024, Government is expected to publish the draft Future Framework for Offshore Wind National Spatial Strategy (previously called the Offshore Renewable Energy Development Plan) for offshore renewable energy which will provide a high-level framework to support and guide the long-term development and delivery of offshore renewable energy beyond 2030. The above measures are intended to lead to increased delivery of energy infrastructure. The pace at which new measures have been introduced to facilitate increased renewable energy infrastructure is a positive development. With the introduction of the changes to the policy system for delivery of energy infrastructure, as well as to the processes within the system, it is more critical than ever that the public system can deliver on these changes in the form of more efficient decisions in regards energy infrastructure.

As set out earlier in the report, labour market shortages are limiting the capacity for delivery across the public and private system. This has been particularly pointed in terms of the planning system, where it has contributed to delays arising from resourcing constraints in An Bord Pleanála and local authorities (which may also impact the new Maritime Area Regulatory Authority). The structure and complexity of the process to deliver energy, coupled with the likelihood of delays emerging from judicial review may challenge the foreseen delivery timeline of capacity, and present a significant risk to meeting Ireland's 2030 climate and energy targets.

To expedite the delivery of infrastructure it is important that the appropriate skills for considering energy infrastructure projects - particularly offshore wind infrastructure - are in place in the public system, so that applications can be dealt with efficiently and so that the system minimises the risk of unforeseen delays further

down the critical path. This includes skills such as marine (and general) planners, ecologists and engineers<sup>160</sup>. Ireland's tight labour market presents a significant challenge to recruiting sufficient numbers of skilled staff, with the public system also competing with private companies for these skills. The Government needs to ensure that agencies are sufficiently well staffed to meet progress towards targets on energy infrastructure.

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**Recommendation 4.3:** The NCPC recommends that the Government:

- (iii) Ensures sufficient resourcing within the planning system to minimise delay of energy infrastructure
- (iv) Monitors resourcing, and considers active international recruitment for specific planning and related skills in light of domestic labour market tightness.

**Responsibility:** Department of the Environment, Climate and Communications; Department of Housing, Local Government and Heritage; Department of Further and Higher Education, Research, Innovation and Science

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#### 4.4 Summary

The need for progress on Ireland's climate commitments is becoming increasingly critical. Ireland has set a target of reducing greenhouse gas emissions by 51% by 2030, and is currently not on track to meet interim targets in 2025 – meaning even greater action will be required in future. The need for progress is underscored by developments promoting investment and innovation in green technology through the EU Green Deal Industrial Plan, while also requiring greater progress on energy efficiency through new directives. The clearest way to make progress in this area while benefiting Ireland's competitiveness is to advance investments in renewable energy both in term of its significant national infrastructural instalments and greater investment at a micro-level by firms.

The rising interest rate environment presents a challenge to the green transition by making investments more costly, as well as introducing greater uncertainty for what are long-term fixed investments. The Council recommends that the Government continues to take steps to deliver offshore wind energy at significant scale, consistent with a 2050 target of 37GW, notwithstanding the challenge of rising interest rates.

Research shows that smaller firms are not as prepared for the green transition as larger firms, and that while they may recognise the importance of climate adaptation there is a much lower share of smaller firms which have either put in place an adaption plan or made investments to adapt. For Ireland to be successful in meeting its climate targets, investment in climate adaption needs to be broad based. The uptake by smaller firms of support and efficiency schemes offered by the State should be monitored closely to ensure there is adequate uptake among this group of firms, and if they are lagging other groups further intervention should be considered.

While continued strong investment is a critical part of Ireland meeting its climate commitments and increasing the supply of renewable energy, unless the system which facilitates this delivery is adequately resourced then potential investments will be significantly delayed. The Government needs to ensure that there is sufficient resourcing of planning authorities involved in the delivery of renewable energy infrastructure. There has been significant progress made over the last number of years in terms of new planning legislation, a new division of the high court as well as a new authority and regime for maritime planning. In order to capitalise on these

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<sup>160</sup> [QWE Briefing Document - July 2023\(272154196.1\) \(irishlegal.com\)](#)

positive developments, adequate resourcing of the planning authorities must be a priority – even in the midst of an extremely tight labour market.

## Chapter 5: Boosting Productivity

### 5.1 Introduction

Productivity measures how efficiently an economy can transform 'inputs' (such as capital and labour) into 'outputs'. We can assess changes in productivity over time, and the differences in productivity between countries, to better understand how well an economy is doing. Labour productivity, generally measured as economic output per hour worked, is a key indicator for the Irish economy. Developments in labour productivity are critical to Ireland's international competitiveness position, sustainable growth, and improvements in living standards. For this reason, the CSO's latest annual *Productivity in Ireland*<sup>161</sup> release is carefully reviewed by the Council. The Council notes and welcomes the recent (and first) publication of quarterly productivity data by the CSO for Q1 2023<sup>162</sup>. This release established that productivity fell in the first quarter of 2023. While labour productivity for the domestic sector declined by 0.1%, Foreign sector labour productivity declined by 8.2%. These fall in foreign sector labour productivity were largely due to reduced activity in the Manufacturing sector.

Like many other small open economies, Ireland has faced significant challenges over the last three years arising from external shocks beyond domestic control. These include the arrival of COVID-19 in 2020, and the onset of the war in Ukraine in 2022, with major impacts on global supply chains. Central Banks have acted in response to significant inflationary pressures, bringing an end to an era of historically low interest rates. Policies to deal with these externally driven challenges have often competed against other national priorities, that would improve competitiveness and address the barriers to productivity growth. This is the context in which recent productivity data must be examined.

Chapter 5 begins by providing an overview of the longer-term dynamics of labour productivity in Ireland and across a selection of advanced economies, which has been relatively flat over the last two decades. It then looks in more depth at the sectoral contributions to Irish labour productivity over time, noting that recent growth in labour productivity has been driven primarily by sectors that are dominated by multinational firms. Using new data metrics published by the CSO for the first time this year, this section continues by examining the productivity gap between domestic- and foreign-owned firms, on a within-sector basis, showcasing the value of firm-level micro-data in analysing sectoral trends in productivity. Finally, the labour share of GVA is an important indicator of the link between wages and productivity, and how effectively growth in productivity is translating into sustainable growth in living standards. Recognising this, Chapter 5 benchmarks the labour share in Ireland against the EU average. While the total economy labour share is significantly below the EU average this result is largely driven by sectors in which foreign firms are dominant, with the labour share for the domestic sector closer to the EU average.

### 5.2 Current Situation in Ireland

#### 5.2.1 Long-term dynamics of labour productivity

This section examines the long-term dynamics of labour productivity in Ireland and across a sample of advanced economies. Figure 5.2.1 shows trends in the five-year rolling average of GDP – and GNI\* for Ireland – per hour

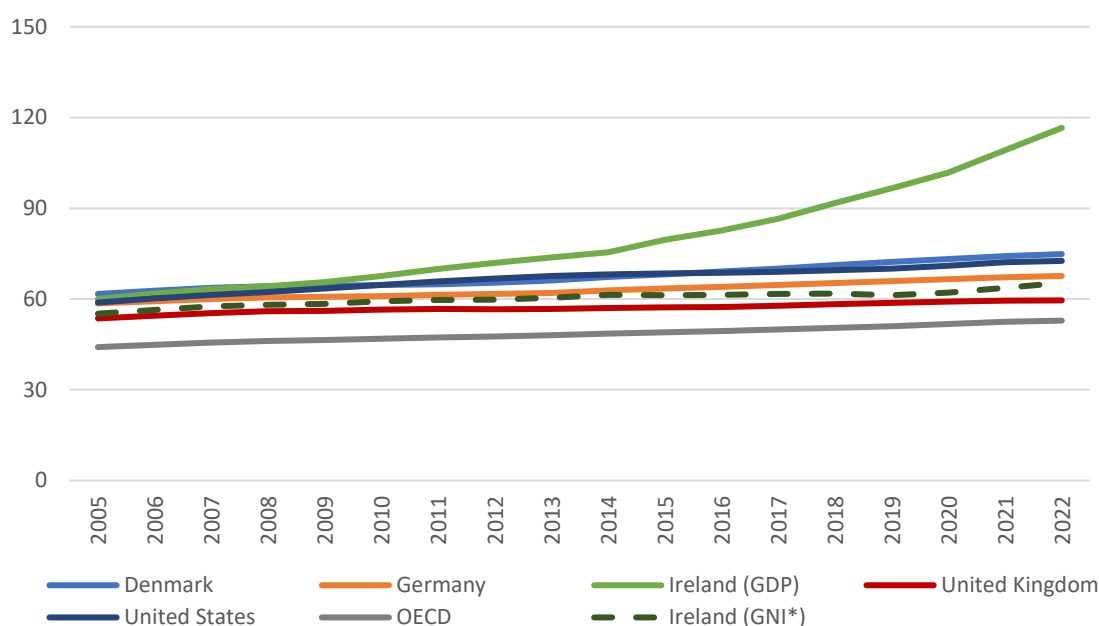
<sup>161</sup> See the latest annual release here: [Productivity in Ireland 2021](#), CSO, 24<sup>th</sup> April 2023.

<sup>162</sup> [Productivity in Ireland Quarter 1 2023 - CSO - Central Statistics Office](#)

worked, beginning in 2001. As shown, labour productivity among advanced economies has been relatively flat over the last two decades.

While Ireland performs significantly better than other advanced economies in terms of GDP per hour worked, this is strongly related to the distortionary impact of certain multinational activities on Ireland's GDP statistics. Examining Irish labour productivity in terms of GNI\* provides a view of productivity developments without these globalisation-related distortions.<sup>163</sup> As Figure 5.2.1 shows, Ireland's GNI\* per hour worked has grown more modestly during this time, and while Ireland has consistently outperformed the OECD total and the UK, it has lagged relatively more productive economies, such as Denmark, Germany, and the US.

Figure 5.2.1: GDP and GNI\* per hour worked (USD 2010 PPP), rolling five-year average, 2001-2022



Source: The Council based on data from the OECD and the CSO. Notes: 'PPP' refers to Purchasing Power Parity. This chart shows the five-year rolling average of annual labour productivity across selected economies in order to highlight longer-term productivity trends.

Figure 5.2.2a shows annual growth in labour productivity for Ireland versus the OECD, over 2002-2022. Overall, growth in labour productivity has been more volatile in Ireland compared to other advanced economies. After a period of consistent growth over 2001-2004, Irish labour productivity slowed and stalled between 2005 and 2008, and again over 2011-2013. Between 2015 and 2019, labour productivity remained largely flat at a level comparable to that seen in 2010.

Since 2020, national productivity statistics have been heavily impacted by the onset of the COVID-19 pandemic. Figure 5.2.2b shows average annual growth in labour productivity separated into two time periods. These are: the long-term (2002-2019), and the period encompassing the COVID-19 pandemic (2020-2022). As shown, Ireland's GNI\* per hour worked grew by an annual average of 0.9% over 2002-2019. However, growth in labour

<sup>163</sup> Gross Domestic Product (GDP) is the standard measure of the size of an economy. GDP consists of Gross Value Added (GVA) plus product taxes (like VAT) minus product subsidies. While taxes and subsidies are available for the economy as a whole, this is not the case for individual sectors. For this reason, sectoral developments in labour productivity tend to focus on GVA. GNI\* (Modified Gross National Income) is an alternative means of measuring the size of Ireland's economy, designed to exclude the effects of globalisation which distort Ireland's GDP data. See: [Gross Value Added - CSO - Central Statistics Office](#); and [Modified GNI - CSO - Central Statistics Office](#).

productivity over 2020-2022 was significantly above this long-run average, at 4.1%. This result was largely driven by sporadic closures in the relatively low-productivity contact-intensive sectors during the most acute phase of the pandemic, that served to reduce the overall number of hours worked while the relatively high productivity (foreign dominated) sectors did not experience similar closures and continued performing strongly.

For 2022 alone, GNI\* per hour worked was 13% higher than the pre-pandemic baseline in 2019, and 16% higher than ten years prior, in 2012. The dynamics of Irish labour productivity during the pandemic, and the implications for Ireland's domestic-foreign productivity gap, are explored in more detail in Box E.

Figure 5.2.2a: Annual growth in labour productivity, Ireland (GNI\*) vs. OECD, 2002-22

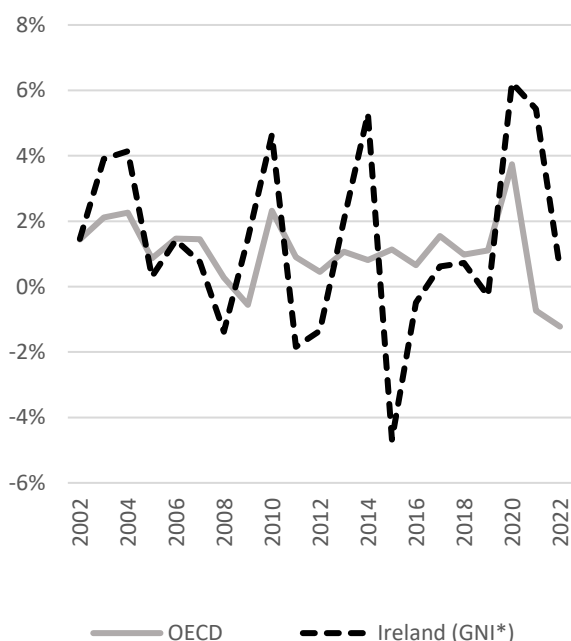
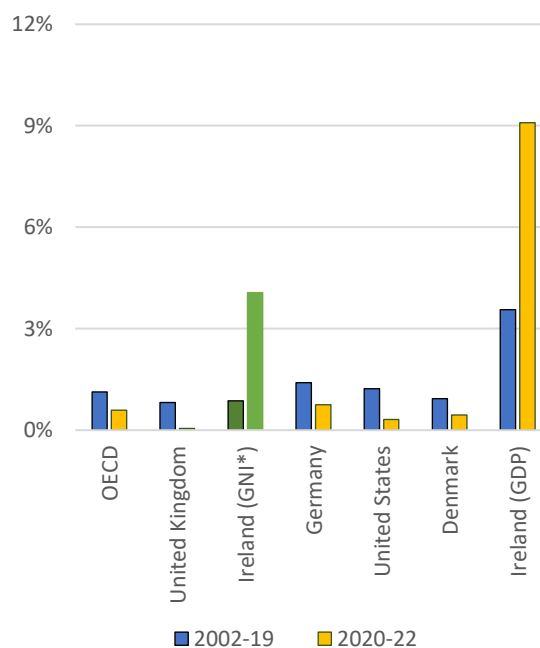


Figure 5.2.2b: Average annual growth in labour productivity, 2002-19 and 2020-22



Source: The Council based on data from the OECD and the CSO

### 5.2.2 Sectoral contributions to labour productivity

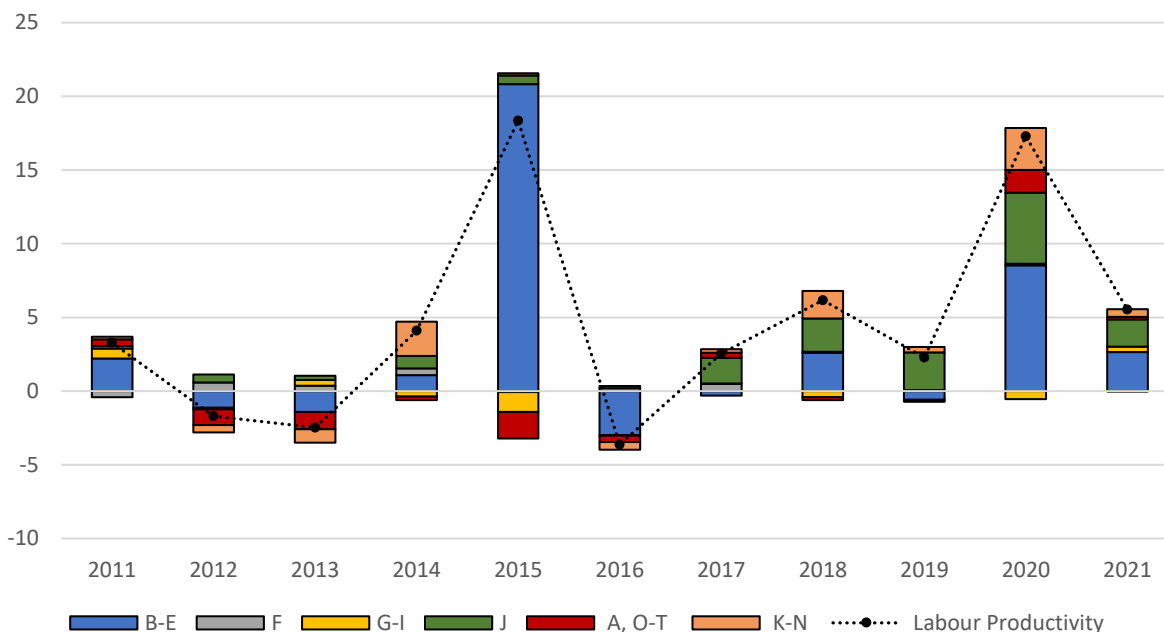
Using data shared with the Council by the CSO, Figure 5.2.3 shows sectoral contributions to growth in labour productivity from 2011-2021. 'Manufacturing' accounted for the significant growth in labour productivity seen in 2015, and together with 'Information and Communication' (another foreign-dominated sector), has accounted for most of the annual growth in labour productivity experienced since 2015.

Domestic facing sectors have contributed very modestly by comparison during this time. The annual contribution of the 'Construction' sector averaged just 0.17 percentage points, while the combined contribution of 'Wholesale and Retail Trade, Repair of Motor Vehicles and Motorcycles', 'Transportation and Storage', and 'Accommodation and Food Service Activities', has been negative on average, at -0.13 percentage points. The most significant contribution from domestic facing sectors has been from the combined 'Professional,



Scientific and Technical Activities', and 'Administrative and Support Service Activities', with an annual average contribution of 0.64 percentage points.<sup>164</sup>

Figure 5.2.3: Sectoral contributions to labour productivity growth (%), 2011-2021



Source: The Council based on data from the CSO. Notes. Some sectors have been grouped for ease of exposition. 'B-E' includes 'Mining and Quarrying', 'Manufacturing', 'Electricity, Gas, Steam and Air Conditioning Supply', and 'Water Supply, Sewerage, Waste Management and Remediation Activities'. 'F' includes 'Construction'. 'G-I' includes 'Wholesale and Retail Trade, Repair of Motor Vehicles and Motorcycles', 'Transportation and Storage', and 'Accommodation and Food Service Activities'. 'J' includes 'Information and Communication'. 'K-N' includes 'Financial and Insurance Activities', 'Real Estate Activities', 'Professional, Scientific and Technical Activities', and 'Administrative and Support Service Activities'. 'A, O-T' includes 'Agriculture, Forestry and Fishing', 'Public Administration and Defence, Compulsory Social Security', 'Education', 'Human Health and Social Work Activities', 'Arts, Entertainment and Recreation', 'Other Service Activities', and 'Activities of Households as Employers'.

**Box E: The impact of the COVID-19 pandemic on Ireland's national labour productivity statistics**

Labour productivity rose significantly in Ireland during 2020 (by more than 17%). This was a period marked by the most acute phase of the COVID-19 pandemic, characterised by administrative restrictions on economic and social activities, and an effective shut-down of contact-intensive sectors.

As shown in Figure 5.2.4a, GDP per hour worked rose by more than 17% in 2020. However, this was largely driven by activities in sectors that are dominated by foreign multinationals,<sup>1</sup> such as Manufacturing, and Information and Communications (i.e. those sectors in which foreign multinational turnover, on average, exceeds 85% of the sectoral total). These sectors were much less impacted by pandemic-related restrictions than the more labour and contact intensive services sectors (e.g. retail and hospitality), in which mandated closures led to an overall decline in hours worked. As shown in Figure 5.2.4b, hours worked across the services sectors fell by over 10% in 2020.

<sup>164</sup> Although grouped with 'Financial and Insurance Activities' and 'Real Estate Activities' in Figure 5.2.3 (see 'K-N'), these sectors actually made a slightly negative contribution on average, of -0.05 percentage points.

During 2021, as administrative restrictions eased and the relatively less productive domestic dominated sectors re-opened, growth in labour productivity slowed, though remained robust at 6.6%. This slowdown was driven by the growth in economy-wide hours worked, by 6.4% (a recovery from a low base of hours worked in 2020). Among domestic dominated sectors, as growth in hours worked outpaced growth in Gross Value Added, labour productivity fell by 1%. In contrast, foreign dominated sectors experienced growth in labour productivity of 8.3%. The COVID-19 pandemic has effectively reinforced the two-speed or dual economy that has long existed in Ireland, by exacerbating the productivity gap between domestic- and foreign-dominated sectors and leaving the GVA (and labour productivity) growth differential remaining significant in 2021 at 14.2 (9.3) percentage points.

Figure 5.2.4a: Growth in Labour Productivity, GVA and Hours Worked, Total Economy, %

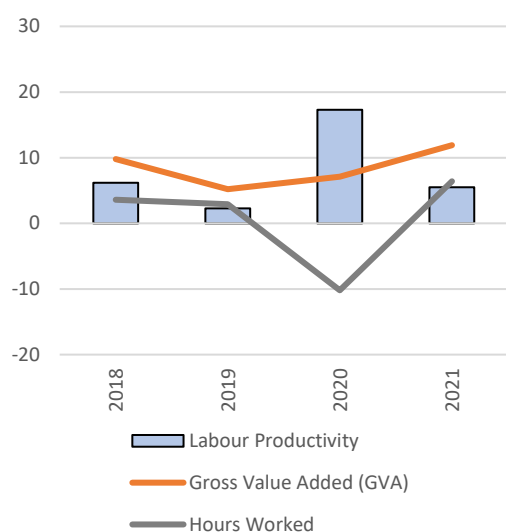
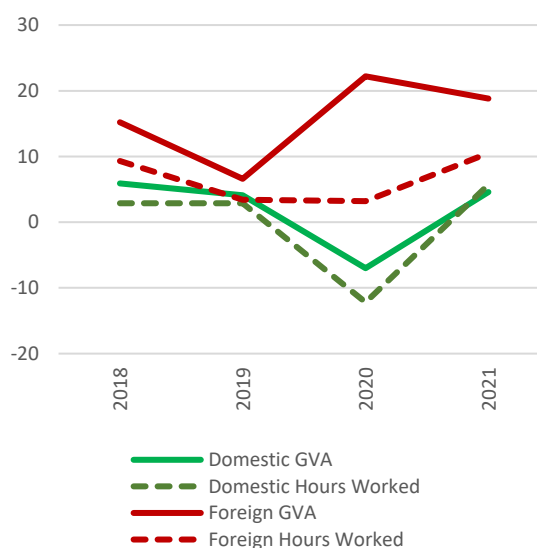


Figure 5.2.4b: Growth in GVA and Hours Worked, Domestic versus Foreign Sectors, %



Source: The Council based on data from the CSO

The impact of the pandemic can also be seen in the sectoral contributions to growth in labour productivity in 2021. In effect, there are two contributing factors that impact on the contribution of a sector to the overall dynamics of labour productivity. These are the productivity effect and the reallocation effect. The productivity effect reflects changes in labour productivity within a sector, while the reallocation effect reflects the impact on total labour productivity of changes in the size of that sector – when a sector becomes relatively larger or smaller compared to others in terms of total hours worked. For example, if a less productive sector becomes relatively smaller year-on-year, this increases overall labour productivity.

Figure 5.2.5a illustrates the scale of the productivity and reallocation effects for the most productive sectors of the economy, and for the domestic sector as a whole, in 2021. This includes 'Manufacturing', split between domestic and foreign, and 'Information and Communications' (which is dominated by foreign enterprises). Figure 5.2.5b shows this same information for a sample of lower productivity sectors, i.e. those sectors that are dominated by domestic firms. 'Manufacturing-foreign' contributed most significantly to overall productivity growth in 2021, at 2.4%. This was despite a decline in the reallocation effect, of -2.6%, indicating that the sector had shrunk in relative terms, and was driven by a strong productivity effect of 5%. For the

overall domestic sector, most of the decline in labour productivity in 2021 was due to a strong negative reallocation effect.

Figure 5.2.5a: Sectoral contributions to labour productivity growth (%), high productivity sectors, 2021

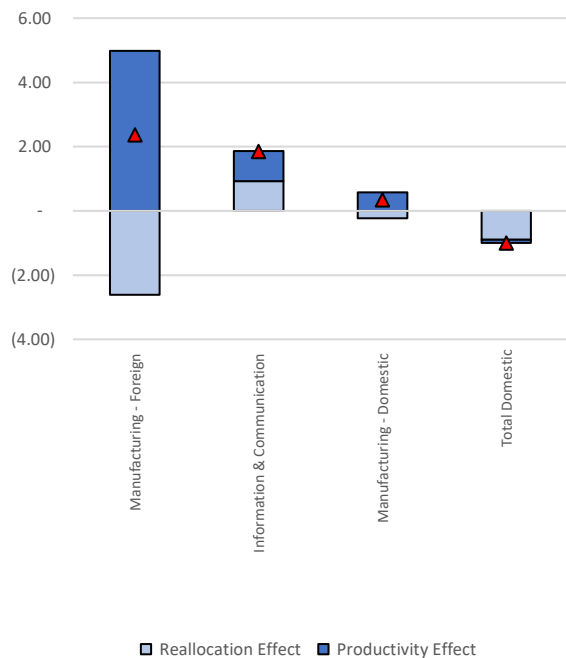
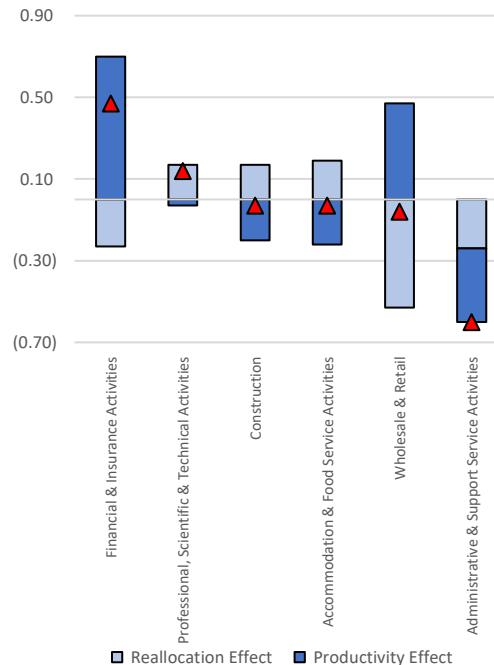


Figure 5.2.5b: Sectoral contributions to labour productivity growth (%), low productivity sectors, 2021



Source: The Council based on data from the CSO

We can examine the drivers of this by focusing on domestic facing sectors in Figure 5.2.5b. As shown, 'Financial and Insurance Activities', 'Wholesale and Retail', and 'Administrative and Support Service' all exhibited sizeable negative reallocation effects capturing the strong growth in hours worked across these less productive sectors in 2021, coming from a low base in 2020, as COVID-related restrictions eased.

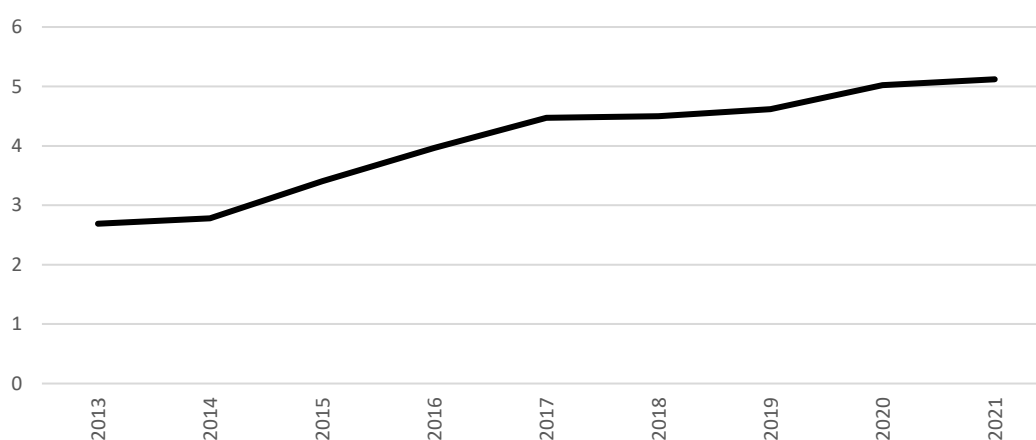
The Council notes that the strong growth in labour productivity experienced in 2021 was driven primarily by productivity in sectors that are foreign-dominated, continuing the trend observed in recent years. The Council also notes that there was a fall in labour productivity in the domestic sector in 2021, reflecting the easing of pandemic-related restrictions and a recovery in hours worked across these sectors. The Council is continuing to monitor the implications of the pandemic for labour productivity. As more recent productivity statistics become available this will facilitate analysis over an extended post-pandemic period.

### 5.2.3 The domestic-foreign productivity gap on a firm-ownership basis

As part of the *Productivity in Ireland 2021* release, the CSO has published productivity statistics that allow the assessment of productivity by firm ownership.<sup>165</sup> This means that the productivity of foreign-owned and domestic-owned firms can be analysed on a within-sector basis.<sup>166</sup>

Figure 5.2.6 illustrates the scale of the labour productivity gap between domestic- and foreign-owned firms, by showing the ratio of labour productivity for foreign-to-domestic owned firms. Even before the level shift in GVA that occurred in 2015 – driven by the onshoring of intangible assets by foreign-owned firms – GVA per employee for foreign firms outpaced that of domestic firms, and this has been increasing over time. GVA per employee in foreign-owned firms has been more than four times that of domestic-owned firms since 2017.

Figure 5.2.6: Ratio of labour productivity for foreign-to-domestic-owned firms, all sectors, 2013-2021



Source: The Council based on data from the Central Statistics Office. Notes. Labour productivity is in constant prices and is calculated on a per employee basis. Firms are classified as foreign or domestic in line with the CSO's new classification by firm ownership. The ratio refers to labour productivity for foreign-owned firms divided by labour productivity for domestic-owned firms.

Next, this section focuses on the results for individual sectors. Figure 5.2.7a shows the labour productivity ratio for those sectors where foreign firms have had a labour productivity that was more than twice that of domestic-owned firms. Figure 5.2.7b shows this ratio for those sectors where foreign-owned firms have had a labour productivity that was less than twice that of domestic-owned firms.

For the 'Manufacturing' sector, GVA per employee for foreign-owned firms has been approximately ten times that of domestic-owned firms since 2016. For the services sectors, the gap between foreign and domestic firms is smaller, but varies significantly by sector. For example, the gap between domestic and foreign-owned firms in the highly productive 'Software and Computer Programming' sector (Figure 5.2.7a) is significant and has increased considerably since 2016 – as of 2021, foreign firms were 8.5 times more productive. However, there is relative parity in the labour productivity between foreign- and domestic-owned firms operating in the considerably less productive 'Accommodation and Food' sector (Figure 5.2.7b). In the 'Telecommunications'

<sup>165</sup> Where the immediate owner of the company is a foreign firm, that company is classified as a foreign company. Where the immediate owner is a domestic firm, that company is classified as a domestic company. See: [Labour Productivity by Domestic/Foreign Ownership - CSO - Central Statistics Office](#). Productivity statistics have previously been published by the CSO according to a dominance within sectors criterion. While informative, that approach overstates the scale of domestic productivity, given the inclusion of highly productive foreign firms in domestic-dominated sectors.

<sup>166</sup> As part of this analysis, labour productivity is defined in terms of employee numbers, given the lack of data on hours worked by firm ownership.

sector (Figure 5.2.7b), domestic firms were significantly more productive over 2013-2018, however, foreign firms have outperformed since 2020.

Figure 5.2.7a: Sectors where labour productivity for foreign-owned firms has been more than double that of domestic-owned firms, 2013-2021

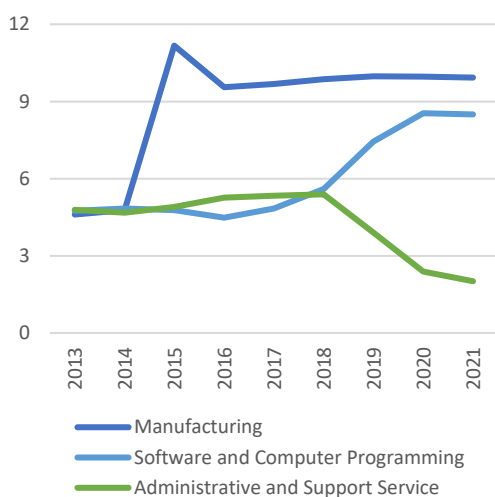
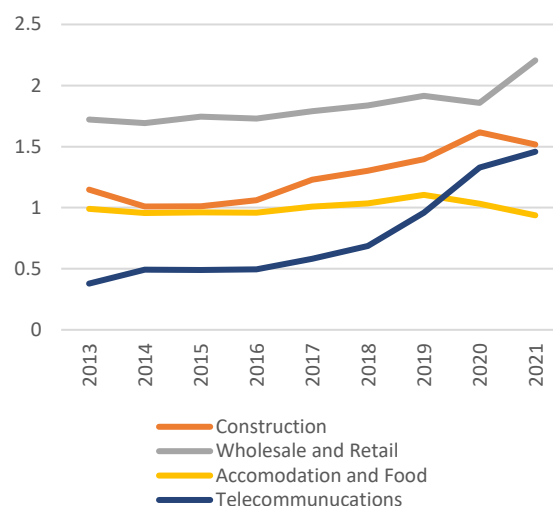


Figure 5.2.7b: Sectors where labour productivity for foreign-owned firms has been less than double that of domestic-owned firms, 2013-2021



Source: The Council based on data from the Central Statistics Office. Notes. Labour productivity is in constant prices and is calculated on a per employee basis. Firms are classified as foreign or domestic in line with the CSO's new classification by firm ownership. The ratio refers to labour productivity for foreign-owned firms divided by labour productivity for domestic-owned firms within each sector.

For the 'Construction' sector (Figure 5.2.7b), until 2016, foreign and domestic firms were largely equivalent in terms of labour productivity, but foreign firms have increased their lead over time, and since 2019 have been approximately 1.5 times more productive. Section 6.4 examines enterprise digitalisation and outlines that there is potentially a digital productivity dividend to be leveraged by firms operating in the construction sector if progress can be made in the adoption and usage of digital technologies. While the gap has narrowed for firms in 'Administrative and Support Services' sector (Figure 5.2.7b) since 2018, labour productivity among foreign firms in the sector was double that of domestic firms in 2021.

As outlined in the CSO publication,<sup>167</sup> even among sectors that are dominated by multinational activity, there remains a sizeable employment contribution to the economy from domestic-owned firms. For example, as shown in Figure 5.2.7a, domestic firms in 'Software and Computer Engineering' are about 8.5 times less productive than their foreign counterparts as of 2021. They do, however, account for over a third of total employment in the sector. For 'Wholesale and Retail', foreign firms are twice as productive as their domestically-owned counterparts, while the latter accounts for two-thirds of employment in this sector. Similarly, while foreign manufacturing firms are ten times more productive than their domestic counterparts, for most manufacturing sectors, domestic firms account for the majority of employment.<sup>168</sup>

In addition, domestic firms operating in highly-productive foreign-dominated sectors tend to be more productive on average than those operating in domestic-dominated sectors, despite being outpaced by their foreign counterparts. For example, among domestic-owned firms, those operating in telecommunications and

<sup>167</sup> See: [Productivity in Ireland](#), CSO, 2021.

<sup>168</sup> *Ibid.*

the manufacture of chemicals, pharmaceutical and computer products<sup>169</sup> are among the most productive (domestic-owned) firms in the economy.

The outperformance of foreign-owned firms relative to domestic-owned firms within the same sectors likely relates to the level of scale and success that firms are required to reach in order to be able to operate in international markets. While foreign-owned firms have achieved this, the domestic-owned firms that are captured in this data will reflect companies at all levels of development. In addition, while this analysis is at a broad sectoral level in line with NACE classification, the divergence between domestic- and foreign-owned firms may be less pronounced at lower levels of aggregation.

The Council welcomes the publication of the new productivity data by the CSO that provides a more detailed view of productivity in Ireland using firm level micro-data. This data highlights the heterogeneity of productivity between foreign and domestic owned firms on a within-sector basis, showcasing the value of firm-level micro-data in analysing sectoral trends in productivity.

The Council looks forward to future productivity releases by the CSO that build on this work and that support the research and analysis of key policy issues made possible by this new data.

#### 5.2.4 Benchmarking Ireland's labour-share of GVA

The labour share is the proportion of GVA attributed to labour (for example, in the form of wages, social benefits and self-employed income) with the remainder being attributed to capital (as profits to be returned as dividends to shareholders and interest to lenders). A decreasing labour share implies that workers are receiving relatively lower compensation for their output, which could also be explained by increases in profits. The labour share falls when wages grow more slowly than productivity, with a greater share of the gains from productivity accruing to capital. As capital ownership is concentrated at the upper ends of the income distribution, falling labour shares are associated with a rise in income inequality.<sup>170</sup> Labour shares have been falling among advanced economies over the last several decades, driven by technological progress and trends associated with strengthened global integration.<sup>171</sup>

Ireland's 'Total Economy' labour share has trended downwards since 2008 and has been heavily influenced by the onshoring of intangible assets by foreign-owned enterprises, with these assets adding significantly to the capital stock since 2015 (Figure 5.2.6a). As of 2021, the labour share for the relatively more labour-intensive domestic-dominated sector was 49.7%, five times that of the foreign-dominated sector, at 9.2%.<sup>172</sup> This is indicative of a much larger gap between employment incomes and profitability in the foreign sector, compared to the domestic sector.

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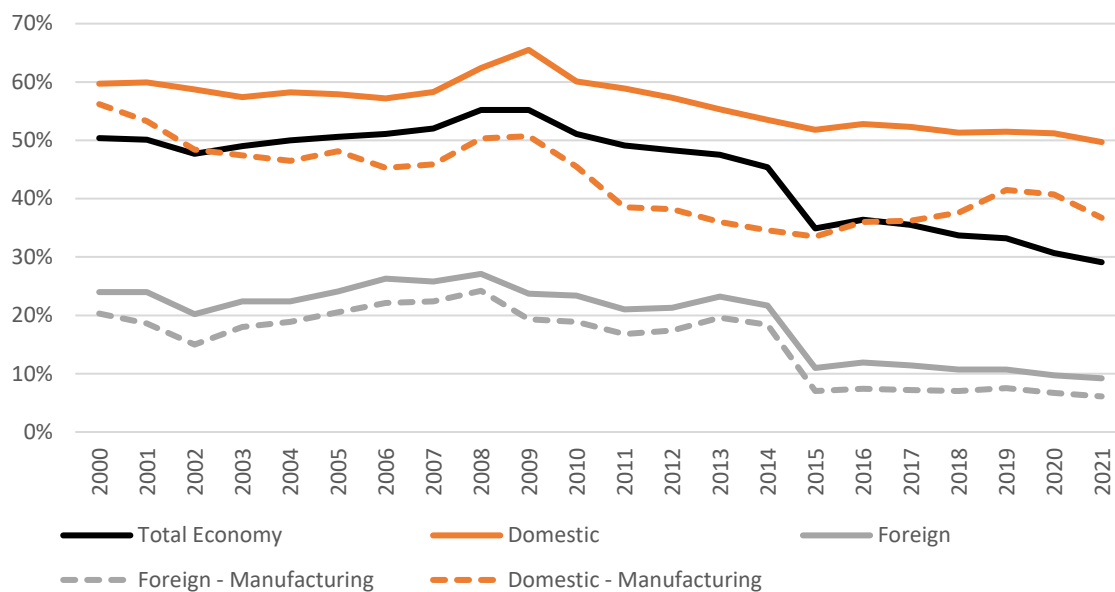
<sup>169</sup> Specifically, the 'Manufacture of coke and refined petroleum products, chemicals and chemical products, pharmaceutical products and pharmaceutical preparation, computer, electronic and optical products (19-21, 26)'.

<sup>170</sup> [Inequality and the Decline in Labor Share of Income](#), IMF Blog, March 20<sup>th</sup> 2017.

<sup>171</sup> Dao, M. C., Das, M., Koczan, Z. and W. Lian. 2017. "[Drivers of Declining Labor Share of Income](#)", *IMF Blog – Insights and Analysis on Economics and Finance*, 12 April 2017.

<sup>172</sup> Based on CSO data, see: [Labour Share - CSO - Central Statistics Office](#).

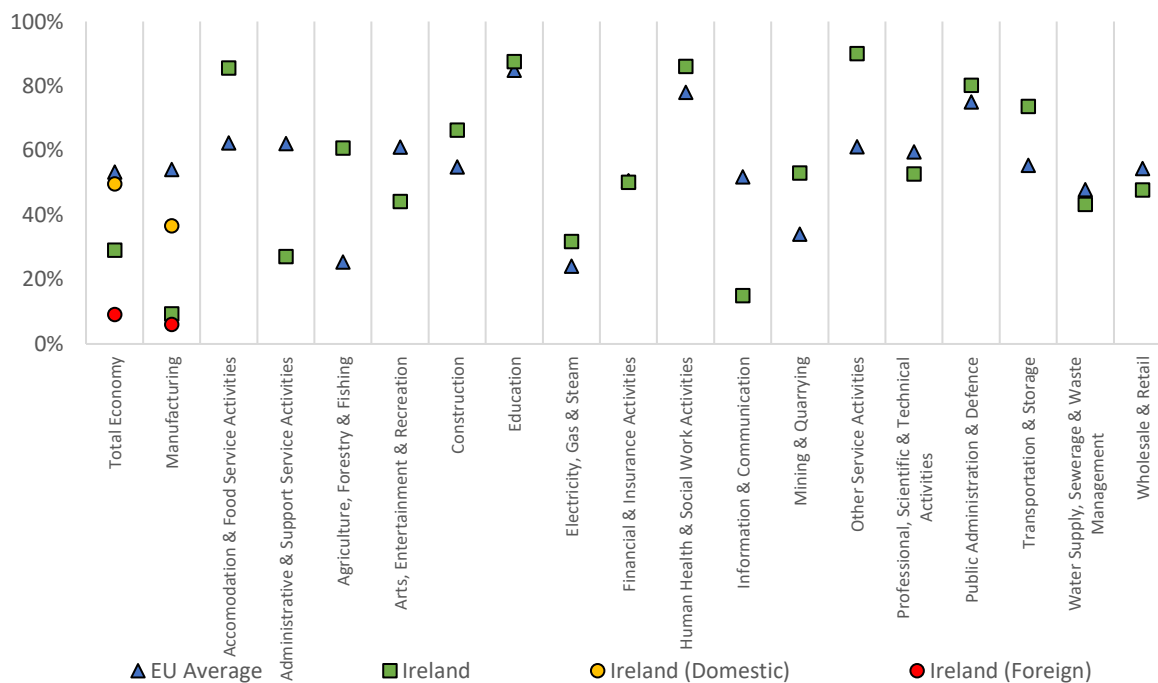
Figure 5.2.6a: Labour share of Gross Value Added, Ireland, 2000-2021



Source: The Council based on data from the CSO.

To benchmark Ireland's labour share, Figure 5.2.6b shows the labour share across individual sectors compared to the EU average. The labour share for 'Total Economy' and 'Manufacturing' has been separated into domestic (i.e. domestic-dominated) and foreign (i.e. foreign-dominated). While the 'Total Economy' labour share is significantly below the EU average (at 29.1% versus 53.4%), the domestic-foreign split reveals that this result is largely driven by sectors in which foreign firms are dominant, with the labour share for the domestic sector close to the EU average (at 49.7%).

Figure 5.2.6b: Labour share of Gross Value Added, Ireland versus EU average, 2021



Source: The Council based on data from the Central Statistics Office and Eurostat. Notes: For 'EU average', the labour share calculated as Compensation of Employees divided by GVA.

However, while the Irish labour share is particularly low for the foreign component of 'Manufacturing', the labour share for the domestic component of 'Manufacturing' is also considerably below the EU average. Among domestic-dominated sectors, the labour share is also below the EU average for 'Administrative and Support Service Activities', 'Arts, Entertainment and Recreation', 'Professional, Scientific and Technical Activities', 'Wholesale and Retail', and 'Water Supply, Sewerage and Waste Management'.

International comparisons of the labour share should be interpreted with caution, however, owing to cross-country differences in industrial composition, employment and working conditions, collective bargaining, and broader macroeconomic and fiscal conditions. However, the labour share is an important indicator of the link between wages and productivity, and how effectively growth in productivity is translating into sustainable growth in living standards. Recognising this, the Council will continue to monitor and benchmark trends in the Irish labour share over time and against the backdrop of forthcoming changes to working conditions (as outlined in section 2.2.2).<sup>173</sup>

### 5.3 Summary

This chapter has set out the current context of productivity in Ireland, focusing on the latest national productivity statistics, with an emphasis on the long-term dynamics of labour productivity. Labour productivity among advanced economies has been relatively flat over the last two decades. However, Ireland has consistently outperformed the UK and broader OECD, but has lagged more productive economies, such as Denmark, Germany and the US.

National productivity statistics over 2020-2021 were heavily impacted by the onset of the pandemic. While GNI\* per hour worked grew significantly during this time, this was driven by sporadic closures in the relatively low-productivity sectors, that served to reduce the overall number of hours worked while the relatively high productivity (and foreign dominated) sectors continued performing strongly. In 2022, GNI\* per hour worked was 13% higher than the pre-pandemic baseline (in 2019), and 16% higher than in 2012, ten years prior.

The release by the CSO of productivity data informed by a firm-level micro analysis has highlighted the heterogeneity of productivity between foreign and domestic owned firms on a within-sector basis. This data shows that, among the most productive sectors of the economy, foreign-owned firms are much more productive than their domestic counterparts. It appears likely that this relates to the level of scale and success that firms are required to reach in order to be able to operate in international markets. While foreign-owned firms have achieved this in respect of their home markets, the domestic-owned firms that are captured by this data will reflect companies at all levels of development. This data also highlights that, even among sectors that are dominated by multinational activity, there remains a sizeable employment contribution from domestic-owned firms. Chapter 6, which follows, examines the key enablers of productivity – research, development and innovation.

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<sup>173</sup> Using an income-based approach to calculating GNI\*, Timoney (2023) derives GVA\*, a measure of Gross Value Added that is consistent with GNI\*, estimated using sectoral data. In effect, GVA\* amounts to domestic GVA plus foreign sector wages and corporation tax. Overall, Ireland's GVA\* per hour worked has grown 1.4% a year on average over 1995 to 2021, slower only than Sweden (1.7%). In terms of the labour share, when expressed in terms of GVA\*, this has been relatively more stable over time, falling from 68% in 1995 to 59% in 2021. The Council welcomes this research and its important contribution to furthering the Council's understanding of Ireland's national productivity statistics. The Council will consider this analysis in its assessment and benchmarking of productivity in future work. See: K. Timoney. 2023. [Demystifying Ireland's national income: a bottom-up analysis of GNI\\* and productivity](#), Working paper no. 21, June 2023.



## Chapter 6: Enablers of Productivity – Research, Development, and Innovation

### 6.1 Introduction

Innovation is a fundamental driver of economic progress and an important determinant of international competitiveness. An early theoretical framework for understanding the role played by innovation in driving long-run economic growth and developments in productivity is provided by Solow (1956),<sup>174</sup> who models growth exogenously, as a function of not only capital and labour, but of technological progress. Romer (1990)<sup>175</sup> develops this framework further, with technological progress determined endogenously within the model, driven by human capital and innovation. Through innovation, firms can boost their productivity, enabling them to introduce new processes, products, and services, and to deliver value and secure advantages over their competitors.

Investment in research and development (R&D) is key for Irish enterprises to innovate, allowing them to compete and thrive in competitive domestic and international markets. The overall economic impact of R&D activities depends on the scale and quality of the firm's investment, and its interaction with the innovation ecosystem, comprising firms, universities, and Government, as well as education and training systems, the labour market, and the financial system. In addition, a proactive, systematic approach to innovation is critical to build future focused, resilient and sustainable organisations, that can innovate faster and create more value with fewer resources.

Section 2 of this Chapter begins by setting out statistics on innovation in Ireland, informed by the Community Innovation Survey. Following this, Section 3 examines research and development (R&D) activity in Ireland, with a particular emphasis on the R&D tax credit. Section 4 examines Ireland's performance in international indices of innovation and explores some of the shortcomings of these indices informed by recent analysis by the Council.<sup>176</sup>

Section 5 covers a range of issues relating to the digitalisation of enterprise. This includes an analysis of Ireland's progress on enterprise digitalisation informed by the European Commission's Digital Economy and Society Index (DESI), and an overview of the challenges and opportunities presented by disruptive technologies, such as Artificial Intelligence (AI) and quantum computing. Finally, evidence is presented on potential barriers to enterprise digitalisation, informed by joint ESRI and Department of Enterprise, Trade and Employment research. Section 6 gives an update on the green transition, and finally, Section 7 addresses skills and life-long learning – key enablers of the twin green and digital transitions.

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<sup>174</sup> Solow, R. 1956. "A contribution to the Theory of Economic Growth", *The Quarterly Journal of Economics*, Vol. 70, Iss. 1.

<sup>175</sup> Romer, P. 1990. "Endogenous Technological Change", *Journal of Political Economy*, Vol. 98, No. 5.

<sup>176</sup> [Bulletin 23-2 International Innovation Indicators](#), National Competitiveness and Productivity Council, July 2023.

## 6.2 Current Situation in Ireland

### 6.2.1 Innovation spending as captured by the Community Innovation Survey (CIS)

Using data collected as part of the Community Innovation Survey (CIS)<sup>177</sup> – a biennial survey of the innovation activities of enterprises in EU Member States – the CSO provides information on innovation activity in Ireland. In 2020, the latest year of available data, spending on innovation by enterprises in Ireland was €7.4 billion – an increase of 36.3% on the 2018 level (see Table 6.2.1). This increase was driven primarily by a particularly sharp rise in spending on in-house R&D (which more than doubled to €6.1 billion).

In terms of the number of enterprises involved in innovation, 53.4% of Irish firms and 73.3% of foreign firms were engaged in innovation activities in 2020. Focusing on firm size, approximately half of small enterprises were engaged in innovation expenditure, significantly below the 83% of larger firms. Overall, 57.7% of enterprises in Ireland were recorded as engaging in innovation activities in 2020, compared to an EU average of 51.8%.<sup>178</sup>

Table 6.2.1. Research, development and innovation in Ireland, € million, 2020

	Nationality of ownership		Size class			All enterprises
	Irish	Foreign	Small (10-49)	Medium (50-249)	Large (250+)	
In-house R&D	1,246	4,835	335	869	4,876	6,081
Purchase of External R&D	386	425	138	405	269	811
Acquisition of machinery, equipment and software	223	113	24	180	132	336
Acquisition of other external knowledge	14	17	0.8	4.8	26	32
Other expenditure	140	35	6	69	99	174
<b>Total innovation expenditure</b>	<b>2,009</b>	<b>5,426</b>	<b>505</b>	<b>1,528</b>	<b>5,403</b>	<b>7,434</b>
% of total enterprises with innovation activities	53.4%	73.3%	50.9%	61.6%	83.0%	57.7%

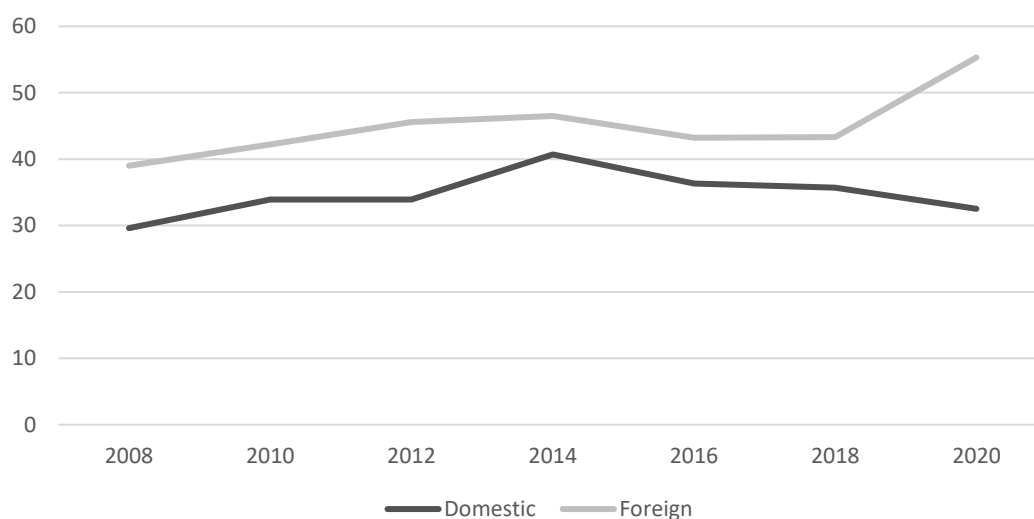
Source: [Community Innovation Survey, CSO](#).

<sup>177</sup> This survey is published as Innovation in Irish Enterprises (IIE). Enterprises with 10 or more persons engaged in NACE activities B, C, D, E, G, H, J, K and M were included. Circa 4,450 survey forms were issued to sampled enterprises from the CSO's Business Register, with a response rate of 51%. See: [Background Notes - CSO - Central Statistics Office](#).

<sup>178</sup> Eurostat.

The gap between foreign and domestic firms in terms of the percentage of enterprises engaged in innovation expenditure has increased over time. As shown in Figure 6.2.1, there was a sharp rise in foreign firms engaged in innovation in 2020 relative to 2018, while the proportion of domestic firms engaged in innovation fell during this time.<sup>179</sup>

Figure 6.2.1. Proportion of firms engaged in innovation activities (%), domestic vs. foreign, 2008-2020



Source: Community Innovation Survey, CSO.

Table 6.2.2 details the factors identified in the CIS as hampering innovation activities in 2020 and indicates the percentage of firms that considered each factor to be of 'high' importance in Ireland and the broader EU. Among enterprises in Ireland, the most frequently reported factor was a difference in priorities within the enterprise (10.4%). This was followed by a lack of qualified employees (7.3%), and a lack of internal finance (6.4%). This suggests that the main issue hampering engagement in innovation by enterprises in Ireland was firm-specific rather than a function of policy. In general, a smaller share of Irish firms deemed each of the factors identified in Table 6.2.2. to be of 'high importance' compared to the EU average. On average, firms across the EU identified high costs as an important barrier to engagement in innovation activities at a higher rate than other factors (17.7%).<sup>180</sup>

Table 6.2.2 Factors hampering innovation spending – high importance, %, 2020

Factor	Ireland	EU average
Lack of internal finance	6.4%	13.4%
High costs	6.1%	17.7%
Lack of qualified employees within enterprise	7.3%	13.2%
Lack of collaboration partners	1.5%	5.5%
Difficulties in obtaining public grants or subsidies	4.6%	11.9%

<sup>179</sup> It is important to note that these statistics will be impacted by the presence of redomiciled PLCs, that is, multinational firms whose head offices are now based in Ireland.

<sup>180</sup> In the CIS, data on innovation is defined in line with the [Oslo Manual](#), while the Frascati Manual is used for the assessment and classification of data on R&D activity. The [Frascati Manual](#) is also used when defining R&D activity for the purposes of the [R&D tax credit](#).

Uncertain market demand	4.2%	9.6%
High competition	3.4%	11.5%
Lack of external finance (credit or private equity)	3.0%	8.4%
Lack of access to external knowledge	1.8%	4.8%
Different priorities within the enterprise	10.4%	12.3%

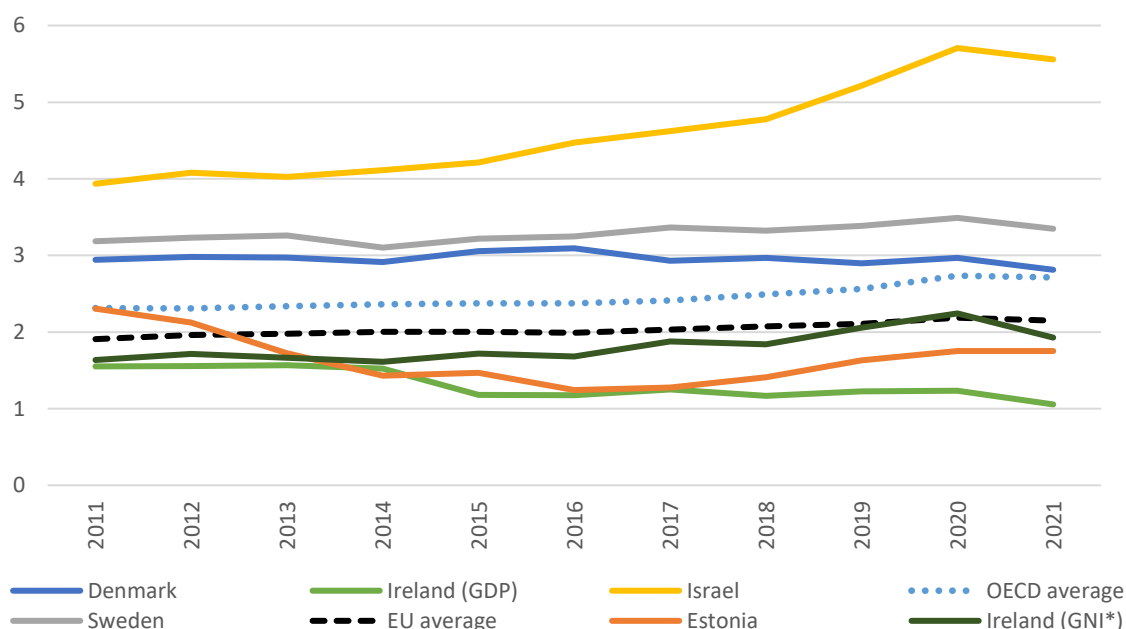
Source: Eurostat, based on results from the Community Innovation Survey. Notes. EU average based on an average of the EU countries for which 2020 data was available.

### 6.2.2 R&D expenditure

In terms of gross spending on R&D as a percentage of GDP/GNI\*, Ireland has lagged competitor economies. This has been raised in successive country reports by the European Commission,<sup>181</sup> which has also flagged that public R&D intensity in Ireland is among the lowest in the EU.<sup>182</sup> This has impacted Ireland's relative performance in international indices of innovation (such as the Global Innovation Index and the European Innovation Scoreboard, as discussed in section 6.4).

Scaling R&D expenditure by GNI\* provides a more reliable indicator of the scale of activity taking place, without the distortions associated with multinational activity that are implicit in Ireland's GDP statistics. As shown in Figure 6.3.1, gross expenditure on R&D in Ireland as a percentage of both GNI\* and GDP has been consistently below the EU and OECD averages throughout the last ten years (with the exception of GNI\* in 2020). However, Ireland has been closing the gap versus the EU average since 2014, which has been relatively flat. For 2021, Ireland's R&D spending relative to GNI\* at 1.9%, was broadly in line with the long-run average since 2011 (of 1.8%).<sup>183</sup>

Figure 6.3.1: Gross R&D Expenditure as a percentage of GDP/GNI\*, %, 2011-2021



Source: Council based on OECD and Eurostat data.

<sup>181</sup> See: [2022 Country Report – Ireland](#), and [2023 Country Report – Ireland](#).

<sup>182</sup> *Ibid.*

<sup>183</sup> This does not include revenue foregone *via* tax supports for R&D activity, such as the R&D tax credit.

R&D spending by sector

Figure 6.3.2a shows the sectoral shares of gross R&D expenditure in Ireland over 2011-2021. As shown, the main driver of R&D spending has been the business sector (or BERD), which has risen significantly since 2016, dramatically outpacing expenditure growth in the government and higher education sectors. Compared to the EU total, the business sector in Ireland has accounted for a much larger share of overall R&D spending, and this has held throughout the last ten years, with the gap widening considerably in 2021. Spending by government has historically accounted for a small share of gross R&D spending in Ireland – the government sector has been a relatively larger source of R&D for the EU. In 2021, BERD accounted for approximately 80% of gross R&D spending in Ireland, compared to 60% for the wider EU.

Figure 6.3.2a: Share of R&D Expenditure by sector, Ireland vs. EU, 2011-2021

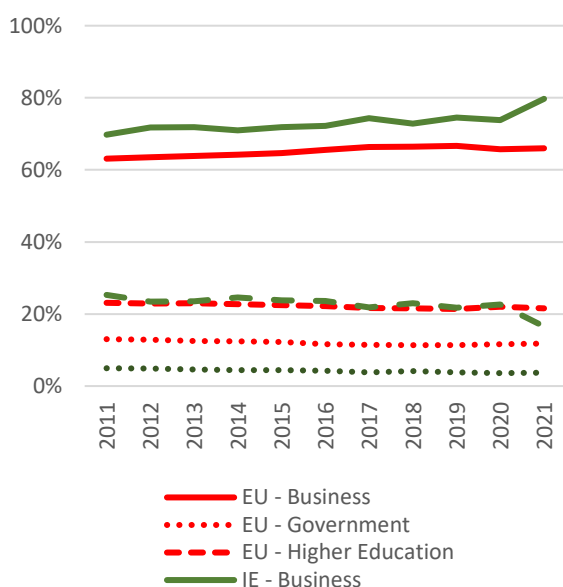
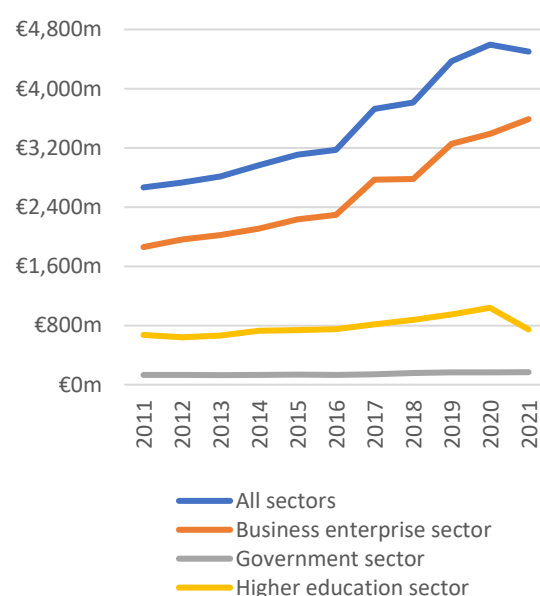


Figure 6.3.2b: Gross R&D expenditure by sector, 2011-2021



Source: The Council based on Eurostat data.

BERD Survey

Strikingly, Table 6.2.1 (based on data from the CIS survey) shows that foreign firms outspent domestic firms in terms of in-house R&D at a rate of almost four-to-one in 2020. We can examine more recent trends in business sector R&D activity using the Business Expenditure on Research and Development (BERD) 2021-2022 survey.

The BERD survey differs from the CIS, in that, the CIS defines innovation in line with the Oslo manual, whereas the BERD survey examines R&D as defined in line with the Frascati manual. In this way, the CIS takes a broader view in assessing R&D and innovation.

Nonetheless, Figure 6.3.3 shows the trend in total R&D expenditure by the business sector (BERD) since 2008 (with an estimate of R&D spending used for 2022), split between domestic and foreign firms. Foreign firms have consistently outspent domestic firms on R&D, with the gap increasing significantly post-2015. The BERD survey provides several other interesting insights.

Figure 6.3.3: BERD split between Irish and foreign firms, 2009-2022 (est.)



Source: The Council based on CSO data (BERD 2021-2022 survey).

Firstly, R&D expenditure by the business sector in Ireland is heavily concentrated – the top 100 enterprises accounted for 79% of R&D spending in 2021, of which, foreign-owned companies accounted for 76%.<sup>184</sup> Secondly, of those firms that engaged in R&D activities in 2021, a majority (more than two-thirds) spent less than €500,000, while 13.1% spent €2 million or more (see Table 6.3.3). Further, the majority of enterprises engaged in R&D were SMEs (89.8%). Approximately 70% of those firms engaged in R&D were Irish owned, and of these 80% spent less than €500,000, compared with 40% of foreign firms. Finally, SMEs were marginally more likely to report public funding as a source of funds for their R&D activities, at 3% versus 4% for larger firms in 2021.

Table 6.3.3 R&amp;D spending by firm size and nationality, Ireland, 2021

Size of Enterprise	Any expenditure	<= €99,999	€100,000 - €499,999	€500,000 - €1,999,999	€2,000,000 - €4,999,999	€5,000,000 >=
Small (<50 persons)	1,266	520	478	214	43	11
Medium (50-249 persons)	469	113	151	109	52	45
Large (250+ persons)	195	7	38	47	33	71
Non-Irish ownership	1,345	541	531	208	39	26
Irish ownership	1,931	640	668	370	127	126
All enterprises	1,931	640	668	370	127	126

Source: The Council based on CSO data (BERD 2021-2022 survey).

### Benchmarking State support for BERD

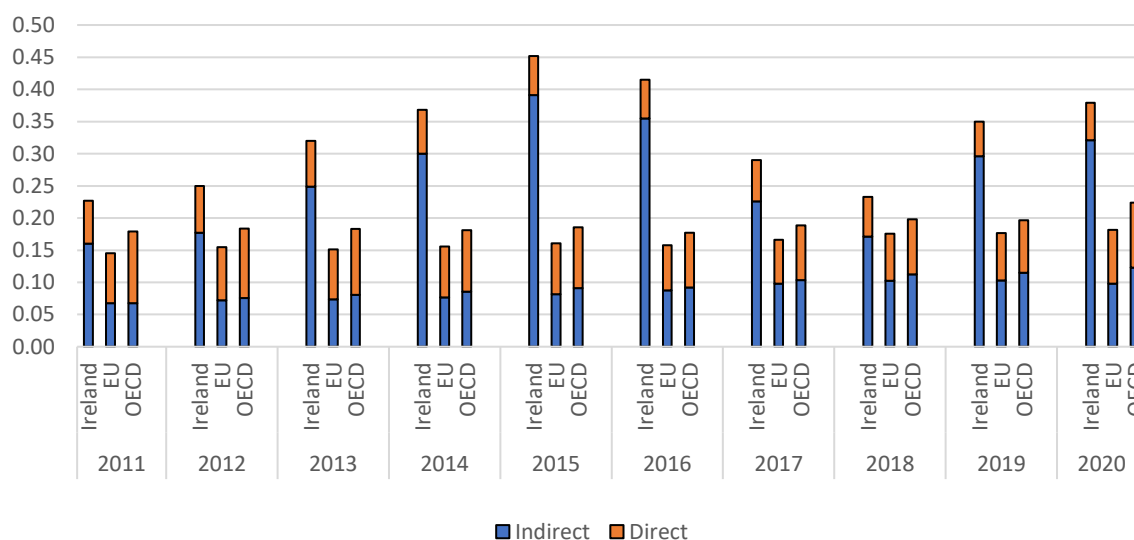
In terms of State support for business sector R&D activity (BERD), Ireland performs well compared to the EU and OECD averages when both direct spending and tax supports are included. This is driven by the scale of indirect, rather than direct, supports. Figure 6.3.4 shows overall State support for BERD as a proportion of GDP (or GNI\* for Ireland), separated into indirect (tax) and direct supports.

<sup>184</sup> [Business Expenditure on Research and Development 2021-2022](#), CSO, 4<sup>th</sup> May 2023.

Overall, State support for BERD relative to GNI\* fell over 2015-2018. This was driven by a reduction in indirect supports, despite direct supports increasing over the same period. However, overall State support has increased since 2018, driven by a sharp increase in the level of indirect supports in 2019 that was maintained into 2020. As of 2020, the level of indirect supports for R&D activity in Ireland was more than five times that of direct supports.

While the scale of direct (expenditure) supports in Ireland has been consistently below the EU and OECD averages, the scale of indirect (tax incentive-based) supports has been significantly higher, and this has largely been driven by take-up of the R&D tax credit (discussed in section 6.2.3). These forms of support, however, should not be seen as substitutes. New firms, or those that are financially constrained, may be more responsive to direct supports in the form of grants and subsidies. In successive country reports for Ireland,<sup>185</sup> the European Commission have highlighted Ireland's dependence on tax incentives for R&D activity and have advised that reducing this dependence and providing more direct support to SMEs would assist in developing a more comprehensive and integrated innovation ecosystem.

Figure 6.3.4: Government supports (tax and spending) for R&D as a percentage of GDP (GNI\* for Ireland), 2012-2020



Source: The Council based on OECD data. Notes. Irish figures refer to GNI\*. Notes. 'Indirect' refers to supports in the form of tax incentives while 'Direct' refers to direct spending programmes.

### Impact 2030

The Government's *Impact 2030* strategy (May 2022) commits to a target 'research intensity' rate of 2.5% of GNI\* by 2030, to be achieved through an increase in R&D spending (with a targeted doubling of BERD).<sup>186</sup> This target is restated in the White Paper on Enterprise (December 2022).<sup>187</sup> However, even if this 2030 target is achieved, Ireland's R&D spending would still lag the OECD average for 2021 (which is 2.7% of GDP), as well as other small advanced economies, such as Sweden (3.3%), Denmark (2.8%), and Israel (5.6%). Figure 6.3.3 shows the level of R&D spending that would be required to hold Ireland's 2021 ratio of R&D spending to GNI\* constant, out to 2026, based on alternative forecasts of GNI\* prepared by the Department of Finance (April 2023) and the Central Bank of Ireland. This chart also shows the level of R&D spending that is implied by the 2030 target

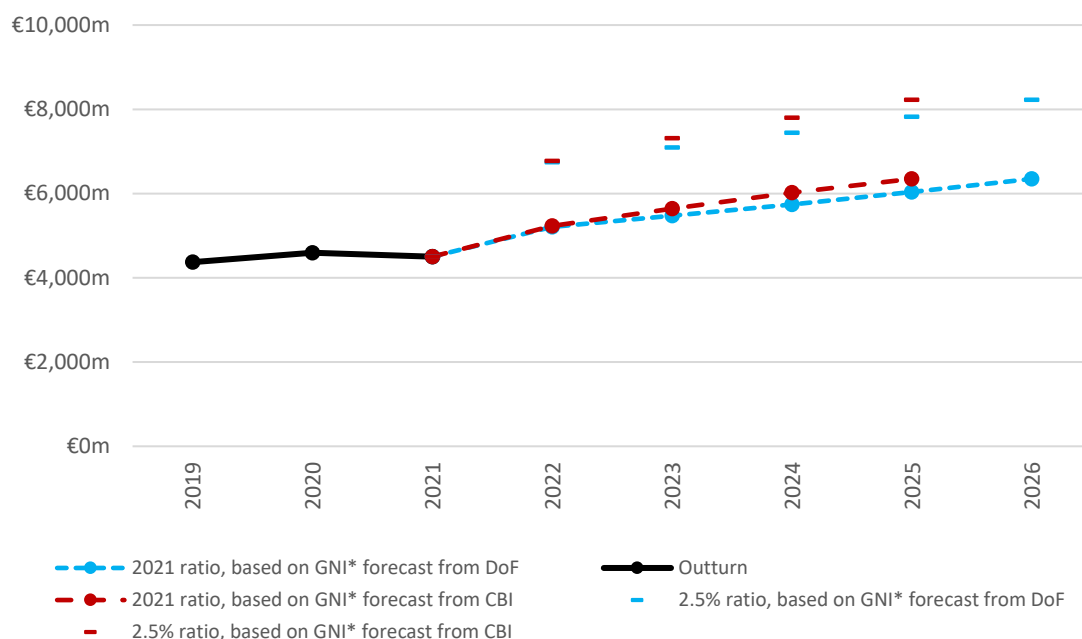
<sup>185</sup> [2023 Country Report – Ireland](#), European Commission, May 2023; [2022 Country Report – Ireland](#), European Commission, June 2022.

<sup>186</sup> [Impact 2030 – Ireland's Research and Innovation Strategy](#), Department of Further and Higher Education, Research, Innovation and Science, 18<sup>th</sup> May 2022.

<sup>187</sup> [White Paper on Enterprise 2022-2030](#), Department of Enterprise, Trade and Employment, 7<sup>th</sup> December 2022.

of 2.5% for each forecast of GNI\*. As shown, significant progress will be required if Ireland is to reach what is, by international standards, a modest expenditure target by 2030.

Figure 6.3.3: Estimated gross expenditure on R&D required to maintain 2021 ratio



Source: The Council based on OECD data, and forecasts from the Department of Finance (Stability Programme Update 2023, April 2023) and Central Bank of Ireland (Quarterly Bulletin Q2 2023, June 2023).

The Impact 2030 strategy also includes a focus on driving regional innovation, through 'Smart Specialisation' – an innovation policy concept developed by the European Commission to boost regional innovation. Smart Specialisation Strategies (or S3) aim to prioritise public research and innovation investments for the economic transformation of regions, building on regional competitive advantages and facilitating market opportunities.

Ireland's S3 is reinforced by the National Smart Specialisation Strategy for Innovation 2022-2027,<sup>188</sup> which acts as a bridge between national level priorities on R&D and innovation – as articulated in the Impact 2030 strategy and the White Paper on Enterprise – and regional sectoral priorities. In effect, the S3 aims to link several policy areas: Regional Enterprise Plans (REPs) and the Regional Spatial and Economic Strategies (RSEs) will inform the S3, which will in turn inform the regional enterprise aspect of Impact 2030.

The S3 aims to support national R&D and innovation with the adaptation of supports with a regional dimension through funding from the European Regional Development Fund. This will involve supporting projects that boost regional enterprise innovation and growth, and that address regional disparities. Further, by supporting regionally based SMEs working collaboratively with other partners, the ERDF will be used to drive digitalisation, technological advances, and green economy opportunities, enabling SMEs to improve their competitiveness and potential for growth and internationalisation. It is intended that ERDF funding will assist in increasing research intensity in SMEs, and SME engagement with the public research system.

### 6.2.3 R&D tax credit take-up and expenditure

2021 saw the largest number of claimants of the R&D tax credit since this incentive was introduced in 2004. Figure 6.3.5a shows the number of claimants and the cost of the credit (in terms of tax revenue forgone) over

<sup>188</sup> [National Smart Specialisation Strategy for Innovation 2022-2027](#), Department of Enterprise, Trade and Employment, July 2023.



the last ten years, broken-down by claimant size. While SMEs continue to make-up the vast majority of claimants of the R&D tax credit, large firms dominate in terms of cost of the credits. As shown in Figure 6.3.5b, the average cost per SME claimant in 2021 was approximately €135,000, and this has stayed relatively constant over the last ten years. In contrast, the average cost per large claimant was approximately €2.8 million, and this figure has been considerably more volatile, reaching a peak of almost €4 million in 2015.

Figure 6.3.5a: R&D Tax Credit by firm size, number of claimants and cost to Exchequer, 2012-2021

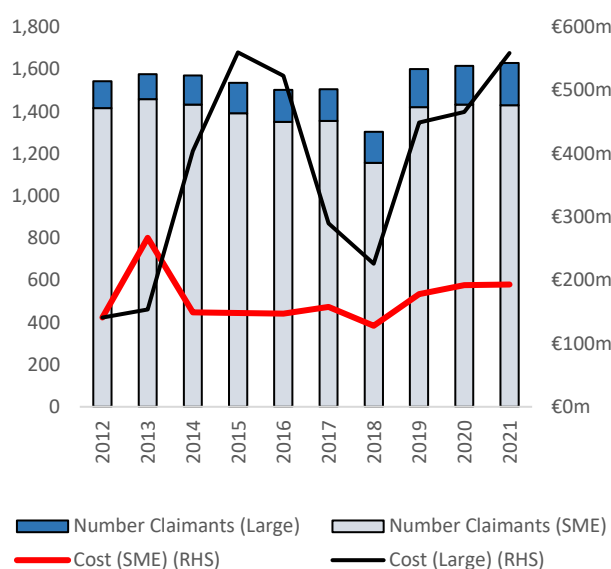
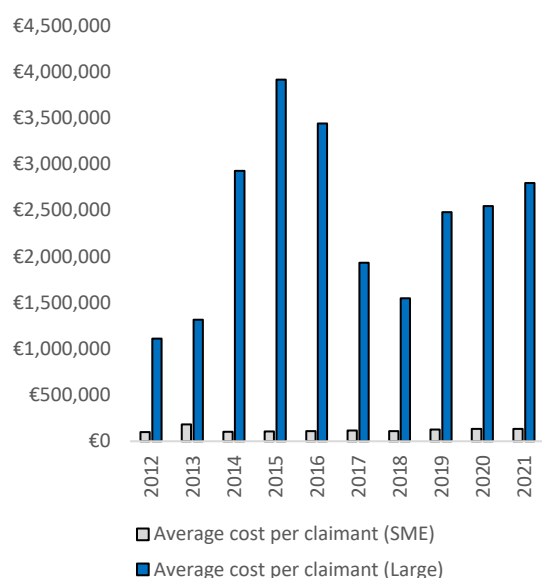


Figure 6.3.5b: R&D Tax Credit average cost by firm size, 2012-2021



Source: The Council based on data from the Revenue Commissioners

Figure 6.3.6a shows the number of claimants of the R&D tax credit broken-down by sector. Since 2017, 'Information and Communication' and 'Manufacturing' (sectors dominated by foreign-owned firms) have accounted for the largest number of claims. As shown in Figure 6.3.6b, Manufacturing firms dominate in terms of cost. The implication is that large Manufacturing firms,<sup>189</sup> generally foreign-owned multinationals, are the main beneficiaries of the R&D tax credit. This reflects the figures included in Table 6.2.1 that show, as of 2020, foreign firms outspend domestic firms in terms of in-house R&D at a rate of almost four-to-one.

An OECD review<sup>190</sup> of SMEs and entrepreneurship policy in Ireland (published in 2019) outlined potential issues facing smaller firms in accessing the credit. These relate to the cost of preparing, filing and defending claims for the tax credit, all of which may be too onerous for SMEs.<sup>191</sup> The OECD suggests that the rules governing the R&D tax credit appear to have been designed with larger, established, R&D intensive firms in mind, where development processes are more detailed and structured (e.g. in pharmaceuticals).

With a view to increasing co-operation with the higher education sector, it is suggested by the OECD that limitations on the outsourcing of R&D to third-parties should be reviewed, as this acts as a disincentive to collaborate and is likely to disproportionately affect SMEs that, with fewer resources, may depend more on a collaborative approach to R&D activity.

<sup>189</sup> Manufacturing includes high GVA sectors where multinationals have a dominant presence, such as the manufacture of chemical and pharmaceutical products.

<sup>190</sup> [SME and Entrepreneurship Policy in Ireland](#), 2019, OECD.

<sup>191</sup> The Council welcomes progress made during 2022 and 2023 on priority actions identified by the SME and Entrepreneurship Taskforce, including the launch of the SME portal and the implementation of the SME test in the regulatory impact assessment framework. Continued progress on priority areas identified by the taskforce should assist in addressing the productivity gap between SMEs and multinationals.

Figure 6.3.6a: R&amp;D Tax Credit, cost by sector, 2012-

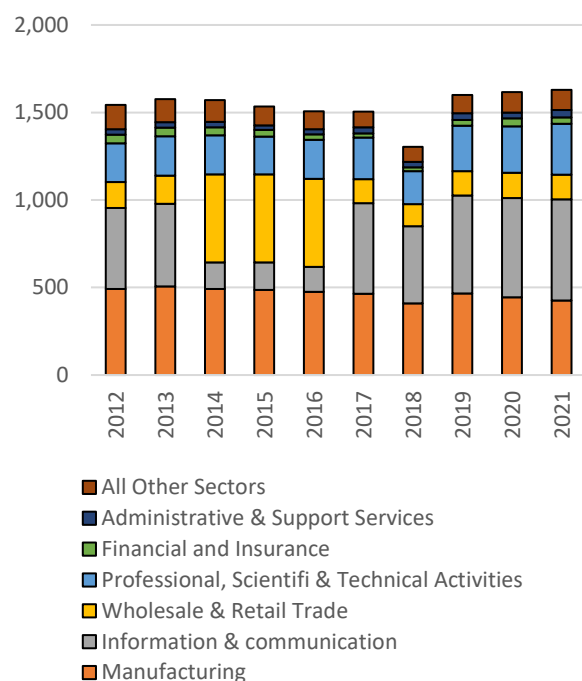
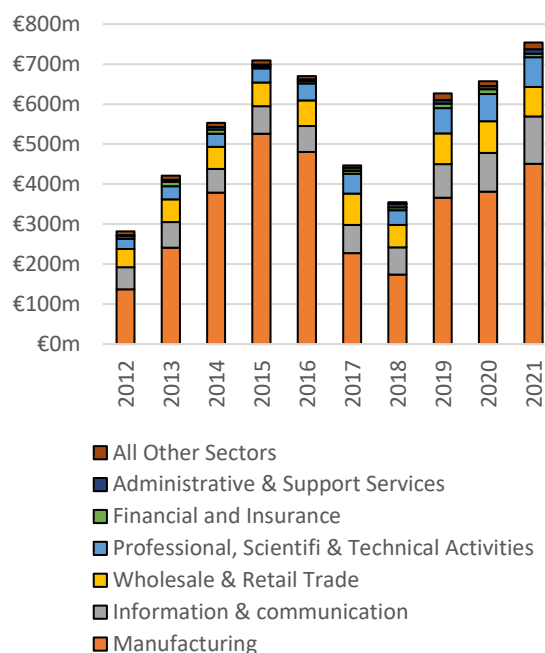


Figure 6.3.6b: R&amp;D Tax Credit, claimants by sector, 2012-21



Source: The Council based on data from the Revenue Commissioners.

Both the OECD and the Commission on Taxation and Welfare<sup>192</sup> have recommended the introduction of a pre-approval process, which would serve to reduce uncertainty among SMEs regarding the eligibility of planned R&D expenditure and would encourage increased SME take-up. Such a mechanism would also bring the R&D tax credit in line with similar measures in other jurisdictions, including the UK<sup>193</sup> and Norway.<sup>194</sup>

Another potential barrier preventing greater use of the R&D tax credit, particularly for smaller firms, relates to the type of expenditure that currently qualifies under the measure. For start-up SMEs in particular, the threshold of what constitutes qualifying R&D can act as a barrier to effective encouragement of R&D activity and innovation. To qualify for the R&D tax credit, the R&D activity in question must seek to resolve scientific or technological uncertainty and to achieve scientific or technological advancement.<sup>195</sup> For the purposes of the R&D tax credit, innovation is defined in line with the Frascati manual, where innovation represents 'new to world'. As an alternative, the Oslo manual refers to innovation in terms of product or process development that is 'new to firm'. A recalibration of the credit to support innovation as defined in line with the Oslo manual, could prove particularly valuable in incentivising R&D and innovation in critical areas of the green and digital transitions, particularly among SMEs.

Empirical research<sup>196</sup> (as cited in the OECD review), has shown that larger firms typically engage in R&D activities in the absence of tax incentives, with incentives having a larger positive impact for smaller firms. Similarly, earlier research by the Department of Finance estimated that 40% of R&D activity benefitting from

<sup>192</sup> [Foundations for the Future – Report of the Commission on Taxation and Welfare](#), September 2022.

<sup>193</sup> [Apply for Research and Development \(R&D\) tax relief advance assurance](#), HM Revenue & Customs, 30 November 2015.

<sup>194</sup> [SKATTEFUNN Tax Deduction Scheme for Companies with Research and Development Projects](#), The Research Council of Norway, 13<sup>th</sup> May 2019.

<sup>195</sup> [Research and Development \(R&D\) Corporation Tax Credit](#), Revenue Commissioners, July 2023.

<sup>196</sup> Sterlacchini, A. and F. Venturini. 2018. 'R&D tax incentives in EU countries: does impact vary with firm size?', *Small Business Economics*, pp. 1-22.

the tax credit would have occurred anyway, suggesting a considerable degree of deadweight loss.<sup>197</sup> In this way, making the R&D tax credit more accessible to small firms would bring benefits in terms of the additionality and efficiency of the measure. Tackling potential barriers to further take-up of the R&D tax credit by SMEs is particularly important in the context of the domestic-foreign firm productivity gap (as addressed in Chapter 5).

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**Recommendation 6.1:** The Council recommends that obstacles impacting SME engagement with the R&D tax credit be reviewed, with amendments made to the design of the measure, as appropriate. This review should address:

- The benefits of the R&D tax credit by firm size and sector and analysis of the trends that have emerged regarding the profile of claimants and the primary cost drivers;
- The capacity to introduce a pre-approval mechanism for potential claimants of the R&D tax credit, the merits of this, and the potential resource implications; and,
- The scope for a recalibration of the R&D tax credit to support innovation as defined in line with the Oslo manual.

**Responsibility:** Department of Finance; Department of Enterprise, Trade and Employment; Revenue Commissioners

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## 6.3 Measuring Ireland's Innovation Performance

Owing to the vital role that innovation plays in boosting productivity growth, it is critical that the Council monitor and assess Ireland's innovation performance relative to international competitors. In July 2023, the Council published a Bulletin<sup>198</sup> that examined the indices used by the Council to benchmark innovation in Ireland against international competitors. Section 6.3 is informed by analysis included in that Bulletin.

### 6.3.1 Global Innovation Index

The Global Innovation Index (GII) aims to provide a statistical benchmark for measuring innovation and for comparing national innovation ecosystems. The GII provides an innovation ranking for approximately 130 world economies (that account for 94.1% of the global population and 98.5% of the world's GDP) according to their innovation capabilities across 80 indicators. In 2022, Ireland ranked 23<sup>rd</sup> overall (15<sup>th</sup> among 39 European economies), with a significantly stronger performance under innovation outputs (19<sup>th</sup>) compared to inputs (25<sup>th</sup>). This suggests that the outputs from innovation activity in Ireland are beyond what might be expected, given the state of enabling factors in the broader macroeconomic and policy environment.<sup>199</sup>

As of 2022, Ireland ranks ahead of the EU average, but falls considerably far behind the US, the UK, and Japan. For each of the seven GII pillars, Figure 6.3.7 benchmarks Ireland's score against the EU average and the top score. Ireland outperforms the EU average in five of the seven pillars but underperforms in Market Sophistication and Creative Outputs (albeit marginally). Ireland is furthest from the top performing country in Market Sophistication (with a score of 36 versus 81 – the US), and closest in Infrastructure (60 versus 67 – Sweden).

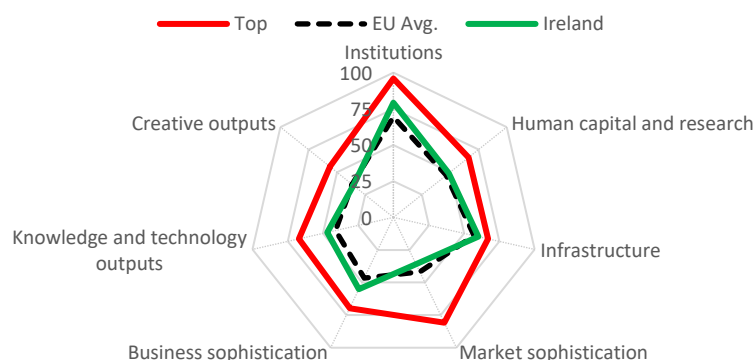
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<sup>197</sup> [Economic Evaluation of the R&D Tax Credit](#), Department of Finance, October 2016.

<sup>198</sup> [Bulletin 23-2 International Innovation Indicators](#), National Competitiveness and Productivity Council, 17<sup>th</sup> July 2023.

<sup>199</sup> The link between innovation inputs and outputs (as measured in the GII) has been well established in the academic literature. For example, see: Araujo Reis, D., De Moura, F. R. and I. M. De Aragao. 2021. "The Linkage between Input and Output in the Innovation Ecosystem", *Global Journal of Human-Social Science*, Vol. 21, Issue 3.

Figure 6.3.7. Ireland's GII score vs. EU average and top performing country, 2022

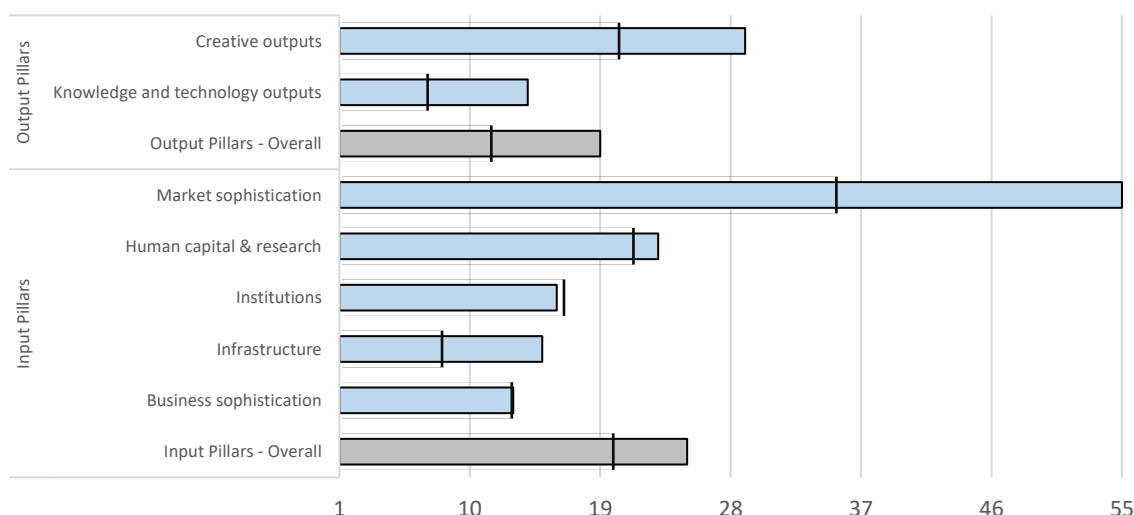


Source: The Council based on Global Innovation Index Database, WIPO, 2022. Notes: 'Top' refers to the score of the top performing country under each pillar, while 'EU Avg.' refers to the average score among EU Member States.

Ireland's overall GII ranking has deteriorated consistently over the last five years. This has been driven by a deterioration in its performance across several indicators. To provide a medium-term view, Figure 6.3.8 shows Ireland's 2022 ranking under each of the seven pillars versus Ireland's five-year average ranking over 2017-2021.<sup>200</sup>

As shown, there was a deterioration in 2022 relative to the preceding five-year average across most pillars, but particularly for Market Sophistication (Ireland placed 55<sup>th</sup> in 2022 versus a five-year average of 35<sup>th</sup>). Infrastructure, which has been volatile, fell significantly in 2022 and is well below its five-year average position. While Business Sophistication, and Human Capital and Research, both improved in 2022 relative to 2021 (not shown), Figure 6.3.8 shows that they remain at or below their five-year average positions.

Figure 6.3.8. Ireland's ranking across the seven GII



Source: Council based on Global Innovation Index Database, WIPO, 2022. Notes: 'Top' refers to the score of the top performing country under each pillar, while 'EU Avg.' refers to the average score among EU Member States. Notes. Vertical lines correspond to Ireland's average annual ranking over the five years from 2017-2021. The blue bars correspond to Ireland's ranking in 2022.

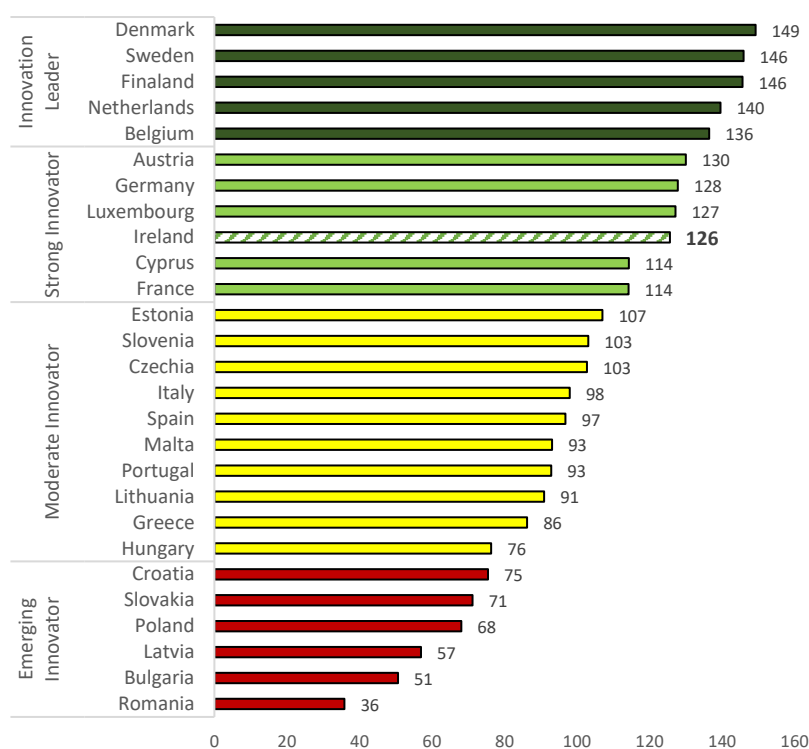
<sup>200</sup> It is important to note that methodological changes can occur year-on-year, meaning that some degree of caution is warranted when interpreting annual changes in performance across the indices assessed in this publication.

### 6.3.2 European Innovation Scoreboard

Published by the European Commission, the European Innovation Scoreboard (EIS) compares the innovation performance of EU Member States, as well as other European countries and regional neighbours. EU countries are assigned to one of four performance groups based on their scores. These are: (i) Innovation Leaders; (ii) Strong Innovators; (iii) Moderate Innovators; and (iv) Emerging Innovators. In this way, the EIS is designed to assist countries in assessing the relative strengths and weaknesses of innovation systems, and to identify difficulties and challenges that they need to address in order to strengthen the performance of these systems.

Figure 6.3.9 shows the overall results of the EIS for EU countries in 2023. Denmark is the best performer overall, while other "Innovation Leaders" include Sweden, Finland, the Netherlands, and Belgium. Ireland is categorised as a "Strong Innovator" alongside Austria, Germany, Luxembourg, Cyprus, and France. The countries of central, eastern, and southern Europe make up the "Moderate Innovators" and "Emerging Innovators" categories.<sup>201</sup>

Figure 6.3.9. EIS – Summary Innovation Index, 2023 Snapshot



Source: The Council based on European innovation Scoreboard 2023, European Commission, 2023.

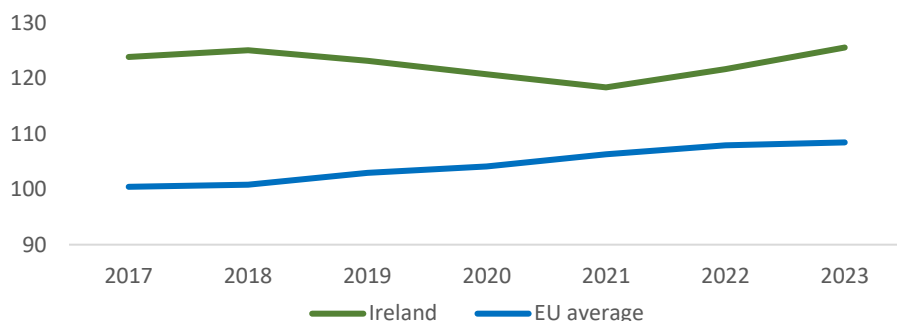
EIS data for 2023 shows that, while Ireland was ranked in the "Strong Innovators" cohort, Ireland's lead over lower ranking countries is shrinking over time. The EIS also indicates that, while those ranked behind Ireland are closing the gap, those in the strongest cohort of "Innovation Leaders" are increasing their lead.<sup>202</sup> This can be gleaned from Figure 6.3.10, which shows Ireland's composite (or Summary Innovation Index) score since 2017. Ireland's score has been consistently above the EU average, however, the gap narrowed considerably over

<sup>201</sup> The EIS also assesses the EU's performance relative to non-EU economies. Between 2016 and 2023, the EU's innovation performance has grown at a faster rate than that of five global competitors (Australia, India, Japan, Mexico, and South Africa) and at a slower rate than that of six global competitors (Brazil, Canada, Chile, China, South Korea, and the US). South Korea scored best overall in the EIS in 2023.

<sup>202</sup> See: [European Innovation Scoreboard 2023 – Ireland](#).

2018-2021. While Ireland's score has improved year-on-year since 2021, the gap versus the EU average remains smaller than it was over 2017-2019.<sup>203</sup>

Figure 6.3.10. Summary Innovation Index Score, Ireland vs. EU average, 2017-23



Source: The Council based on European innovation Scoreboard 2023, European Commission, 2023.

As outlined in Bulletin 23-2, there are three dimensions of the EIS in which Ireland performs below the EU average. The first two are:

- 'Finance and support': R&D expenditures in the public sector (i.e. universities and government research organisations) as a percentage of GDP; and venture capital expenditures<sup>204</sup> (specifically, private equity raised for investment in companies) as a percentage of GDP; and,
- 'Firm investments': R&D expenditure in the business sector as a percentage of GDP; and non-R&D innovation expenditures as a percentage of total turnover.

Spending on R&D is key to creating new knowledge within firms, improving production technologies, and driving productivity growth, and in this way, is also a contributor to economic growth more broadly. Venture capital, raised in the form of private equity, is an important source of investment funding for early-stage firms, particularly for those involved in the use or development of innovative new technologies. Non-R&D innovation expenditure includes investment in equipment, and the acquisition of patents, capturing the diffusion of new production technology and ideas. Ireland also underperforms in 'Intellectual assets', which includes PCT patent applications; trademark applications; and design applications (all per billion of GDP).

These indicators are intended to capture the outputs of the innovation process, with a focus on intangible assets. They are chosen by the EIS to reflect firms' abilities to develop innovative products and maintain a competitive advantage.

### 6.3.3 Limitations to composite indices

As outlined in Bulletin 23-2,<sup>205</sup> when measuring and benchmarking innovation in Ireland, the Council has to rely on composite indicators. The choice of variables to include when constructing an index, and the weights to apply to each, are somewhat subjective. The inclusion of inappropriate variables, the reliance on outdated information, or the omission of variables due to a lack of information or a difficulty in measurement, can result in an overly simplistic or inaccurate message that is of limited use to stakeholders.

<sup>203</sup> Among comparator peer economies, Switzerland, another small and open economy, was ranked 1<sup>st</sup> among European economies in 2023, and has held this position for several years. Ireland has placed ahead of the UK since 2022, and has remained significantly above Iceland and Portugal.

<sup>204</sup> This is based on the EIS assessment of data provided by Invest Europe.

<sup>205</sup> [Bulletin 23-2 International Innovation Indicators](#), National Competitiveness and Productivity Council, 17<sup>th</sup> July 2023.

As highlighted in the academic literature,<sup>206</sup> objective measures of innovation are generally split between input and output indicators – input indicators can evaluate how innovation activities have been conducted or arranged (e.g. R&D intensity, spending), but do not show if something has been achieved or if this activity has yielded outputs. Patents and licenses are commonly used output indicators used to evaluate the effect of innovation activities. However, a key limitation to these metrics, is that they show only successful efforts. Among the issues with more qualitative indicators (e.g. data collected through surveys), is that they are often based on few respondents, too narrowly focused, and can tend to highlight the presence of a factor or an activity, without necessarily assessing quality or effectiveness.

In addition, while composite indices often include a significant volume of individual indicators, certain themes or categories are more limited in focus, with constraints on the availability of timely and complete information. There are further complications when interpreting indicators of innovation in the Irish context. There are well documented limitations to using GDP as a means of measuring economic activity in Ireland, given the scale of globalisation-related activities and their distortionary effect on national statistics. Ireland's performance across some indicators may be considerably better, or worse, if GNI\* could be used instead.

For these reasons, these indices need to be used with caution. As explored in the international literature,<sup>207</sup> there is not a 'one size fits all' recipe to fostering innovation, but a requirement to tailor to the complexity of conditions within an innovation system. For some countries, innovation is assessed and tracked at the firm-level, using national innovation indices. These include Finland (the Finnish Innovation Index)<sup>208</sup> and Norway (the Norwegian Innovation Index).<sup>209</sup> In the Irish context, KPMG and IRDG<sup>210</sup> published the inaugural Ireland's Innovation Index in June 2023, which profiles research and innovation among enterprises in Ireland, using a survey of 400 Irish and foreign-owned firms, with broad sectoral representation. Although not an index *per se*, this report provides a useful insight into research, development, and innovation activity in Ireland. National indices can add value in that they are tailored to the specificities of a particular economy.

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**Recommendation 6.2:** The Council recommends that further research be undertaken to provide a more robust view of Ireland's performance across all dimensions of innovation. This should include:

- (iii) An assessment of Ireland's performance on international indices such as the GII, having accounted for the impact of globalisation on Irish GDP, for example, through the use of alternative metrics where appropriate, such as GNI\*.
- (iv) Engagement with international data providers, where required, to identify and address data gaps that may be undermining Ireland's performance in international indices of innovation or the interpretation of this performance. This will provide a more robust evidence base on which to frame and develop innovation policy.

**Responsibility:** Department of Enterprise, Trade and Employment; Department of Further and Higher Education, Research, Innovation and Science

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<sup>206</sup> Mendoza-Silva, A. 2020. "Innovation Capability: A Systematic Literature Review", *European Journal of Innovation Management*, Vol. 24, Issue 3.

<sup>207</sup> Wirkierman, A., Ciarli, T. and M. Savona. 2018. "Varieties of European National Innovation Systems", ISI Growth Working Paper.

<sup>208</sup> See: [Finnish Innovation Index 2022 | Hanken](#)

<sup>209</sup> See: [Norwegian Innovation Index - a short presentation | NHH](#)

<sup>210</sup> [Ireland's Innovation Index 2023](#), KPMG and IRDG.

## 6.4 Enterprise Digitalisation

As outlined in *Ireland's Competitiveness Challenge 2022*<sup>211</sup> the digital transition has the potential to bring new opportunities for individuals and enterprises, as it transforms our economy and society. While the COVID-19 pandemic accelerated the digitalisation of enterprise, as it became key to survival for firms facing administrative restrictions on commercial activities,<sup>212</sup> it is important that this process continues and that enterprises are supported where barriers exist.

### 6.4.1 Update on the Government's 'Digital Ireland Framework'

The Government's *Harnessing Digital – The Digital Ireland Framework* was published in February 2022. The document sets out the Government's ambition for Ireland to be a digital leader and presents a roadmap to enable the digital transition across society and the economy, to maximise the efficiency of public services, the productivity and innovation of enterprise, and our overall competitiveness and sustainability. Targets are set across the four dimensions of: Digitalisation of Enterprise; Skills; Digital Infrastructure; and Digital Public Services.

The first progress report was published in December 2022,<sup>213</sup> setting out progress made across each of the four dimensions.

The implementation of the *Harnessing Digital* plan is overseen by the Cabinet Committee on Economic Recovery and Investment, supported by a Senior Officials Group on Digital Issues that is chaired by the Department of the Taoiseach. In *Ireland's Competitiveness Challenge 2022*, the Council emphasised that effective regulation of the digital environment will be essential to achieve the aims set out in the National Digital Strategy. The Council considers that close engagement between Senior Officials and the Digital Regulators Group (DRG), as well as the sufficient resourcing of DRG members, will be fundamental to the successful implementation of the National Digital Strategy.

### 6.4.2 Benchmarking Ireland's Progress on Digitalisation

The European Commission's Digital Economy and Society Index (DESI) report states that there is evidence of an overall convergence in digitalisation among EU members.<sup>214</sup> Ireland ranked 5<sup>th</sup> in 2022 (see Table 6.4.1a) and had an average annual relative growth in its DESI score of 8.5% between 2017 and 2022 – one of the highest in the EU. Regarding the 'Integration of Digital Technology', enterprises in Ireland take advantage of some digital technologies, such as social media, big data and cloud, however, others are less widespread (e.g. AI). In addition, Ireland scores below the EU average for the percentage of enterprises involved in electronic information sharing and the use of e-invoices. However, Ireland performs well in relative terms for the digital intensity of SMEs.

While the DESI regards Ireland as a forerunner in the EU on the integration of digital technologies, it recommends that in order to keep pace with the most digitally advanced nations in the world, the country will need to keep improving to reach some of the more ambitious targets set-out in the National Digital Strategy. This includes a target of 75% take-up by enterprises for cloud computing, big data and AI, as well as a target of 90% of SMEs having a basic level of digital intensity, by 2030.

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<sup>211</sup> [Ireland's Competitiveness Challenge 2022](#), National Competitiveness and Productivity Council, September 2022.

<sup>212</sup> [Digitalisation in Europe 2021-2022: Evidence from the EIB Investment Survey](#), European Investment Bank, May 2022.

<sup>213</sup> [Harnessing Digital – The Digital Ireland Framework, 2022 Progress Report](#), Department of Taoiseach, December 2022.

<sup>214</sup> The 2022 DESI report notes that 32% of Ireland's Recovery and Resilience Plan (RRP) is dedicated to accelerating and expanding the country's digital transformation. Each RRP is required to dedicate a minimum of 20% of the plan's total allocation to digital objectives.



As shown in Table 6.4.1b, the Institute for Management Development (IMD) assesses digital competitiveness across three main factors and nine sub-factors. In 2022, Denmark was placed in first position, followed by the US, Sweden, Singapore and Switzerland. Ireland was ranked 24<sup>th</sup>, the lowest since the index was launched. Ireland reached a peak of 19<sup>th</sup> in 2019 and 2021. Relative to 2021, Ireland experienced a sharp drop in the 'Technology' factor (from 28<sup>th</sup> to 37<sup>th</sup>), and under 'Future Readiness' (from 14<sup>th</sup> to 22<sup>nd</sup>). Ireland's performance under 'Knowledge' has held relatively constant over time.

In its discussion of the overall results for 2022, the IMD note that correlations in the data show that the safety of digital systems and the transparency of digital actors are essential if technology is to be diffused among society. The IMD also emphasised that cyber-security capabilities (at both the company and governmental levels) have become of paramount importance, with cyber-security measures being a top priority for the public and private sectors in digitally competitive economies, as more of our business and personal interactions move online.

The Council considers cyber security considerations to be key to the successful implementation of the Government's National Digital Strategy, and to progressing the adoption of digital technologies by enterprise.

**Table 6.4.1a. Ireland's DESI Ranking 2022**

Indicator	Ranking
Overall	5 <sup>th</sup>
Human Capital	3 <sup>rd</sup>
Connectivity	6 <sup>th</sup>
Digital Public Services	6 <sup>th</sup>
Integration of Digital Technology	7 <sup>th</sup>

**Table 6.4.1b. Ireland's WDC Ranking 2022**

Indicator	Ranking
Overall	24 <sup>th</sup>
Knowledge	22 <sup>nd</sup>
- Talent	19 <sup>th</sup>
- Training and Education	31 <sup>st</sup>
- Scientific Concentration	24 <sup>th</sup>
Technology	37 <sup>th</sup>
- Regulatory Framework	22 <sup>nd</sup>
- Capital	44 <sup>th</sup>
- Technological Framework	38 <sup>th</sup>
Future Readiness	22 <sup>nd</sup>
- Adaptive Attitudes	11 <sup>th</sup>
- Business Agility	18 <sup>th</sup>
- IT Integration	38 <sup>th</sup>

Source: The Council based on the Digital Economy and Society Index (DESI) 2022, and the IMD's World Digital Competitiveness (WDC) Ranking 2022.

### 6.4.3 Cyber security

A mid-term review of the National Cyber Security Strategy 2019-2024 was published in May 2023.<sup>215</sup> The Review details progress made in respect of the 20 measures included in the 2019-2024 Strategy and sets out 18 new strategic actions to be implemented before 2024.

<sup>215</sup> The National Cyber Security Strategy, published in 2019, is a five-year whole of government strategy aimed at enhancing the security and resilience of Government systems and critical national infrastructure. See: [National Cyber Security Strategy, Department of Environment, Climate and Communications](#), December 2019.

Among these new additions, the Review sets out measures to continue the development of relevant cyber skills, in order to fill skills gaps and support the growth of the cyber security industry. Regarding the National Cyber Security Centre (NCSC), the Review commits to the establishment of an NCSC Advisory Council, to be drawn from the cyber security industry and research community, as well as representatives of key stakeholders. The draft Heads of the Bill will be published by end-2024, setting out the role of the Advisory Council as well as governance provisions.

The Review commits to continued investment in the NCSC, to expand its capacity to actively detect and defeat threats targeting critical infrastructure and critical networks. The relevant Heads of a Bill will be drafted for Government approval by end-2023. There is also a commitment to expand NCSC services to support SMEs, by rolling out a grant funding programme to support cyber security investment and developing a voluntary cyber security standard tailored to the particular needs of SMEs.

Delivery will be overseen by the high-level Inter-departmental Committee. A successor strategy (the third National Cyber Security Strategy) will in part be informed by the transposition of the NIS2 Directive (from October 2024), which includes provisions for national cyber security strategies.

Enhancing cyber security is key to improving Ireland's digital competitiveness. As assessed by the IMD, the safety of digital systems is an essential condition for technology to be diffused among society. Implementation of the National Cyber Security Strategy will be critical to the adoption of digital technologies.

In addition, further developments in quantum technology will have implications for encryption protocols used for data authenticity and data security. These protocols will need to be reformed to safeguard against future attacks. Specifically, this will require further progress on the development of 'post-quantum' cryptography methods to secure sensitive data against attacks involving quantum technology.

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**Recommendation 6.3:** Recognising the key role that the security of digital systems will play in the adoption of digital technologies and the success of digitalisation more broadly, the Council recommends that:

- (iii) The required supports be provided to the National Cyber Security Centre, to empower it to fulfil the expanded mandate set-out in the National Cyber Security Strategy;
- (iv) As a priority, Government should bring forward legislative proposals giving effect to the planned expansion of the NCSC and the establishment of the NCSC Advisory Council.

**Responsibility:** Department of Environment, Climate and Communications; National Cyber Security Centre

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### 6.4.4 Artificial Intelligence

#### *A disruptive technology with significant potential*

The adoption and deployment of artificial intelligence (AI) technologies could have significant implications for productivity in virtually every sector. AI systems can mimic human capabilities, can facilitate the analysis of very large quantities of data and can automate complex decision-making processes.

As with any transformative technology, AI represents a risk to Ireland's current economic model, with significant disruptive potential – particularly in respect of labour markets (both skilled and unskilled) – but it

also presents major opportunities, for both the public and private sectors.<sup>216</sup> The National Risk Assessment 2023 acknowledges the broader risks posed by AI technology, including the risk of a negative effect on social cohesion, should AI exacerbate inequalities, disrupting existing jobs or sectors, including those where Ireland currently has a comparative advantage.<sup>217</sup>

Recent technological advances have seen vast improvements in the ability of AI to complete non-routine tasks, which has extended the potential scope of automation beyond what was previously possible. As a consequence, high-skilled professions often requiring the accumulation of years of formal education and experience, are among the most exposed. This includes professionals working in science and engineering, as well as those in business management, finance, medical and legal occupations. However, the potential impact of AI on employment is ambiguous – displacement may arise where AI enabled automation renders the labour component redundant (displacement effect), whereas AI adoption can also raise the demand for labour, through gains in productivity (productivity effect) and a greater demand for AI relevant skills (reinstatement effect).

So far, adoption of AI technology remains relatively low. Analysis by the OECD has identified cost as the greatest barrier to AI adoption by firms, followed by a lack of skills, and these findings were echoed in analysis by the ESRI and the Department of Enterprise, Trade and Employment (discussed further in section 6.5.6). The OECD has also found that AI is more likely to be adopted by larger and more capital-intensive firms (which tend to be more productive)<sup>218</sup> – this result is unsurprising, given (as discussed in section 6.2) the extent to which larger firms have tended to outspend smaller firms on R&D and innovation in Ireland. In the Irish context, this presents the risk that the adoption and implementation of AI technology could exacerbate the productivity gap between domestic and foreign-owned firms. Box F outlines the main findings from an international OECD survey of workers and employers on the impact of AI technology on the workplace.

**Box F: OECD survey on the impact of AI on the workplace – manufacturing and financial sectors**

An international OECD survey<sup>219</sup> of workers and employers<sup>220</sup> in the manufacturing and financial sectors Austria, Canada, France, Germany, Ireland, the UK and the US examined the impact on organisations when AI technology is introduced. While survey-based, and focused on just two sectors, these results offer an insight into the disruptive impact that AI technology can have from both the worker and employer perspective. There is evidence that AI adoption has significantly impacted on work tasks. Three-quarters of AI users said that AI had increased the pace at which they perform tasks at work, while a majority of employers reported that AI had automated tasks that were previously done by workers (66% of employers in finance and 72% of employers manufacturing).

Employers across both sectors were more likely to address changing skill needs by retraining existing staff, than by attrition or redundancies. Of those workers using AI, more than half said that their company had facilitated training to do so, and these workers were more likely to report positive outcomes of AI on their working conditions. Overall, AI users were more than four times as likely to say that AI had improved their

<sup>216</sup> The Government's White Paper on Enterprise 2022-2030 (December 2022), places digital transformation at the heart of Irish enterprise policy, recognising that AI will play a major role in shaping Ireland's global competitiveness and productivity over the coming decades.

<sup>217</sup> [National Risk Assessment 2023 – Overview of Strategic Risks](#), Department of the Taoiseach, July 2023.

<sup>218</sup> [OECD Employment Outlook 2023 – Artificial Intelligence and the Labour Market](#), OECD, 2023.

<sup>219</sup> Lane, M., Williams, M. and S. Broecke. 2023. [The Impact of AI on the workplace: Main findings from the OECD AI surveys of employers and workers](#), OECD Social, Employment and Migration Working Papers, No. 288.

<sup>220</sup> This included 442 Irish workers and 253 Irish employers.

working conditions, than had worsened them. Worker consultation on the adoption of AI was associated with better outcomes (in terms of productivity and working conditions).

However, there is evidence that prospective job losses remain a concern, particularly among those workers actively using AI in the workplace. 19% of workers in finance and 14% in manufacturing said that they were worried about job losses over the next ten years, while 20% and 15% respectively, reported already knowing of a colleague in the company who had lost their job as a result of AI. While most employers reported no change in employment in their company as a result of AI, more employers reported a decrease in employment than an increase. There was also anxiety among workers regarding the potential impact on long-term earnings – twice as many workers expect AI to lead to a decrease in their wages over the next 10 years rather than an increase.

In both sectors, consultation with workers or worker representatives regarding was associated with more positive outcomes of AI in terms of performance and working conditions, according to workers and employers. In both sectors, the most commonly discussed topic in consultations was skills and training, with consultations leading to changes to, or adoption of, guidelines and AI strategies.

There is little empirical evidence of a significant negative effect on employment to date as a result of the deployment of AI technology – studies exploiting cross-country variation in exposure to AI technology, or within-country variation across local labour markets, do not find a statistically significant decrease in employment.<sup>221</sup> However, this may reflect relatively low rates of adoption and implementation of AI technology thus far.

The net employment impact of AI adoption will depend in part on the capacity of the labour market to meet emerging skills needs. While specialist skills will be needed in the development and adoption of AI systems, workers in various occupations will be required to possess a broad range of digital skills to effectively interact with AI systems. Both formal education and life-long learning systems will need to be adaptable so that skills gaps can be addressed, and training should be inclusive, catering also to vulnerable and under-represented cohorts, to ensure a fair transition. OECD evidence<sup>222</sup> suggests that workers with AI-specific skills enjoy substantial wage premiums, while for the larger set of workers that are exposed to AI – i.e. those using AI but without specialist skills – AI has had a minimal impact on wages. An inclusive approach to education and training in respect of AI skills (and digital skills more broadly) will be critical to prevent inequality of opportunity and outcome.

Cross-sectional OECD research has also provided evidence of the important role that social partners can play in supporting workers and firms through the AI transition, with evidence that AI adoption in firms with worker representation is significantly associated with better working conditions. Effective social dialogue can help in achieving a fair distribution of the productivity gains from AI adoption in the workplace.<sup>223</sup>

<sup>221</sup> Georgieff, A. and R. Hye. 2021. '[Artificial Intelligence and Employment: New cross-country evidence](#)', OECD Social, Employment and Migration Working Papers, No. 265.

<sup>222</sup> For example, see: Green, A. and L. Lamby. 2023. '[The supply, demand and characteristics of the AI workforce across OECD countries](#)', OECD Social, Employment and Migration Working Papers, No. 287; and, Manca, F. 2023. '[Six questions about the demand for artificial intelligence skills in labour markets](#)', OECD Social, Employment and Migration Working Papers, No. 286.

<sup>223</sup> [OECD Employment Outlook 2023 – Artificial Intelligence and the Labour Market](#), OECD, 2023.

It is important to note that AI technology is progressing at a faster rate than the empirical studies designed to measure its impact. The latest empirical research pre-dates the roll-out of large language models and generative AI (such as ChatGPT). For this reason, these results should be interpreted with caution, and further research and analysis will be required to keep pace with developments in this space.

### *The Government's AI strategy*

The Government's AI strategy – [AI: Here for Good](#) was published in July 2021. This strategy sets out an ambition for Ireland to be an international leader in the use of AI technologies, through a 'people-centred, ethical approach to AI development, adoption and use.' The strategy comprises eight strands, centred around three broad themes: building public trust in AI; leveraging AI for economic and societal benefit; and enablers for AI.

The third strand of the AI strategy deals specifically with driving the adoption of AI technology in Irish enterprise. Here, the strategy commits to establishing a National AI Hub as part of the programme of European Digital Innovation Hubs: CeADAR (the EI/IDA Technology Centre for Applied Data Analytics and Machine Intelligence) has been designated Ireland's National AI Hub, with a funding allocation of €1.9 million *per annum*. This Hub is intended to act as a one-stop shop, providing expertise and guidance to enterprise on AI adoption.

The first progress report on the National AI Strategy was published in August 2023.<sup>224</sup> The Council welcomes progress made on several of the commitments set out in the National AI strategy, which have already been delivered upon, as well as the proposal for the establishment of an AI Advisory Council. However, there are outstanding initiatives included in the strategy with no clear timeline for implementation. These include identifying sectors of opportunity for establishing AI testbeds and experimentation facilities, a commitment to review the criteria for employment permits for AI-related skills, and taking steps towards improving the gender balance in AI-related careers.

The Expert Group on Future Skills Needs published its broad assessment of skills needed for AI in May 2022.<sup>225</sup> The report includes ten additional recommendations to be delivered alongside those originally included in the National AI Strategy. Included among these, is a recommendation to: review of the skills implications of AI over the next five-to-ten years and the skills-related actions needed to realise the potential of AI; to support the development of apprenticeships in AI; and to target international AI talent in a pro-active manner through the Tech/Life Ireland programme.

The Council believes that the publication of a detailed action plan for the implementation of outstanding initiatives included in the National AI Strategy, and those additional recommendations introduced in the AI Skills report, alongside associated timelines, would aid in the implementation and delivery of outstanding commitments.

### *AI Regulation*

The European Commission published its AI Package in April 2021, which included a proposal for a regulation setting out harmonised rules on AI. This Regulation, referred to now as the EU AI Act, will serve as the cornerstone of AI regulatory activity across EU Member States.<sup>226</sup>

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<sup>224</sup> [AI – Here for Good: Progress Report on the National AI Strategy](#), Department of Enterprise, Trade and Employment, August 2023.

<sup>225</sup> [AI Skills – A Preliminary Assessment of the Skills Needed for the Deployment, Management and Regulation of Artificial Intelligence](#), Expert Group on Future Skills Needs, May 2022.

<sup>226</sup> [A European approach to artificial intelligence](#), European Commission.

The draft Act seeks to adopt a proportionate and risk-based approach to AI regulation, and to address the risks associated with the use of AI technologies. These risks are categorised into four different levels involving different regulatory requirements. AI systems that are deemed to present an unacceptable level of risk to safety would be prohibited. Trilogue negotiations<sup>227</sup> are currently underway and one of the proposals is that providers of foundation models would have to assess and mitigate possible risks and register any high risk models in the EU database before releasing to the EU market. Generative AI systems based on these models (e.g. ChatGPT), would have to comply with transparency requirements. This would include disclosing that content was AI-generated, and helping to distinguish artificial images from real images, while ensuring safeguards against the generation of illegal content. In addition, detailed summaries of the copyrighted data used for training generative AI systems would have to be made publicly available.<sup>228</sup>

To foster innovation in AI technology and to support SMEs, exemptions have been proposed for research activities and AI components provided under open-source licenses. The proposed law promotes regulatory sandboxes, or real-life environments, established by public authorities to test AI before it is deployed.

The Act would apply in respect of entities with AI systems that affect people in the EU, as well as to providers, importers, distributors, and users of AI within the EU. It envisions a key role for the application of harmonised standards, where AI products developed in compliance with these standards benefit from a presumption of conformity with the requirements of the relevant law. This enables manufacturers to benefit from streamlined conformity assessment procedures. Negotiations are ongoing regarding the final form of this law.

Ireland's first roadmap on the development of national standards regarding AI was published on 18<sup>th</sup> July,<sup>229</sup> informed by engagement with experts from across the Irish AI community, including: Irish academia; multinational corporations; domestic AI start-ups; legal experts from within the technology industry and specialist law firms.

The AI landscape is rapidly evolving and early adopters stand to gain significant economic, strategic and competitive advantages. A robust regulatory framework is required, but must be carefully balanced in a way that avoids stifling experimental design and innovation.

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**Recommendation 6.4:** The Council recommends that outstanding actions set-out in the Government's AI strategy, and the AI Skills report, be progressed as a priority, and, in support of this, the Council recommends the publication of targets and timelines for its implementation. In addition, the Council recommends that the required supports should be provided to facilitate rapid implementation of the AI Standards and Assurance Roadmap, with annual reporting on progress made.

**Responsibility:** Department of Enterprise, Trade and Employment; Department of Further and Higher Education, Research, Innovation and Science; Department of Public Expenditure, NDP Delivery, and Reform; National Standards Authority of Ireland

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<sup>227</sup> In the context of the European Union's ordinary legislative procedure, a trilogue is an informal interinstitutional negotiation bringing together representatives of the European Parliament, the Council of the European Union and the European Commission.

<sup>228</sup> [MEPs ready to negotiate first-ever rules for safe and transparent AI](#), European Parliament Press Release, 14<sup>th</sup> June.

<sup>229</sup> [AI Standards and Assurance Roadmap](#), National Standards Authority of Ireland, 18<sup>th</sup> July 2023.

#### 6.4.5 Quantum computing

The development and adoption of quantum technology has the potential to bring significant productivity benefits to a broad range of industrial sectors, including those in which Ireland has historically enjoyed a comparative advantage. Box G outlines the opportunities and challenges posed by quantum technology.

However, Ireland has been slow to act in the development and roll-out of a quantum-focused industrial strategy, and lags international competitors in terms of institutional support for quantum-based R&D. As an example, the UK's National Quantum Technologies Programme was first launched in 2014.<sup>230</sup> This programme is a £1 billion collaboration between the UK government, industry and academia, funding dedicated quantum research hubs. AI features extensively in the Government's *Harnessing Digital* strategy,<sup>231</sup> which itself is reinforced by the National AI strategy,<sup>232</sup> however, as yet no formal strategy or policy framework has been published in respect of quantum computing. In effect, quantum could facilitate faster and more efficient data processing and learning by AI systems, enabling more intelligent AI systems, compounding the challenges and opportunities of AI, and indeed, the implications for data centre infrastructure. The *Impact 2030* strategy commits to progressing a National Strategic Action Plan on quantum computing, however, this has not yet been published.

Given the significant disruptive potential of quantum computing, and the productivity implications of this emerging technology for firms operating in sectors that are key to Ireland's industrial policy, it is fundamental that steps are taken by Government to support the development and growth of the quantum computing ecosystem in Ireland. Where practicable, Government should leverage Ireland's comparative advantage in high-tech manufacturing and ICT and the existing skills base.

The Council believes that it is critical that Government are proactive in the development of strategies in breakthrough technological areas if Ireland is to be best placed to reap the benefits of early adoption of emerging technology.

##### **Box G: The opportunities, and challenges, of quantum technology**

Quantum computers have the potential to solve computational problems which are unmanageable on classic computing systems. For example, in the manufacturing of chemicals and pharmaceuticals, quantum computing could be used to simulate a large number of chemical processes, in a relatively short-time and at low cost; this would negate the need for more costly (and dangerous) real-world chemical experiments. For firms involved in materials design, quantum computing could be used to simulate materials as part of their design processes, before physically developing them in a laboratory setting. When applied in the agri-food sector, quantum could be used to devise a more efficient means of producing ammonia, making fertilisers cheaper and reducing energy requirements.<sup>1</sup>

In these ways, quantum technology could facilitate greater efficiency in R&D activity and manufacturing processes, with significant potential cost savings for firms. Outside of manufacturing, quantum technology could also bring significant productivity benefits to the services sectors, particularly those involved in data analysis, forecasting and simulation. More efficient quantum algorithms could be used in machine-learning systems, and to improve optimisation processes involving large volumes of input data. This includes those used in the field of logistics and financial services. In terms of cybersecurity, quantum technology could be

<sup>230</sup> See: [UK National Quantum Technologies Programme](#).

<sup>231</sup> [Harnessing Digital – The Digital Ireland Framework](#), Government of Ireland.

<sup>232</sup> [AI – Here for Good: A National Artificial Intelligence Strategy for Ireland](#), Department of Enterprise, Trade and Employment.

used in a way that undermines current encryption protocols, which will motivate further research and development in post-quantum cryptography methods, to ensure that data is safeguarded against future attacks – this too, represents an opportunity for Ireland.

While quantum technology could have a transformative impact on a range of sectors, this will require sufficient early investment if the technological, economic, and social benefits are to be fully realised. Further development in quantum hardware and the refinement of 'fault-tolerant quantum computers' is needed before a broad industrial transformation can take place. Public and venture capital investment will be key until such time that quantum computers can achieve broad commercial success.

However, the development of quantum computers is a complex process requiring substantial capital, with significant barriers to entry. Quantum requires a broad range of specialist skillsets, including materials science, engineering, experimental physics, and software design. For these reasons, a collaborative approach to R&D has emerged, with better-resourced firms facilitating cloud-based access to their quantum hardware, and project teams formed from a mixture of industry, government, and higher education, across different geographical locations.

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**Recommendation 6.5:** The Council recommends that the Government publish a comprehensive action plan for supporting the growth of Ireland's quantum computing ecosystem, to be informed by international best practice, with specific priority actions and key delivery milestones. This action plan should:

- (i) Identify the infrastructural needs of Ireland's quantum sector, including quantum hubs and open-access research facilities.
- (ii) Examine the skills needs of Ireland's quantum sector and consider the training programmes, including postgraduate courses, that will assist in meeting the long-term skills needs of the quantum sector.
- (iii) Consider policies that seek to attract specialist skillsets from abroad as well as inward investment by firms operating in the quantum sector.
- (iv) Identify existing funding vehicles and policy tools that could be leveraged in support of the development of Ireland's quantum sector, for example, the Irish Innovation Seed Fund, the Seed and Venture Capital Scheme, the Disruptive Technologies Innovation Fund, and the R&D tax credit.

**Responsibility:** Department of Further and Higher Education, Research, Innovation and Science; Department of Enterprise, Trade and Employment; National Standards Authority of Ireland

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#### 6.4.6 Usage, adoption and investment in digital technologies

Recent work<sup>233</sup> as part of the Joint Research Programme between the ESRI and the Department of Enterprise, Trade and Employment, has examined the digitalisation of Irish enterprise in the context of a cross-country analysis. The findings of this research are summarised below.

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<sup>233</sup> K. Hogan, J. Kren, and C. O'Toole. 2023. "Irish Enterprise Digitalisation: A Cross Country Exploration", *ESRI Research Note (Draft)*, July 2023.



*On usage of digital technology*

Levels of e-commerce are considerably lower in the construction sector, than for Manufacturing and Services sectors. Irish firms outperform European firms across all size classes, but small firms have considerably less digital sales than medium and large firms. One-in-five Irish firms report using advanced technologies versus an EU average of just 6%. For AI technologies, use among Irish enterprises is on par with the EU average. Again, there are sectoral differences. Usage of among manufacturing enterprises is higher (at 8.5%) than the EU average, but for construction, usage is virtually 0 and considerably below other EU countries.

*On investment in digital technology*

Ireland has a proportionally higher rate than other countries for all years pre-2021. However, there was a marked drop for Irish firms in 2021. For medium and large firms, the share of digitalisation expenditure in Ireland has trended down significantly between 2019 and 2021 and is now lower than for other European countries.

*On obstacles to digitalisation*

Compared to EU counterparts, more Irish firms report the broader digital infrastructure as an obstacle to long-term investment (this holds across firm size). An increasing number of firms (in both Ireland and the EU) are reporting finding sufficiently skilled staff as an obstacle. A positive correlation is found between digital skills and investment, while a negative correlation is found between firm level interest rates and investment. These correlations indicate that a greater availability of staff with digital skills and access to lower cost finance could boost investment in digitalisation by enterprises.

This research has provided the Council with a valuable insight into the barriers to digitalisation faced by Ireland's enterprise base, and the areas in which policy intervention may be required. The Council notes that enterprise digitalisation can bring substantial productivity benefits, and the low rates of digital uptake in the construction sector implies that there is a digital dividend that can be leveraged by firms operating in the sector if progress can be made in the adoption and usage of digital technologies. As an example, Building Information Modelling (BIM, a key underpinning of Modern Methods of Construction) can drive efficiencies throughout the construction project lifecycle. BIM can be used to integrate a range of areas, including design, planning, purchasing, project management, carbon calculations, facilities management and monitoring. Among the benefits of BIM for construction firms, are: more efficient communication, model-based cost estimation, improved hazard detection, and advanced project visualisation (minimising the need for changes at a later stage, which can be time consuming and costly). Further, as outlined in section 3.2.5, capacity constraints in housing create difficulties in attracting and retaining migrant workers – an historically important source of labour for the sector. As a consequence, increased labour productivity in the sector through, among other means, enterprise digitalisation, would assist in meeting key infrastructural targets.

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**Recommendation 6.6:** The Council recommends the adoption of a sector-specific approach to tackling the barriers to digitalisation faced by Irish enterprises, to be reinforced by the Government's existing *Harnessing Digital* framework.<sup>234</sup> This approach should address:

- (i) The relatively low incidence of online or e-sales for smaller firms, and the fall in the share of expenditure on digitalisation for medium and large firms over 2019 to 2021;
- (ii) The low uptake of digital technologies for firms operating in the construction sector; and,
- (iii) Barriers relating to the broader digital infrastructure, including access to a skilled digital workforce, and barriers arising from the costs of finance, that may be prohibiting firms from investing in digitalisation.

**Responsibility:** Department of Enterprise, Trade and Employment

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#### 6.4.7 Driving digitalisation through innovation hubs

Innovation hubs provide a geographical or virtual space where innovators can collaborate, exchange ideas, and develop new insights. These hubs can act as incubators and/or accelerators, assisting early-stage or scaling enterprises in accessing capital and equipping entrepreneurs with key business skills and know-how. Innovation hubs can bring together various R&D institutions and actors, such as SMEs, start-ups and higher education institutions, as well as venture capital investors and industry experts, and can range from smaller districts to large cross-regional ecosystems.

The Council welcomes progress on the establishment of four European Digital Innovation Hubs (EDIH) in Ireland, as part of the broader EU-wide EDIH network.<sup>235</sup> The network of EDIHs is intended to support businesses and organisations in their digital transformation and to disseminate the latest advances in digital technologies, cybersecurity, AI and High-Performance Computing. Ireland will have four members of the network: Data2Sustain, FactoryxChange, CeADAR, and ENTIRE.

The EDIHs are 'one-stop-shops' with a research performing organisation (RPO) or higher education institution (HEI) based lab at the core, to help companies (notably SMEs) and public sector organisations become more competitive in their business/production processes, products or services by providing access to research infrastructure, technical expertise and experimentation in order that these organisations can "test before invest".

The Council considers that the further development of innovation infrastructure, in the form of innovation hubs and districts, that effectively co-locate public and private sector research capabilities, including start-ups, scale-ups, SMEs and inward FDI, would assist in positioning Ireland as a global leader in the adoption of disruptive digital technology, including in the areas of AI, quantum computing and blockchain.

## 6.5 The Progress of Irish Enterprises Towards the Green Transition

As part of an ongoing analysis using data over the three-years from 2019-2021 from the ABSEI (Annual Business Survey of Economic Impact) database, the Department of Enterprise, Trade and Employment has examined the climate response of client companies of EI and the IDA.

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<sup>234</sup> [Harnessing Digital – The Digital Ireland Framework](#), Department of the Taoiseach, February 2022.

<sup>235</sup> See: [European Digital Innovation Hubs Network](#), European Commission.

The proportion of agency clients with a climate response plan increased between 2019 and 2021 (33.2% of agency clients had developed a climate response plan as of 2021), while the number of agency clients measuring their emissions has also increased (28% of IDA clients, and 14% of EI clients as of 2021). However, there is evidence of a gap in progress between larger firms and SMEs, with SMEs significantly less likely to have a climate plan and to measure their emissions, compared to larger firms. For EI clients, 74% of large firms have a climate plan compared to 36% of SMEs (and 22% of micro clients), while 75% of IDA's large firms have a climate plan compared to 25% of its SME and micro clients.

The main challenges identified by agency clients in creating a climate plan include prioritisation and the availability of funding. This holds for larger firms, SMEs and micro clients, however, smaller firms are somewhat more likely to report funding and capacity issues as challenges. Focusing on sectors, a greater proportion of enterprises in manufacturing and other industry measure their emissions than those in the services sectors (for manufacturing 17% of EI clients and 40% of IDA clients measure their emissions, whereas for the services sectors, 11% of EI clients and 21% IDA clients measure their emissions, as of 2021).

These findings from the ABSEI indicate that progress has been made in the green transition by Ireland's enterprise base, however, the responses of firms suggest a degree of heterogeneity by firm size and sector, which should motivate further analysis. The Council considers that close monitoring of the progress made by enterprises in transitioning is required to facilitate early and tailored policy intervention in the event that sector-specific or size-specific obstacles emerge. The regular and consistent collection of survey data through the ABSEI would assist in this regard – at present, questioning on firms' climate responses is not included in every year of the survey, and the same questions are not consistently asked of both IDA and EI clients.

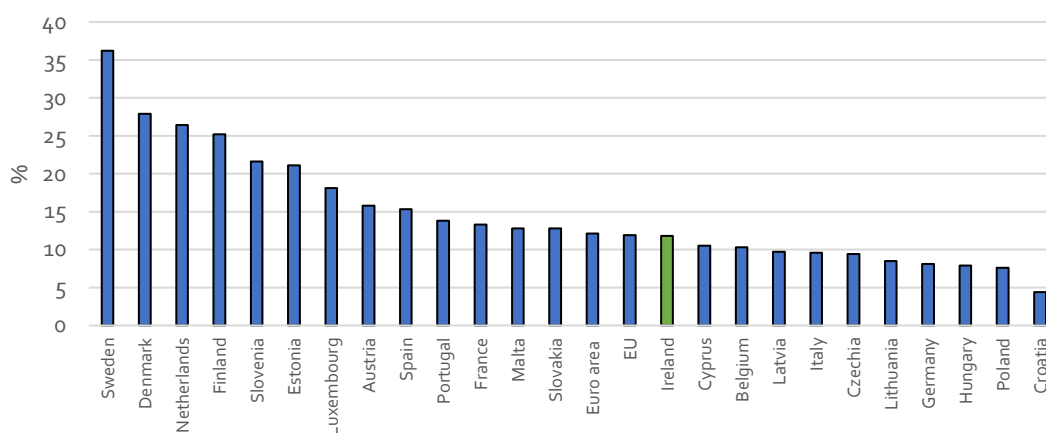
### 6.6 Life-long Learning

Without quality opportunities to upskill and reskill throughout the lifecycle, capacity constraints can emerge, particularly as the economy navigates the kind of significant structural changes that accompany the digital and green transitions, and the advent of disruptive technologies. Furthermore, individuals are at greater risk of entering precarious employment and of poverty and social exclusion if there is insufficient investment in their skills. This is a particularly pressing concern at the current juncture, as the economy adapts to emerging technologies, for example, in the form of AI and quantum computing. Box H sets out the current context in terms of the latest statistics on lifelong learning in Ireland.

**Box H: The current context of lifelong learning in Ireland**

Ireland's lifelong learning rate fell to 11.8% in Q4 2022, down from 13.1% in the previous year. This is below the EU and Euro-area averages for 2022 (of 11.9% and 12.1%, respectively), and well below the top performing countries (with rates of 36% in Sweden, 28% in Denmark, 27% in Iceland and 26% in the Netherlands). Ireland's relative position fell significantly to 15<sup>th</sup> out of 27 EU countries, down from 4<sup>th</sup> in 2021 (see Figure 6.6.1).

Figure 6.6.1 Adult participation rate in learning in the past four weeks, European Countries, 2022



Source: Eurostat

Cohorts with the highest lifelong learning participation rates in Q4 2022 were: females (13%), young people aged 25-34 years (17%), persons with third level qualifications, especially those with postgraduate (i.e. NQF level 9/10) qualifications (19%), those living in densely populated areas (14%), and the unemployed (15%). Nonetheless, with the exception of postgraduate qualification holders, these cohorts had amongst the largest percentage point falls in participation when compared to Q4 2021. Lifelong learning participation rates also declined for most groups of employed persons, with the exception of caring services workers, skilled trades workers, those who worked sometimes from home, those in managerial occupations, and those in the health sector, for whom participation either rose marginally or was unchanged.

Ireland has a number of financial incentives targeting individuals to participate in lifelong learning, e.g. eCollege, Human Capital Initiative (HCI), Springboard+, Back to Education Initiative (BTEI), Skills to Advance, and Skills to Compete. The OECD has recommended that Ireland explore the use of individual learning schemes whereby the benefit is linked to the individual rather than the employer, and is not dependent on the individual's employment status. For example, this would include Individual Learning Accounts (ILAs), Individual Savings Accounts for Training (ISATs), training vouchers, or time accounts.

However, these types of schemes can create deadweight loss when not targeted sufficiently (i.e. the scheme would be used by people who would have participated in life-long learning even without the additional incentive). These schemes can also be relatively ineffective without substantial matched funding from the Government, can encourage only limited participation if the scheme is too complex, can be less effective if not combined with other measures to promote lifelong learning, and can be costly and a burden in terms of administration.

Enterprises are reporting that a lack of qualified staff is preventing them from engaging in innovation (see section 6.2),<sup>236</sup> and an increasing number of firms are reporting that finding sufficiently skilled staff is an obstacle to digitalisation (see section 6.4) implying that a greater availability of skilled staff could boost firm investment in the digital transition.

In the review of Ireland's National Skill Strategy,<sup>237</sup> the OECD noted that the scale and pace of change globally is such that Ireland's skills ecosystem is required to take a leap forward. The OECD recommended that to foster greater participation in lifelong learning in and outside the workplace, Ireland should strengthen incentives to participate for individuals and employers, and make lifelong learning more flexible and accessible. In addition, the OECD highlighted that the National Training Fund (NTF) could be reformed to better foster lifelong learning in workplaces.<sup>238</sup>

Among the issues highlighted by the OECD in relation to the NTF, are that the Fund is not being used as effectively as it could be. There are surplus funds in the NTF that are not being used to meet education and training needs – the accumulation of surplus funds in the NTF relates to the fact that expenditure from the Fund contributes to overall general government expenditure, and so must be considered within the Government's overall fiscal strategy. In this way, NTF funded programmes must fall within departmental expenditure ceilings or be offset by a reduction in departmental Exchequer spending. The total accumulated surplus in the NTF is projected to reach between €1.4 to €1.5 billion by end 2023.<sup>239</sup>

In addition, the review noted that many employers are not aware of the NTF and do not take advantage of the education and training it funds, while employers sometimes require training that is not offered by NTF-funded programmes and end up paying out-of-pocket. Finally, the OECD considers that the needs of SMEs are insufficiently met under current NTF funding. Given these issues, the OECD review recommended that Ireland should reform the NTF to better foster lifelong learning in workplaces through the following actions:

- Unlock surplus NTF funds to facilitate greater investment in lifelong learning in Ireland;
- Improve structural incentives for employers to take advantage of education and training funded by the NTF;
- Establish a discretionary fund as part of the NTF to be distributed at the regional / local / sectoral level; and,
- Increase NTF support specifically allocated for upskilling and reskilling for SMEs.

The Council's view is that the expenditure of the NTF surplus should be treated as a priority within the Government's overall fiscal strategy (and related departmental expenditure ceilings), and should be deployed in support of current and future skills needs arising from the digital and green transitions, AI, and quantum computing.

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<sup>236</sup> [Innovation in Irish Enterprises 2020 - CSO - Central Statistics Office.](#)

<sup>237</sup> [gov.ie - OECD Skills Strategy Ireland: Assessment and Recommendations \(www.gov.ie\)](#)

<sup>238</sup> The NTF is paid into by employers in Ireland and provides funding to be used both in and outside the workplace for education and training purposes.

<sup>239</sup> [An Overview of the National Training Fund \(NTF\) \(oireachtas.ie\)](#)

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**Recommendation 6.7:** The Council recommends:

- (iii) The Government should reform the National Training Fund (NTF) to better foster lifelong learning in workplaces in line with the recommendations outlined in the OECD Skills Strategy.
- (iv) The Government should ensure that the NTF surplus is deployed to deliver training programmes that assist in meeting skills needs in the areas of the digital and green transitions, AI, and quantum computing.

**Responsibility:** Department of Further and Higher Education, Research, Innovation and Science; Department of Enterprise, Trade and Employment

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## 6.7 Summary

Ireland has lagged competitor economies in terms of gross spending on R&D. Over the last decade, the main driver of R&D spending has been the business sector, with BERD rising significantly since 2016. Compared to the EU, Ireland's business sector has accounted for a much larger share of overall R&D spending. Ireland performs well compared to the EU and OECD averages in terms of State support for R&D activity, however, this is driven by the scale of indirect, rather than direct, supports.

As of 2020, foreign firms outspend domestic firms in terms of in-house R&D activity at a rate of almost four-to-one, and large manufacturing firms – generally foreign-owned multinationals – appear to be the main beneficiaries of the R&D tax credit. The Government must be proactive in tackling potential barriers to the take-up of the R&D tax credit by SMEs. This might include a recalibration of the credit, to support innovation as defined in line with the Oslo manual.

Ireland's ranking in international indices of innovation is slipping. In the Global Innovation Index, Ireland last reached the top 10 in 2018. While Ireland was regarded as a 'Strong Innovator' in the European Innovation Scoreboard 2023, our lead over lower ranking countries is shrinking, while the higher ranking "Innovation Leaders" are increasing their lead. Composite indices of innovation are valuable tools to assess and benchmark Ireland's performance; however, these should be interpreted with caution and must be understood in the broader macroeconomic and policy context. The use of GDP to denominate or scale indicator values risks misrepresenting our performance - motivating further analysis to better understand Ireland's relative position.

The rapid pace of developments in emerging and disruptive technologies, such as AI and quantum computing, presents both challenges and opportunities for Ireland's enterprise base. There is survey evidence that AI has significantly impacted on work tasks where it has been adopted, and potential job losses and an adverse impact on earnings remain a concern among workers. It is critical that Government are agile and proactive in the delivery of policy frameworks in break-through technological areas, that foster research, development, innovation and skills in these areas, if Ireland is to be best placed to reap the benefits of early adoption of emerging technology. It will also be necessary to take appropriate steps to safeguard our digital systems.

The twin digital and green transitions must continue at pace to ensure the future competitiveness and sustainability of the Irish economy. This means that the Government must be responsive as firm sector- and size-specific obstacles emerge. Skills and life-long learning will be a key enabler of the twin transitions, and recommendations outlined in the OECD Skills Strategy require action by Government. So too, does the National Training Fund, from which surpluses should be deployed to deliver training programmes of relevance to critical areas of the green and digital transitions.

## Conclusion

This year's *Ireland's Competitiveness Challenge* report is set in the context of an Irish economy which has continued to demonstrate resilience into 2023 despite numerous international economic challenges. This resilience is bolstered by our strong competitiveness position, a position which was recognised by the Council in its *Competitiveness Scorecard* report this year. Ireland's positive fiscal balance, strong institutions, supportive business environment and strong demographic endowments have each contributed to ensuring that Ireland can compete in a challenging global environment. It is also important to our continued competitiveness that we uphold our strengths while seeking to shore up any weaknesses.

This year's *Challenge* draws attention to capacity constraints as a threat to our competitiveness, in particular constraints present in the labour market. Developments in global trade and rising protectionism also threaten the model on which Ireland has successfully competed over the last number of decades. The recommendations outlined in this year's *Competitiveness Challenge* report are aimed at enhancing Ireland's competitiveness and productivity performance in 19 tangible, actionable policy recommendations across four key challenges.

Continued action to **reduce the costs of doing business in Ireland** is critical to our continued competitiveness internationally, in particular competition in the banking sector and high legal costs are cited as areas for improvement. We need to **significantly improve the planning, development and delivery of infrastructure** to facilitate future sustainable economic growth. While capacity constraints are significantly impacting the delivery of infrastructure, the Council believes there are steps which can improve this delivery including increased use of innovative methods in construction, and strengthened pathways from school into further education to ensure a diversified supply of skills to the construction sector. The Council believes that improved project management and delivery processes in water infrastructure are also critical in order to meet the operational targets. The Council believes Ireland needs to **step up action on energy generation and consumption towards meeting our climate targets**. This will require increased micro-generation by enterprise while also improving energy efficiency of that sector. The Council welcomes the number of actions over the last year in terms of delivery of renewable energy, and calls for Government to continue the step-up in delivery of offshore wind infrastructure and that this is facilitated by sufficient resourcing in the area of planning. Finally, the Council has made a number of recommendations on **better enabling productivity growth through research, development and innovation**. The Council believes the Government should examine the potential barriers to the take-up of the R&D tax credit by SMEs. We must also ensure that we are at the forefront of the digital transition across the areas of cyber-security, A.I. and quantum computing. Unlocking the NTF surplus to deliver training programmes that assist in meeting skills needs in the areas of the digital and green transitions will be a positive step to strengthening Ireland's productivity growth into the future.

Effective action on the recommendations made by the NCPC will help ensure the ultimate outcome of sustainable growth for the Irish economy. Taking steps to drive Irish productivity growth through innovation, while taking advantage of increased capacity through improved delivery of infrastructure and controlling domestic business costs will significantly improve Ireland's ability to compete over the long-term.

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