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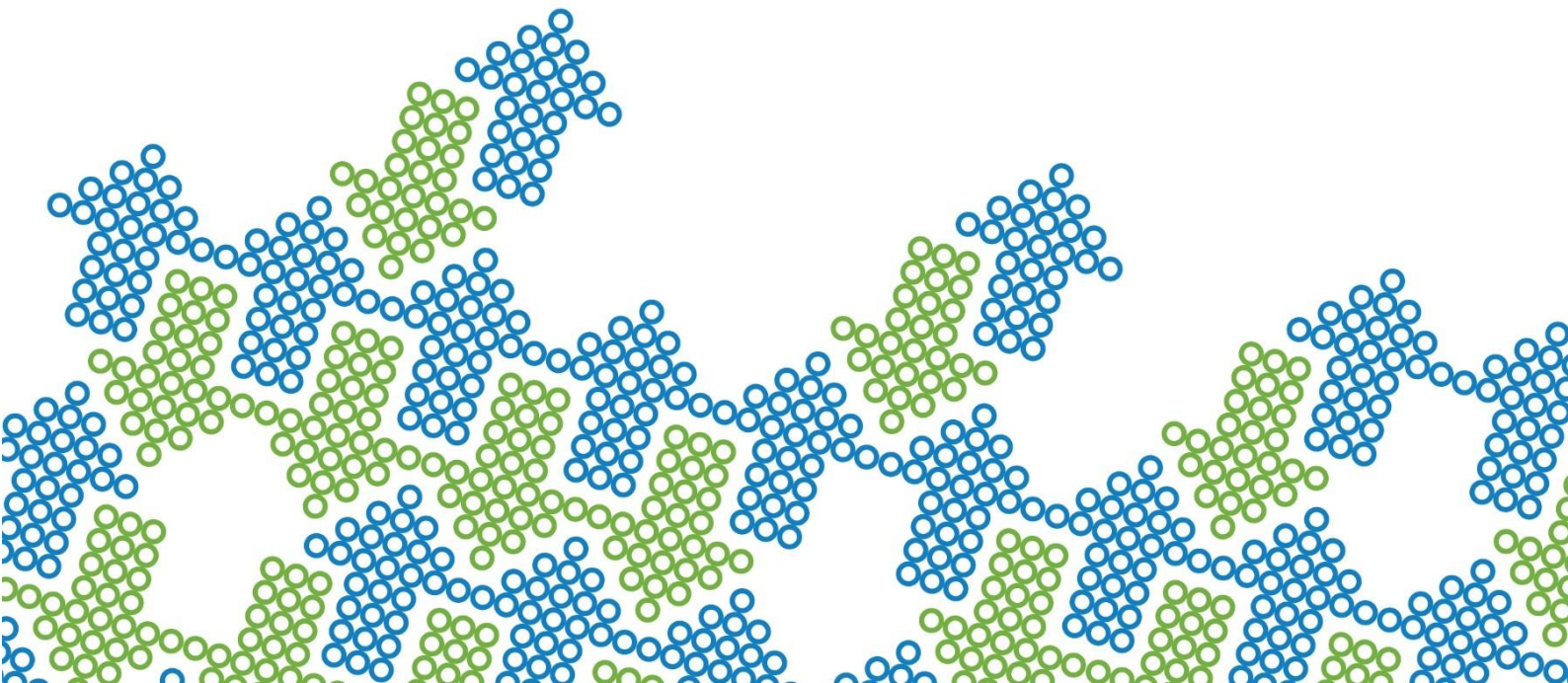
National Competitiveness
& Productivity Council
An Chomhairle Náisiúnta
Iomaíochais agus Táirgiúlachta



Ireland's Competitiveness Scorecard

2023

May 2023



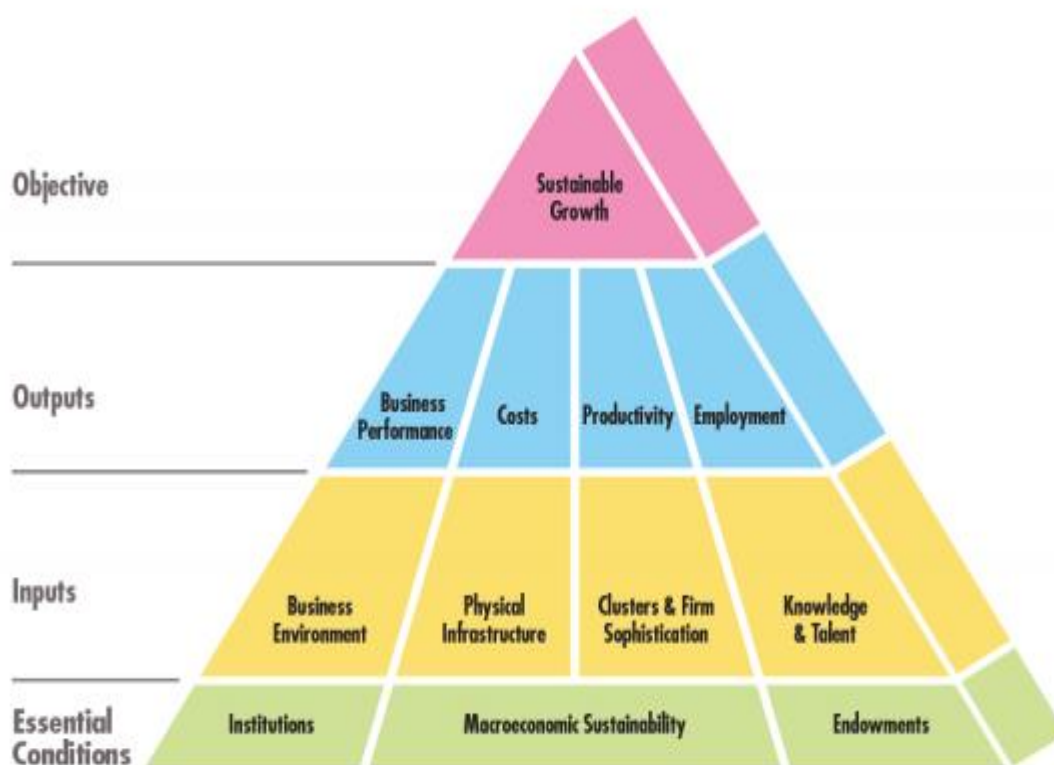
Introduction to the National Competitiveness and Productivity Council

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. The Council also produces Ireland's Competitiveness Scorecard on a three-year cycle which provides a comprehensive statistical assessment of Ireland's competitiveness performance.

As part of its work, the NCPC also periodically publishes a series of competitiveness bulletins and other papers on specific competitiveness and productivity issues.



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Table of Contents

Introduction to the National Competitiveness and Productivity Council	2
Chair's Preface.....	5
Chapter 1: Introduction.....	7
1.1 Rationale for the Competitiveness Scorecard.....	7
1.2 Current Context & Economic Outlook for Ireland	7
1.3 International Competitiveness Performance	9
1.4 Harmonised Competitiveness Indicators.....	10
Chapter 2: Approach.....	13
2.1 The NCPC Approach to Benchmarking	13
2.2 Analytical Framework.....	13
2.3 Outline of Key Findings.....	14
2.4 Summary.....	18
Chapter 3: Essential Conditions	19
3.1 Institutions.....	21
3.2 Macroeconomic Sustainability	24
3.3 Endowments.....	29
Chapter 4: Competitiveness Inputs	33
4.1 Business Environment	35
4.2 Physical Infrastructure	38
4.3 Clusters and Firm Sophistication.....	43
4.4 Knowledge and Talent.....	47
Chapter 5: Competitiveness Outputs	53
5.1 Business Performance.....	55
5.2 Costs	59
5.3 Productivity	70
5.4 Employment.....	77
Chapter 6: Sustainable Growth	84
6.1 National Income	86
6.2 Quality of Life.....	88
6.3 Environmental Sustainability	90
6.4 Social Inclusion.....	93

Chair's Preface



The *Competitiveness Scorecard 2023* is the first edition of the Scorecard since the decision taken by the NCPC in 2020 to move to a triennial publication schedule, motivated in part by the slow rate of year-to-year changes across the performance indicators included in the report. The *Competitiveness Scorecard 2020* was set against the backdrop of the most acute phase of the COVID-19 pandemic, with unprecedented disruption to the business sector as the Government moved to shut down non-essential commercial activity to curtail the spread of the virus.

Since then, the Irish economy has emerged from the worst of the pandemic but has entered a new period of global uncertainty. The invasion of Ukraine by Russia commenced in February 2022, and has caused significant upheaval in energy markets, triggering a broader focus on EU energy security.

Reflecting this and other factors, including pandemic related supply chain disruptions, businesses and households have faced levels of inflationary pressures that have not been seen in decades. In response, Central Banks around the world have taken significant steps toward monetary policy normalisation, bringing an end to an era of historically low interest rates. It is in this context that the *Competitiveness Scorecard 2023* was prepared.

There are several new additions to the *Competitiveness Scorecard 2023*. These include measures relating to innovation, industrial peace, income inequality, human capital, and data on land use. The recent CSO publication on productivity statistics on a firm ownership basis – alongside a sector-dominance basis – has also provided further insights into the contribution of domestic-versus foreign-owned firms to labour productivity in Ireland. The Council welcomes the continuing progress made by the CSO in developing this important data source.

Overall, Ireland's macroeconomic fundamentals are strong, and the country retains a competitive edge in terms of demographics relative to its international peers. While public debt is high in nominal terms, the ratio of debt to national income is on a downward path. In terms of talent and skills, Ireland has the second highest share (after Japan) of working age population with tertiary education in the OECD and leads EU members in terms of STEM graduates per 1,000 of population aged 20-29. Since 2018, Ireland has consistently ranked in the Top 20 across most indicators of business and government efficiency. Ireland is also a strong performer internationally across a range of quality-of-life indicators, reflecting progress across both economic and non-economic criteria. In addition, at-risk-of-poverty rates net of social transfers are substantially lower in Ireland than elsewhere in the EU, a mark of the effectiveness of the tax and social welfare system. These are the foundations of competitive success.

Notwithstanding this relative success, there remain important areas for improvement if Ireland is to maintain, or improve upon, its competitiveness position in the years ahead. More needs to be done on meeting energy and environmental targets, and significant action is required if 2030 targets on emissions and renewables are going to be met. Furthermore, while price levels have generally been high in Ireland, a lower rate of inflation when compared to competitors in the decade up to 2020 had previously helped in maintaining cost competitiveness. This is no longer the case.

Infrastructural constraints are undermining Ireland's current competitiveness performance, with housing supply the most serious of several problem areas. For 2021, Ireland was the poorest performer in western Europe in terms of housing investment (as a percentage of GNI*). It is important that we recognise the risks posed by these constraints to Ireland's competitiveness standing and the need to address them efficiently and effectively so that they do not undermine employment and living standards.

Ireland's Competitiveness Scorecard 2023

Relative to national income, Ireland trails competitors in terms of gross (direct) spending on R&D and venture capital. In addition, interest costs have been consistently higher for Irish firms than for their euro area competitors.

Apart from these relative strengths and weaknesses, the NCPC is monitoring developments across several key issues that were identified in the preparation of this report. For example, the dual nature of the Irish economy is very evident across several of the metrics included in this report. In terms of productivity growth, sectors dominated by foreign-owned multinationals greatly out-perform sectors dominated by domestic firms. Export activity is also heavily concentrated by enterprise, sector, and country, which leaves the economy vulnerable to external shocks in these areas.

The labour market has rebounded strongly from the COVID-19 pandemic, and this is reflected in the record number of people at work. This has been accompanied by clear signs of market tightness, with pressures in filling vacancies across many sectors. Underlying structural shifts, moreover, have emerged in recent years. The female participation rate has exceeded pre-pandemic levels, and participation by age is also changing over time, as younger people are staying in education longer and older people are working longer.

For the first time, the NCPC also sought to include indicators to benchmark Ireland's performance in areas such as insurance and legal costs, the quality and efficiency of the judicial system and the planning process (including associated time costs). However, despite recent increases in data availability, the NCPC faces persistent and significant data limitations which prevent it examining these issues in detail. The NCPC will consider how best to address these issues moving forward.



Dr. Frances Ruane
Chair, National Competitiveness and Productivity Council

Chapter 1: Introduction

This chapter introduces the *Competitiveness Scorecard 2023*, sets out the rationale for the Scorecard, the current macroeconomic context and outlook, and provides a high-level view of Ireland's current competitiveness position.

1.1 Rationale for the Competitiveness Scorecard

An important source of evidence in reviewing competitiveness and productivity performances is a country's relative performance compared to that of its international competitors, both regionally and globally. Such Scorecards allow a benchmarking of the present position set in the context of past relativities.¹ The *Competitiveness Scorecard 2023* gathers a wide range of indicators on Ireland's competitiveness and productivity position compared to relevant EU and OECD economies.

The data in the Scorecard indicate certain relative strengths and weaknesses which, in turn, can support or impair Ireland's ability to achieve sustainable economic growth. The report flags areas that are negatively impacting Ireland's competitiveness, and where Ireland's relative position is not keeping pace with its competitors.

1.2 Current Context & Economic Outlook for Ireland

Since the publication of the last Competitiveness Scorecard, in 2020, the Irish economy has emerged from the worst of the COVID-19 pandemic but has entered a new period of global uncertainty. This is the macroeconomic context in which this scorecard is prepared.

The Russian invasion of Ukraine has significantly impacted wholesale energy markets, reinforced the interruptions to supply chains that emerged under COVID-19, and has triggered a broader focus on EU energy security. These in turn have led to levels of inflationary pressures globally that have not been seen in decades.

In response to persistent inflationary pressures, Central Banks around the world have taken significant steps toward monetary policy normalisation, bringing an end to an era of historically low interest rates. The ECB's Main Refinancing Rate was held at 0.0% from early 2016 until July 2022, when the Governing Council increased the three key rates by 50 basis points (0.5%). A further increase of 75 basis points (0.75%) followed in September, just seven weeks later. Since then, rates have increased rapidly in a relatively short time. As of April 2023, the Main Refinancing Rate stood at 3.5%. Similar action, on slightly different timescales, has been taken by other central banks, including the US Federal Reserve, the Bank of England, the Bank of Canada, and the Reserve Bank of Australia.

As policymakers and financial markets respond to the rapid pace of rate increases and acclimatise to the new high interest rate environment, there have also been episodes of market instability. Recent examples include interventions by the Bank of England in respect of difficulties faced by UK pension funds, and efforts by the US authorities to stem financial contagion arising from liquidity crises in some financial institutions. Stresses in the international banking system present a downside risk to global growth prospects, particularly if they manifest in a 'credit crunch'. These stresses are likely to influence future decisions taken by the ECB regarding rate changes.

Figure 1.1.1 shows IMF and OECD forecasts of global GDP growth out to 2024 – both bodies expect global growth to slow this year relative to 2022, by 0.6 percentage points, before a slight uptick in 2024 (by 0.2-0.3 percentage points).

¹ Until 2020, the Council published Ireland's Competitiveness Scorecard on an annual basis, benchmarking the competitiveness of Ireland's business sector against international peer countries. In light of the slow rate of year-to-year changes, and developments in international indicators, the NCPC decided to move the Scorecard to a three-yearly cycle.

Ireland's Competitiveness Scorecard 2023

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

	2020	2021	2022	2023f	2024f
IMF ² (April 2023)	-2.8	6.3	3.4	2.8	3.0
OECD ³ (March 2023)	-3.1	6.1	3.2	2.6	2.9

Source: OECD Economic Outlook, World Economic Outlook

Looking further out to 2028, the IMF predicts global growth of 3% - its lowest medium-term global growth forecast since 1990. This reflects the risks to growth set out above, alongside ongoing maturation of economies such as China and Korea and slower growth in the global workforce.

Focusing on Ireland, as the global economy responds to changes in the monetary policy environment, there are potential impacts on the Irish economy, affecting households, firms and government:

- **Households:** Higher interest rates will reduce household disposable incomes, with a consequent reduction in consumer sentiment and personal consumption, particularly for those with higher levels of household debt. Depending on how the labour market responds to inflationary pressures, there is the risk of a wage-price spiral – if this occurs at the European level, it could prolong the current period of rate increases.
- **Firms:** Faced with more costly financing options and slowing global growth projections, firms may curtail or delay investment decisions. Businesses have already faced higher interest rates in Ireland compared to the euro-area average, and these rates could rise further.
- **Government:** Ireland's ten-year sovereign borrowing costs have increased from near 0% in Q1 2021 to approximately 2.8% in Q1 2023. The maturity profile of Irish debt will help to mitigate against the adverse impact of interest rate increases in the short-term. However, as more of this debt matures, the monetary policy context is likely to be considerably less accommodative than in recent years. In this respect, prolonged rate increases pose a sustainability risk, and will make future borrowing to fund planned public investment, including in respect of critical infrastructure, more costly.

As shown in Figure 1.1.2, average GDP growth of approximately 5% is forecast for this year across the main forecasting bodies – a sharp moderation relative to an exceptionally high rate of growth for 2022, as the economy rebounded from the disruptive effects of the pandemic. However, in recognition of the limitations of GDP in measuring economic activity in the Irish context, a better way of measuring domestic activity is growth in Modified Domestic Demand (MDD), shown in Figure 1.1.3.

Figure 1.1.2: Outturns / Forecasts for Irish GDP – percentage change

	2020	2021	2022	GDP - forecast	2023f	2024f
GDP – Actual	6.2%	13.6%	12%	Central Bank of Ireland (March 2023)	5.6	4.8
				ESRI (March 2023)	5.5	6.0
				European Commission (February 2023)	4.9	4.1
				OECD (March 2023)	3.8	3.3

Source: CSO Quarterly National Accounts, CBI Quarterly Bulletin, ESRI Quarterly Economic Commentary, OECD Economic Outlook, European Commission winter Economic Forecast

²World Economic Outlook, April 2023: IMF

³OECD Economic Outlook

Ireland's Competitiveness Scorecard 2023

Figure 1.1.3: Outturns / Forecasts for Modified Domestic Demand – percentage change

	2020	2021	2022	MDD - forecast		
				2023f	2024f	
MDD – Actual	-6.1%	5.8%	8.2%	Central Bank of Ireland ⁴ (March 2023)	3.1	2.9
				ESRI ⁵ (March 2023)	3.8	3.9

Source: CSO Quarterly National Accounts, CBI Quarterly Bulletin, ESRI Quarterly Economic Commentary

1.3 International Competitiveness Performance

When preparing measures of competitiveness, countries (including Ireland) often make use of aggregate competitiveness indicators published by international organisations. These organisations recognise that competitiveness is a complex concept, built on a series of composite indicators reflecting a multitude of different factors (including policy decisions). These indicators comprise a large series of sub-indices that cover a range of distinct structural factors that impact competitiveness. Each country is then assigned an overall ranking based on its performance.

In previous Competitiveness Scorecard reports, the NCPC has made extensive use of the three most influential international competitiveness indicators that have been published annually, namely, those of the Institute for Management Development (IMD), the World Economic Forum (WEF), and the World Bank (WB). Publication of the WB's indicators, in its Doing Business report, has now been suspended indefinitely, while the WB formulates a new approach to assessing the business and investment climate in economies worldwide. It is expected that its new set of indicators, to be published as the Business Ready (B-Ready),⁶ will not be available in the near term. The WEF has also not issued an updated Global Competitiveness Report since December 2020 and is currently reviewing its own methodology.

The IMD Competitiveness Yearbook⁷ has continued to be published. It assesses and ranks 63 economies around the world, based on their ability to create and maintain a competitive business environment. As the rankings are relative, the change in Ireland's ranking can be due to either an absolute deterioration or improvement in its performance in the various categories, or to the performance of other countries improving or worsening relative to Ireland's performance.⁸

Figure 1.4.1 below shows that Ireland's overall IMD ranking has trended upward since 2011 and Ireland was ranked consistently in the top 20 (of the 63 countries) with the highest ranking of 6th recorded in 2017. More recently, cost pressures and a failure to keep pace with improvements in other jurisdictions have resulted in Ireland's position slipping. However, in 2022, Ireland's competitiveness ranking improved two positions from 13th place in 2021 to 11th place (see Figure 1.4.1). Ireland's strong economic recovery in 2022 contributed to the improvement in the overall ranking this year.⁹

⁴ [Quarterly Bulletin Q1 2023 | Central Bank of Ireland](#)

⁵ [Quarterly Economic Commentary, Spring 2023 | ESRI](#)

⁶ The first report of the new Business Ready is due to be published in April 2024.

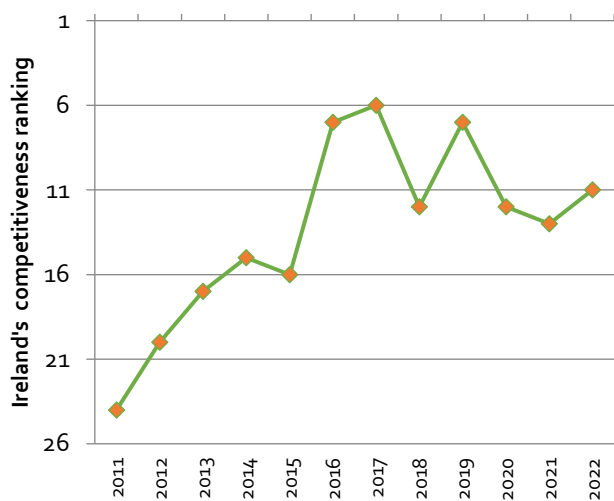
⁷ The IMD World Competitiveness Yearbook uses quantitative and qualitative survey data to assess the ability of countries to create and maintain an environment in which enterprises can compete globally.

⁸ An advanced economy, such as Ireland, at the upper end of the rankings, can find it more difficult to ascertain significant impact from their reforms, due to its already robust performance (i.e. as a country approaches the best performing economies, it becomes more difficult to make improvements). In addition, the methodology, surveys and data used in these benchmarking reports differ significantly. Methodologies are frequently revised, and this can also have an impact on Ireland's ranking.

⁹ The use of Gross Domestic Product as an internationally comparable measure of economic activity also affects the computation of a number of indicators and generally boosts Ireland's measured performance. The NCPC and other bodies have previously noted that Modified Gross National Income (GNI*) is a more appropriate indicator of the size of the Irish economy adjusted for globalisation activities. Ireland's higher ranking in this year's IMD World Competitiveness Yearbook is driven by improvements in Economic Performance and Government Efficiency.

Ireland's Competitiveness Scorecard 2023

Figure 1.4.1 Ireland's IMD Competitiveness Ranking



Source: IMD

Figure 1.4.2 Ireland's Ranking across Four Pillars

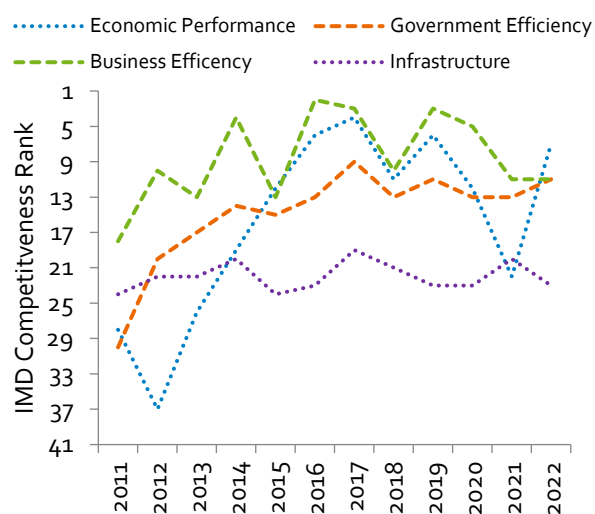


Figure 1.4.2 shows the trend across the four competitiveness pillars assessed by IMD over the past decade, with considerable volatility across years and marked differences in rankings between each pillar. However, some notable trends emerge. Ireland's strongest performance has consistently been under Business Efficiency, and despite a deterioration in 2019-21, it remains strong at 11th place. Over the last five years, Ireland's ranking under Government Efficiency has been relatively stable, fluctuating between 11th and 13th place – a peak of 9th was reached in 2017.

Economic Performance shows the greatest volatility, and after reaching a 10-year low in 2021, it recovered to 7th place in 2022. It is notable that Ireland's ranking under Infrastructure has remained remarkably stable, and lower than all other indicators since 2015, ranking between 19th and 24th. Overall, the dramatic improvement in Economic Performance was the main driver of the improvement in Ireland's competitiveness ranking between 2012 and 2017, and for the improvement between 2021 and 2022. Economic Performance was also the driver behind the drop in Ireland's ranking between 2019 and 2021.

In a Bulletin¹⁰ published on 22nd December 2022, the NCPC set out its decision and approach to look anew at possible indicators for this year's Scorecard report. This widening of the range of indicators is consistent with the NCPC's mandate which sees the pursuit of greater competitiveness and productivity not for their own sakes, but rather for how they can help support sustainable economic growth and quality employment which are key to improving living standards and quality of life for all of society. Consequently, this year's Scorecard incorporates a wider range of indicator sources including, but not limited to, the OECD Better Living Index, the World Bank Human Capital Index, the EU Regional Competitiveness Index, and the Global Innovation Index.

1.4 Harmonised Competitiveness Indicators

Harmonised Competitiveness Indicators (HCIs) are also used to illustrate an economy's competitiveness performance at an aggregate level. HCIs deflate relative changes in exchange rates by the relative change in average prices to indicate how cost competitive an economy is at any given moment. When the real HCI trends upwards, it suggests that prices in the domestic economy (when taking exchange rates into account) are increasing faster than prices in other jurisdictions, making an economy less competitive. When the real HCI trends downward, the opposite is the case, suggesting an overall competitiveness improvement.

¹⁰ [Bulletin 22-5 International Competitiveness Indicators - Competitiveness](#)

Ireland's Competitiveness Scorecard 2023

Fig. 1.5.1 Harmonised Competitiveness Indicator, January 2003 – March 2023

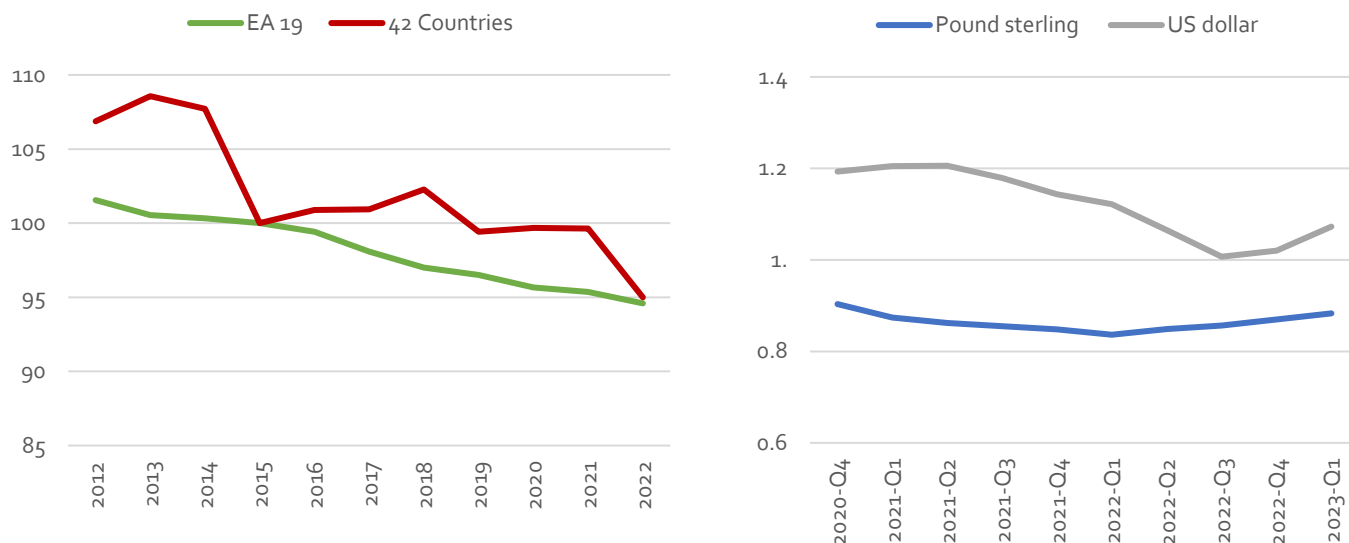


Source: Central Bank of Ireland, HCI

Reviewing the period since 2003, Figure 1.5.1 reveals two broad trends. First, between 2003 and 2008, the Irish economy experienced a substantial loss of cost competitiveness, with Irish prices increasing much faster than prices in other jurisdictions. Second, since 2008, the Irish economy has experienced substantial improvements in cost competitiveness, but with significant quarter to quarter volatility.

The Real Effective Exchange Rate (REER) is an index that tracks the change in a country's exchange rate relative to changes in relative inflation rates. Like the HCI, if the REER is trending downward, it implies an improvement in cost competitiveness. Figure 1.5.2 below suggests that Ireland has become more cost competitive relative to both the euro area, and a wider group of economies, since 2012. Figure 1.5.2b focuses on developments in the euro-sterling and euro-US dollar exchange rates since Q4 2020. The euro depreciated against the US dollar over 2021 and 2022, reaching parity in Q3 2022, before rallying in the final quarter of 2022 and into 2023. As shown, euro movements vis-à-vis sterling were more subdued during this time.

Fig. 1.5.2a Real Effective Exchange Rate, Ireland (deflated by CPI) Fig 1.5.2b Euro-Sterling/US Dollar exchange rate



Source: Eurostat – Effective Exchange Rate Indices, Euro/ECU exchange rates

Ireland's Competitiveness Scorecard 2023

In summary, aggregate competitiveness indicators suggest that Ireland remains broadly competitive. We continue to perform well according to the IMD competitiveness rankings, and indicators of price competitiveness suggest that we are continuing to improve relative to our international trading partners. There are, however, several areas where more needs to be done to strengthen our overall competitiveness position, thereby helping enterprises and employment to grow, and our quality of life to improve. As the individual IMD pillar rankings suggest (Figure 1.4.2), Ireland has been ranked consistently low in terms of Infrastructure and has experienced some deterioration in terms of Business Efficiency in recent years.

The next chapter presents the NCPC's approach to benchmarking and summarises the key findings of the 2023 Scorecard.

Chapter 2: Approach

2.1 The NCPC Approach to Benchmarking

Ireland's Competitiveness Scorecard is one of several reports regularly produced by the National Competitiveness and Productivity Council. The *Scorecard* is designed to assess how competitive the Irish economy is relative to international peers by means of benchmarking Ireland's performance against our competitors and the world's best performers. Measuring competitiveness performance relative to other countries highlights Ireland's strengths and identifies potential threats and weaknesses that may be open to policy intervention. Benchmarking competitiveness is useful in that it brings together in a systematic way, many indicators covering the economy, raising awareness of the importance of national competitiveness to Ireland's wellbeing.

In terms of the choice of indicators used here, the NCPC has sought to expand upon these following a hybrid workshop in early 2023 held to ascertain a broad range of views of which indicators to include. The intention is to continue to develop the Scorecard in the coming years incorporating new indicators. There are several new additions to the Scorecard for 2023. These include measures of innovation, industrial peace, income inequality, and data on land use, among others. The publication by the CSO of productivity statistics on a firm ownership basis alongside statistics on a sector dominance basis, has provided new insights into the contribution of domestic- versus foreign-owned firms to labour productivity.

For the first time, the NCPC also sought to include indicators to benchmark Ireland's performance in key areas for Irish business, and especially SMEs, such as insurance and legal costs, and the quality and efficiency of the judicial system and the planning process (and associated time costs). However, data limitations prevented the NCPC from examining these issues in detail. For example, while the European Commission for the Efficiency of Justice (CEPEJ) collects and publishes data on clearance rates for court cases and the time taken for court cases to be resolved,¹¹ significant caveats apply to this data when interpreted for civil law jurisdictions, including Ireland.¹² Additionally, while the CSO's Services Producer Price Index (SPPI) tracks costs relating to 'Legal, Accounting, Public Relations and Business Management Consultancy', there is no specific breakdown on legal costs. The NCPC will consider how best to address these issues moving forward.

2.2 Analytical Framework

In line with previous Scorecards, the Council uses a "competitiveness pyramid"¹³ to organise the different types of factors (essential conditions, policy inputs and outputs), which combine to determine overall competitiveness and sustainable growth. Under this framework, competitiveness is not an end in and of itself, but is a means of achieving improvements in living standards and quality of life for all of society.

- At the base of the pyramid are the essential conditions for competitiveness; these foundations are based on **institutions, macroeconomic sustainability, and endowments**.
- In the next layer above this are four sets of policy inputs that impact future competitiveness, namely, the **business environment** (taxation, regulation, and finance), **physical infrastructure, clusters and firm sophistication, and knowledge and talent**.
- Above this are the outputs where current competitiveness is evident, namely, **business performance** (such as trade and investment), **costs, productivity, and employment**.

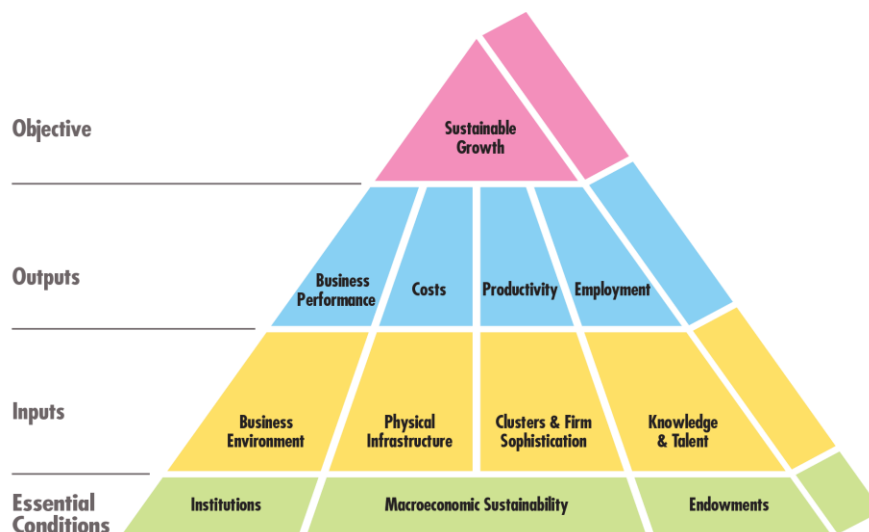
¹¹ [European Judicial Systems – CEPEJ Evaluation Report](#), 2022 Evaluation Cycle (2020 Data), Council of Europe.

¹² These data gaps relate to certain procedures that result in the under-reporting of disposed cases (and thus lower clearance rates), such as the absence of any formal recording of initiated proceedings being settled out of court, or simply not proceeded with at all. These gaps might best be addressed as part of the [Courts Service Data Strategy 2021-2024](#).

¹³ The Council's approach to measuring and benchmarking competitiveness has continuously evolved since it was established in 1997. Over time, the Council's analysis has developed into a bespoke integrated framework, that links the key areas of competitiveness potential and performance together. The "Competitiveness Pyramid" first appeared in the Competitiveness Challenge 2003 and is used by the Council to illustrate the multifaceted and interlinked dimensions of competitiveness. The pyramid has evolved to reflect overall best practice in the field and is consistent with insights from the relevant academic literature. The Council envisages that this framework will be re-visited over coming years.

Ireland's Competitiveness Scorecard 2023

- Finally, at the top of the pyramid is **sustainable growth** in living standards – the fruits of competitiveness success.



2.3 Outline of Key Findings

The key findings in this Scorecard are discussed in this section, starting with Essential Conditions at the bottom of the pyramid.

Essential Conditions

The essential conditions underpinning economic activity in Ireland are relatively robust, with sound institutions, a supportive business environment and strong endowments (including demographics). However, a series of shocks including Brexit, the COVID-19 pandemic, the Russian invasion of Ukraine and the cost-of-living crisis have exposed particular vulnerabilities.

In terms of the **quality of its institutions**, the Institute for Management Development (IMD) ranked Ireland in 11th place out of 63 economies for both its Government Efficiency and Business Efficiency indicators (Fig. 3.1.1 and Fig. 3.1.2). Over the five years from 2018 to 2022, Ireland's ranking under Government Efficiency has been relatively stable, fluctuating between 11th and 13th place – a peak of 9th was reached in 2017. During this time, Ireland's strongest performance has consistently been under Business Efficiency (except for 2022 where it was supplanted by Economic Performance).

The World Bank's World Governance Indicators saw Ireland score comparatively well in all the subcomponents in 2021. Relative to five years ago, Ireland improved marginally in the perception of government effectiveness (Fig. 3.1.3), but disimproved slightly in the perception of regulatory quality (Fig. 3.1.4). Meanwhile, Transparency International's Corruption Perceptions Index ranked Ireland 10th in 2022 out of 180 economies (Figure 3.1.5), with recent improvements reflecting updates to anti-corruption legislation in 2018 and recently enacted strong whistle-blower legislation.

In terms of **macroeconomic sustainability**, Ireland is recognised as a highly open economy, with net trade contributing significantly towards annual growth (Figure 3.2.2). This leaves the economy particularly vulnerable to a slowdown in the global economy as a result, for example, of inflationary pressures, supply chain bottlenecks, and the disruption caused by Russia's invasion of Ukraine. Strong public finances are imperative to a country's sustainable economic growth and COVID-19 related spending saw the fiscal position slip back into deficit in 2020 and 2021 (Fig. 3.2.4). However, Ireland's recorded deficit was comparatively lower than the EU and euro area averages in 2021. A general government surplus was recorded for 2022 as the economy rebounded (Figure 3.2.4), aided by exceptional receipts from corporation taxes and robust income taxes that have bolstered the public finances in recent years (Figure 3.2.7). General government debt remains high in nominal terms at €225

Ireland's Competitiveness Scorecard 2023

billion in 2022 (Figure 3.2.3). However, the ratio of gross debt to household income fell significantly in the five years from 2016 to 2021 (Fig. 3.2.5).

The Irish Fiscal Advisory Council (IFAC) has advised that the Government needs to start planning further ahead to be prepared for sizeable medium-term fiscal challenges, including the expected costs of ageing, climate action and other policy initiatives¹⁴. IFAC has proposed changes to PRSI rates and the use of windfall revenues from corporation tax, to capitalise a State Pension Fund and provide for a more sustainable pension system.¹⁵

In terms of **endowments**, a country's people are the driving force behind the economy. Ireland performs well in terms of demographics, with a comparably younger population than our European neighbours (Figure 3.3.1). However, although it remains above the EU average, the crude birth rate was 11.6 in 2021, down from 13.4 five years previously in 2016 (Fig. 3.3.2). Net migration has provided an important source of highly skilled labour to the Irish economy in recent years (Figure 3.3.4). For 2022, net migration was approximately 60,000, almost double that compared with five years earlier; this includes large numbers of Ukrainian refugees in 2022.

A country's endowments also include natural resources both on land (Figure 3.3.7) and at sea (Figure 3.3.8). To support competitiveness, it is important that these finite resources be utilised in an efficient and sustainable way which requires careful long-term planning.

Competitiveness Inputs

Competitiveness inputs represent the primary drivers of current and future competitiveness performance, and where policymakers can have a direct impact on competitiveness. The measurement and benchmarking of Ireland's competitiveness at the input level allows policy makers to identify policy design and implementation weaknesses and where changes are needed to address these concerns.

The **business environment** refers to the context in which enterprises operate, such as the scale of venture capital investment, the cost and availability of credit, and the birth and survival rates of firms. In terms of venture capital spending relative to national income (GNI* for Ireland), Ireland performs poorly compared to the leading EU countries (Fig. 4.1.1). Ireland also trails competitors in terms of the demand for bank credit by SMEs, falling below the euro area average despite high success rates (Fig. 4.1.2), and interest costs have been consistently higher for Irish firms than for their euro area competitors (Fig. 4.1.3). Credit costs above those of one's competitors create a competitive disadvantage for enterprises, especially for SMEs. The rate of enterprise births has fallen significantly in Ireland since 2015 and was below the EU average in 2020 (Fig. 4.1.4).

The availability of world-class **infrastructure and related services** is critical to support competitiveness. Well-developed infrastructure can reduce financial, administrative and time costs and, by playing a key role in determining quality of life, it enhances the attractiveness of place (a key factor in terms of retaining and attracting internationally mobile workers). While spending on public infrastructure and related services has increased in recent years (Fig. 4.2.3), Ireland still lags behind its competitors, particularly in respect of housing (Fig. 4.2.4). Ireland has made significant strides in improving high-speed internet coverage over the past decade (Fig. 4.2.5). However, the percentage of households with access to broadband has been below the EU average since 2019, and was at 37.5% in 2022 (Fig. 4.2.7).

International evidence shows that **clustering and firm sophistication** contribute to the growth and competitiveness of businesses. Clustering refers to the concentration of industries which can lead to increased innovation and knowledge sharing among firms. In terms of clustering, Ireland scores well on the European Innovation Scoreboard in relation to innovative SMEs

¹⁴ [Fiscal-Assessment-Report-November-2022.pdf \(fiscalcouncil.ie\)](#)

¹⁵ Carrol, K. and S. Barnes, 2023, "[Saving for Ireland's Future: Building a Sustainable Framework to Fund the State Pension](#)", Working Paper no. 19, Irish Fiscal Advisory Council.

Ireland's Competitiveness Scorecard 2023

collaborating with others as well as public-private co-publications (Fig. 4.3.5). However, the *White Paper on Enterprise 2022-2030*¹⁶, by the Department of Enterprise, Trade and Employment, acknowledges the benefits of a more coordinated national approach to clustering, in order to maximise the scale, impact and international visibility of Irish clusters. The White Paper commits to the introduction of a centrally coordinated, cross-government approach to firm clustering, and to the funding of five national cluster organisations.

Firm sophistication refers to the ability of firms to operate at a high level in terms of employing advanced skills and technologies. Firms in Ireland have demonstrated significant improvements in firm sophistication, particularly in the areas of information and communication technology, moving to online sales and e-commerce at a faster rate than their euro area peers (Fig. 4.3.8).

The availability of **knowledge, talent and skills** is one of the main differentiators between countries. There are two important aspects to knowledge, talent and skills. First, there is the expansion of the store of knowledge through R&D investment, which improves processes and helps create new product markets. Ireland performs poorly relative to other EU countries in terms of R&D investment. This weaker performance is also evident when measuring GERD as a percentage of GDP for other European countries and GNI* for Ireland (Fig. 4.4.1). Failing to keep pace with other small, advanced economies in terms of investment in R&D represents a significant risk to Ireland's competitiveness and labour market productivity. The second aspect is the level and relevance of education in the labour force, along with experience, and talent. Ireland performs relatively better in talent and skills, with the second highest share (after Japan) of working age population with tertiary education in the OECD (Fig. 4.4.6). Despite ranking fourth lowest in the OECD in terms of compulsory instruction time spent on STEM subjects at primary level (Fig. 4.4.8),¹⁷ Ireland leads EU members in terms of STEM graduates per 1,000 of population aged 20-29 (Fig. 4.4.7).

Competitiveness Outputs

Competitiveness outputs indicate the effectiveness of a country's economic system to transform natural endowments – through competitiveness inputs – into competitive positions. These indicators are defined as "output" indicators and are only indirectly within the control of policymakers. Ireland's performance in these areas reflect previous inputs, policies instituted at the policy input level, and the ability to build a strong intermediate stage of competitiveness. Competitiveness outputs are assessed across the dimensions of business performance, cost competitiveness, productivity and employment.

In terms of **business performance**, exports are a key indicator. Ireland retained its strong export performance throughout the COVID-19 pandemic and in the aftermath of Brexit. However, this positive business performance needs to be seen in the context of the concentration of output, with a very small number of firms in a few high-tech sectors accounting for a large share of Irish exports. Ireland's goods exports are concentrated primarily in the medical and pharma sectors (Figure 5.1.4), while services exports are highly concentrated in computer services (Figure 5.1.8). This leaves Ireland particularly vulnerable to firm-, sector- or country-specific shocks.

Cost competitiveness has come back into major focus since a significant rise in inflation in 2021 across the majority of advanced economies (Figure 5.2.1). Ireland had been able to rely on its slower rate of inflation in the past decade (Figure 5.2.3) to reduce its relative price level versus the EU (Figure 5.2.4). However, Ireland's current price profile has moved from "high cost, rising slowly" to "high cost, rising quickly" (Figure 5.2.5). The challenge will be in reducing these higher relative costs and in ensuring cost competitiveness, despite the uncertain trajectory of inflation.

Headline inflation in the euro area has been falling since October 2022, but remains high, at 6.9% in March 2023. Similarly, despite some volatility, Irish inflation has been trending down in recent months, and reached 7% in March – in line with the broader euro

¹⁶ [White Paper on Enterprise 2022-2030](#), Department of Enterprise, Trade and Employment, 7 December 2022.

¹⁷ International comparisons of instruction time for STEM subjects at second-level are complicated by cross-country differences in reporting, and compulsory learning.

Ireland's Competitiveness Scorecard 2023

area. In addition, while core inflation continues to rise in the euro area (reaching 7.5% in March), it fell consistently in Ireland between July 2022 and January 2023, before rising once again to 5.8% in February, and to 6.2% in March.¹⁸

Ireland's labour **productivity** level on a GNI* basis is below that in some advanced economies, such as the US and Denmark, although still above that in the UK, Germany, and the EU and OECD averages (Fig. 5.3.1). Ireland's productivity performance is driven by a combination of high productivity in highly globalised foreign-dominated sectors (Figure 5.3.7), and low productivity in the rest of the economy. 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 firm and sector (Fig. 5.3.11).

Employment in Ireland has recovered strongly in the aftermath of the pandemic – more people are now in employment than at any other time in the history of the State (2.57 million as of Q4 2022). OECD data show that Ireland's unemployment rate was lower than for both the euro area and the OECD overall (although higher than that recorded in the UK) (Figure 5.4.3). This, combined with higher job vacancy rates, suggests a tightening of labour market conditions (Figure 5.4.11). The female participation rate has exceeded pre-pandemic levels, and participation by age is also changing over time, as younger people are staying in education longer and older people are working longer (Figure 5.4.5).

Sustainable Growth

The ultimate measure of the success of competitiveness is achieving sustainable growth and improved living standards. The Pyramid monitors progress on this goal by assessing economic, social and environmental dimensions of societal wellbeing.

Ireland's economy has continued to see strong growth in **national income** both through, and post, the Covid-19 pandemic. This is evident in the rise in income per capita (Figure 6.1.1). Over the period 2016 to 2021, Ireland experienced significantly higher growth than the OECD and EU-27 average, with Irish GNI* per capita increasing by 17% compared to average growth of 5% for the OECD and 6% for the EU. Despite this, the material consumption of Irish households is below the EU-27 average (Fig. 6.1.3), indicative of the high level of savings among Irish households in recent years (and a relatively low marginal propensity to consume).

Quality of Life as captured in the *UN's Human Development Index* (Figure 6.2.1) measures average achievement in three basic dimensions of human development: a long and healthy life (measured by life expectancy at birth), knowledge (years of schooling), and, a decent standard of living (GNI* per capita). Ireland (ranked 5th with an overall score of 0.95) is one of the best performers in the world on the HDI index, having increased by 4.7% between 2012 and 2021. The *OECD's Better Life Index* (Figure 6.2.2) uses a combination of economic indicators (such as employment and income) and 'soft' indicators (such as civic engagement and work-life balance) to provide a fuller picture of the quality of life. Ireland performs well among OECD comparator countries on aspects of quality of life such as Health (at 9.2, tied with New Zealand and Switzerland and behind only Australia and Canada) and Community (at 8.9, behind only Czech Republic and Iceland).

Ireland continues to lag competitor countries on meeting its climate goal commitments to achieve **environmental sustainability**. The share of Irish energy which is generated by renewables at 12.9%, is well below that of our EU neighbours (17.8%) (Figure 6.3.2); this has directly contributed to elevated greenhouse gas emissions per capita in Ireland. Ireland's level of greenhouse gas emissions per capita is significantly above the EU-27 average (Fig 6.3.4), and in contrast to the EU-27, emissions remain above 1990 levels (Fig 6.3.3). Alongside this, Ireland's water quality has declined over the last decade (Fig. 6.3.7), despite initiatives set out in the River Basin Management Plan (2018 – 2021).¹⁹ It is critical that Ireland decouples economic growth from ongoing damage to the environment if our growth is to become fully sustainable.

¹⁸ Based on Eurostat data for March 2023: [Statistics | Eurostat \(europa.eu\)](https://ec.europa.eu/eurostat/).

¹⁹ [River Basin Management Plan for Ireland 2018 – 2021](#), Government of Ireland.

Ireland's Competitiveness Scorecard 2023

Ireland has enjoyed high headline economic growth over the past decade and social transfers have ensured that this growth contributes to **social inclusion**, as benefits are shared more broadly across society. Ireland had a Gini coefficient of 26.9 after social transfers and pensions, compared to a pre-transfer coefficient of 47.9 (Figure 6.4.1). This is a more equal distribution of income than the EU-27 average (30.5). Social transfers in Ireland make a significant difference to 'at risk of poverty' rates, which decline from 32.9% prior to social transfers to 12.9% post transfers (Figure 6.4.3). Despite this there remains a proportion (9.6%) of households struggling to make ends meet (Figure 6.4.2). While this measure has been on a downward trend over time, it remains significantly higher than the share seen in countries such as Norway, Finland and the Netherlands. The low proportion of employed persons at risk of poverty in Ireland (5.8%) is well below the EU-27 average of 11.1%, demonstrating the important role Ireland's labour market and the wider economy play in facilitating social inclusion so that all of society can share in the benefits of sustainable economic growth.

2.4 Summary

The evidence set out in the preceding sections indicates that, overall, the Irish economy remains internationally competitive. However, there are still several critical areas where Ireland currently falls behind our competitor countries; and improvements in these areas could see Ireland maintain or increase its competitiveness in the years ahead. Drawing on the evidence in this Scorecard and other research on productivity, the NCPC will consider what actions Government can take to improve the competitiveness and sustainability of the economy. These actions will take the form of recommendations to Government in *Ireland's Competitiveness Challenge 2023* which will be published in September 2023. The Council has identified three **broad themes**²⁰ that will be critical to improving Ireland's resilience and achieving sustainable economic growth. These themes, that will inform future work by the Council throughout 2023, are outlined below.

Infrastructure: planning, development and delivery

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 development 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.

Energy: generation, consumption and costs

The urgent need to proceed with decarbonisation of Ireland's energy supply has been highlighted by the crisis in Ukraine, with businesses having been exposed to significant swings in wholesale energy prices. Continued energy price inflation, over and above other countries with a lower reliance on gas and oil, will erode Ireland's competitiveness, while security of supply concerns could have severe reputational consequences for Ireland as a destination for FDI if they are not addressed.

Consumer and producer prices

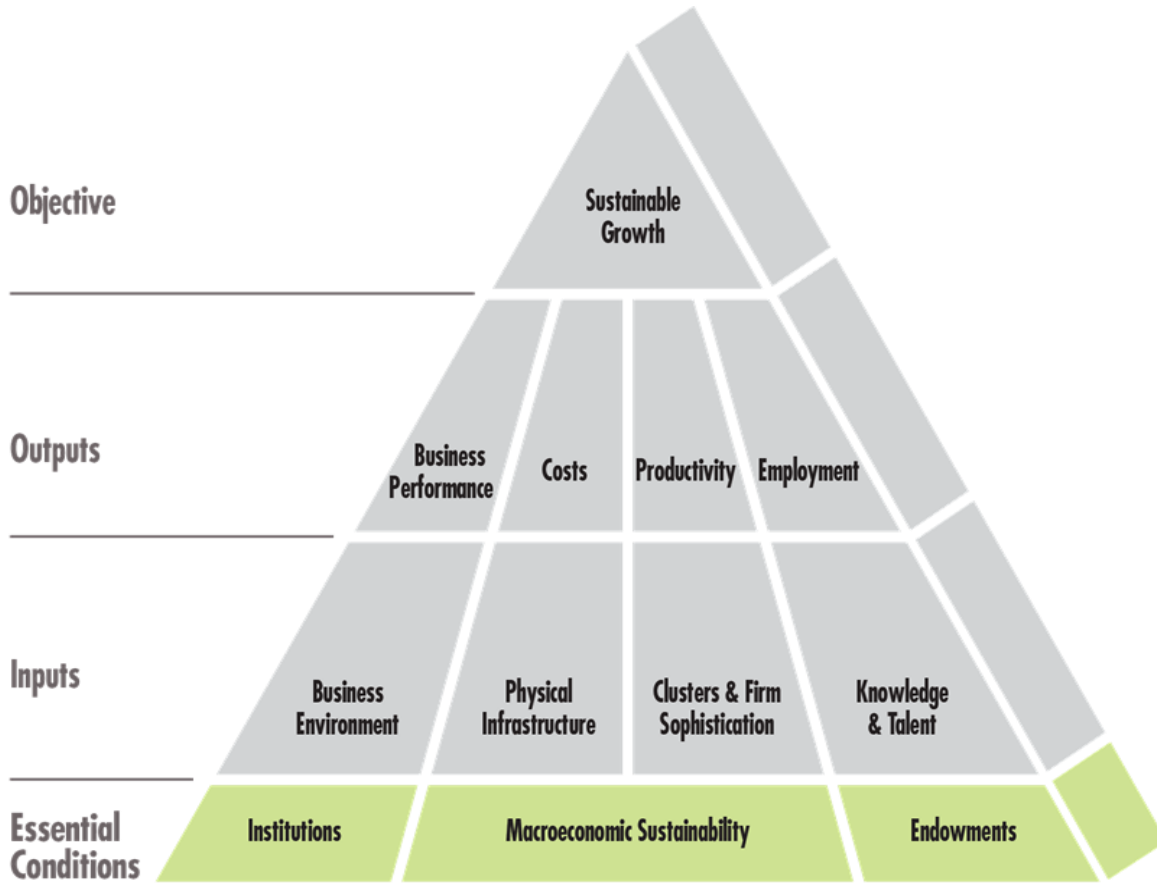
As an open economy, Ireland is effectively a price taker on most international markets, and many of the drivers of Irish inflation are outside our control. To better manage our exposure to international cost volatility, the focus should remain on implementing domestic reforms to boost productivity and reduce costs where possible, while encouraging market competition and facilitating good regulation.

Ensuring the continued competitiveness of the Irish economy and seizing opportunities to undertake vital reforms is especially important in times of heightened global uncertainty. The Council believes that addressing the competitiveness issues within these areas will help ensure the sustainability and prosperity of the Irish economy.

²⁰ In addition, as per previous recent iterations of *Ireland's Competitiveness Challenge* report, this years' Challenge report will include a chapter on productivity.

Chapter 3

Essential Conditions



Essential Conditions

In all circumstances, an economy's achievement of sustainable economic growth will depend on several key contextual conditions, such as the quality of its institutions, the sustainability of its macroeconomic performance and the resources available to it for production. This section looks at some of the necessary, but not sufficient, conditions for strong and sustainable economic growth to take hold, and for competitive industries to emerge. In the NCPC pyramid these are referred to as Essential Conditions, which are explored under three themes: Institutions; Macroeconomic Sustainability; and Endowments.

Section 3.1 Institutions

Institutional quality is a complex concept and difficult to measure. However, it is increasingly recognised that transparent and democratic institutions are important in determining long-term economic performance²¹. The NCPC uses a number of internationally recognised indicators, from the Institute for Management Development, the World Bank and Transparency International, to provide within-country insights into business efficiency, perceptions of the quality of public services, regulatory effectiveness, and perceptions of corruption.

Section 3.2 Macroeconomic Sustainability

The macroeconomic environment plays a vital role in determining the context in which business operates and the perceived sustainability of a country's economy. A stable macroeconomic environment is essential to give confidence to business owners to invest in the development of their businesses, by building physical and human capital, R&D, etc. Several indicators are commonly used to monitor macroeconomic performance under this heading, including the components of growth, government finances, and overall debt-to-income ratios in an economy. Irish data are compiled from domestic sources including the Central Statistics Office, the Department of Finance, and the Department of Public Expenditure, NDP Delivery & Reform, while European comparator data are sourced from Eurostat. When assessing Ireland's performance relative to other countries, the NCPC incorporates modified Gross National Income (GNI*) wherever possible, as Ireland's Gross Domestic Product (GDP) figures are heavily impacted by globalisation and the scale and complexity of the activities of multinational enterprises²².

Section 3.3 Endowments

The productivity-based view of competitiveness emphasises the importance of endowments in determining national competitiveness performance, especially in the medium to longer run²³. Endowments cover natural resources, geographic location, and demographics (both size and structure). While many of these factors cannot readily be impacted by policy, they have a significant impact on competitiveness. Indicators in this section focus on demographic trends, labour force participation, migration, and land and sea resources. The data are sourced from the Central Statistics Office, Eurostat, and the World Bank.

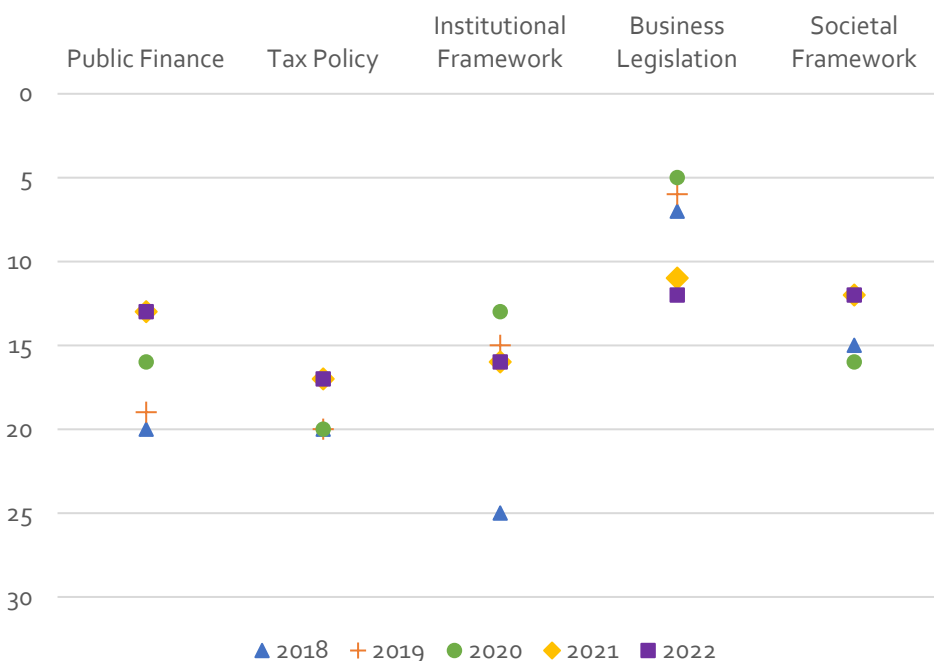
²¹ [Institutions for High-Quality Growth: What They Are and How To Acquire Them - Dani Rodrik - Prepared for delivery at the IMF Conference on Second Generation Reforms](#)

²² GNI* is a supplementary measure of the level of the Irish economy designed to provide greater insight into Ireland's domestic economic activity. GNI* excludes globalisation effects related to highly mobile economic activities that disproportionately impact upon the measurement of the size of the Irish economy. The globalisation effects excluded from GNI to estimate GNI* are: factor income of re-domiciled companies; depreciation charged on capitalised R&D service imports and trade in intellectual property; depreciation of aircraft owned by Irish aircraft leasing companies. For further information, see [here](#)

²³ [How Do Factor Endowments Impact a Country's Comparative Advantage?](#)

3.1 Institutions

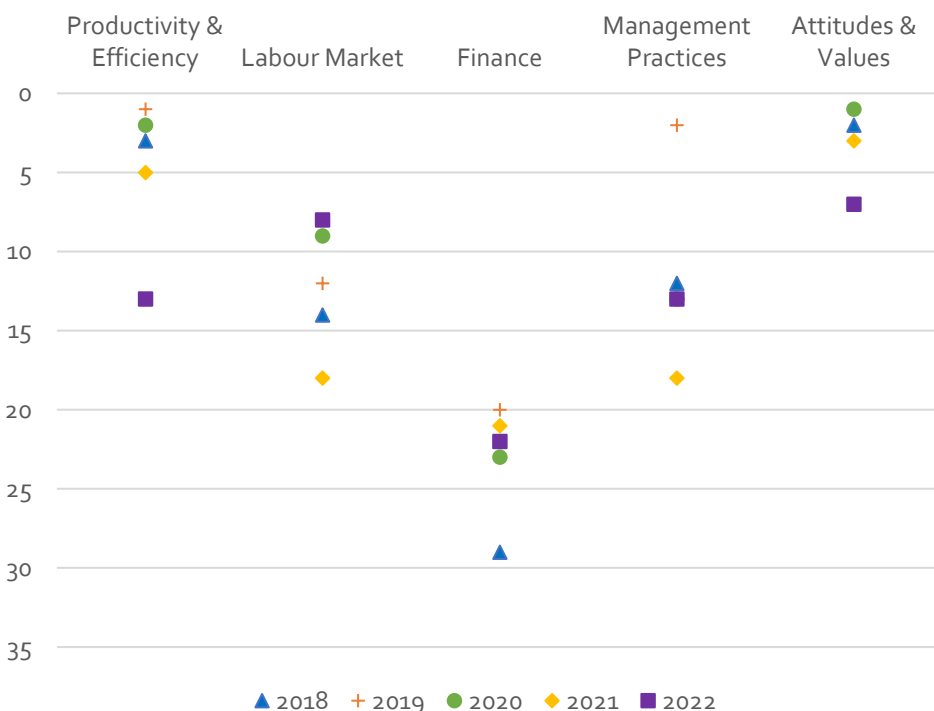
Fig. 3.1.1 Ireland's Ranking by Sub-Factors of the IMD's Government Efficiency Indicator, 2018-2022



In 2022, across the five sub-factors of the IMD's within-country Government Efficiency indicator, Ireland's performance was relatively concentrated. Out of 63 economies, Ireland ranked in the top 15 for Public Finance (13th), Business Legislation (12th) and Societal Framework (12th), and in the top 20 for Tax Policy (17th) and Institutional Framework (16th). Between 2018 and 2022, the greatest improvements were in Institutional Framework and Public Finance sub-factors, while the weaker performance in Tax Policy was driven by low rankings for Consumption Tax Rate and Collected Personal Income Tax.

Source: Institute for Management Development, World Competitiveness Yearbook

Fig. 3.1.2 Ireland's Ranking by Sub-Factors of the IMD's Business Efficiency Indicator, 2018-2022

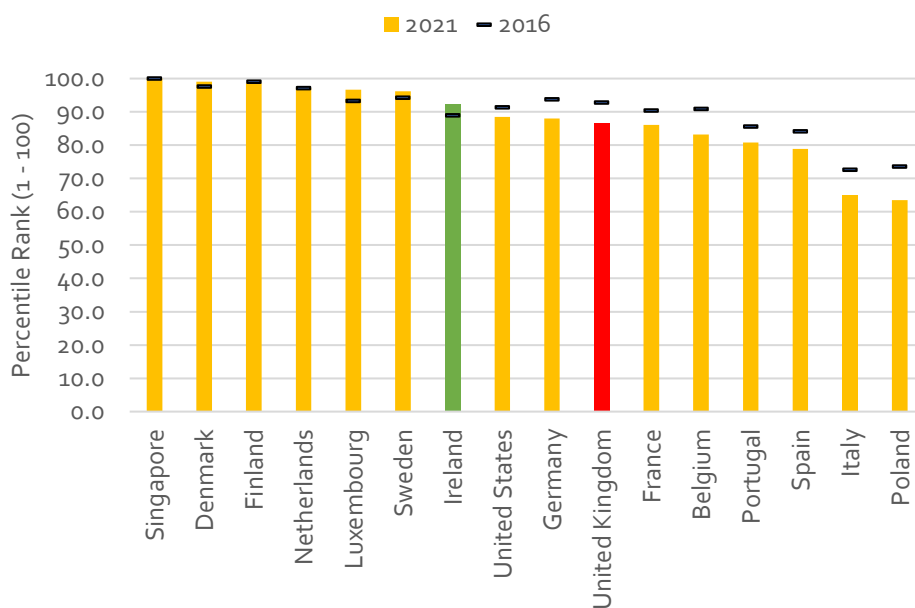


An efficient public service and regulatory system (Fig. 3.1.1) is key to fostering an efficient business environment. Ireland's performance varied widely across the five sub-factors of the IMD's within-country Business Efficiency indicator in 2022. Out of 63 economies, Ireland ranked in the top 10 for Attitudes & Values (7th), and Labour Market (8th), with lesser performances in Productivity & Efficiency (13th), and Management Practices (13th). A particularly weak performance in Finance (22nd) was driven by low scores for Stock Market Capitalisation and Banking & Financial Services. The indicators varied significantly over the past five years.

Source: Institute for Management Development, World Competitiveness Yearbook

Ireland's Competitiveness Scorecard 2023

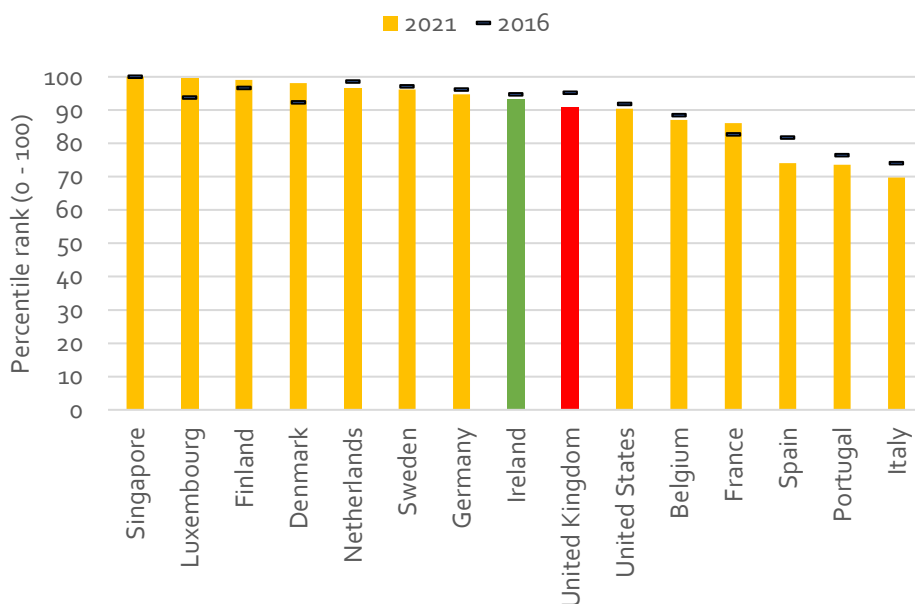
Fig. 3.1.3 Perception of Government Effectiveness²⁴, 2021



The Government Effectiveness indicator captures the within-country perception of governance systems, including the quality of public services. In 2021, out of 214 countries, Ireland's percentile rank was 92.3, a slight improvement since 2018. Singapore and the scandinavian countries have consistently been the best performers in this Government Effectiveness indicator.

Source: World Bank, Worldwide Governance Indicators²⁵

Fig. 3.1.4 Perception of Regulatory Quality²⁶, 2021



The Regulatory Quality indicator captures within-country perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. In 2021, out of 214 countries, Ireland's regulatory quality percentile rank was 93.3. According to the World Bank, the perception of regulatory quality in Ireland has been broadly stable in recent years. Once again, Singapore and the scandinavian countries have consistently scored highest in this indicator.

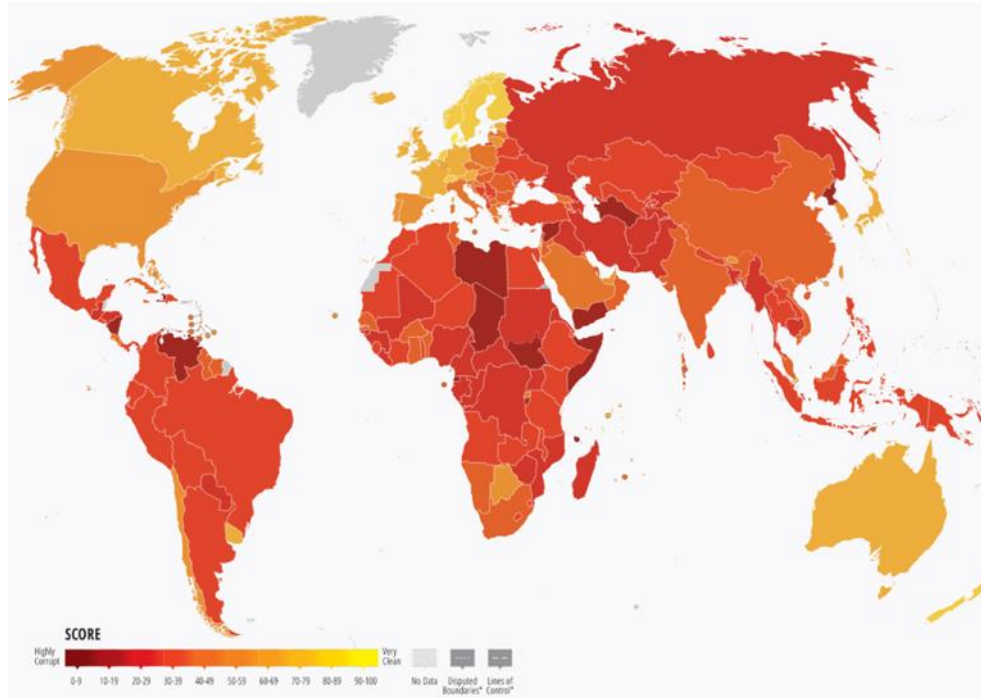
Source: World Bank, World Governance Indicators

²⁴ The Government Effectiveness indicator reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.

²⁵ The [Worldwide Governance Indicators](#) (WGI) are a research dataset summarizing the views on the quality of governance provided by a large number of enterprises, citizens, and expert survey respondents in industrial and developing countries. These data are gathered from a number of survey institutes, think tanks, non-governmental organizations, international organizations, and private sector firms.

²⁶ The Regulatory Quality indicator reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.

Fig. 3.1.5 Corruption Perceptions Index, 2022

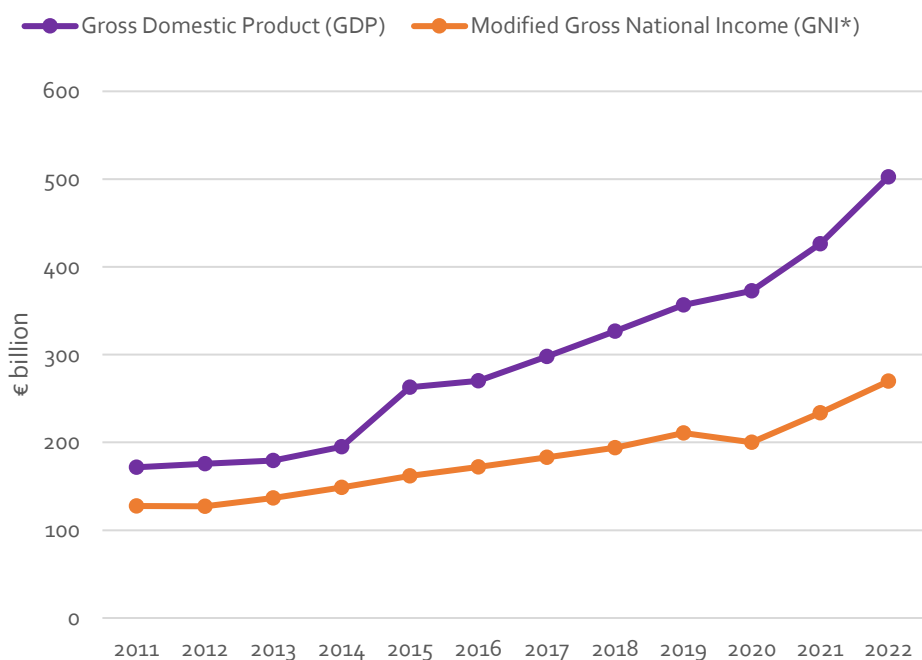


This index ranks 180 countries and territories around the world by their within-country perceived levels of public sector corruption, scoring on a scale of 0 (highly corrupt) to 100 (very clean). In 2022, Ireland's overall score was 77, ranking us 10th out of 180, an improvement of nine places since 2017. While European countries traditionally perform well in this index, Transparency International have expressed concern that overall scores have been at a standstill for over a decade, with some EU countries recording declines.

Source: Transparency International

3.2 Macroeconomic Sustainability

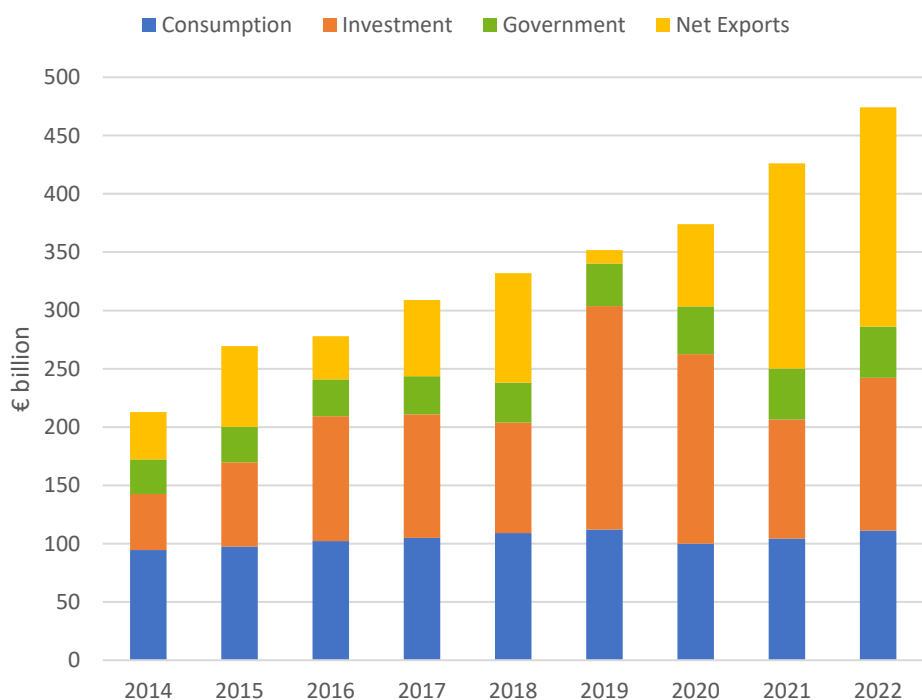
Fig. 3.2.1 Gross Domestic Product and Modified Gross National Income (GNI*)²⁷, Ireland 2011-2022



In 2022, Irish GDP at current prices was €502 billion (up 17.9% y-o-y). Growth has averaged 12.3% y-o-y since 2020. Both GNI* and GDP have trended upwards over the past decade. Growth in GNI* has been more steady, unaffected particularly by the impact of globalisation factors evident in GDP over 2014-2015. The gap between these metrics was most striking during the onset of the pandemic, in 2020 – GDP grew 4.5% while GNI* contracted 5.1%. Robust growth since 2021 reflects the strong economic recovery in the aftermath of COVID-19.

Source: CSO, National Accounts, Stability Programme Update 2023 (GNI* 2022)

Fig. 3.2.2 Components of Gross Domestic Product (GDP), Ireland 2014–2022



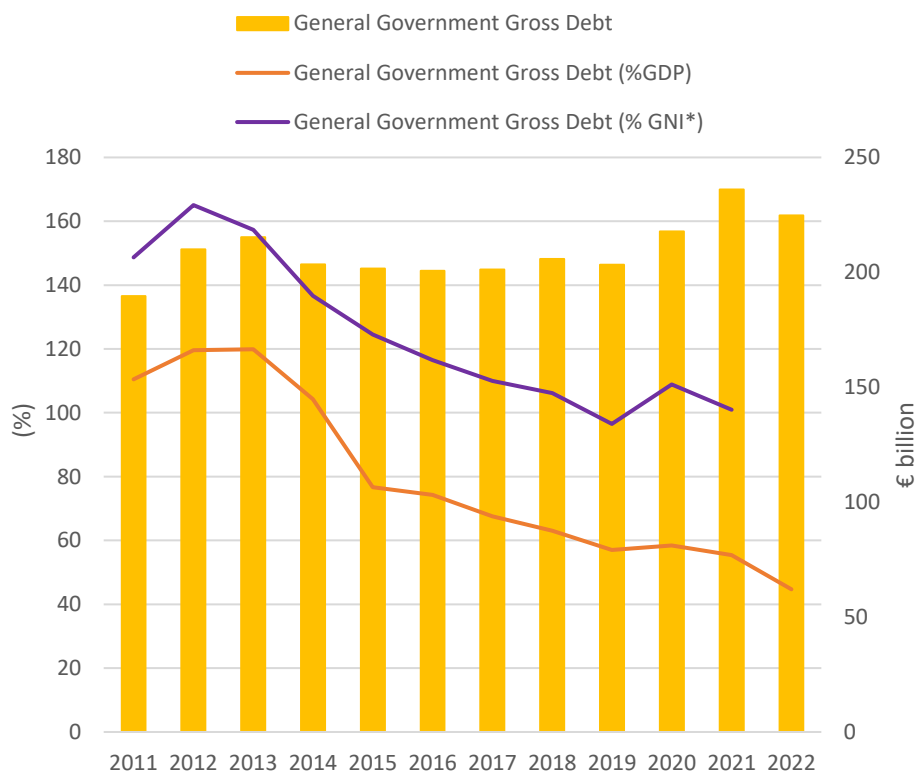
Real GDP grew 12% in 2022. Over 2020-22, annual growth averaged 10.6%. Net exports contributed strongly during this time, with large increases in exports (averaging 13.4% y-o-y). Imports fell over 2020-2021, due to lower imports of intellectual property products (IPP), before rising considerably in 2022. The strong investment contribution over 2019-20 was driven by increases in IPP imports, which also impacted net trade. Investment in IPP increased significantly again in 2022. After contracting in 2020 (by 10.8%), consumption rebounded over 2021-22 (averaging 11% y-o-y), reflecting the recovery in domestic demand post-pandemic.

Source: CSO, National Accounts

²⁷ Modified GNI means GNI adjusted for factor income of redomiciled companies, depreciation on R&D service imports and trade in IP, and depreciation on aircraft leasing.

Ireland's Competitiveness Scorecard 2023

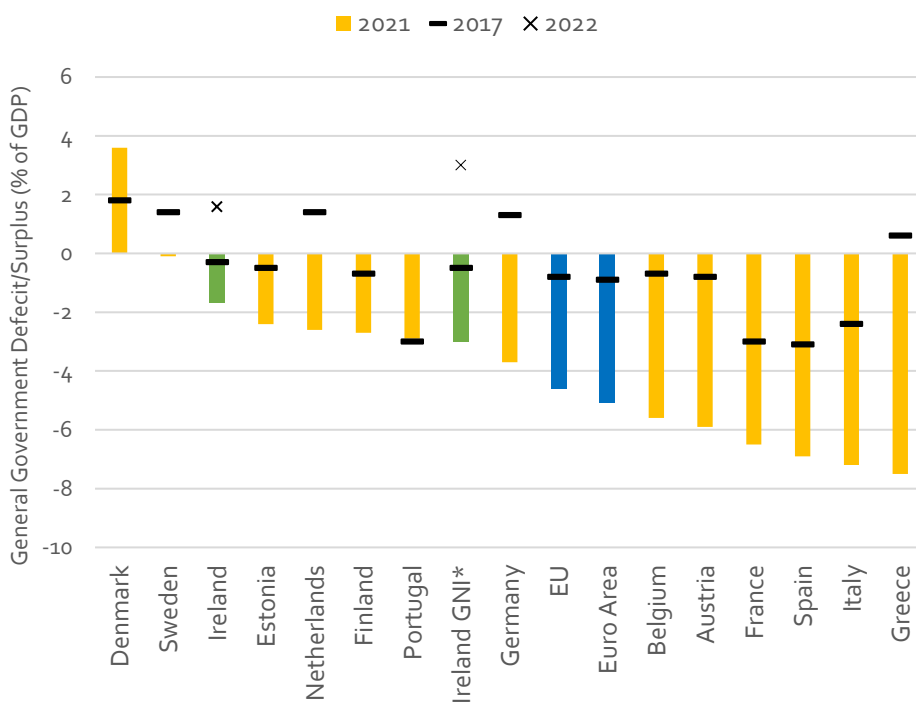
Fig. 3.2.3 General Government gross debt, 2011 – 2022



Source: CSO, Government Finance Statistics

The general government gross debt to GNI* and GDP ratios have fallen significantly since 2012/13, with the downward trend temporarily and significantly affected by COVID-19 related spending. In 2021, debt-to-GNI* stood at 100.9%, while debt-to-GDP stood at 55.4% before declining further during 2022, to 44.7% (below the EU threshold of 60%). However, nominal debt remains high, exacerbated by COVID-19 related borrowing. In per capita terms, debt reached approximately €47,106 per person in 2021, before falling in 2022 to €44,076. High national debt limits Ireland's capacity to deal with unexpected shocks, and represents a sustainability risk as borrowing costs rise.

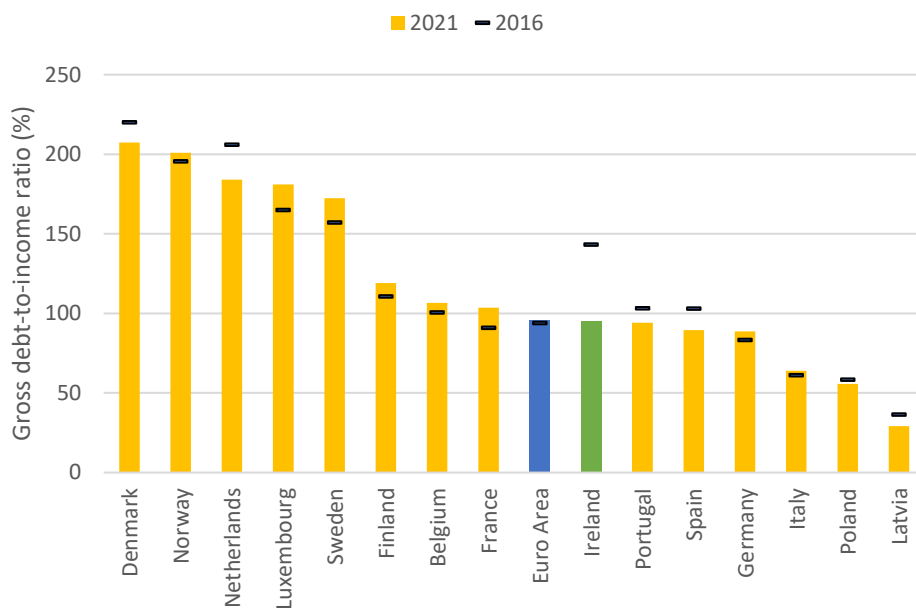
Fig. 3.2.4 General government deficit/surplus (% of GDP), 2017 and 2021/22



Source: Eurostat, Government Finance Statistics, Stability Programme Update 2023 (GNI* 2022), and NCPC Calculations

The general government balance shows the extent to which government expenditure each year is financed by total government revenues collected in that year. Ireland's fiscal balance has improved steadily over the past decade, except for 2020 and 2021 when COVID-19 related spending caused some slippage (-9.4% and -3.0% of GNI*, respectively). Exceptional corporation tax receipts and robust income taxes have bolstered the public finances, with Ireland's recorded deficit (as a percentage of GNI*) below the EU and euro area averages in 2021.

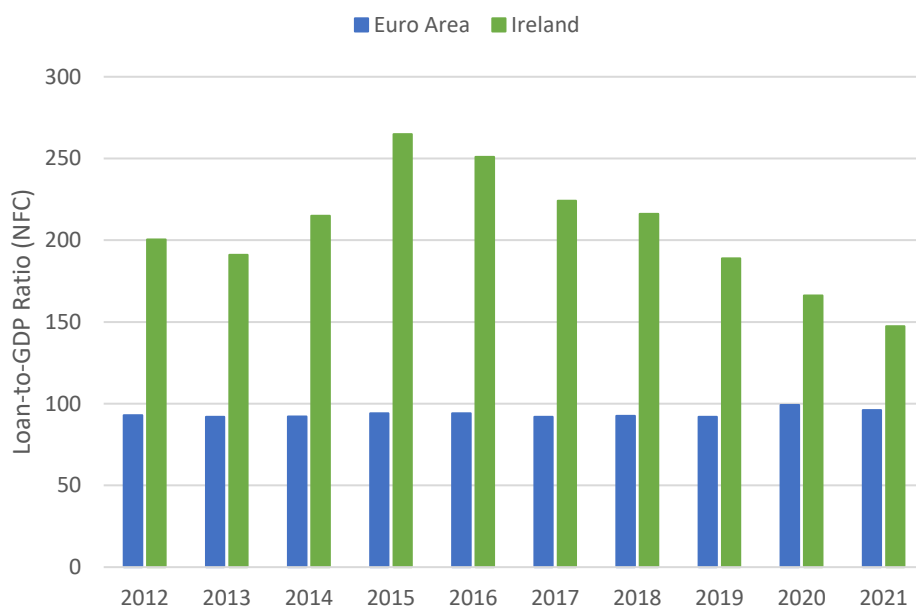
Fig. 3.2.5 Gross debt to income ratio of households²⁸, 2021



The gross debt-to-income ratio of Irish households stood at 95.0% in 2021, just below the euro area average of 95.8%. Irish households have continued to deleverage at a much faster pace than other European countries since the global financial crisis, and the debt-to-income ratio fell by over 48 percentage points between 2016 and 2021.

Source: Eurostat, National Accounts

Fig. 3.2.6 Business (non-financial corporations) Loan-to-GDP ratio, 2012-2021



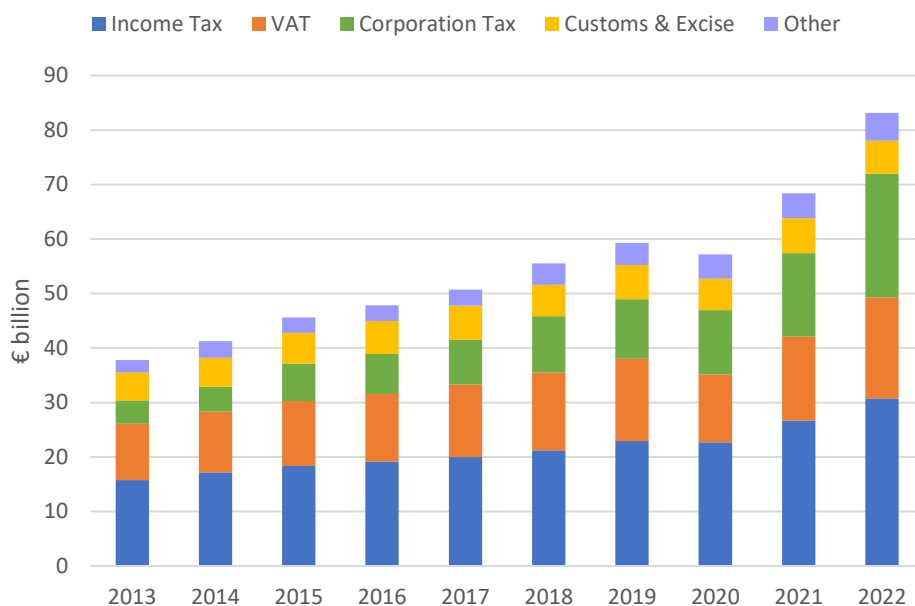
The loan liabilities of the non-financial corporations (NFC) sector as a percentage of GDP in Ireland have fallen significantly since 2015, but at 147% in 2021 they remain significantly above the euro area average of 96.1%. Separate analysis by the CSO²⁹ suggests that foreign owned NFCs and redomiciled PLCs account for the vast majority of NFC liabilities in any given year, with domestic SMEs less indebted.

Source: Eurostat, Financial Balance Sheets

²⁸ Gross debt-to-income ratio of households (including Non-Profit Institutions Serving Households) is defined as loans divided by gross disposable income (B6G) with the latter being adjusted for the net change in pension entitlements (D8net). This debt-to-income ratio is a key indicator of the sustainability of household debt.

²⁹ [Private Sector \(S.11 + S.14 + S.15\) - CSO - Central Statistics Office](#)

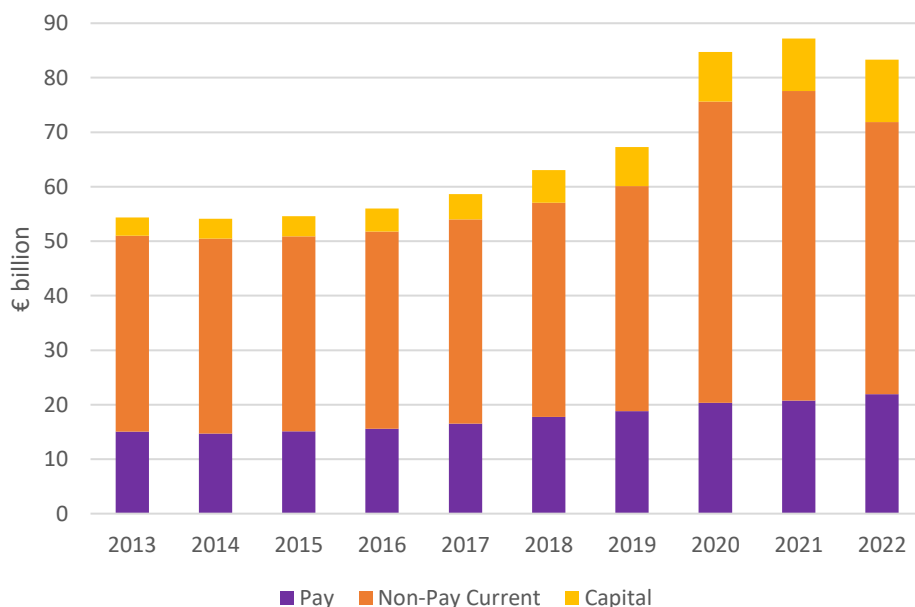
Fig. 3.2.7 Tax revenue in Ireland by category, 2013-2022



Tax receipts across all four major categories have increased significantly in recent years. The unprecedented five-fold rise in corporation tax receipts over the past decade has led to this tax head playing an increasingly prominent role in exchequer funding. This dependency has raised concerns around the sustainability of this revenue source. The Department of Finance³⁰ estimate that direct CT revenue-at-risk is almost €12 billion (April 2023). Revenue from CT could be subject to sharp reversals, due to company-specific factors, sectoral shocks or changes in the international tax environment.

Source: Department of Finance – Databank

Fig. 3.2.8 Gross Voted Expenditure³¹, 2013-2022



Gross voted expenditure has been increasing steadily since 2016. There are concerns that windfall revenues, which are mainly from corporation tax receipts and may not be sustainable in the medium to long run, are being used to finance recurring current expenditure. COVID-19 related support measures resulted in a sharp pick up in non-pay related current expenditure in 2020 and 2021, which was partially unwound in 2022.

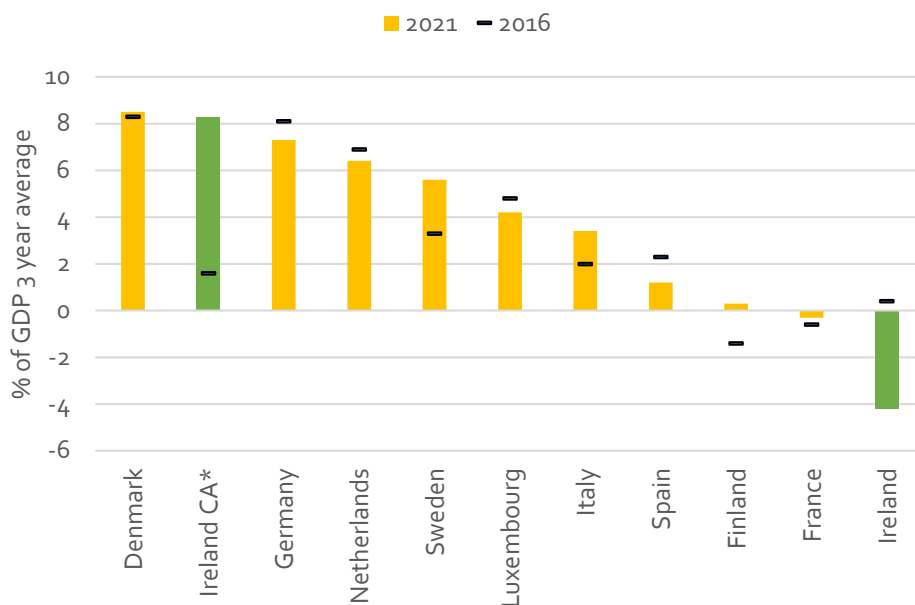
Source: Department of Public Expenditure, NDP Delivery & Reform – Databank

³⁰ [Stability Programme Update 2023](#), Department of Finance, April 2023.

³¹ Total government expenditure is made up of voted and non-voted spending. The Public Expenditure Databank reports current and capital spending by Government Departments and agencies, along with expenditure from the Social Insurance Fund and the National Training Fund. This data is broken down by "Votes" which are authorised by the Dáil each year and is known as voted expenditure. Non-voted spending comes directly from the Central Fund such as debt-servicing costs, the costs of the Houses of the Oireachtas, and the salaries of the judiciary.

Ireland's Competitiveness Scorecard 2023

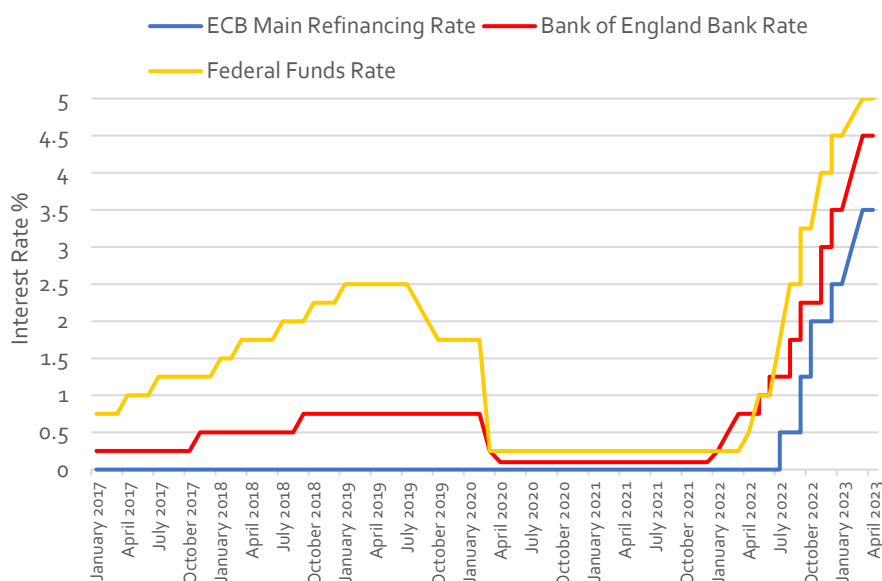
Fig. 3.2.9 Balance of Payments Current Account as percentage of GDP 3- year average



Source: Eurostat, National Accounts, BOP, Current Account Balance

As part of the Macroeconomic Imbalance Procedure³², the Current Account balance is expressed as a percentage of GDP and presented as a three-year average with a recommended threshold of -4/+6% of GDP. Given the scale of globalisation-related distortions from 2014/15, the CSO now also publish a Modified Current Account³³ balance as a percentage of GNI*. This alternative metric averaged a surplus in the 3 years to 2021 of +8.3%.

Fig. 3.2.10 Official Interest Rates, 2017-2022



The European Central Bank's (ECB's) Main Refinancing Rate was held at 0.0% from early 2016 until July 2022. Rising global inflationary pressures has led central banks around the world to raise interest rates from these low levels over a relative short period. To date, the ECB has raised rates less aggressively than rates in the UK and the US. In April 2023, the ECB's Main Refinancing Rate stood at 3.5% compared to 4.5% in the UK and 5.0% in the US. Higher interest rates are likely to result in higher borrowing costs for households, businesses, and the Government.

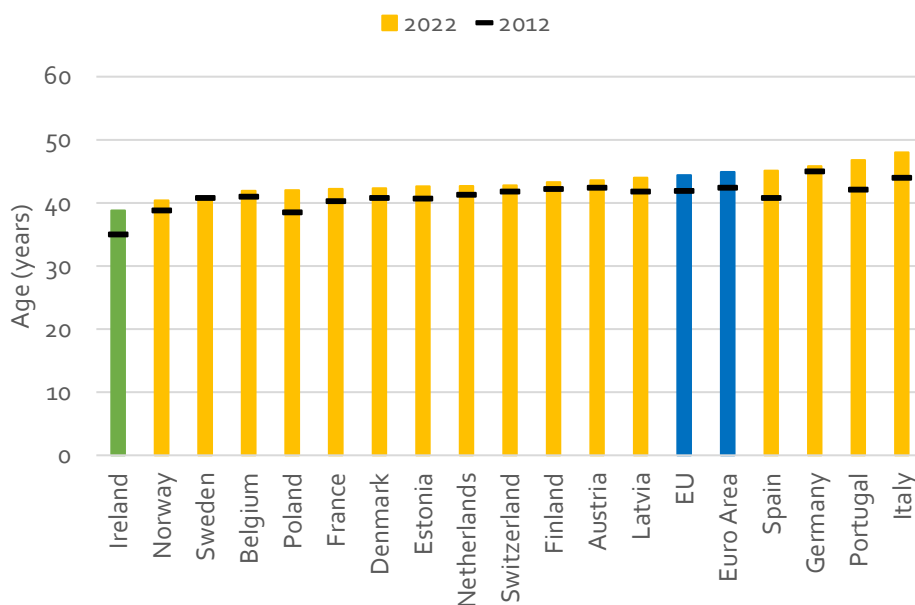
Source: European Central Bank, Bank of England, Federal Reserve

³² [Indicators - Macroeconomic Imbalance Procedure - Eurostat \(europa.eu\)](https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&plugin=1)

³³ The modified current account (CA*) is calculated as CA less (depreciation on R&D service imports and trade in IP + aircraft leasing depreciation + redomiciled incomes + R&D related IP exports) adding back (net aircraft related to leasing + R&D related IP imports + R&D service imports).

3.3 Endowments

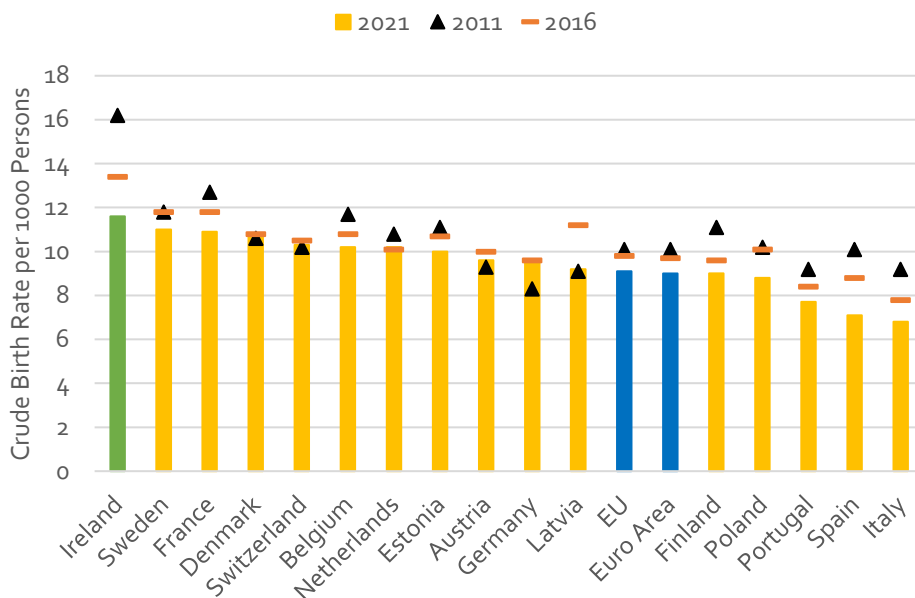
Fig. 3.3.1 Median Population Age, 2021



The age structure of a population is a significant determinant of long-term economic growth with a strong impact on public policy, finances, and labour markets. In 2021, the median age of the Irish population, was 38.8, which compares favourably with other EU countries and was more than 6 years younger than the euro area average (44.9). Ireland's median population age increased 3.8 years since 2012, while the euro area average increased 2.5 years, indicating that the gap between Ireland and its European peers is narrowing.

Source: Eurostat, Population Structure

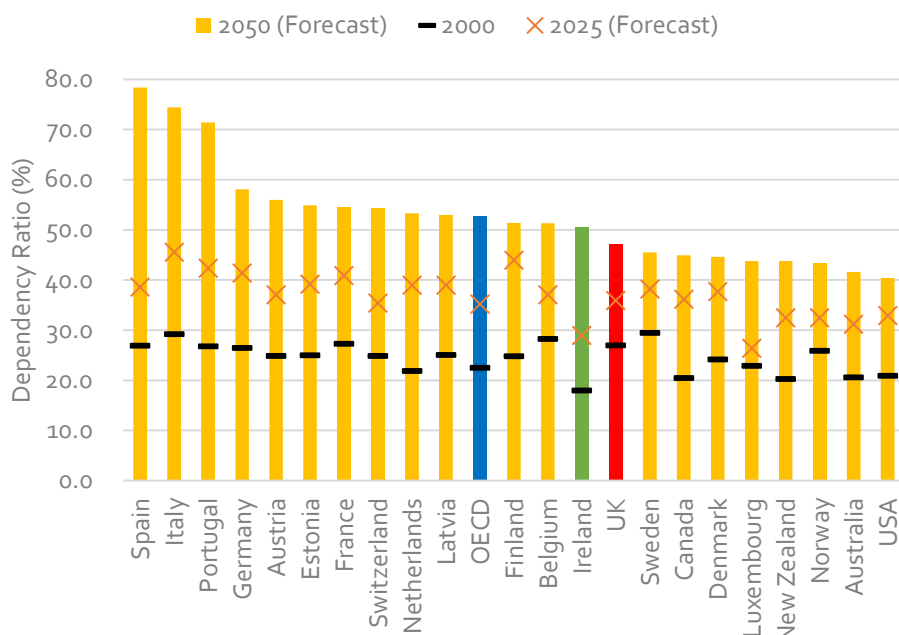
Fig. 3.3.2 Crude Birth Rate, 2021



The crude birth rate is an important public health indicator which significantly affects a country's long-term public policy and budgeting due to its impact on policy areas like education and health. In 2021, at 11.6 persons per 1000, the crude birth rate in Ireland was higher than the euro area average of 9.0 persons per 1000, which will help slow down, but not prevent, the rise in the old age dependency ratio. Ireland's crude birth rate has fallen in the last ten years and it remains uncertain how this rate will evolve over time as immigration patterns are impacted by the war in Ukraine.

Source: Eurostat, Population, Fertility

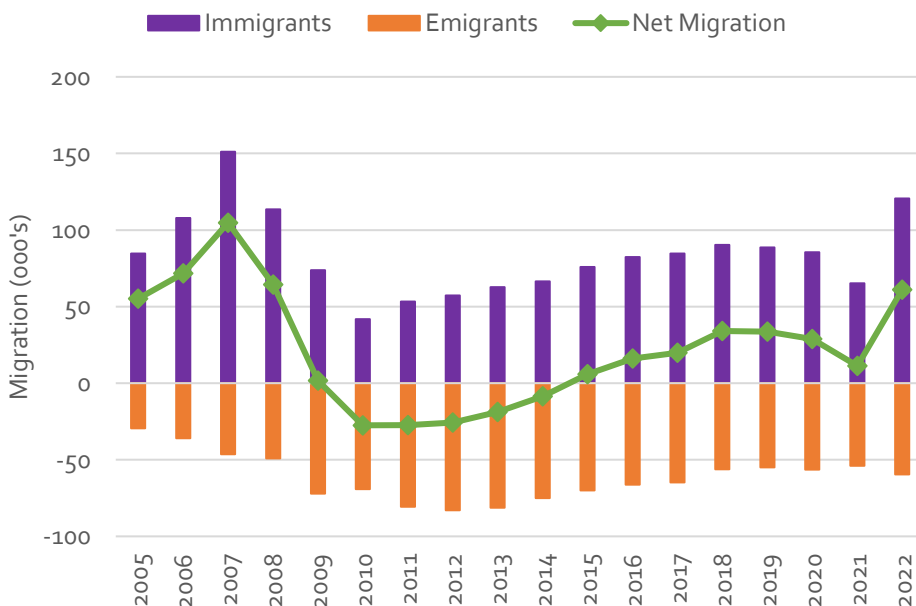
Fig. 3.3.3 Old age dependency ratio



The old age dependency ratio (ratio of over 65's to the working age population) has significant fiscal implications for a country in terms of the sustainability of the public pension systems and higher spending on healthcare. Recorded at 18% in 2000, Ireland's old age dependency ratio is projected to reach 29% by 2025 and almost 51% by 2050. In comparison, the rate in the UK and the OECD is projected to be 48% and 53% respectively by 2050. This means that Ireland's dependency ratio is set to rise sharply in the coming decades.

Source: OECD, Demographics Statistics

Fig. 3.3.4 Net Migration (thousands)³⁴, 2005-2022



The 2022 migration statistics showed 120,700 individuals arrived in Ireland in the 12-months to April 2022, including 28,000 Ukrainian nationals. There have been 74,458 arrivals from Ukraine to Ireland by 12 February 2023, including significant numbers of women and dependent children³⁵. Net migration in Ireland has varied significantly over the past 15 years in line with the economic cycle and turned positive once again in 2015. COVID-19 related travel restrictions³⁶ strongly impacted both immigration and emigration in 2020 and 2021, but figures have rebounded strongly in 2022.

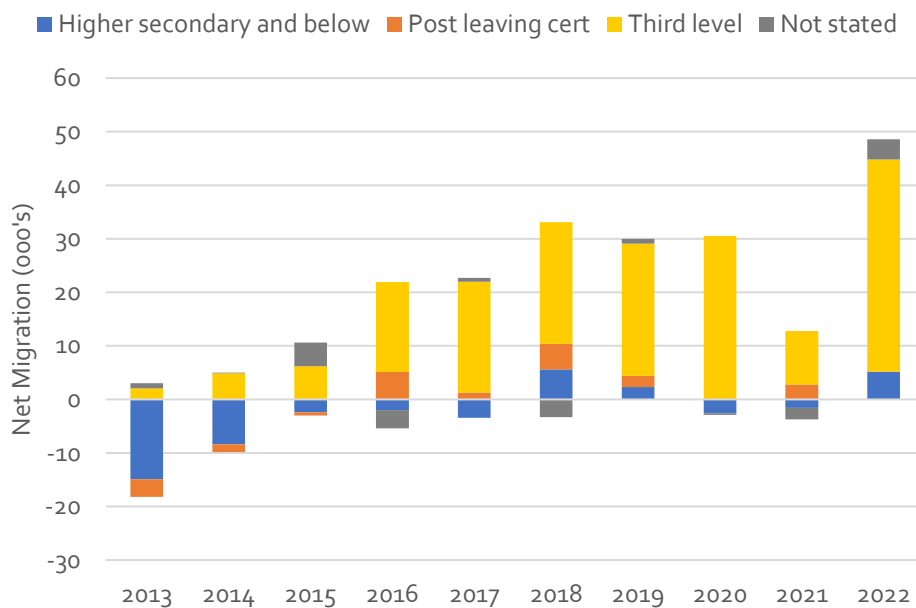
Source: CSO, Population and Migration Statistics

³⁴ Preliminary results from the 2022 Census of Population reported a population of 5.12 million persons using the de facto definition of population, i.e., all persons present in the State on Census night. This differs by 23,300 from the population estimates contained in the August 2022 Population and Migration release which have been compiled using the usual residence concept. It is planned to revise the usual residence estimates for the years 2017 to 2022 (i.e., the period between Censuses) following a thorough analysis of the final detailed Census results when they become available in 2023.

³⁵ [Arrivals from Ukraine in Ireland Series 9 - CSO - Central Statistics Office](#)

³⁶ Population and Migration estimates are published in August each year and relate to the 12-month period up to the end of April that year. This timing issue explains the robustness of the 2020 migration data despite COVID-19 related travel restrictions.

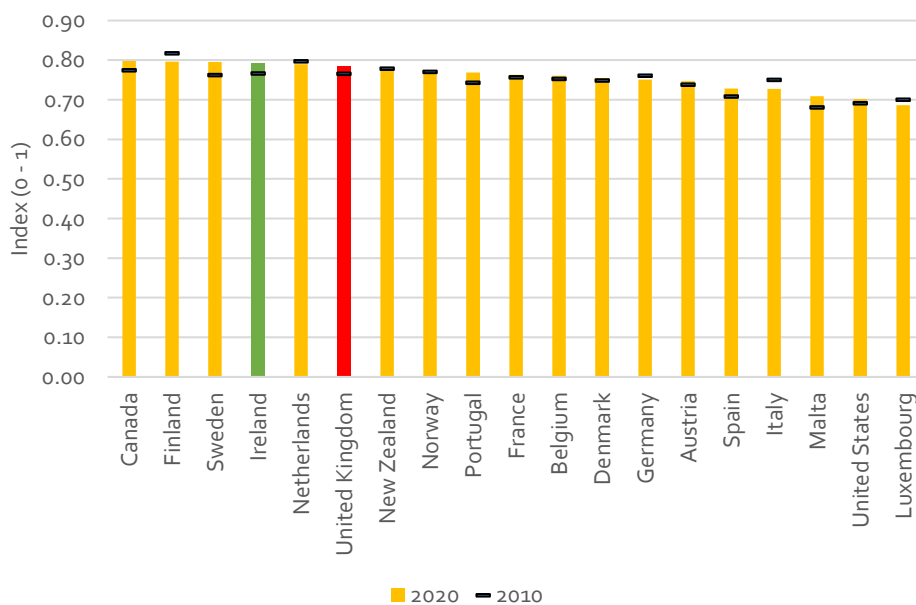
Fig. 3.3.5 Net Migration 15 years and over by educational attainment, 2013-2022



There has been a significant increase in the net migration of third level qualified persons into Ireland in recent years. In 2022, net migration for persons with third level qualifications was 39,600, an almost four-fold increase year-on-year (in part due to COVID-19 related travel restrictions). The 2022 data reflects the unwinding of these restrictions but also includes large numbers of Ukrainian nationals with third level qualifications³⁷. Arriving immigrants have a higher level of educational attainment on average than the working age population (see Figure 4.4.7).

Source: CSO, Population and Migration Statistics

Fig. 3.3.6 Human Capital Index (HCI)³⁸, 2020



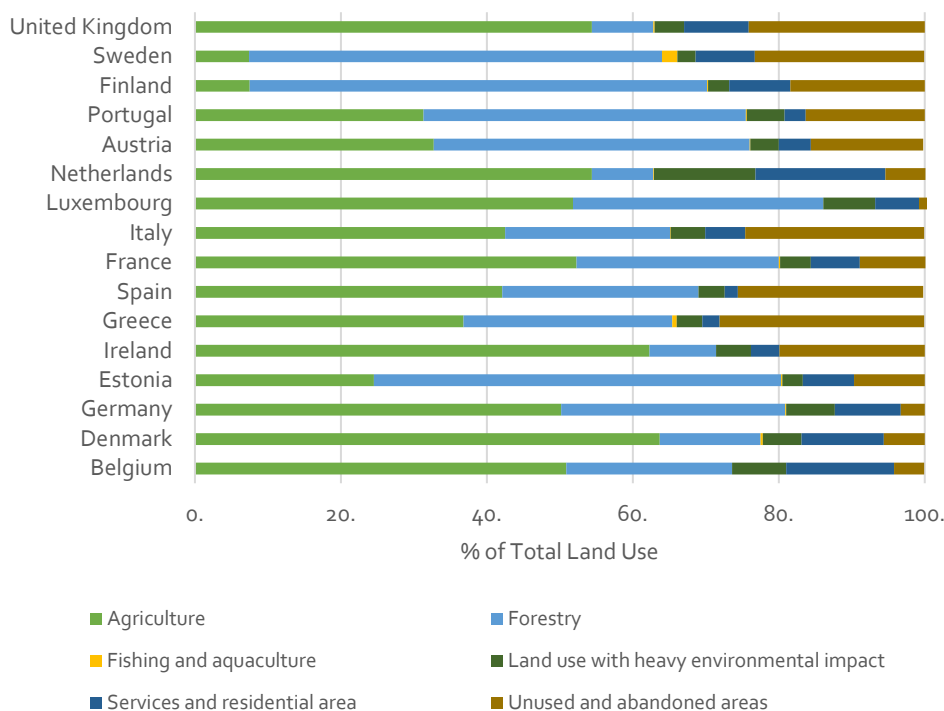
The HCI is a summary measure of the amount of human capital that a child born today can expect to acquire by age 18 and highlights how current health and education outcomes shape the productivity of the next generation of workers. According to the World Bank's analysis, a child born in Ireland just before the pandemic will be 79% as productive when they grow up as they could be if they enjoyed complete education and full health. This is higher than the average for the Europe & Central Asia region (69%) and High-Income countries (71%).

Source: World Bank

³⁷ A separate publication from the CSO in December 2022 ([Arrivals from Ukraine in Ireland Series 8 - CSO - Central Statistics Office](#)) showed that 69% of the Ukrainian arrivals that attended employment support events arranged by Intreo Public Employment Services, noted that English language proficiency was a challenge in securing employment. Of the 24,164 arrivals who attended an Intreo event, 14,674 had recorded previous occupations, with Professionals being the largest group at 32%. Of the 19,103 persons where the highest level of education was recorded, 65% had achieved an NFQ level equivalent to 7 or higher.

³⁸ The HCI calculates the contributions of health and education to worker productivity. The final index score ranges from zero to one and measures the productivity as a future worker of a child born today relative to the benchmark of full health and complete education. Although the effects of COVID-19 on the HCI are yet to be measured due to the lack of data, the World Bank expect the post-pandemic HCI to be relatively lower due to the deep learning and health losses globally.

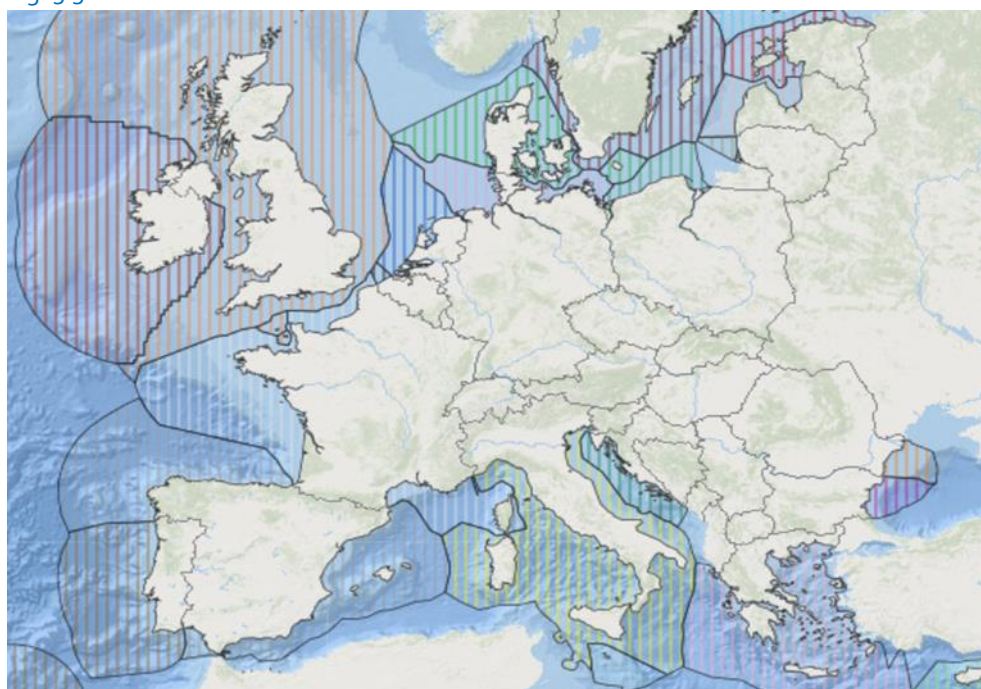
Fig. 3.3.7 Main land use by land use type (% of total area), 2018



Land is the basis for most biological and human activities, with agriculture, forestry, industry, transport, housing, and other services all using land as a natural and/or an economic resource. In 2018, Ireland had one of the largest shares of total land in use in agriculture (62.3%) and one of the lowest in forestry (9.1%) Of significant concern is the 19.9% of land unused and abandoned in Ireland that year, highlighting the need for better long-term planning for this natural resource.

Source: Land cover and land use, landscape (LUCAS) Dataset, Eurostat

Fig. 3.3.8 Exclusive Economic Zone³⁹



Ireland's Exclusive Economic Zone in the waters surrounding our shores is more than 6 times⁴⁰ as large as our land area and provides significant potential for offshore wind generation, hydrocarbons, marine biotechnology, fish farming, tourism, and other enterprise opportunities. The future for marine spatial planning is set out in Ireland's National Marine Planning Framework⁴¹ so that human activities taking place at sea are as efficient and sustainable as possible, in order to protect this valuable natural resource and maintain biodiversity.

Source: European Marine Observation and Data Network (EMODnet)

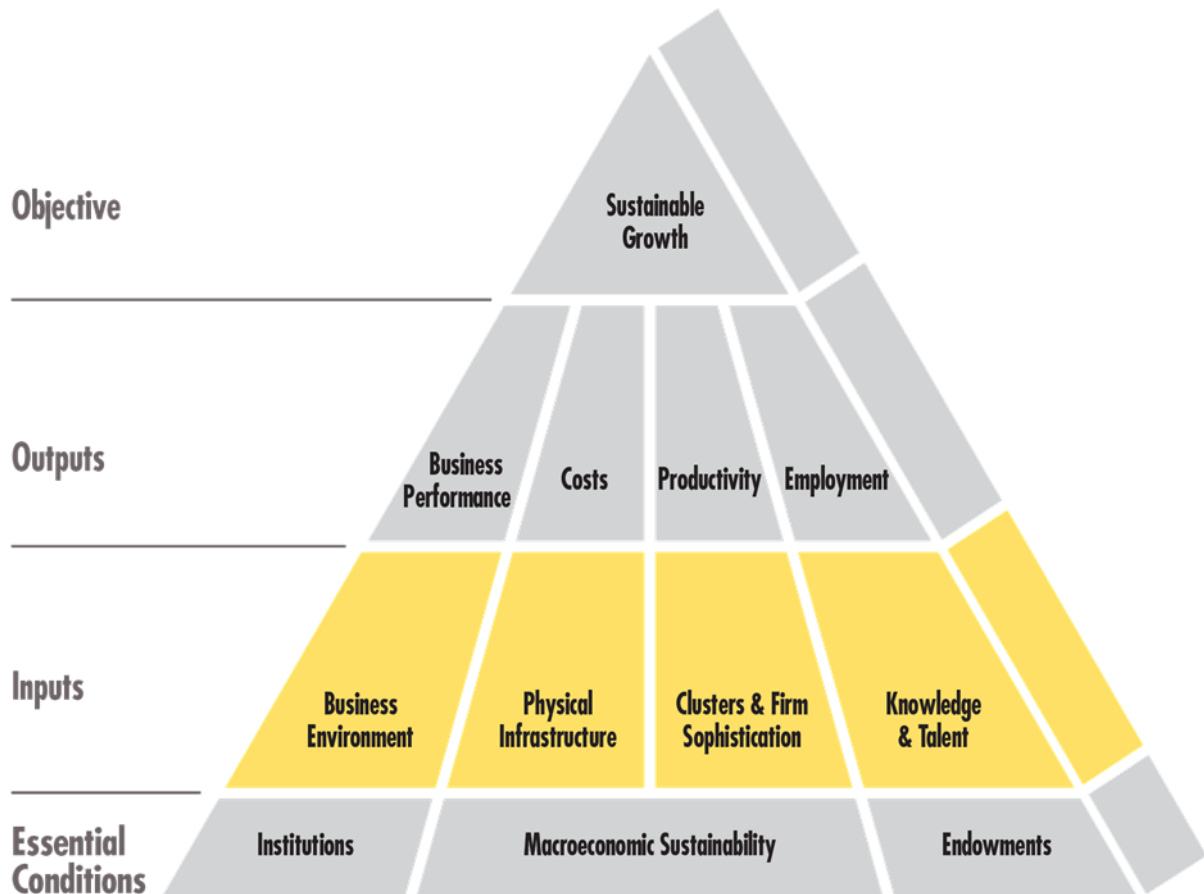
³⁹ A country has control over both the seafloor as well as ships travelling at the sea surface in an area that extends up to 12 nautical miles (22.2 km) from its coastline, known as a country's territorial sea. Extending beyond this point and reaching up to 200 nautical miles (370.4 km) from a country's coast lies its Exclusive Economic Zone. Within this region, a country owns the natural resources at the seafloor but has no say on what happens at the surface. Any ships in an Exclusive Economic Zone are essentially in international waters.

⁴⁰ Eurostat estimates Ireland's [total land cover](#) at 69,947 km². The EMODnet estimates Ireland's [Exclusive Economic Zone](#) at 427,039 km².

⁴¹ gov.ie - National Marine Planning Framework (www.gov.ie)

Chapter 4

Competitiveness Inputs



Competitiveness Inputs

At the input level, policymakers can have the most direct impact on competitiveness and productivity. These inputs determine the environment enterprises operate in and, ultimately, the outputs and outcomes in the economy. The NCPC has identified four categories of inputs: business environment, physical infrastructure, clusters and firm sophistication, and knowledge and talent. The NCPC believes that Ireland should strive to be a frontrunner and improve in areas where it lags behind global and European Union leaders.

Section 4.1 Business Environment

The indicators for the business environment in Section 4.1 focus on factors that influence the context in which enterprises operate, such as venture capital investment, the cost and availability of credit, and the birth and survival rates of firms. Credit costs above those of one's competitors create a competitive disadvantage for enterprises, especially for SMEs. Enterprise birth and survival rates are key to the business environment as young enterprises are key drivers of growth, contributing disproportionately to aggregate job creation and to the productivity-enhancing effects associated with a rapid pace of firm entry and exit. The data for this section are sourced from the OECD, the European Central Bank and Eurostat.

Section 4.2 Physical Infrastructure

The availability of competitively priced world-class infrastructure and related services is critical to support competitiveness. Well-developed infrastructure can reduce financial, administrative and time costs and, by playing a key role in determining quality of life, it enhances the attractiveness of place (a key factor in terms of attracting high-skilled, internationally mobile workers). Several indicators are used to monitor physical infrastructure in this section, including measures for gross fixed capital formation, investment in infrastructure, broadband and internet infrastructure as well as a measure for health infrastructure. The data are sourced from the OECD, Eurostat and the Department of Public Expenditure and Reform.

Section 4.3 Clusters and Firm Sophistication

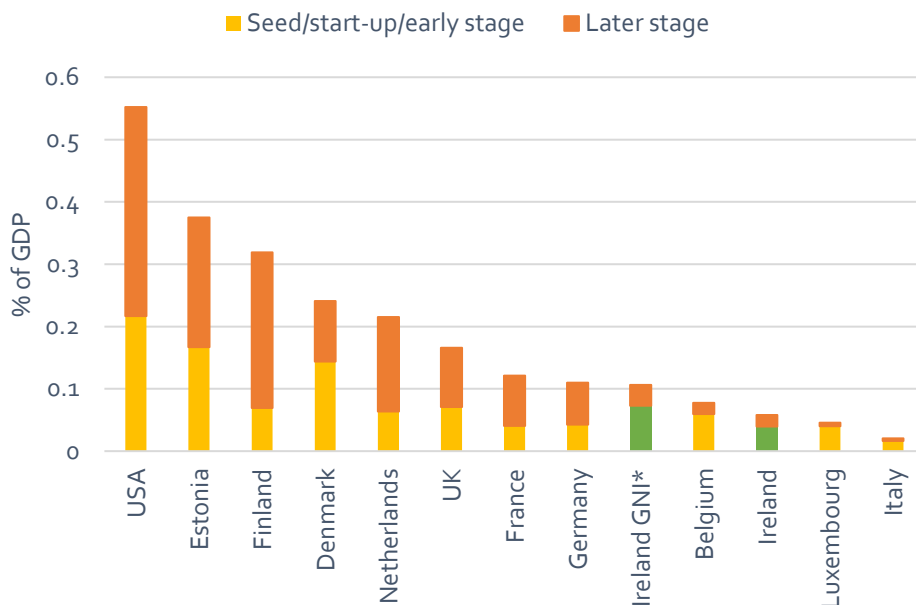
Clustering and firm sophistication contribute to the growth and competitiveness of businesses in Ireland. Clustering refers to the concentration of industries which can lead to increased innovation and knowledge sharing among firms. Firm sophistication refers to the ability of firms to operate at a high level in terms of employing advanced skills and technologies. Indicators in this section focus on innovation and integration of digital technology. The data are sourced from Eurostat.

Section 4.4 Knowledge and Talent

The availability of knowledge, talent and skills is one of the main differentiators between countries. There are two important aspects to knowledge and talent. First, there is the expansion of the store of knowledge through R&D investment, which improves processes and helps create new product markets. The second aspect of knowledge and talent is the level and relevance of education in the labour force, along with experience, and talent. Indicators for this section focus on R&D expenditure, education expenditure and attainment as well as the focus on STEM in education and lifelong learning. The data are sourced from the OECD and Eurostat.

4.1 Business Environment

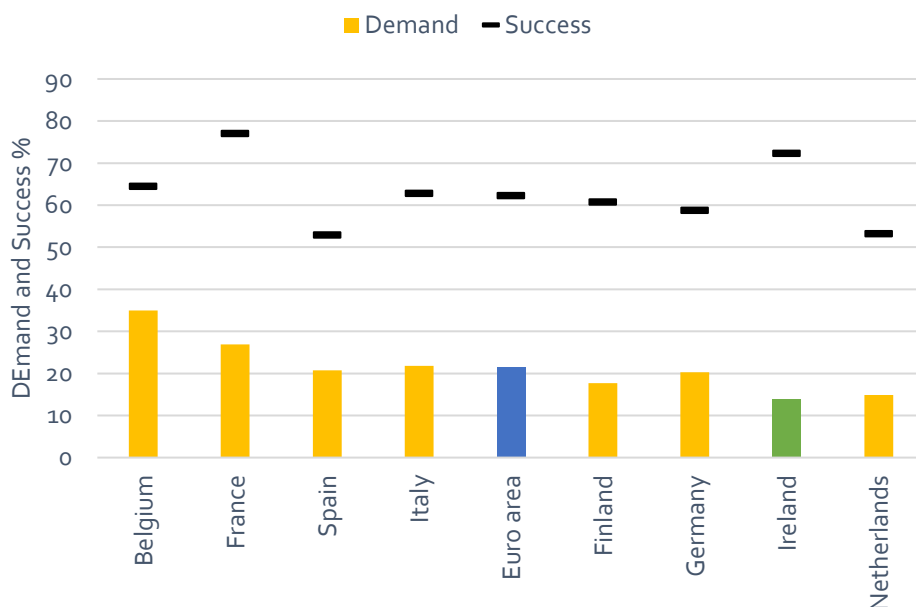
Fig. 4.1.1 Venture Capital Investment⁴² (as a percentage of GDP/GNI*), 2021



Total Venture Capital (VC) accounted for 0.106% of GNI* for 2021 with the seed/early-stage investment (0.069%) being significantly higher than later stage investment (0.0029%). Ireland performs poorly when compared to other EU countries. The development of the venture capital industry is an important framework condition to stimulate innovative entrepreneurship.

Source: OECD, Entrepreneurship Financing Database (EFD)

Fig. 4.1.2 Demand and Success in accessing credit, SMEs, 2022 H1



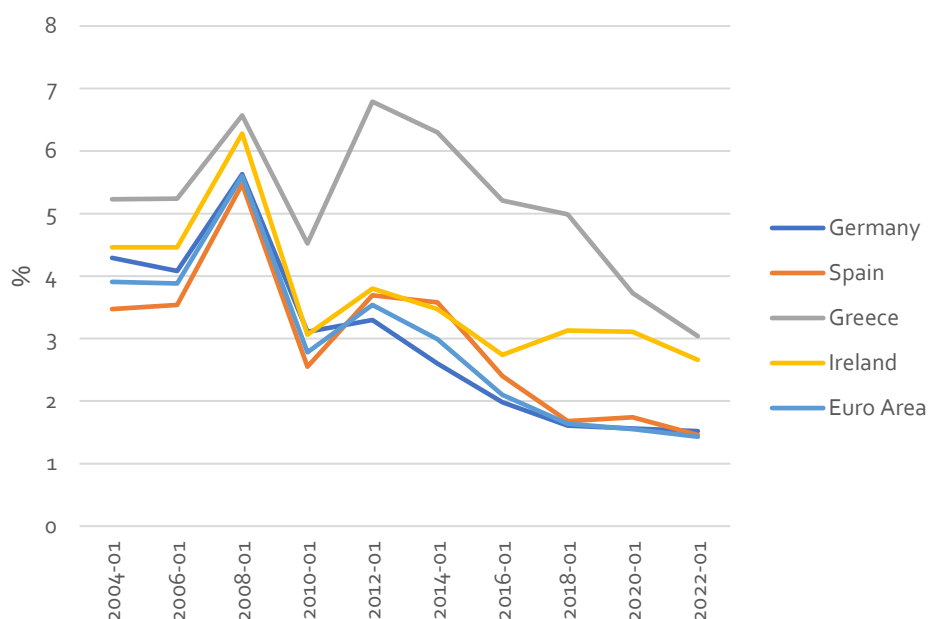
Over the first half of 2022, 14.0% of SMEs applied for bank finance in Ireland. This is significantly below the euro area average of 21.5%. Of the SME's that applied for bank finance in Ireland, 72.3% received the full requested amount compared to 62.3% across the euro area. The success rate in Ireland was the second highest in the euro area behind France (77.0%). The trend of low demand and high success in applying for credit has been a consistent trend for Irish SMEs since 2009.

Source: ECB, SAFE

⁴² OECD defines venture capital investment as a form of equity financing particularly relevant for young companies with innovation and growth potential but untested business models and no track record; it replaces or complements traditional bank finance.

Ireland's Competitiveness Scorecard 2023

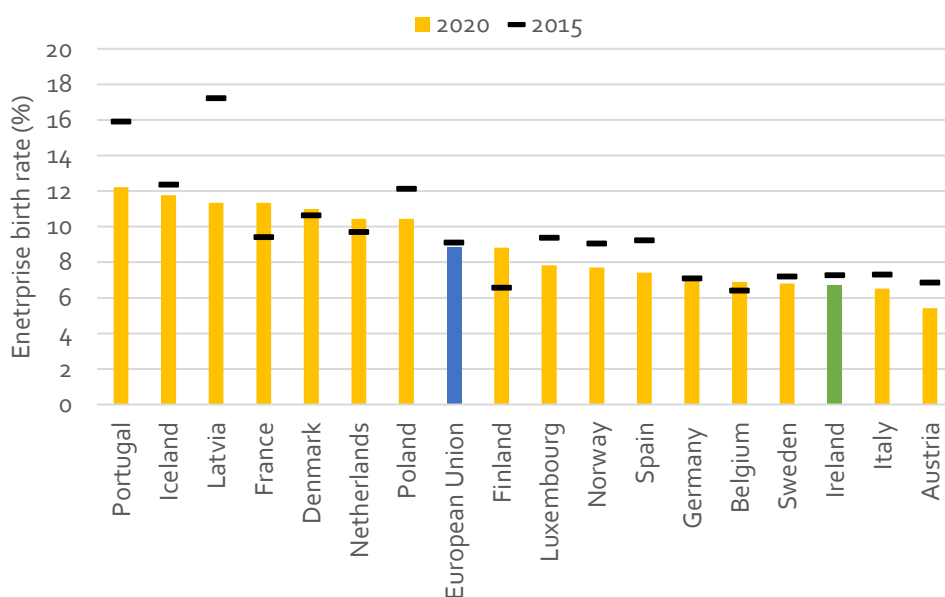
Figure 4.1.3: Average interest rates from banks to non-financial companies, all loan values⁴³



Despite being in the single currency area, the rate of interest paid by Irish non-financial businesses has been higher than the euro area average since 2017 and is now just narrowly below that of Greece. With the ECB increasing interest rates across the euro area to combat rising inflation, Irish businesses can expect interest rates to rise further. Access to competitively priced sources of finance is essential for investments to improve productivity and scale-up production and sales. Costly credit amounts to a competitive disadvantage for Irish enterprises.

Source: ECB MFI Interest Rate Statistics

Fig. 4.1.4 Enterprise births as a percentage of active enterprise^{44,45}, 2020



An enterprise birth occurs when an enterprise starts from scratch and begins operations. In 2020, Ireland's Enterprise Birth Rate (6.7%) was below the European Union average (8.85%). From 2015 to 2020, Ireland's enterprise birth rate fell from 7.3% to 6.7%, significantly more the EU average which fell from 9.1% to 8.9%. Conversely, Ireland registered the lowest value for enterprise death rates at 1.6%. See Figure 4.1.6.

Source: Eurostat, Business Demography

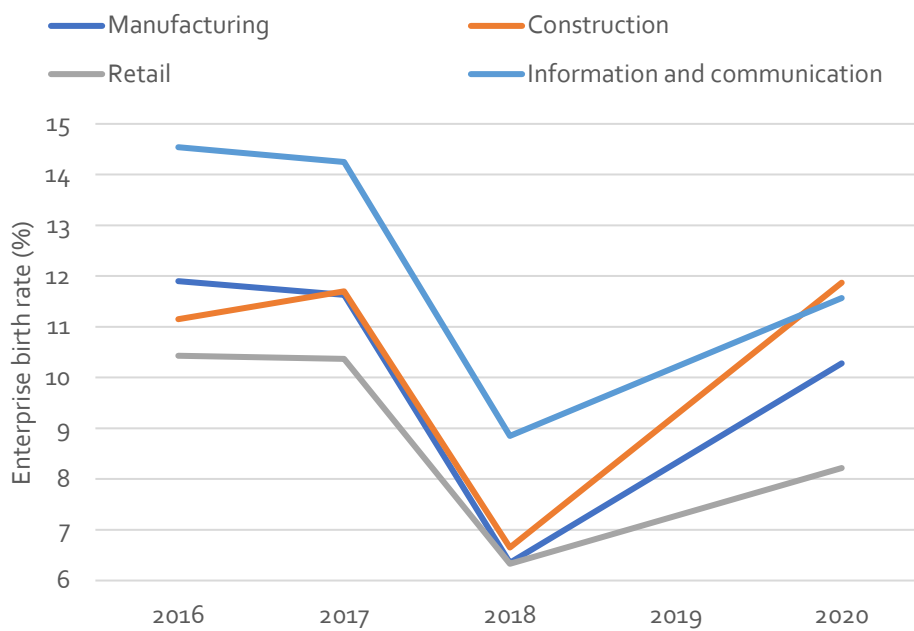
⁴³ Banking sector interest rates to non-financial companies [ECB Statistical Data Warehouse \(europa.eu\)](https://www.ecb.europa.eu/press/pr/date/2022/html/ecb.pr220801.en.htm)

⁴⁴ New business births measure the number of new businesses registered in the calendar year. Restructuring, mergers or break-ups are not included.

⁴⁵ This figure shows the number of enterprise births divided by the number of active enterprises for a section of European countries.

Ireland's Competitiveness Scorecard 2023

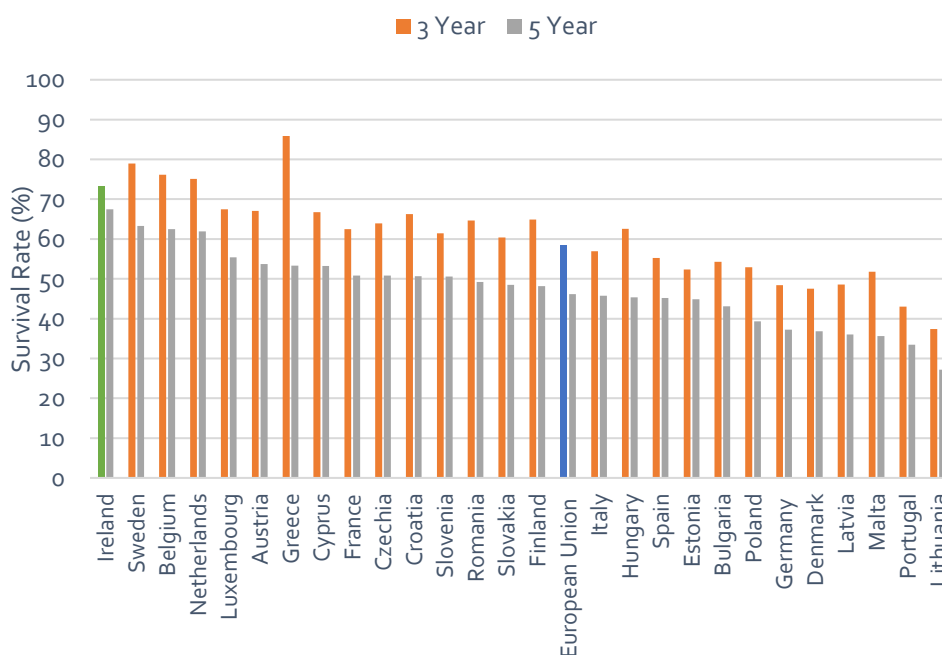
Fig. 4.1.5 Enterprise birth rate by sector, Ireland 2016 – 2020



Across selected sectors in the Irish economy, enterprise births as a percentage of active enterprise have increased since 2018. However, all, except Construction, are still below their 2016 levels. Between 2019 and 2020, the enterprise birth rate continued to increase despite the impact of COVID-19. Of these sectors retail has recovered more slowly, with an enterprise birth rate of 8.22% in 2020.

Source: Eurostat, Business Demography

Fig 4.1.6 Enterprise Survival rate, 2020

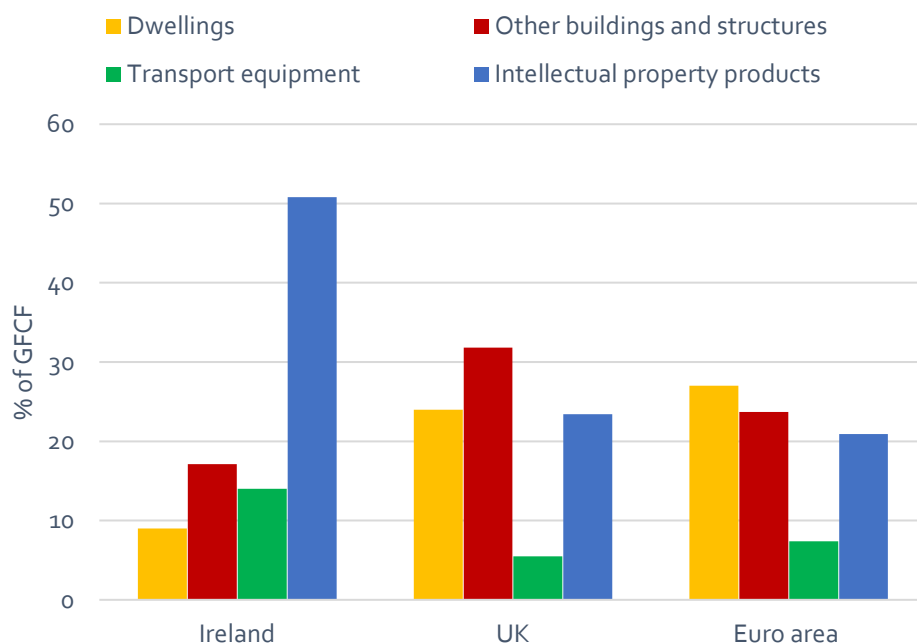


Ireland has the highest survival rate for newly born enterprises in the European Union over five years from 2015 to 2020 with 67% of new enterprise surviving the first 5 years. The European Union average for the same period is 46%. The three-year survival rate for newly born enterprises in 2017 to 2020 was 73% compared to the EU average of 58%. However, the 2020 survival rates may be influenced by the presence of financial supports during COVID-19. The enterprise birth rate in Ireland has generally been significantly lower than the rate observed in other European countries.

Source: Eurostat, Business Demography

4.2 Physical Infrastructure

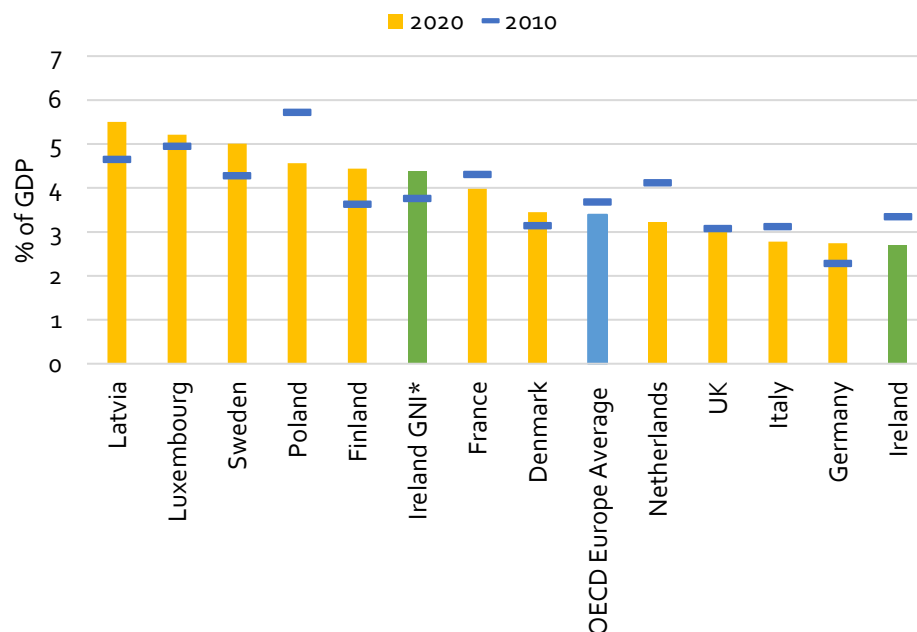
Fig. 4.2.1 Gross Fixed Capital Formation⁴⁶, by category, 2021



In 2021, the composition of Ireland's Gross Fixed Capital Formation (GFCF) differed from that in the euro areas and UK, with intellectual property accounting for over a half in Ireland compared to just over a fifth in the EU, and under a quarter in the UK. This reflects the relatively greater importance of the multinational sector in Ireland. Consequently, Ireland's investment in dwellings (9.0%) makes up a relatively smaller share than in the UK (24.0%) or the euro area (27.0%). Excluding intellectual property products from the total figures results in dwellings accounting for 21% of investment in Ireland compared to 32% in the UK and 34% in the euro area.

Source: OECD, Investment by asset

Fig. 4.2.2 Government investment as percentage of GDP, 2020⁴⁷



Public investment can enhance productivity and promote economic growth as well as foster societal wellbeing. Ireland outperforms the European average for government investments as a percentage of GNI* at 4.4%. Government investment spending averaged 3.3% of GDP across OECD countries in 2020 and 3.4% in the European Union. Five out of the ten countries spending the largest proportion of GDP on investment were in Eastern Europe, partly as a result of EU structural funds.⁴⁸

Source: OECD, Government at a Glance, 2021

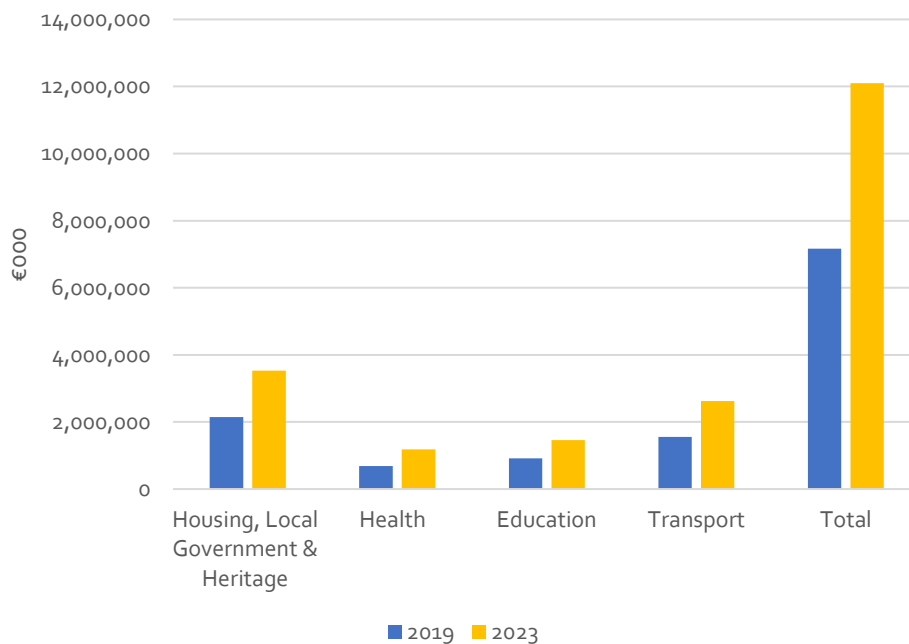
⁴⁶ Asset types in this indicator include: dwellings (excluding land); other buildings and structures (roads, bridges, airfields, dams, etc.); transport equipment (ships, trains, aircraft, etc.); and intellectual property products (such as R&D, mineral exploration, software and databases, and literary and artistic originals, etc.).

⁴⁷ OECD Europe Average refers to the 22 EU member states that are also members of the OECD.

⁴⁸ OECD (2021), Government at a Glance 2021.

Ireland's Competitiveness Scorecard 2023

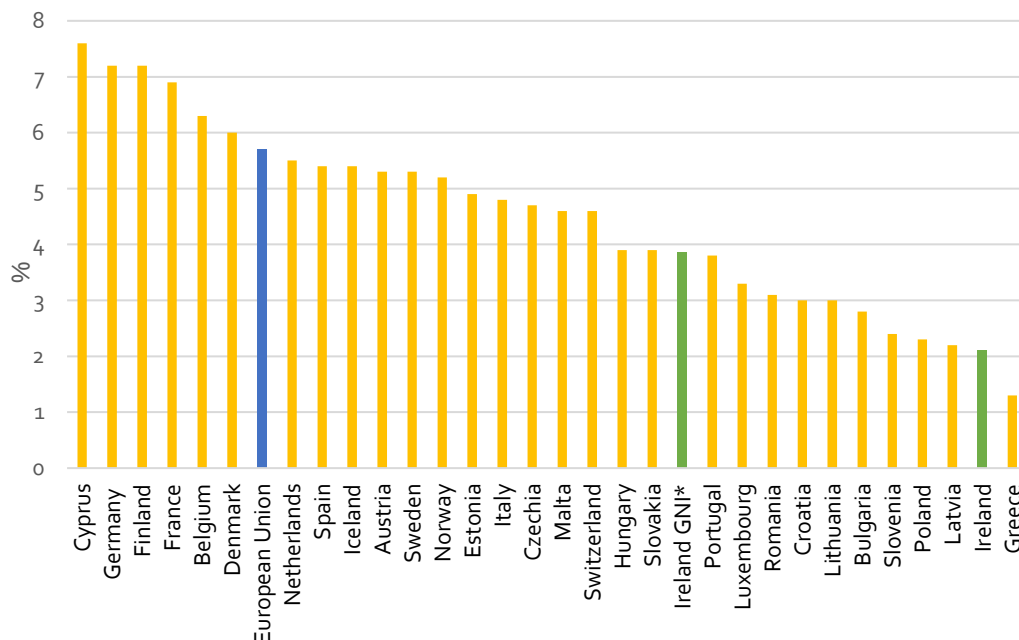
Fig 4.2.3 Trend in Public Capital Expenditure, Ireland, 2019-2023



Public Capital expenditure in Ireland is highly concentrated in four sectors - housing, transport, education and health. There has been a significant increase in gross budgeted public capital expenditure in Ireland since 2019 across housing, health and transport. Housing has seen the greatest increase in capital expenditure increasing from just over €2 billion in 2019 to just over €3.5bn in 2023 (budgeted allocation).

Source: Department of Public Expenditure and Reform, NDP Delivery & Reform - Databank

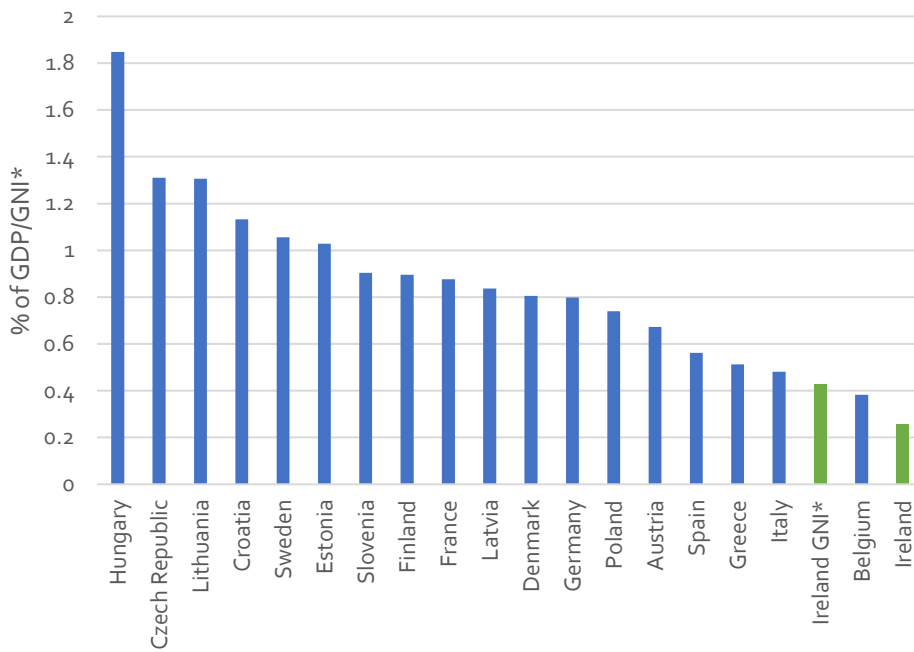
Fig 4.2.4 Percentage of gross domestic product on Housing, 2021



In 2021, Ireland's level of investment in Housing as a proportion of GNI* was 3.9%, below that of most EU countries relative to GDP in recent years and well below that of the EU average of 5.7%. Investment in housing would increase general supply which should place downward pressure on rents and buyers by reducing competition between prospective tenants and buyers at lower price points. Housing affordability affects competitiveness through the ability to retain and attract skilled workers, with rising costs eroding real incomes for workers and reducing standards of living. Housing makes an important direct contribution to national living standards.

Source: Eurostat

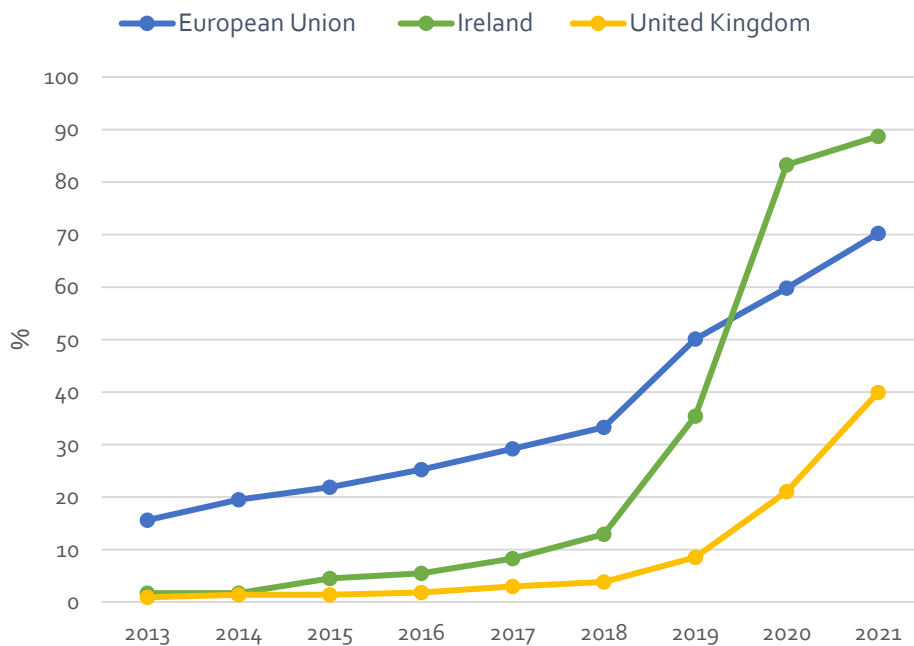
Fig 4.2.5 Percentage of Gross Domestic Product on Inland Transport Infrastructure Investment, 2020



Infrastructure investment covers spending on new transport construction and the improvement of the existing network. Ireland performs poorly when compared to EU27 countries in the OECD. Ireland's transport infrastructure investment is 0.43% of GNI* compared to an EU average of 0.87% in terms of GDP. While a lower level of investment may reflect a higher and more recently built stock of transport infrastructure, continued investment in transport is needed for improved market accessibility, productivity, and balanced regional economic development.

Source: OECD, Transport infrastructure investment and maintenance

Fig 4.2.6 High-speed internet coverage⁴⁹ (% households)

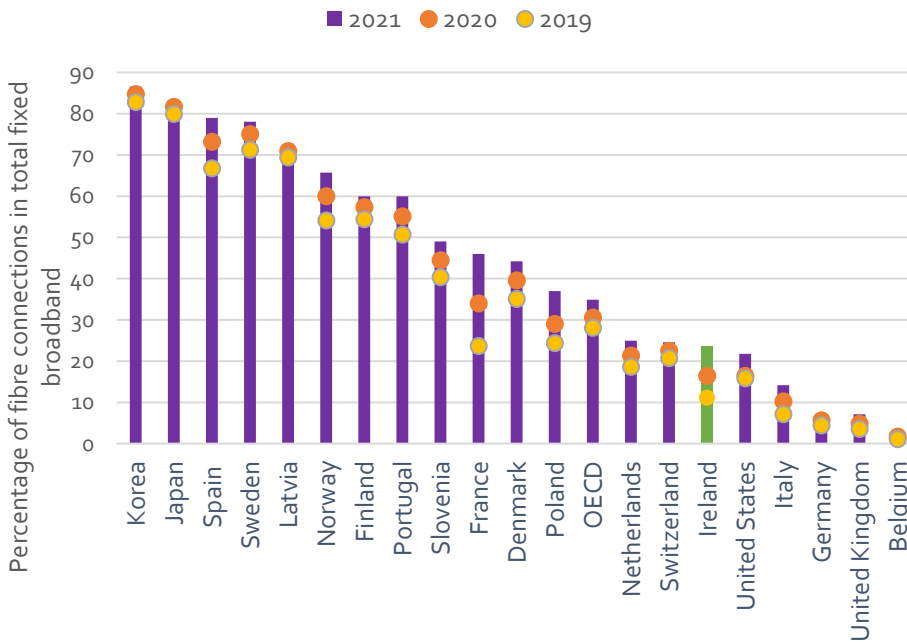


Ireland's high-speed internet coverage at 88.7% is outperforming the EU average of 70.2% and the UK at 39.9%. In 2020, Ireland overtook the European Union average for percentage of households with high-speed internet coverage. Ireland's high-speed broadband coverage is at 45.8% in low-settled areas compared to the European Union average of 37.1%. Ireland's low settled area coverage has had a large increase since 2016 when the coverage was 1.2%.

Source: European Commission - DG for Communications Networks, Content and Technology (DG CNECT) and Eurostat⁵⁰

⁴⁹ The indicator measures the share of households with fixed very high-capacity network (VHCN) connection.
⁵⁰ Low settled areas: places with fewer than 100 people per km².

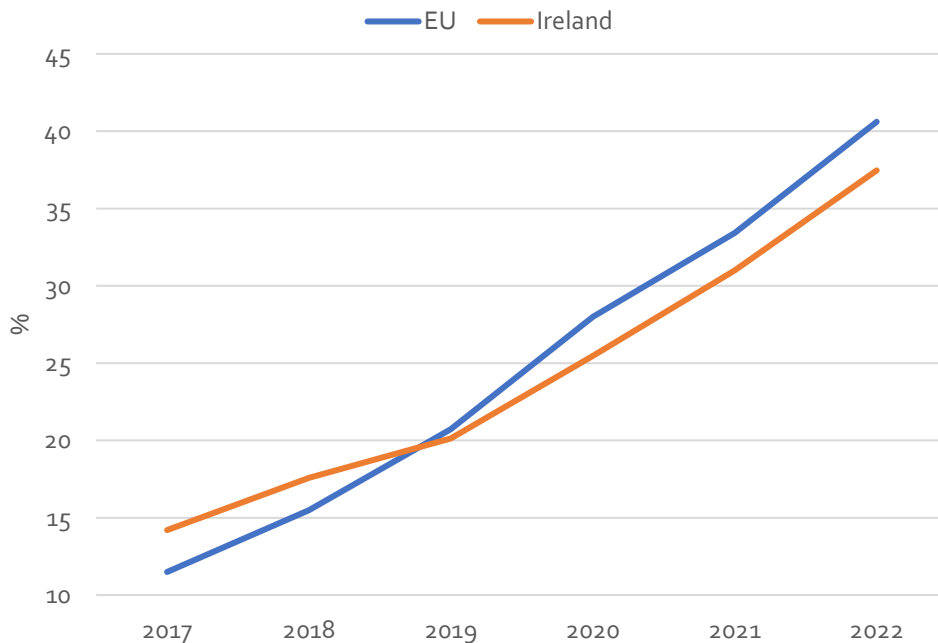
Fig. 4.2.7 Percentage of fibre connections in total fixed broadband, 2021



Globally Korea and Japan continue to be leaders in the adoption of fibre broadband, while several European countries have made significant progress in this area. Ireland has one of the lowest proportions of fibre connections in the OECD and at 23.6%, falling well behind the average of 34.9% for OECD countries. This relatively weak performance in 2021, however, does mark a significant improvement since 2019 when fibre connections represented just 11.1% of total fixed broadband.

Source: OECD Broadband Statistics

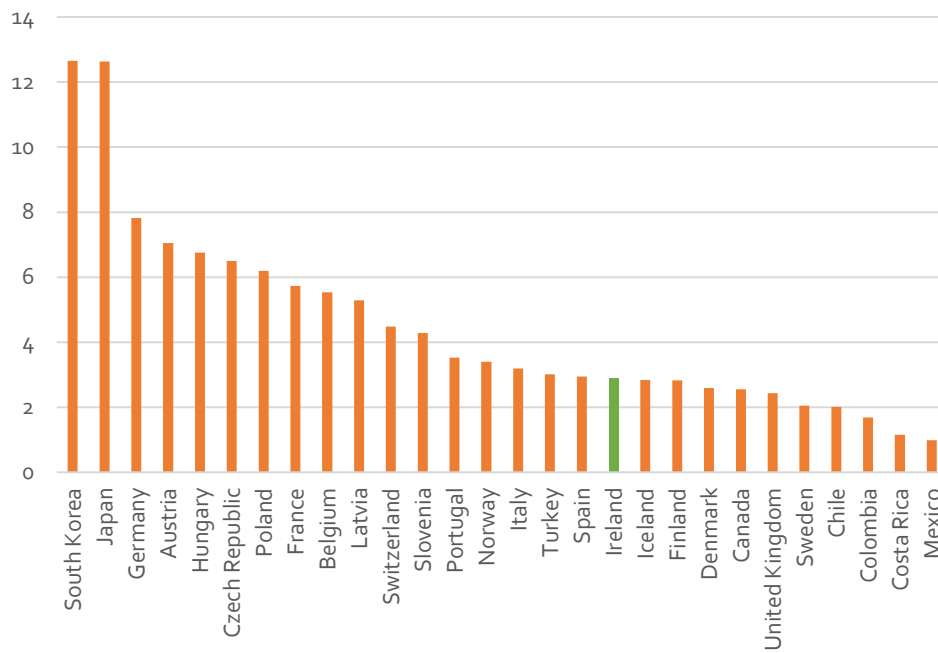
Fig. 4.2.8 Proportion of households with broadband coverage (at least 100Mbps), 2022



In 2022, Ireland had a lower proportion of households with broadband coverage than the EU average. This has happened despite Ireland having made significant strides in improving its broadband coverage over the past decade, with the percentage of households having access to high-speed broadband increasing from 14.2% in 2012 to 37.5% in 2022.

Source: European Commission, Digital Economy and Society Index

Fig 4.2.9 Hospital Beds per 1000 Inhabitants, 2020



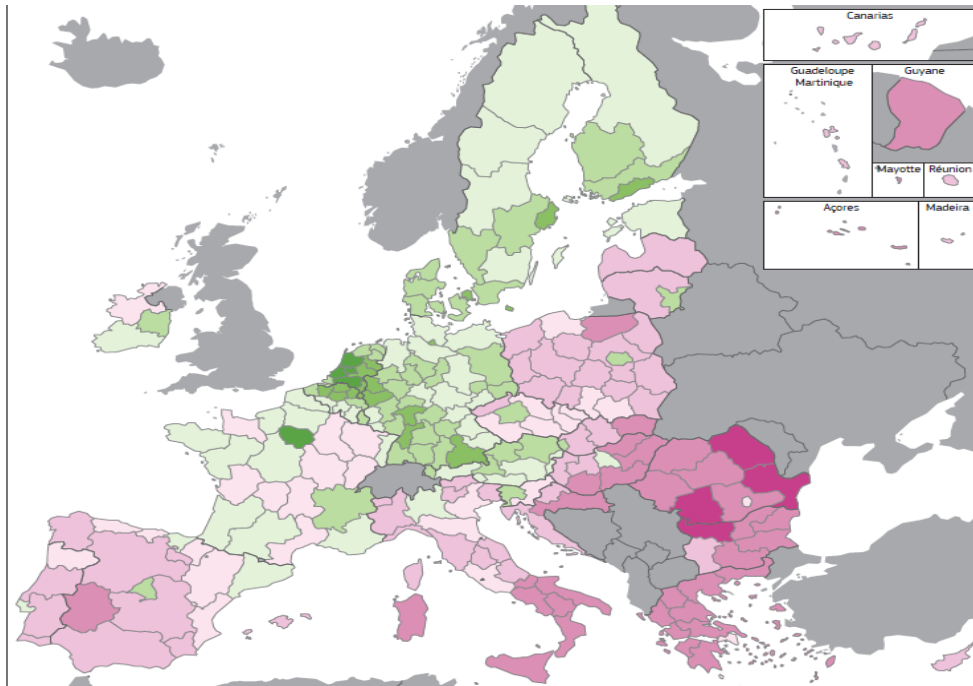
Hospital beds per 1000 inhabitants is a key measure used to compare health systems. It captures the resources available for delivering services to in-patients in hospitals in terms of number of beds that are maintained, staffed and immediately available for use. Ireland performs poorly on this measure, at 2.9 compared with the OECD average of 4.4 hospital beds per 1 000 people in 2020. It must be noted that Ireland's (14.8%) elderly population⁵¹ is lower than the OECD average (17.6%)

Source: OECD, Health Equipment

⁵¹ The elderly population is defined as people aged 65 and over.

4.3 Clusters and Firm Sophistication

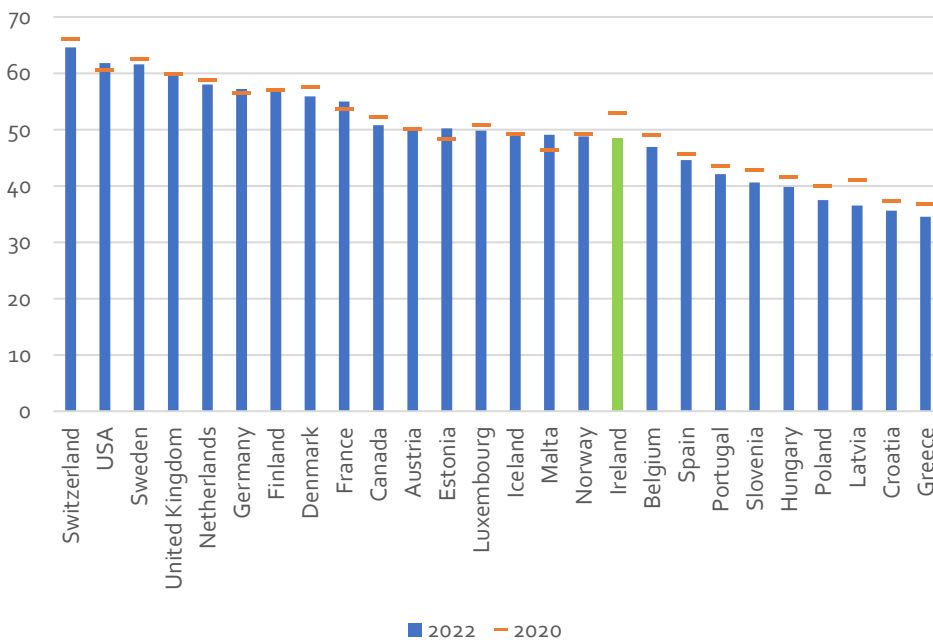
Fig 4.3.1 EU Regional Competitiveness Index - 2022



The EU Regional Competitiveness Index (RCI) has been measuring the major factors of competitiveness for all the NUTS-2 level regions across the European Union. In Ireland the performance is mixed, with regions below and above the EU average. The Eastern and Midland region containing Dublin has an RCI score of 122.7, compared to the EU average of 100. The Southern Region scores above the EU average at 105.2 and the Northern and Western region is at 98.2. Ireland follows a pattern seen throughout the EU with a strong performance of regions hosting large urban areas.

Source: European Commission – DG Regional and Urban Policy

Fig 4.3.2 Global Innovation Index - 2022



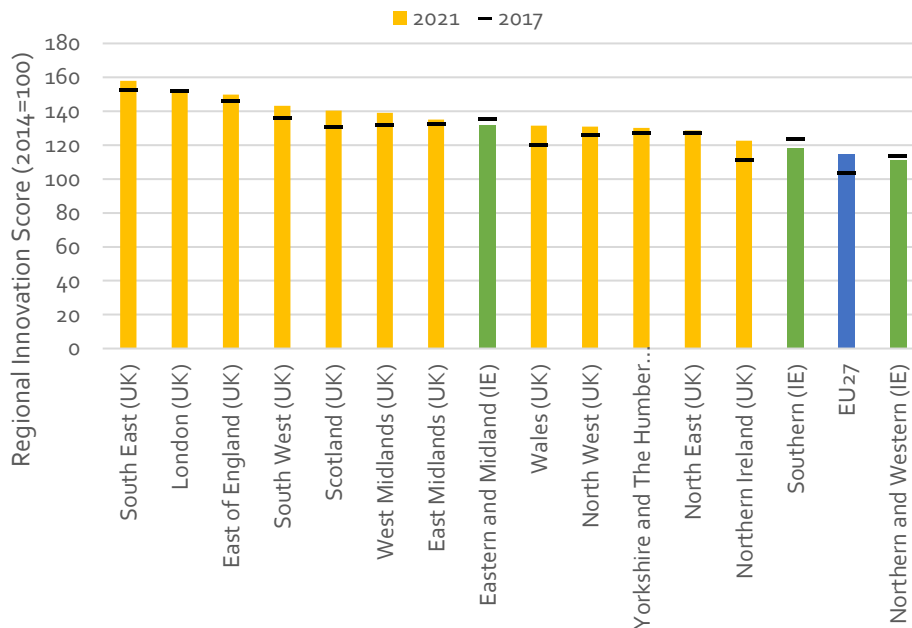
The Global Innovation Index (GII) ranks world economies according to their innovation capabilities across 80 indicators. Ireland ranks 23rd in the GII down from 15th in 2020 and 10th in 2018.⁵² Ireland performs above the European average in out of seven pillars, namely: Institutions; Human capital and research; Infrastructure; Business sophistication; Knowledge and technology outputs; and Creative outputs. Ireland ranks below the European average on the market sophistication pillar.

Source: Global Innovation Index

⁵² Many indicators in the GII are linked with GDP which may explain Ireland's ranking decreasing.

Ireland's Competitiveness Scorecard 2023

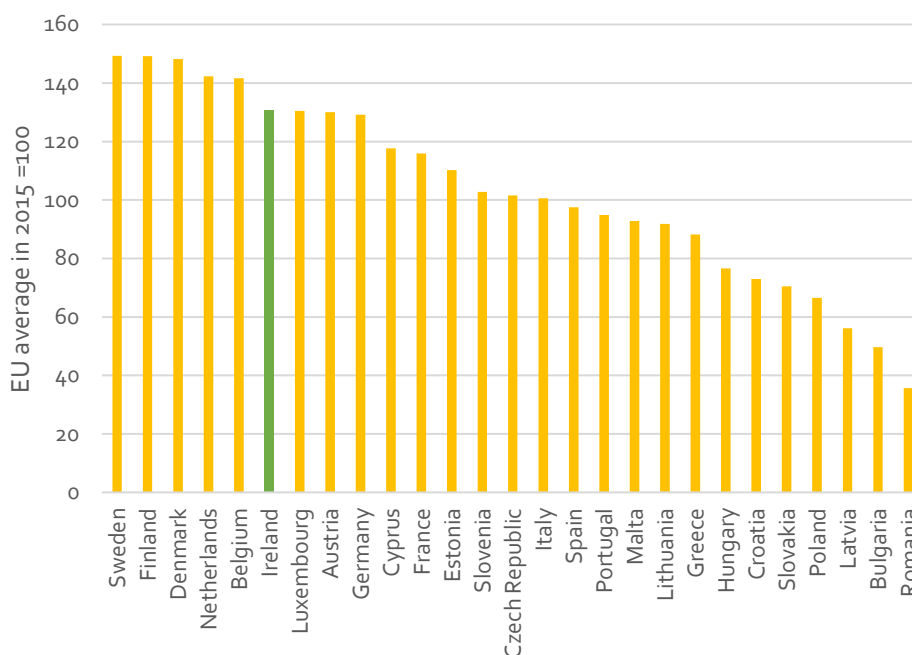
Fig. 4.3.3 Regional Ecosystem Scoreboard (RES) – Ireland and the UK, 2021



The Regional Ecosystem Scoreboard (RES) composite index captures the quality of the regional business environment that facilitates the creation of new enterprises, together with the survival and the growth of business activities. In Ireland, the Eastern and Midland and Southern regions outperformed the EU average in 2021, while the Northern and Western region performed below the EU average. Between 2017 and 2021 all three Irish regions saw a deterioration in scores. This downturn has been driven by low employment in innovative SMEs and relatively low innovation expenditures in SMEs.

Source: European Commission, Regional Innovation Ecosystem

Fig 4.3.4 European Innovation Scoreboard (EIS)⁵³, 2022



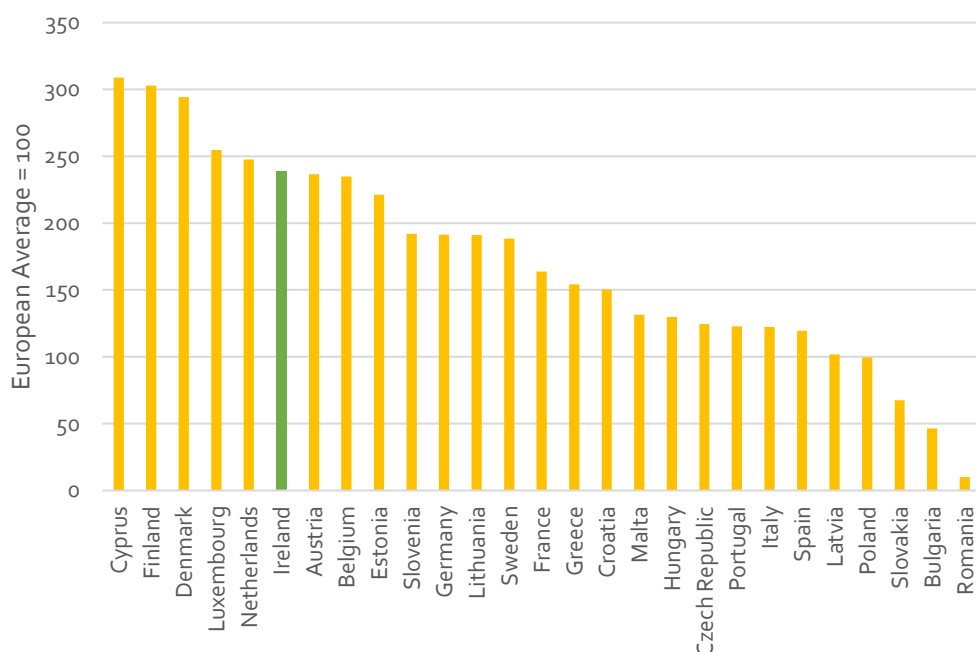
Ireland is classified as a Strong Innovator in the European Innovation Scoreboard, with performance at 130.6% relative to the EU average in 2015. However, since 2015, Ireland's innovation performance is increasing at a rate lower than that of the EU. Ireland's strengths on the Scoreboard include public-private co-publications, population with tertiary education, employment in knowledge-intensive activities and innovative SMEs collaborating with others. Ireland performs less well in terms of non-R&D innovation expenditures and R&D expenditure in the public sector.

Source: European Innovation Scoreboard 2022

⁵³ Performance relative to EU in 2015 = relative performance calculated based on time series of normalised scores, whereby the average EU performance in the year 2015 is set as 100.

Ireland's Competitiveness Scorecard 2023

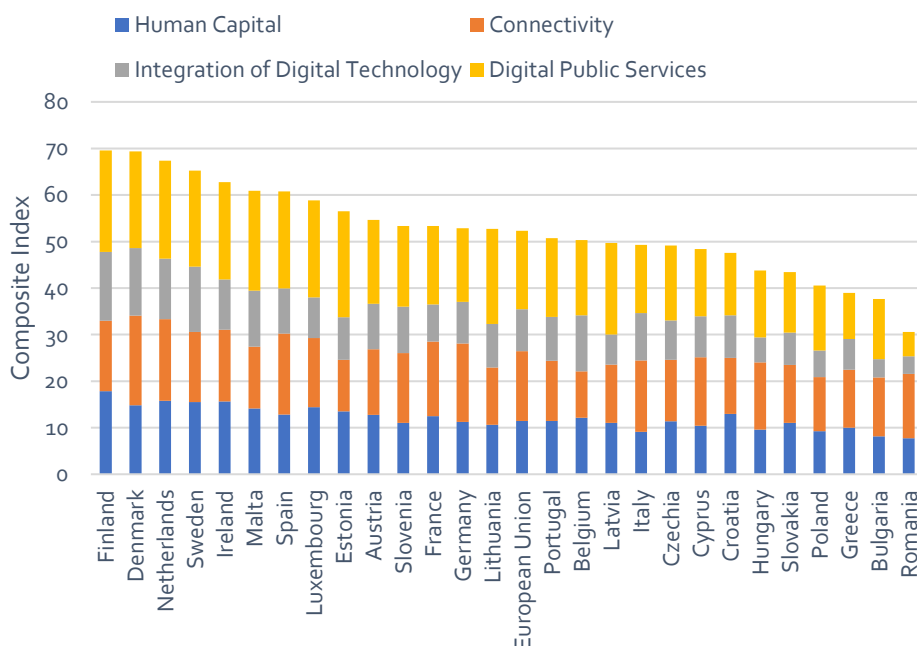
Fig 4.3.5 Composite Measure of Innovation via Linkages⁵⁴



Ireland outperforms the EU average in relation to linkage metrics at 239 compared to the average index of 100. Across the three-linkage metrics Ireland is a strong performer at 177% of the EU average, outperforming the EU average on all metrics. For the metric Innovative SMEs collaborating with others Ireland's performance in the EIS is at 201% of the EU average and for public-private co-publications Ireland's performance is at 243% of the EU average.

Source: European Innovation Scoreboard 2022

Fig. 4.3.6 European Digital Economy and Society Index Innovation Scoreboard (DESI)⁵⁵, Overall ranking, 2022



Ireland is ranked 5th on the overall 2022 EU DESI Scoreboard. It performs well across the four pillars relative to other EU countries, achieving a place in the top seven for all the pillars. The methodology for the DESI index changed in 2022. Based on this new 2022 methodology, Ireland would have ranked 10th place in 2017, signalling a strong improvement. Ireland performs especially well regarding the human capital dimension, as the share of people with basic digital skills and digital content creation skills, as well as the share of ICT specialists, including female ICT specialists, is above the EU average.

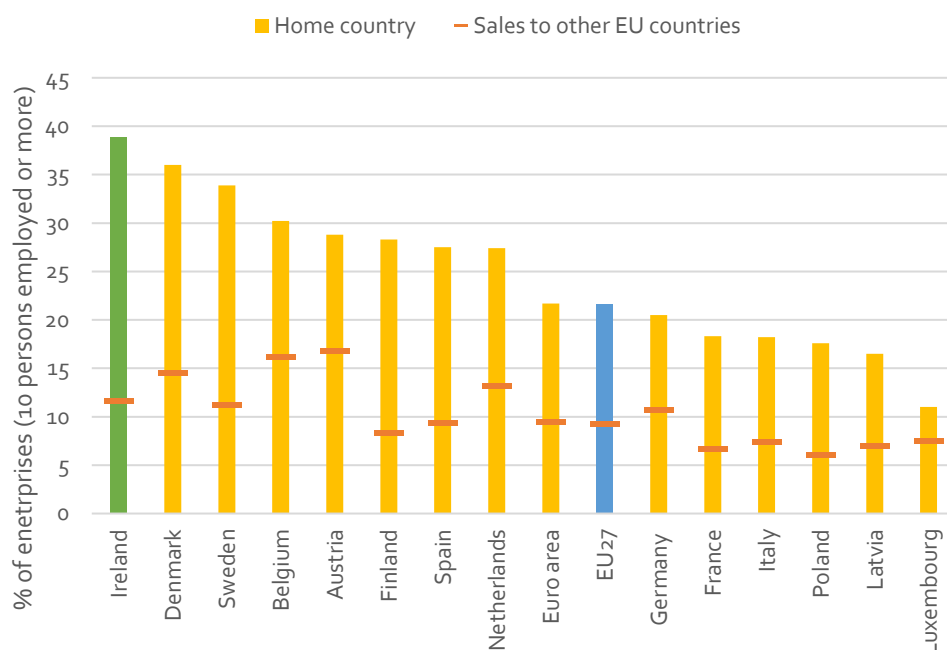
Source: European Commission, DESI

⁵⁴Linkages includes three indicators measuring innovation capabilities by looking at collaboration efforts between innovating firms, research collaboration between the private and public sector, and job-to-job mobility of Human Resources in Science & Technology (HRST).

⁵⁵The Digital Economy and Society Index (DESI) is a composite index that summarises digital performance of EU member states under five digital pillars - Connectivity, Human Capital / Digital skills, Use of Internet by citizens, Integration of Digital Technology by businesses, Digital Public Services.

Ireland's Competitiveness Scorecard 2023

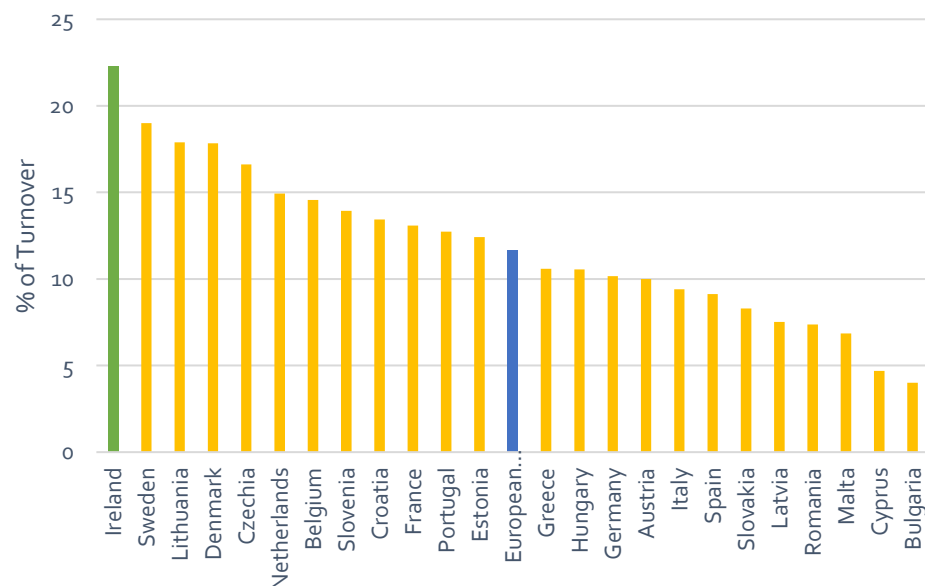
Fig. 4.3.7 Enterprises with online sales, 2021



Irish enterprises recorded the highest proportion of online sales in the EU in 2021, with 38.9% of enterprises conducting e-commerce activities. This is significantly higher than the proportion in the EU-27 (21.6%). Irish enterprises e-commerce activities are mainly driven by sales to the domestic market. Ireland ranks eleventh in the share of enterprises that conducted web sales with other EU countries, at 11.6% compared to the EU 27 average of 9.2%.

Source: Eurostat, Digital Economy and Society

Fig 4.3.8 SME's Total Turnover from e-commerce⁵⁶, 2022



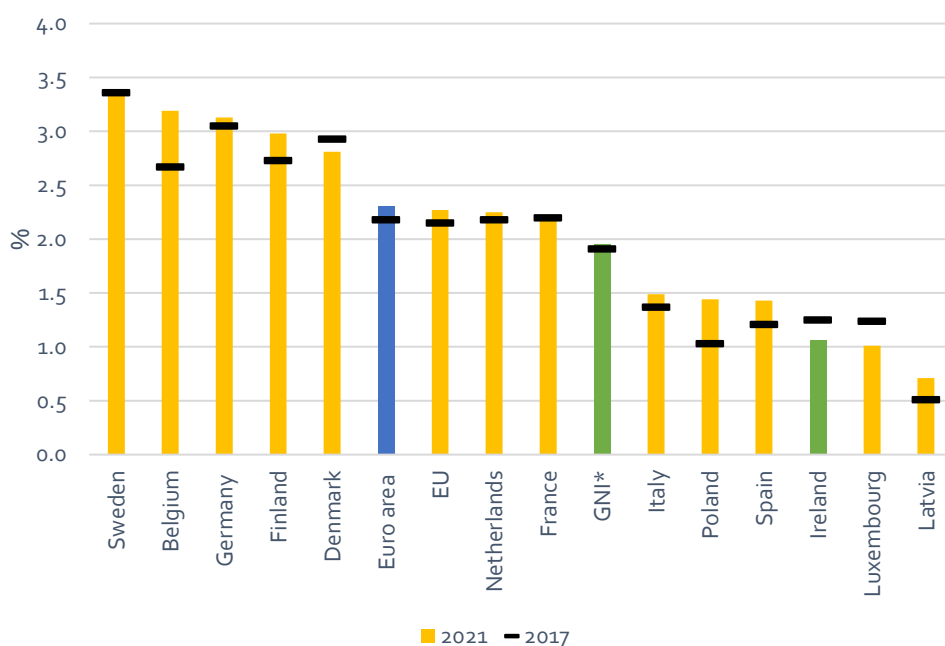
Irish enterprises recorded the highest proportion of e-sales as part of total turnover for small and medium-sized enterprises (SMEs) across European Union countries. Irish SMEs total turnover from e-sales at 22.3% compared to the EU average of 11.6%. Irish SMEs have consistently recorded the highest percentage of total turnover from e-commerce since 2017.

Source: Eurostat, Digital Economy and Society

⁵⁶ SMEs (10-249 persons employed), without financial sector

4.4 Knowledge and Talent

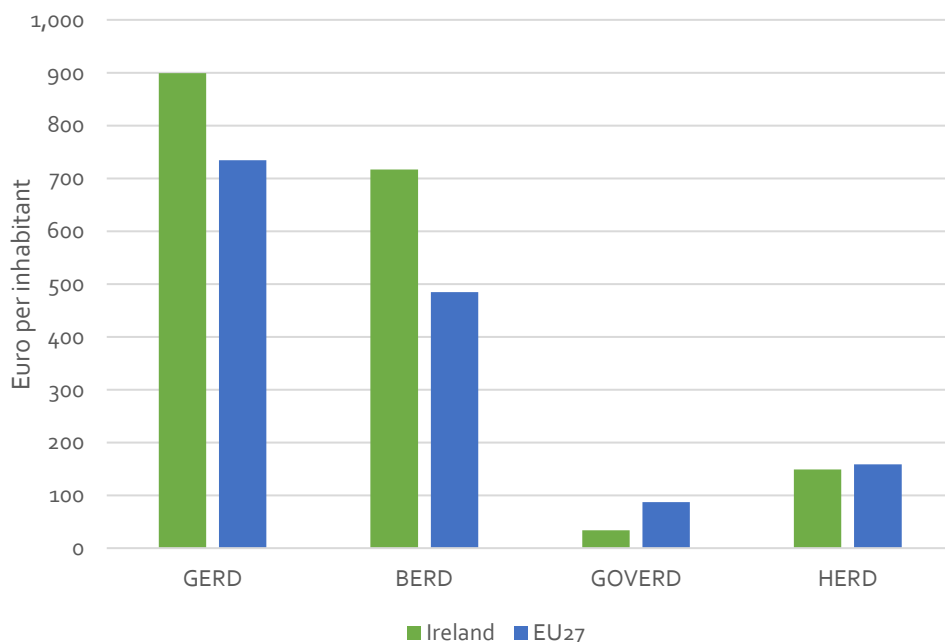
Fig. 4.4.1 Gross R&D⁵⁷ expenditure (GERD)⁵⁸ as a percentage of GDP/GNI*, 2021



Using GNI* for Ireland to measure R&D expenditure ratios, Ireland at 1.95% ranks below the euro area average (relative to GDP) in 2021 of 2.31%. Between 2017 and 2021, Irish GERD as a percentage of GNI* increased by 0.04 percentage points. This compares with much greater increases in on average in the EU and particularly in countries such as Belgium, Finland and Poland.

Source: Eurostat, Research and Development Statistics,

Fig. 4.4.2 R&D expenditure, Euro per inhabitant, 2021



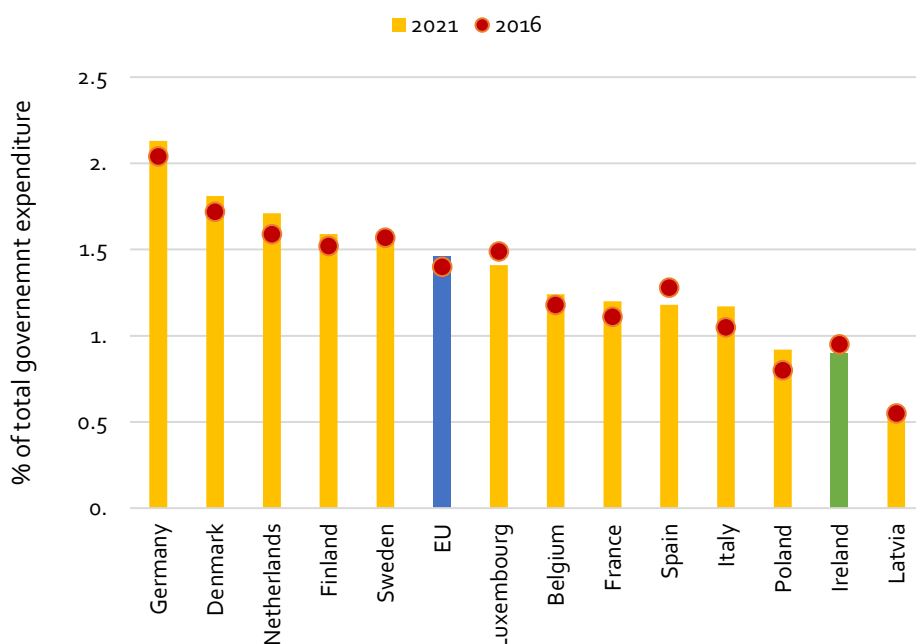
In terms of euro per inhabitant, Ireland's Gross expenditure on R&D (GERD) (€899.2) is above the EU average (€734.5) but remains far below EU R&D leaders such as Sweden (€1,737.4) and Denmark (€1,621). GERD includes all expenditure from all sources (public and private) spent on R&D performed in the Government, business and higher education sectors featured in the graph. At €716.7, Business expenditure on R&D (BERD) is above the EU27 average of €484.4. At €148.7 euro per inhabitant, Government expenditure on R&D (GOVERD) in Ireland was below the EU27 average of €158.4 in 2021.

Source: Eurostat, Research and Development Statistics

⁵⁷ Eurostat defines R&D expenditure as direct expenditure undertaken in order to increase the stock of knowledge - including knowledge of humankind, culture and society - and to devise new applications of available knowledge.

⁵⁸ Gross Expenditure on Research and Development (GERD) is the sum of Government Expenditure on R&D undertaken in house in Government institutions, Business Expenditure on R&D, and Higher Education Expenditure on R&D

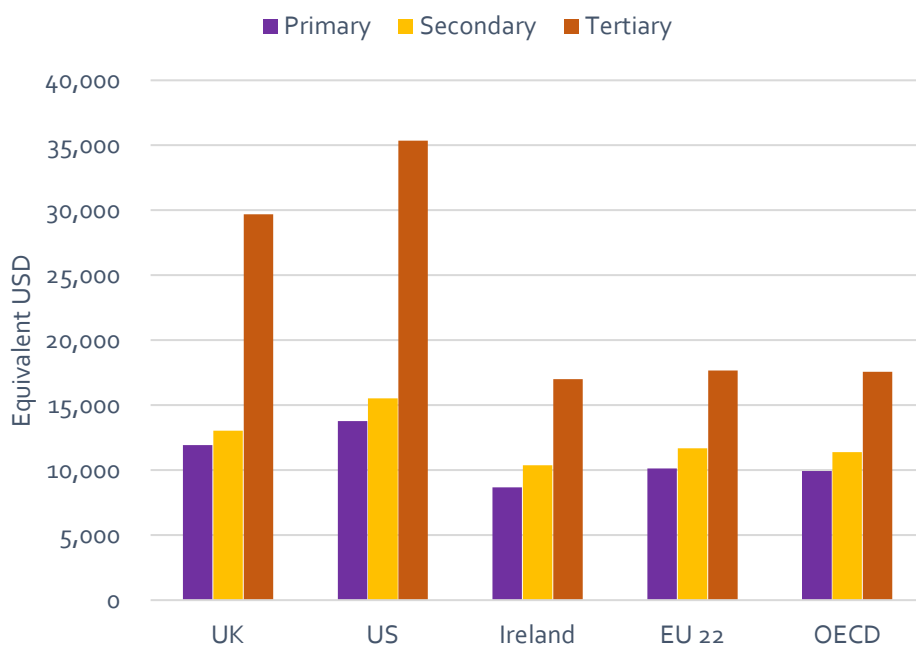
Fig. 4.4.3 Share of Government budget appropriations or outlays on R&D, 2021



In 2021, at 0.90% of total Government expenditure, the outlay on R&D was significantly lower in Ireland compared to the EU average (1.46%). Between 2016 and 2021 Ireland's outlay on R&D as a percentage of government expenditure fell by 0.05 percentage points.

Source: Eurostat, Research and Development, Government Expenditure

Fig. 4.4.4 Annual expenditure on educational public and private institutions per student⁵⁹, \$ (PPP adjusted), 2020⁶⁰



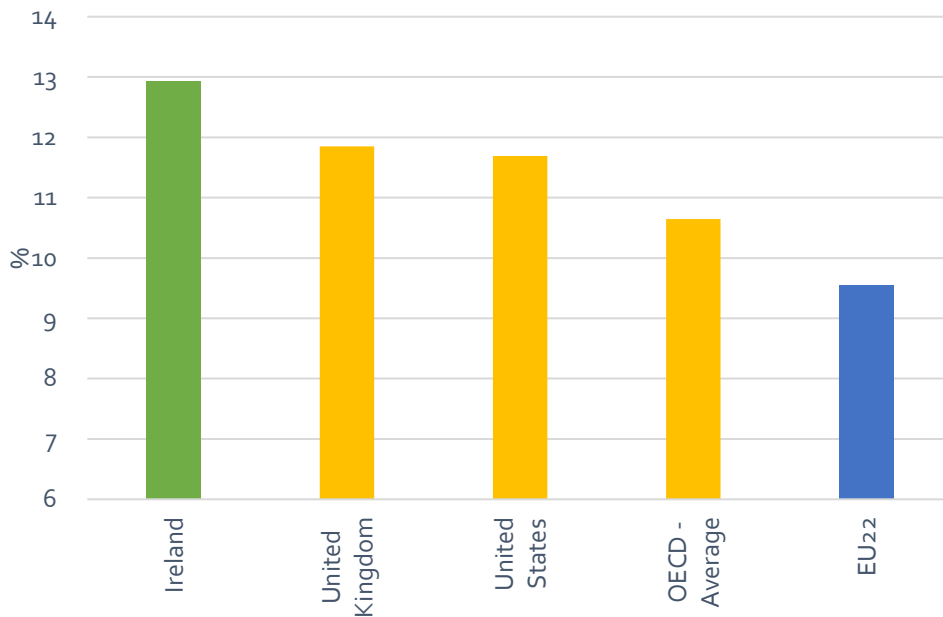
The pattern of Ireland's expenditure on educational institutions (PPP adjusted) is generally in line with EU and OECD averages, with relatively less at each level but particularly primary. In 2020, the amounts (PPP adjusted) spent on tertiary education in the United Kingdom and United States were markedly different, at \$29,668 and the US \$35,347, respectively, compared with Ireland at just \$16,997 and the EU average at \$16,670.

Source: OECD, Education at a Glance 2022

⁵⁹ Expenditure per student on educational institutions at a particular level of education is calculated by dividing total expenditure on educational institutions at that level by the corresponding full-time equivalent enrolment.

⁶⁰ EU22 – Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden

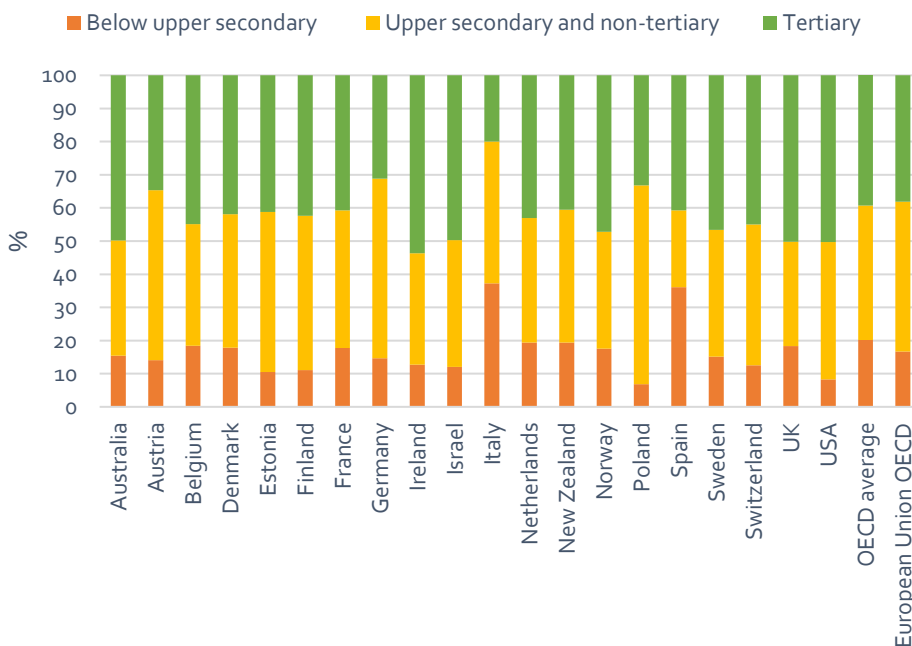
Fig 4.4.5 Total public expenditure on education as a percentage of Total Government Expenditure



The share of total public expenditure devoted to education varies across countries. In 2021, total public expenditure on primary to tertiary education as a percentage of total government expenditure for all services averaged 11% in OECD countries. However, this share varies across OECD, ranging from around 7% in Greece to around 17% in Chile. Ireland has the sixth highest rate of expenditure in the OECD at 12.9%.

Source: OECD, Education at a Glance 2022

Fig. 4.4.6 Education attainment of population aged 25-64 by highest level of education⁶¹ (%), 2021



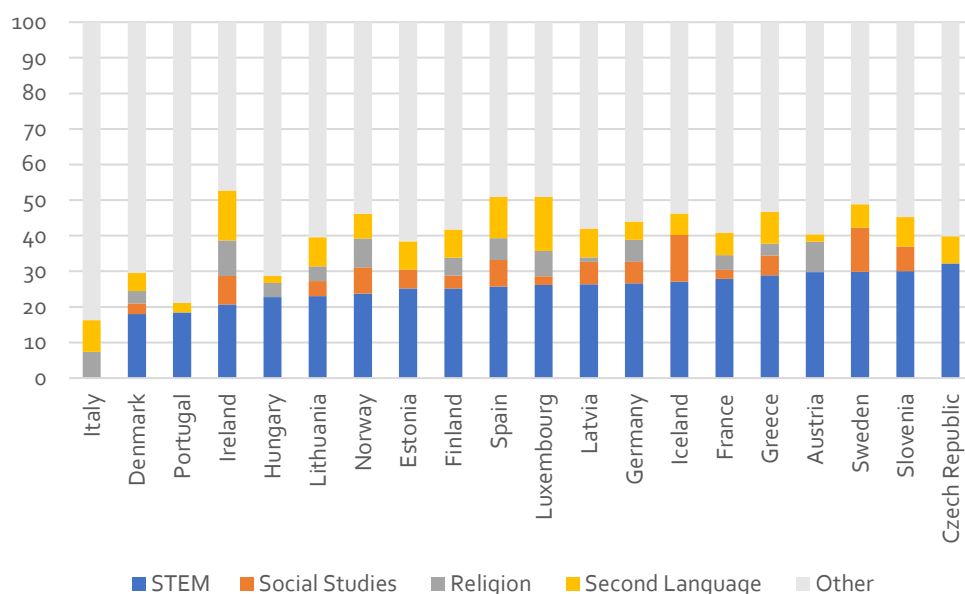
In 2021, Ireland had the second highest share of working age population with tertiary education (53.7%) among OECD high income countries behind only Japan (55.6%). Reflecting its investment in education, Ireland had one of the lowest proportions of working age population with below upper secondary level education (12.8%), compared to the EU OECD average (16.6%) and the UK (18.3%).

Source: OECD, Education at a Glance 2022

⁶¹ Upper secondary and non-tertiary refers to people with upper secondary and post-secondary but non-tertiary education. Data missing for Japan for below upper secondary and lower secondary level.

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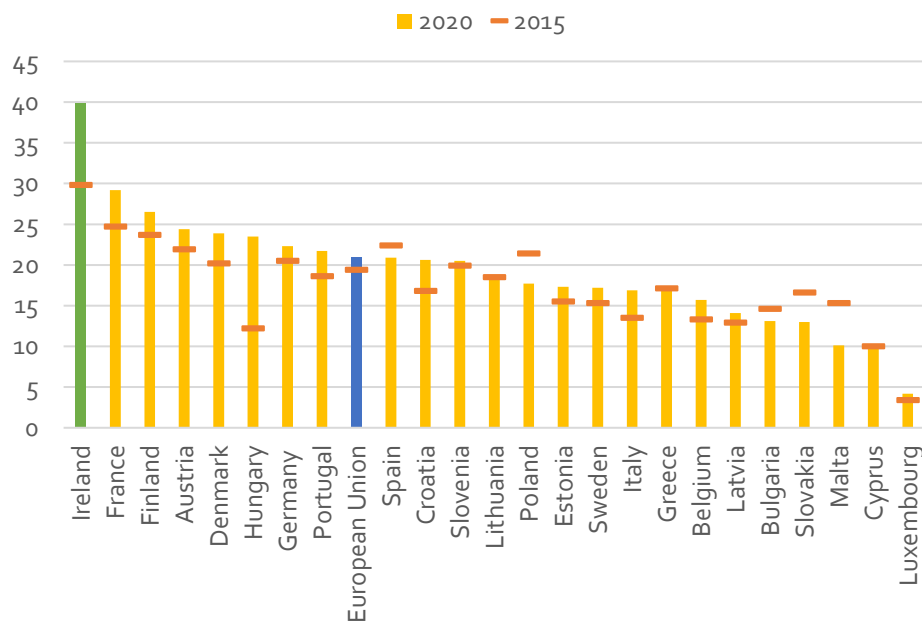
Fig. 4.4.7 STEM as a Percentage of Compulsory Instruction Time at Primary Level⁶²



As a percentage of compulsory instruction time at primary level, Ireland ranks the fourth lowest in the OECD. Some 20.7% of compulsory instruction time is spent on STEM subjects in Ireland compared to the OECD average of 26%.

Source: OECD, Education at a Glance 2020

Fig. 4.4.8 Graduates in tertiary education, in STEM⁶³, per 1000 of population aged 20-29



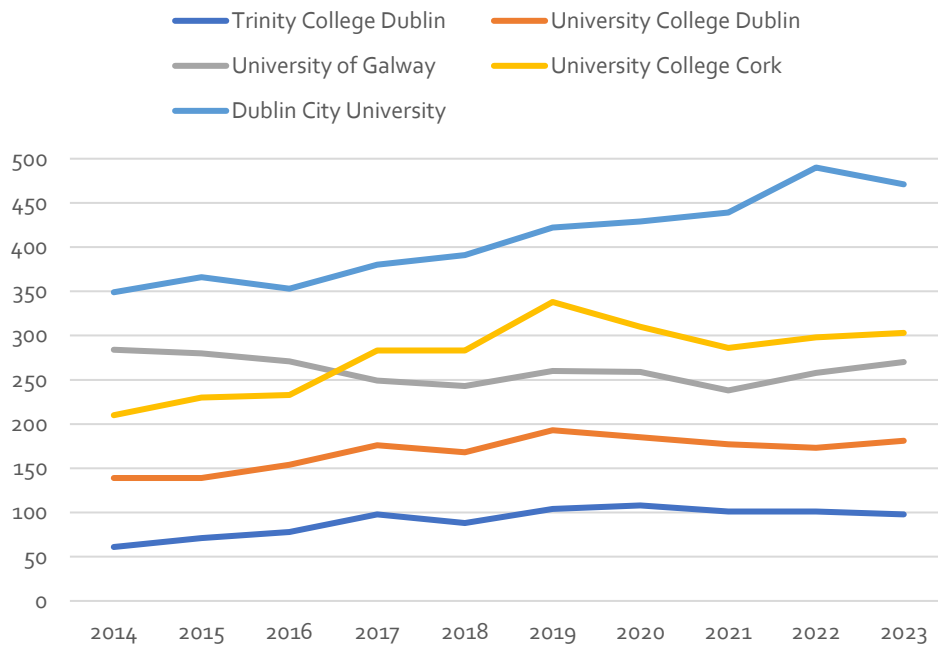
Ireland is the leading EU country in terms of the proportion of STEM graduates per 1,000 of population aged 20-29 in (39.9 in 2020), compared with 21.0 per 1,000 of population for the EU as a whole. Ireland was also the leading country in 2015 with 29.8 STEM graduates per 1,000 of population, compared to the EU average of 19.4.

Source: Eurostat

⁶² STEM is the sum of compulsory education time spent in natural sciences, maths, ICT and technology.

⁶³ Science, math., computing, engineering, manufacturing, construction.

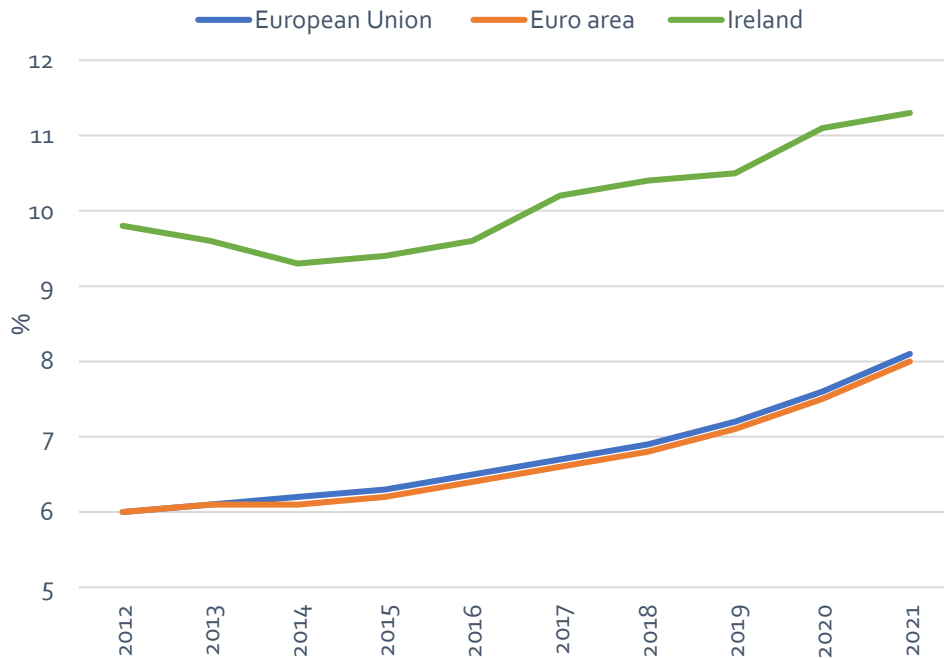
Fig 4.4.9 QS World University Rankings, 2023



The 2023 QS world rankings compare the performance of the world's top 1,400 universities across 100 countries. Trinity College Dublin is Ireland's highest-ranking University at 98th. Across Ireland's top 5 ranked universities, four have fallen down in ranking since 2014 with only University of Galway recording a small gain. The Universities decline in rankings stems largely from a reduction in teaching capacity – due to rising student numbers without a corresponding increase in staffing – and lower research performance.

Source: QS World University Rankings

Fig. 4.4.10 Scientists and engineers as a percentage of active population aged 15-74, 2021

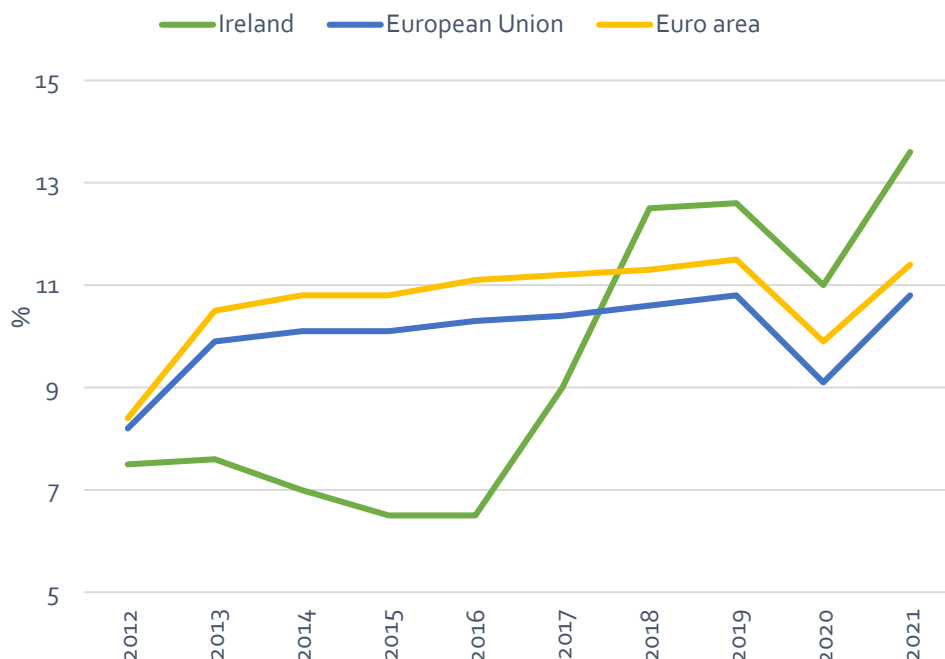


Ireland continues to outperform the euro area and European Union on the number of scientists and engineers as a proportion of the active population. In 2021, 11.3% of the active population in Ireland were classified as scientists and engineers compared to EU (8.1%) and euro area (8%).

Source: Eurostat, Human Resources in Science and Technology

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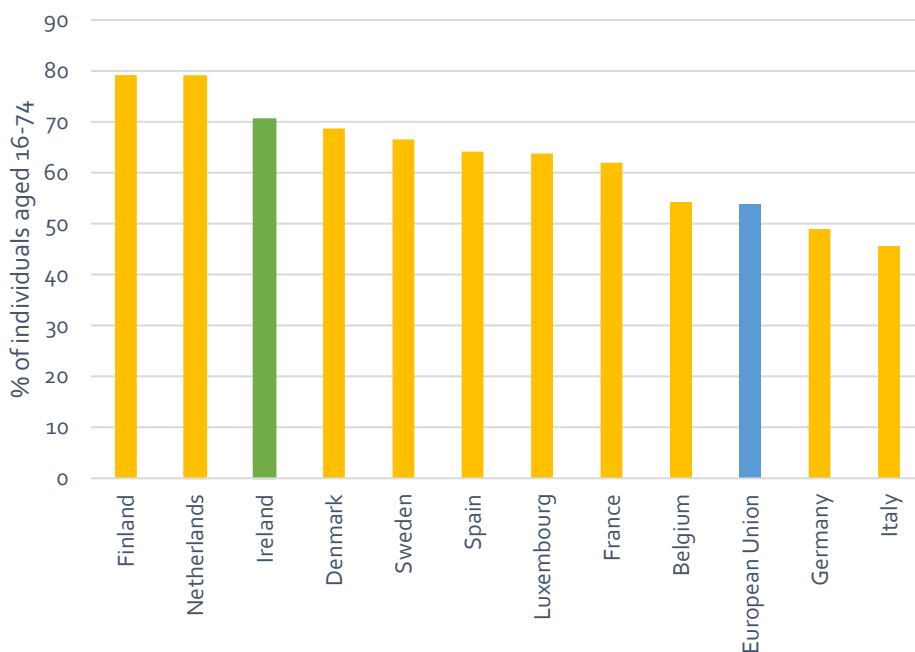
Fig. 4.4.11 Lifelong learning⁶⁴ (as a percentage of population aged 25-64), 2021



In 2021, 13.6% of the population aged 20-64 were in receipt of education or training. This is up significantly from just 6.5 per cent in 2016, but still well below participation rates of 34 per cent in Sweden, 30 per cent in Finland, 26 per cent in the Netherlands and 22 per cent in Denmark. The participation rate in life-long learning as a percentage of the population was on a downward trend (and well below the percentage in the EU and the euro area) until an increase in 2016. Since 2016, the rate has increased, and Ireland has overtaken the EU and euro area averages in upskilling.

Source: Eurostat, Participation Rate in Education and Training

Fig. 4.4.12 Population having at least basic digital skills, 2021



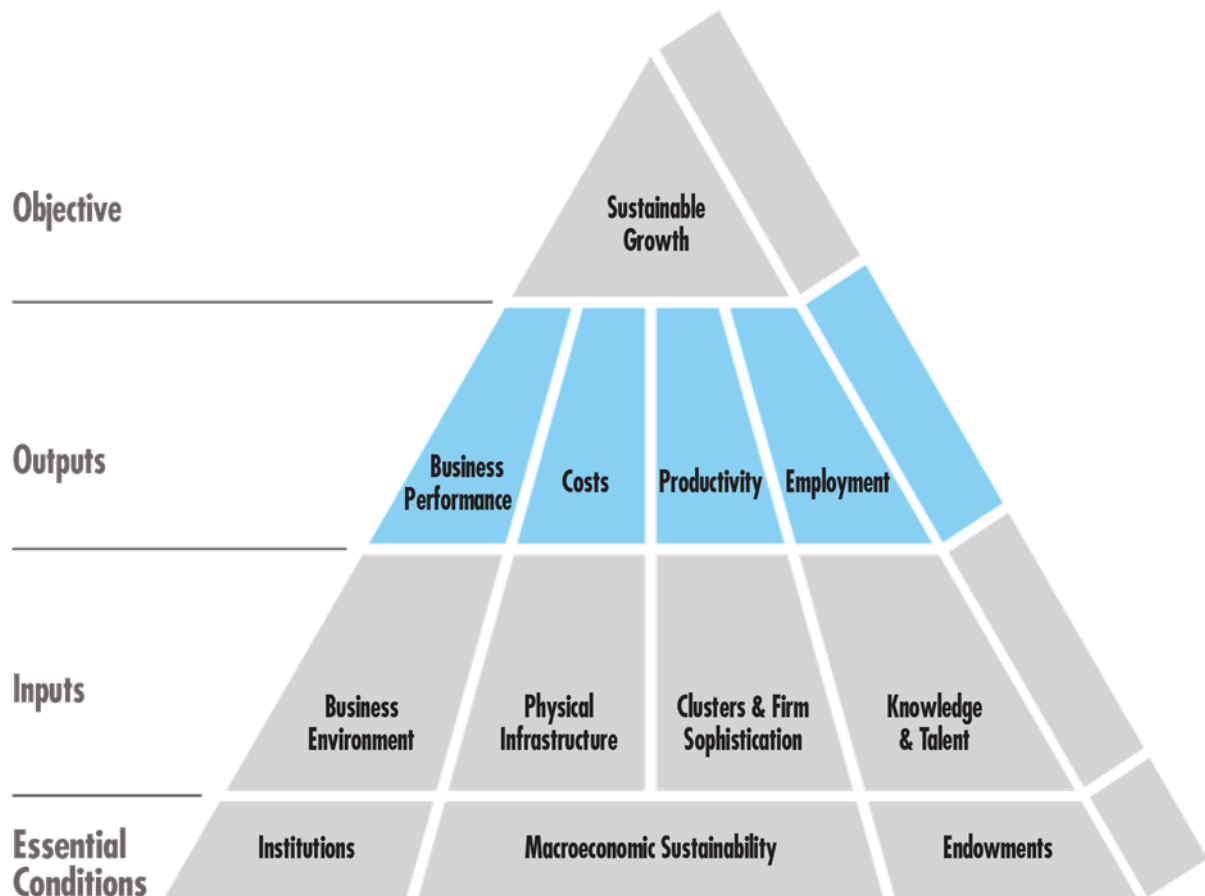
Ireland ranks highly in the EU for Population having at least basic digital skills with the third highest level in the EU behind Finland and the Netherlands. Digital skills level refers to an individual's digital activities and competency across four dimensions - information, communication, content creation and problem-solving. Following the introduction of a new methodology for computing the Digital Skills Indicator as of 2021, Ireland's ranking in the EU has increased from 13th in 2016 to 3rd in 2021.

Source: European Commission, Digital Scoreboard

⁶⁴ Lifelong learning- people in receipt of education and training (both formal and informal)

Chapter 5

Competitiveness Outputs



Competitiveness Outputs

Performance in competitiveness outputs indicate the effectiveness of a country's economic system to transform natural endowments (through competitiveness inputs) into competitive positions. The indicators considered within this tier of the NCPC's competitiveness pyramid are not directly within the control of domestic policymakers, but rather Ireland's performance in these areas is directly related to the quality of previous policies instituted at the input level. The key set of competitiveness output indicators that the NCPC tracks relate to four areas: (i) business performance; (ii) costs; (iii) productivity; and, (iv) employment. These are further outlined below.

Section 5.1 Business Performance

Ireland relies on trade as a principal source of economic growth and improvements in living standards. As a small, open economy largely dependent on international trade and markets, it is very exposed to changes in global economic conditions. This section examines data relating to exports and imports of Ireland's goods and services from the OECD and CSO Trade Statistics. Indicators that measure how well business is performing include trade as a percentage of GDP, goods and services trade by trading partners and commodity/category and the value of goods exports by enterprise concentration.

Section 5.2 Costs

Cost competitiveness is critical to ensuring that enterprises based in Ireland can compete successfully in international markets. This section examines a broad range of cost related indicators, including inflation and its underlying contributors, consumer price levels and industry producer levels. A variety of indicators looks at costs to business, including employee compensation, electricity and interest rates⁶⁵. The cost of housing is also considered within this section, including residential property and commercial property. The data within this section is taken from sources including Eurostat, CSO, the Central Bank of Ireland, and the OECD.

Section 5.3 Productivity

Productivity is the primary driver of an economy's competitiveness over time, where the ultimate goal is to have higher standards of living and better public services. This section examines a range of indicators relating to labour productivity levels, including GNI*/GDP per hour worked, labour productivity growth, and gross value added. Productivity measures are looked at under various headings, such as for the Irish and Foreign sectors, and SMEs and large firms. The contribution of multifactor productivity and capital deepening are also included. Data is taken from the OECD Compendium of Productivity indicators and the CSO's productivity data.

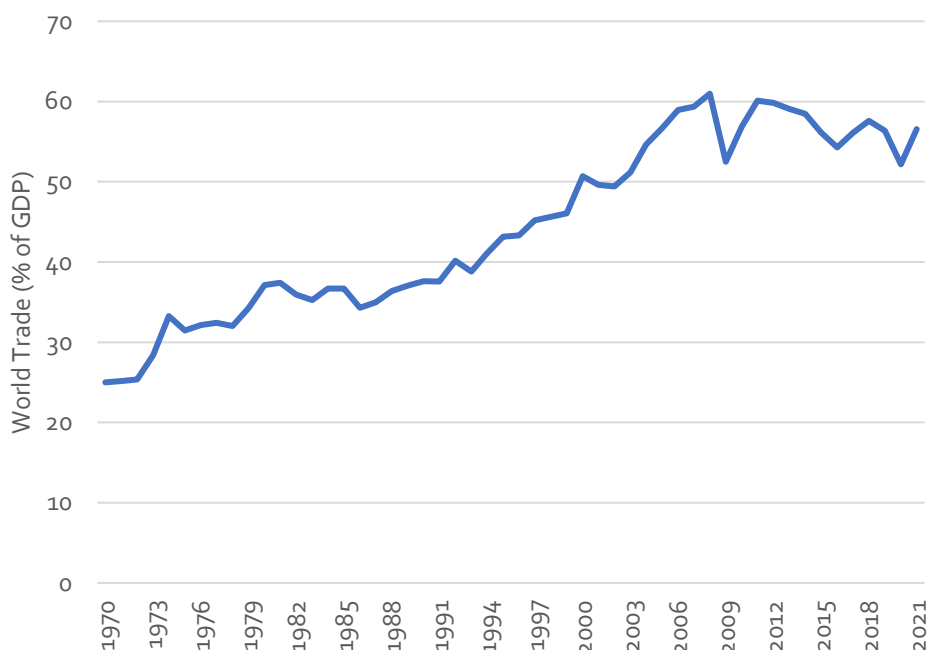
Section 5.4 Employment

An efficiently functioning labour market is crucial for competitiveness to ensure that everyone faces the appropriate incentives to use their time in the most effective and productive way possible. This section examines various aspects of Ireland's labour market, including levels of employment, unemployment, long-term unemployment and labour force participation by gender in Ireland over time. Other important measures of employment which are looked at include regional unemployment, youth unemployment and job vacancy rates. Data in this section is mainly taken from the Labour Force Survey.

⁶⁵ The NCPC also consider factors such as legal, insurance, and time delays associated with planning as costs to business. Indicators associated with these areas are not included in this section due to data availability.

5.1 Business Performance

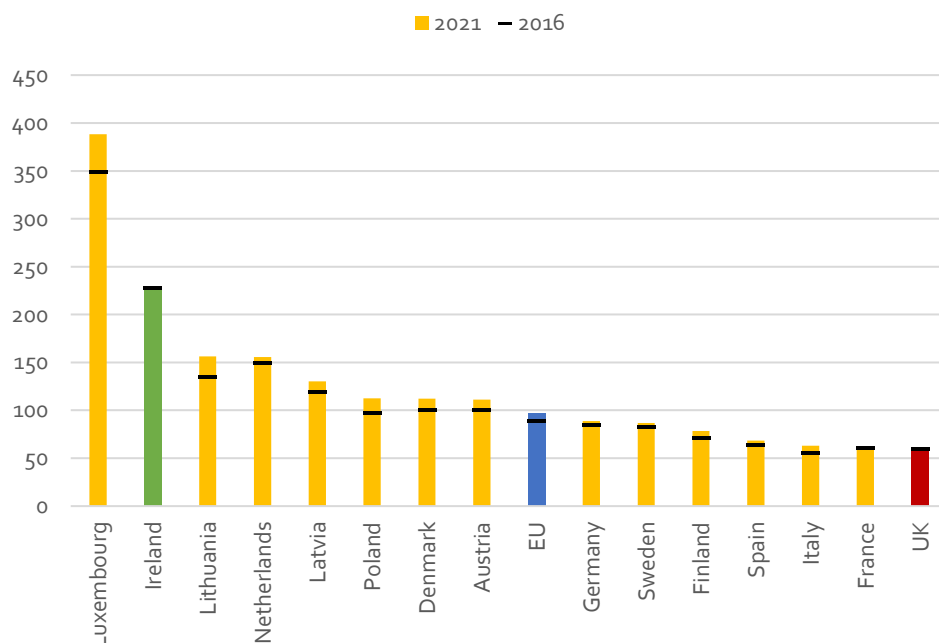
Fig 5.1.1 World Trade as a percentage of World GDP



Source: World Bank national accounts data, and OECD National Accounts data files

Since the Financial Crisis, the pattern of increased globalisation has not continued, reinforced in recent years by the impact of COVID-19 which had an even larger impact on world trade. While global trade rebounded in 2021, its ratio to GDP remains well below its 2008 peak. Furthermore, patterns of trade have changed over time with inputs such as raw materials and components often crossing borders several times before final goods are completed. These Global Value Chains (GVCs) play an increasingly important role in international trade.⁶⁶

Fig. 5.1.2 Exports and Imports as a percentage of GDP



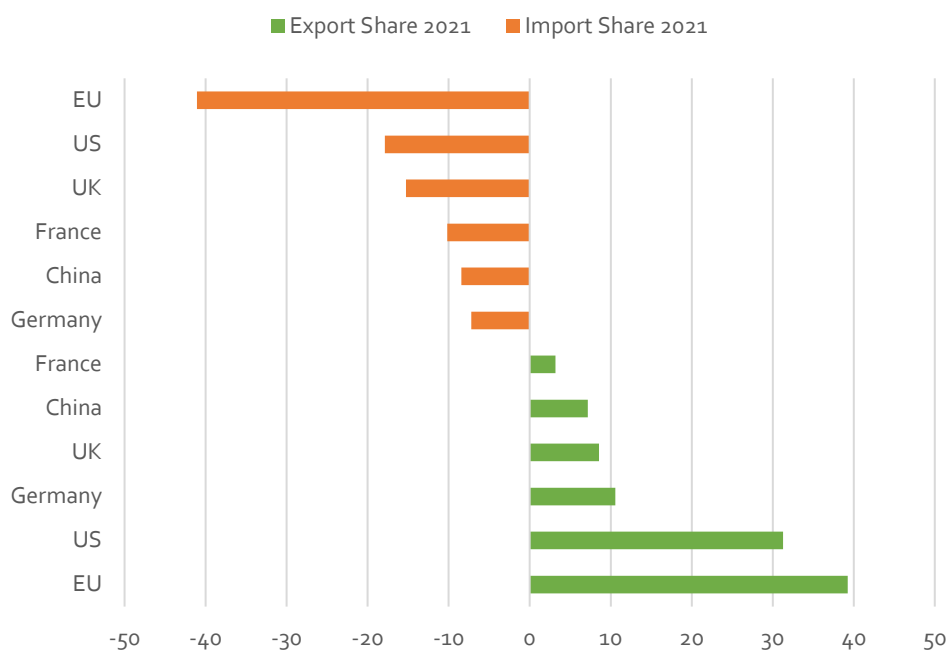
Source: OECD, Trade Statistics

Exports and imports of goods and services, as a percentage of a country's GDP, reflects both the degree of an economy's openness and of its size, with a higher ratio expected for smaller, more open countries. Ireland's trade as a percentage of GDP far exceeds neighbouring EU countries, with the exception of Luxembourg. In 2021, total trade as a percentage of GDP was 229% in Ireland, above the average for EU countries (97%) and the UK (59%). Ireland's total trade as a percentage of GDP continues to grow, increasing by 0.8% between 2016 and 2021.

⁶⁶ [Global value chains and trade - OECD](#)

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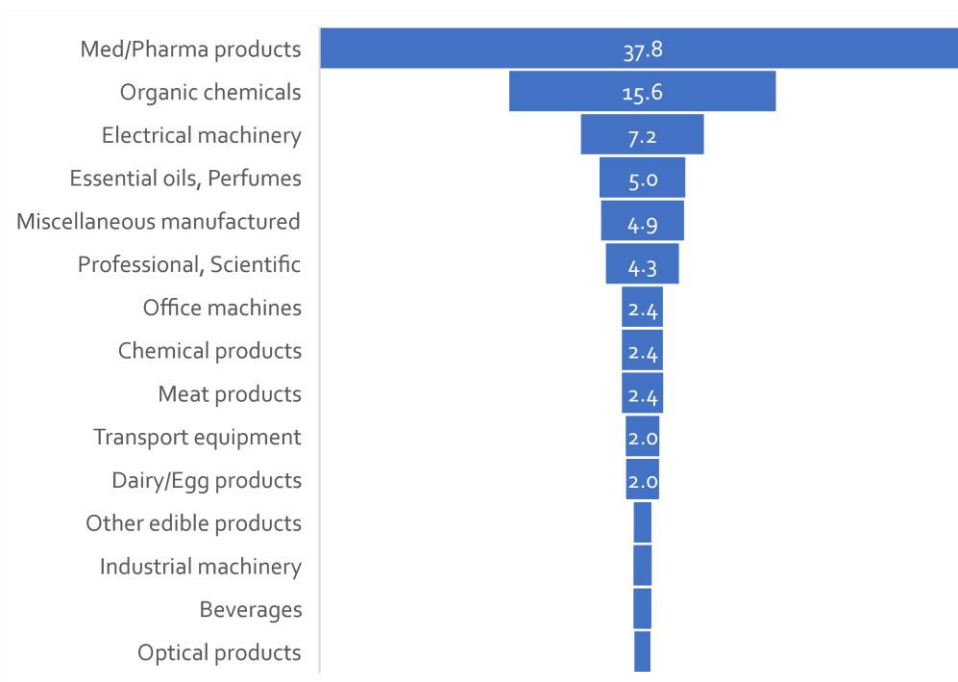
Fig 5.1.3 Irish goods exports and imports, percentage share by trading partners, 2021



As would be expected, intra-EU trade accounts for the largest proportion of Ireland's global trade. In 2021, trade with the EU is very balanced, accounting for c 40% of both imports and exports. Within the EU, Germany is our most important trading partner. On a single country basis, the US is the largest source of imports (17.8%) and a major market for exports (31.3%). The UK remains a significant source of imports (15.3%), but a much smaller market for our exports (8.6%). Ireland's share of overall trade to the UK has reduced since Brexit. In 2019 the UK accounted for a larger share of imports (21%) and exports (8.9%).

Source: CSO, Trade Statistics

Fig. 5.1.4 Percentage Share of Goods Exports by Commodity (Top 15 Commodities), 2021

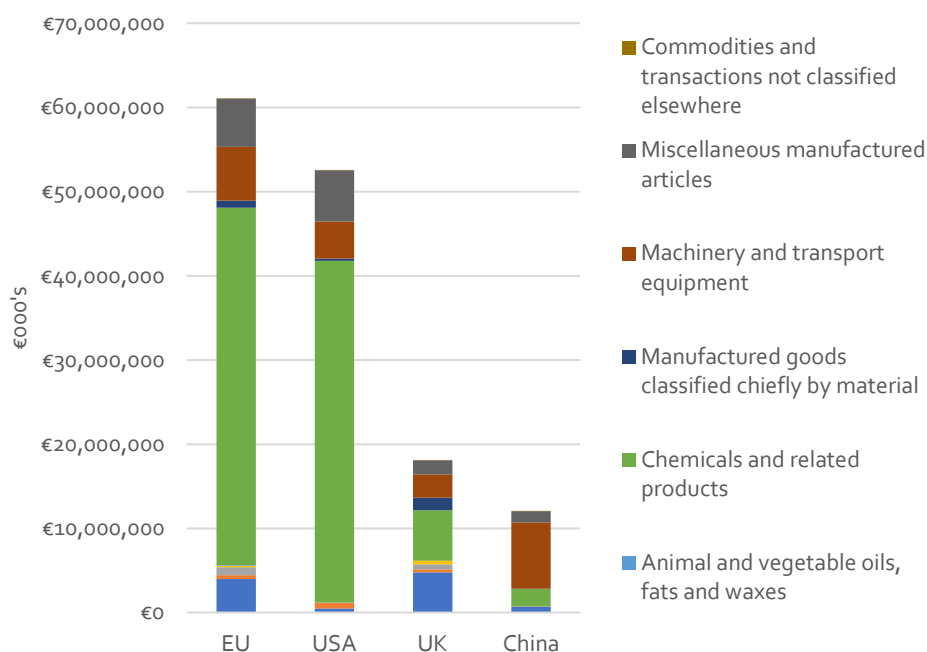


This figure reflects the consistent strategic focus of Irish enterprise policy on growing high-tech sectors over the past five decades. Two sectors, pharmaceutical products and organic chemicals, continue to account for over half of Ireland's total goods exports. Despite the dominance of these two sectors in the trade statistics, other sectors account for higher levels of employment and output.

Source: CSO, Trade Statistics

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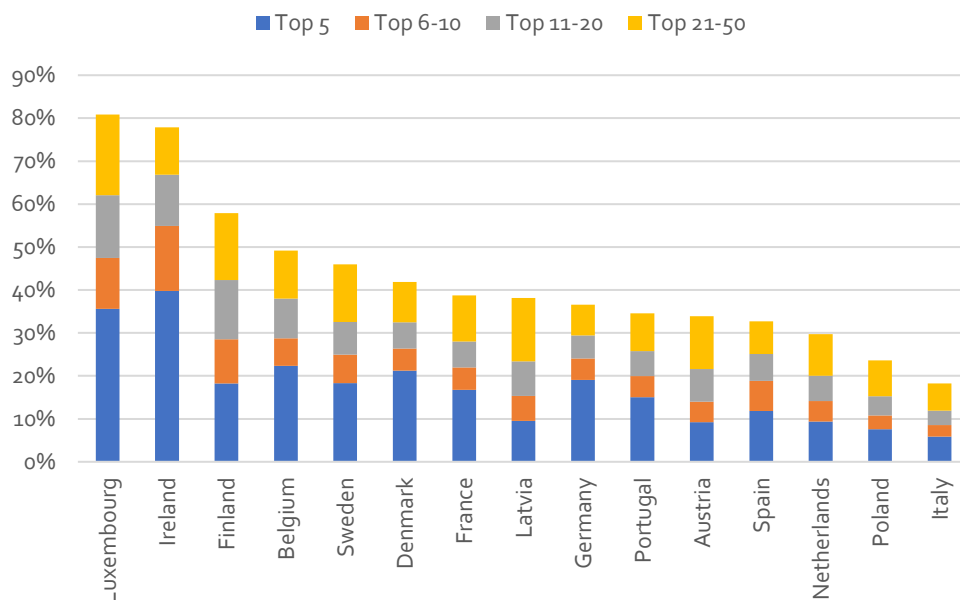
Fig. 5.1.5 Ireland's Goods Exports by Commodity and Trading Partner, 2021



In 2021 Ireland's three largest goods export markets were the EU (€61.7 bn), the USA (€52.6 bn) and the UK (€18.1 bn). Chemicals and related products by far accounted for the largest share of exports to the EU and USA. Chemicals and related products and Food and live animals accounted for similar size share of exports to the UK, while Machinery and Transport equipment accounted for the largest share to China. The exports share of Chemicals and related products to the EU has particularly increased in the past decade.

Source: CSO, Trade, Exports Value by Country and Commodity Group

Fig. 5.1.6 Value of goods exports by enterprise concentration, 2020

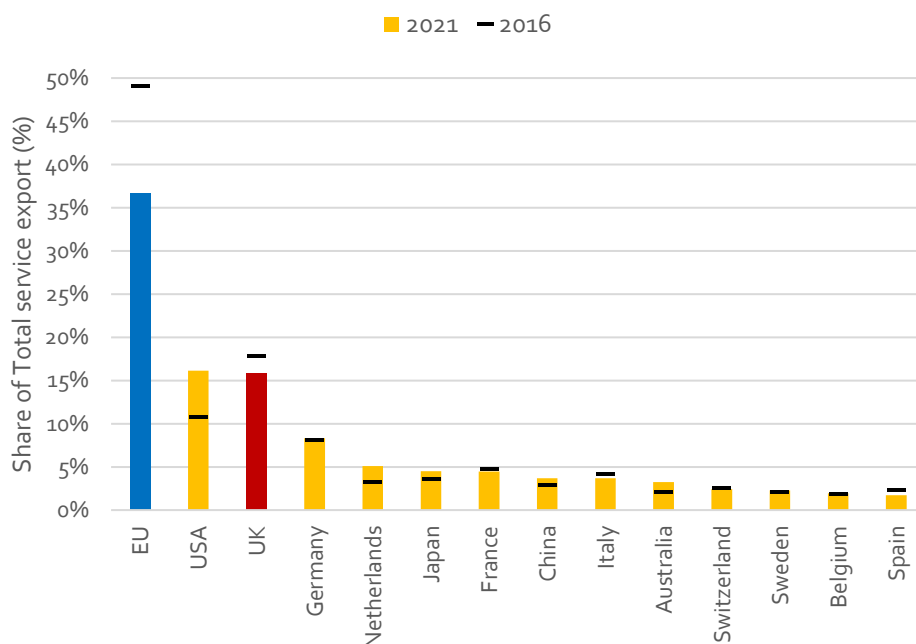


Ireland's goods exports are dominated by the activities of a small number of firms. In 2020, the top five exporters in Ireland accounted for 40% of total goods exports – the most concentrated level of trade among top 5 exporting firms across the euro area. The top 10 firms accounted for 55% of Ireland's exports in 2020 – a significant increase from 40% in 2017 and indicating that Ireland's goods exports have become more concentrated on a firm level basis.

Source: Eurostat, Concentration of Trade

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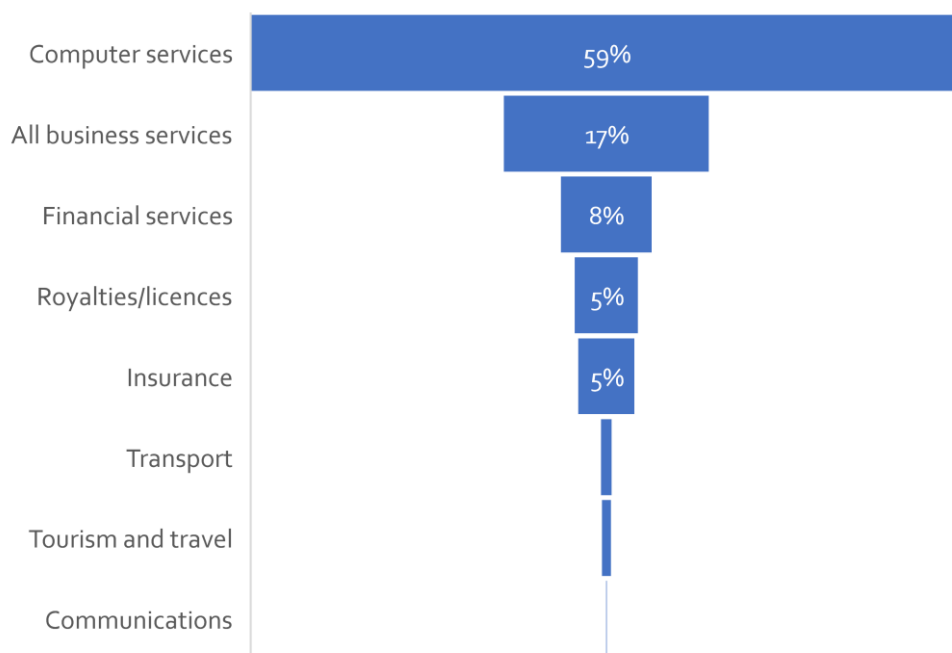
Fig. 5.1.7 Services Exports by Principal Trading Partner, Ireland, 2021 and 2016



While the EU remains the largest recipient of Irish service exports, the share of services exports going to the EU has fallen from 49.1% in 2016 to 36.7% in 2021 as Ireland has broadened its export base outside of the EU. Growing markets are USA, China, Japan and Australia. Although the share of exports to the UK has also fallen from 17.8% to 15.8%, it still remains one of Ireland's most important trading partners, notwithstanding reductions since Brexit.

Source: CSO, Trade, Exports of Services by Geographic Location

Fig. 5.1.8 Services Trade by Principal Category, Ireland, 2021⁶⁷



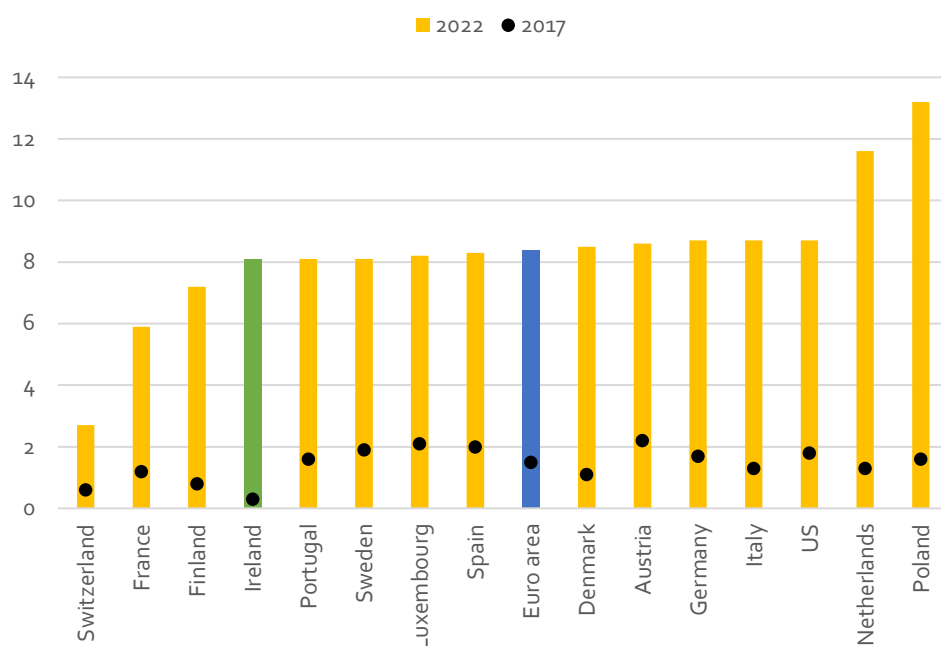
Ireland's service trade is even more concentrated by sector than its goods trade. Computer services accounted for 59% of total service exports in 2020 (up from 43% in 2016), with business services in second place, accounting for 17% in 2020. Financial services and insurance accounted for 8% and 5% respectively. The concentrated nature of Ireland's services trade leaves Ireland exposed to sector shocks, particularly in the computer services sector, as has been apparent since early 2023.

Source: CSO, Trade, Exports of Services by Component

⁶⁷ All business services - Merchanting, Other Trade related services, Operational leasing, Legal, Accounting and other professional services, Advertising and market research, Research and development, Architectural engineering and other technical services, Management services between affiliates, Trade related services, Other.

5.2 Costs

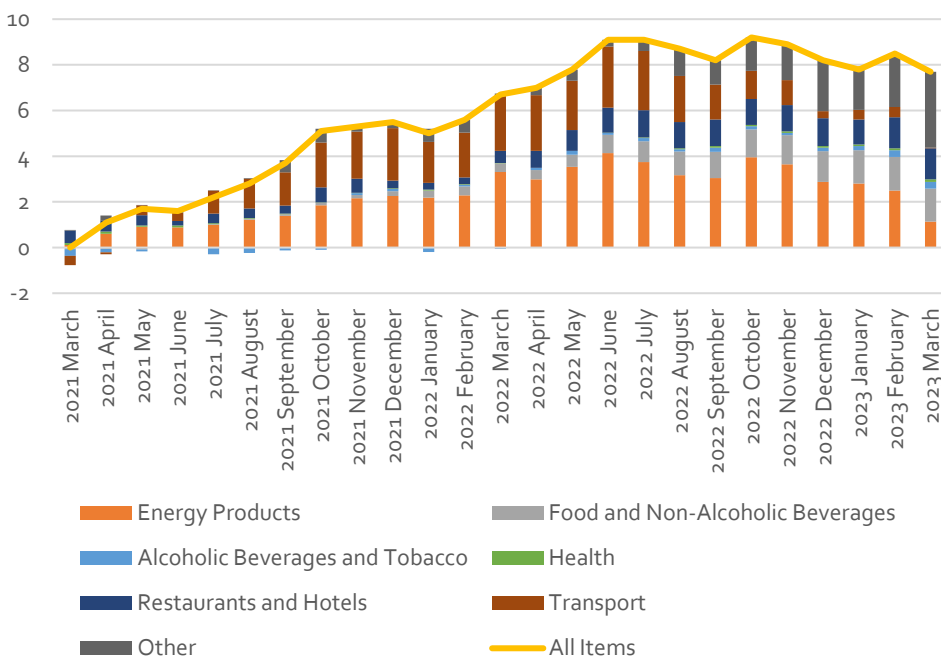
Figure 5.2.1 Harmonised Index of Consumer Prices (HICP)⁶⁸, Rate of Change, 2017, 2022



In 2017 the rate of change in prices in Ireland was the lowest of all countries shown in Figure 5.2.1. Prices across most countries have experienced significant rises since 2021, on foot of the recovery from COVID-19 and the Russian invasion of Ukraine. The HICP in Ireland was 8.1% in 2022, below the euro area average (8.4%) and the US (8.7%). Elevated consumer prices have been a feature across many advanced economies. Central Banks have been following ongoing concerted action through increasing interest rates to tame inflation pressures.

Source: Eurostat

Figure 5.2.2: Contributions to Consumer Price Index (CPI)⁶⁹, Ireland, March 2021 – March 2023



Most of the pick-up in inflation since mid-2021 has been driven by energy products and food. The contribution made by other components was also increasing as energy costs and supply chain disruption begin to feed through into core inflation (excluding energy). Inflation has been slowing in recent months but remains elevated. In the 12 months to March 2023, overall CPI rose by 7.7% (down from 8.5% in February). Of this, 1.1% came from energy products and 1.5% from Food and Non-Alcoholic Beverages.

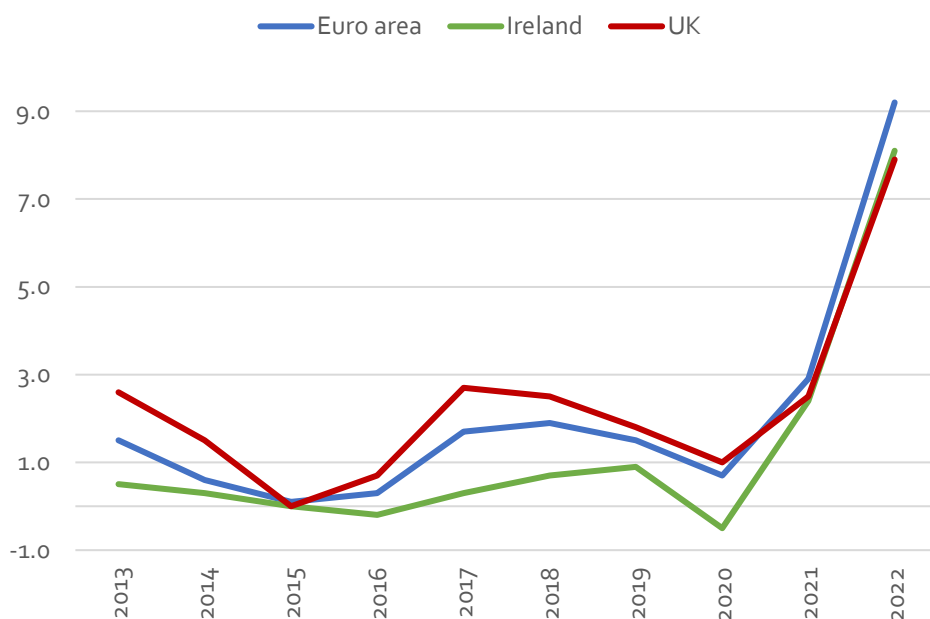
Source: CSO

⁶⁸ The Harmonised Index of Consumer Prices (HICP) is used to measure consumer price inflation in the euro area; it is standardised for comparability. The following items, constituting approximately 6.2% of the Irish CPI expenditure weighting, are excluded from the HICP: mortgage interest, building materials, motor car tax, motor cycle tax, motor car insurance (non-service), contents insurance (non-service), dwelling insurance, union subscriptions, local property tax.

⁶⁹ The Consumer Price Index (CPI) is the official measure of inflation in Ireland. It measures prices for a basket of goods and services in the economy, including food, cars, education, and recreation.

Ireland's Competitiveness Scorecard 2023

Figure 5.2.3 HICP, average inflation rate, Ireland, UK*, euro area, 2013-2022

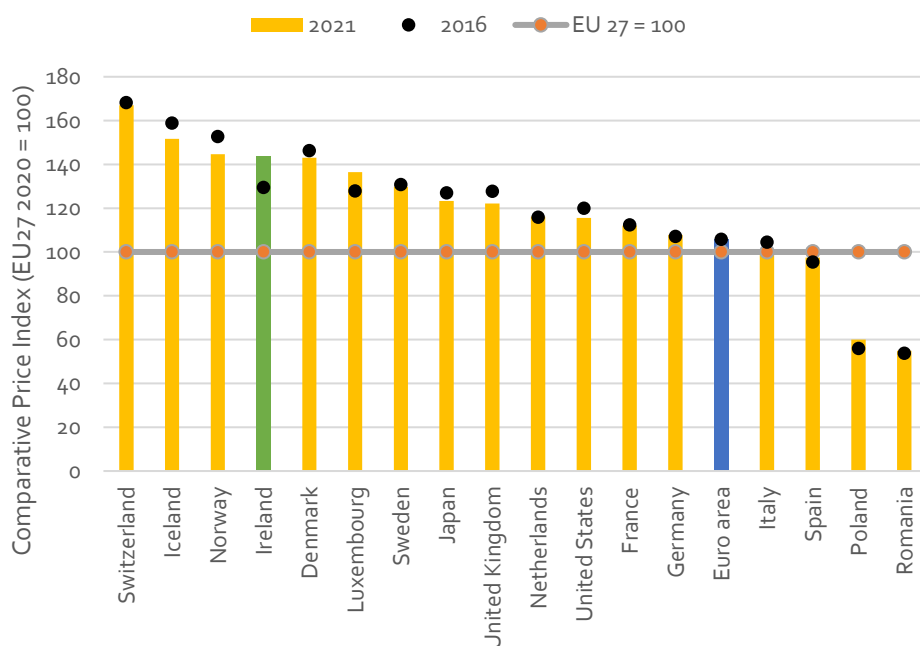


Up to 2022, Ireland's inflation rate has been below the euro area average and below the UK in all years considered (2013-2022) except 2015. This contributed to reducing Ireland's relative price level, which has been historically high (see Figure 5.2.4). However, since 2021, as inflation has risen to record levels in most countries, Ireland can no longer rely on this lower inflation rate to bring down its relative price levels. In 2022, Ireland's average inflation rate (8.1%) was below the euro area average (9.2%) and slightly above the UK average of 7.9%.

Source: Eurostat, Office for National Statistics (ONS).

*UK data 2009 – 2020 is the HICP from Eurostat. UK data from 2021 is the UK CPI from the ONS.

Figure 5.2.4 Comparative price levels of final consumption by private households including indirect taxes, 2021



In 2021, Ireland had the 4th highest consumer price level in Europe, after Switzerland, Iceland and Norway. Irish price levels have increased in the last five years, to now being 44% above the EU level, compared with under 30% above in 2016. Within groups of consumer goods and services, Ireland is the most expensive for alcoholic beverages and tobacco.⁷⁰ Ireland also ranked the second most expensive in Europe (after Switzerland) for housing, water, electricity, gas and other fuels⁷¹.

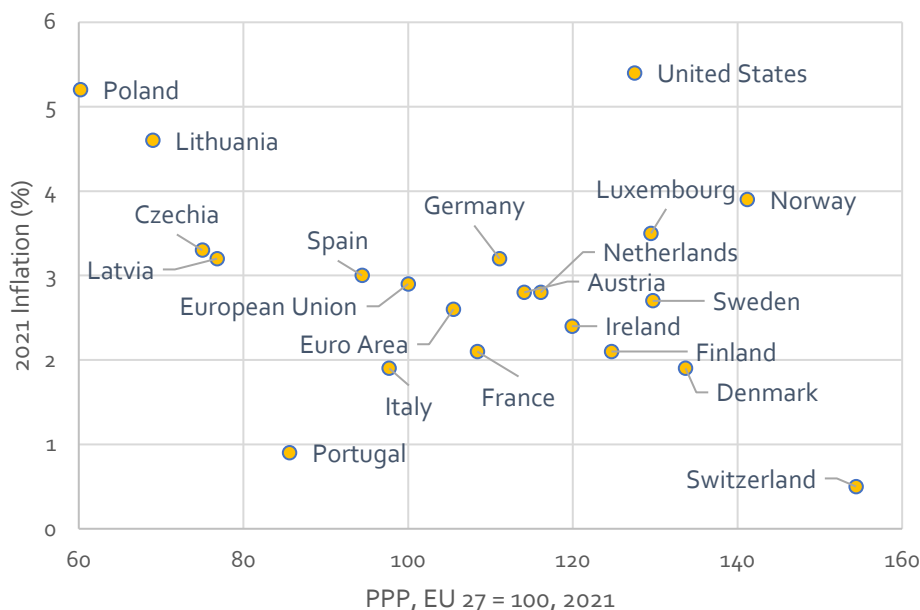
Source: Eurostat

⁷⁰ The highest price dispersion is found for alcoholic beverages and tobacco. This is mainly due to large differences in taxation on these products across the 36 countries.

⁷¹ This is a composite. Other groups include: Food and non-alcoholic beverage; clothing; Footwear; energy (electricity, gas and other fuels); furniture and furnishing, carpets and other floor coverings; household appliances; consumer electronics. personal transport equipment, transport services; communication (services and equipment); restaurants and hotels. Further information: [Comparative price levels of consumer goods and services - Statistics Explained \(europa.eu\)](https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&plugin=1)

Ireland's Competitiveness Scorecard 2023

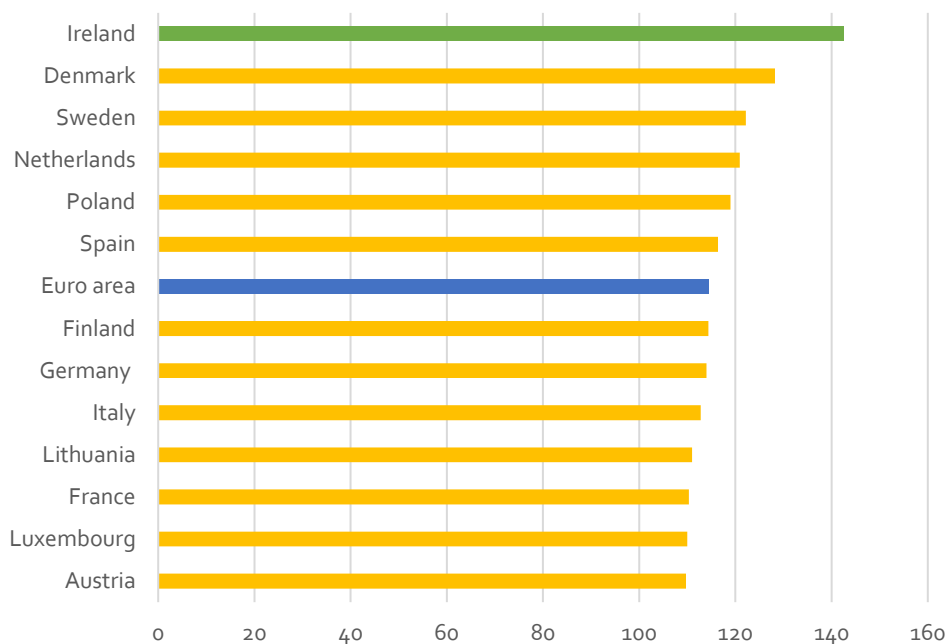
Figure 5.2.5 Consumer price levels, 2021 and inflation rate of change, 2021



This figure brings together both changes in prices (inflation) and the price level, with the loss in cost competitiveness becoming evident for countries in the top right area in the figure. In 2021, Ireland's inflation rate (2.4%) was among the lowest in the EU (2.9%) and below the euro Area average (2.6%). This is up from 0.7% in 2018, and expected to be much higher for 2022, moving Ireland into having a current price profile that may be described as "high cost, rising quickly".

Source: Eurostat

Figure 5.2.6 Comparison of Industry producer prices⁷², domestic market, 2021 (Index 2015 = 100)⁷³



Ireland's industry producer prices have increased at a significantly faster rate than those in the euro area. Increasing by over 40% since 2015, while euro area industry producer price levels rose by under 15% in the same period. This was largely driven by increases in wholesale electricity prices as oil and gas prices soared following the Russian invasion of Ukraine. Government supports have been implemented in Ireland since 2021 to help cushion the impact of these rising price levels on firms⁷⁴.

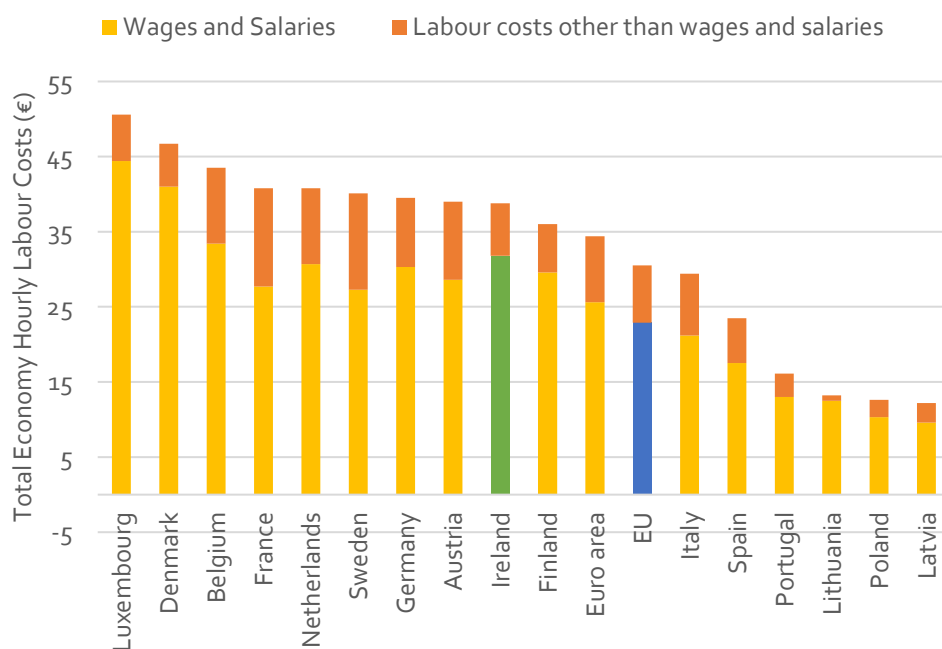
Source: Eurostat

⁷² The industrial producer price index measures the gross monthly change in the trading price of industrial products.

⁷³ Previous iterations of the Scorecard included Services Producer Prices. Data for Ireland is no longer available for this indicator.

⁷⁴ These Government subsidies are not captured in the data.

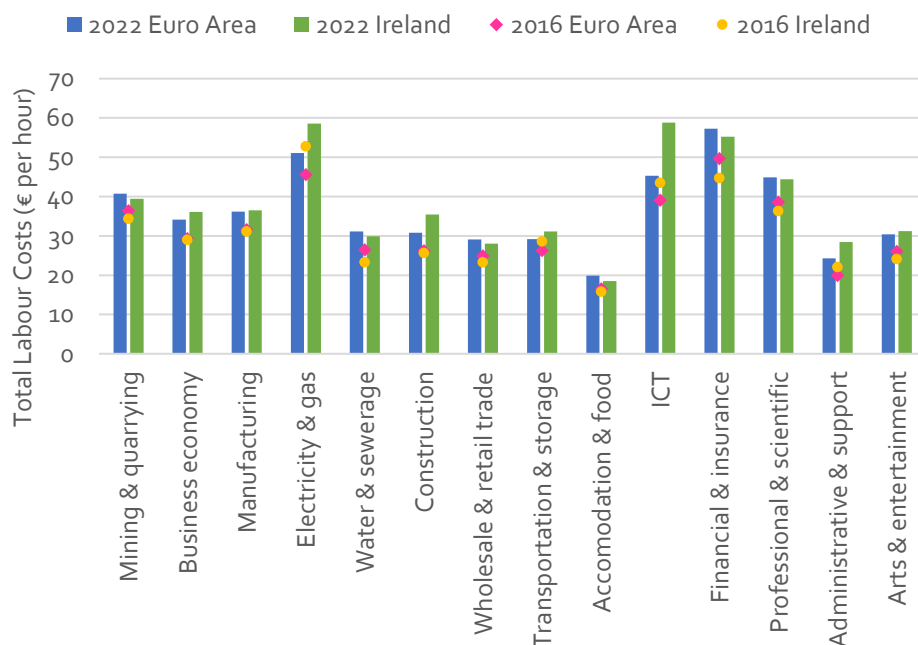
Figure 5.2.7 Total economy employee compensation and other costs (hourly) ^{75 76 77}, 2022



'Labour costs' refer to employee compensation (i.e. wages and salaries) plus non-wage costs such as employers' social contributions. Ireland's total labour costs averaged €38.8 per hour in 2022, higher than the euro area average of €34.4, and the EU average of €30.5. Ireland's non-wage costs (€7.0) are lower than the euro area average (€8.80), however are up significantly since 2021 (€2.90).

Source: Eurostat

Figure 5.2.8 Employee Compensation (hourly), Business Economy, Detailed NACE sectors, 2022



In 2022 Ireland's hourly labour costs exceeded the euro area average in manufacturing, electricity & gas, transportation & storage, ICT and administrative & support sectors - largely the same pattern as 2016. The significant differences relate to hourly labour costs in accommodation & food which fell by a greater amount than the euro area average in 2022, and in ICT where they rose by a greater amount than the euro area average. This reflects Ireland's dual economy.⁷⁸ Ireland's construction sector also saw a greater increase in labour costs than the euro area average in 2022.

Source: Eurostat

⁷⁵ 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.

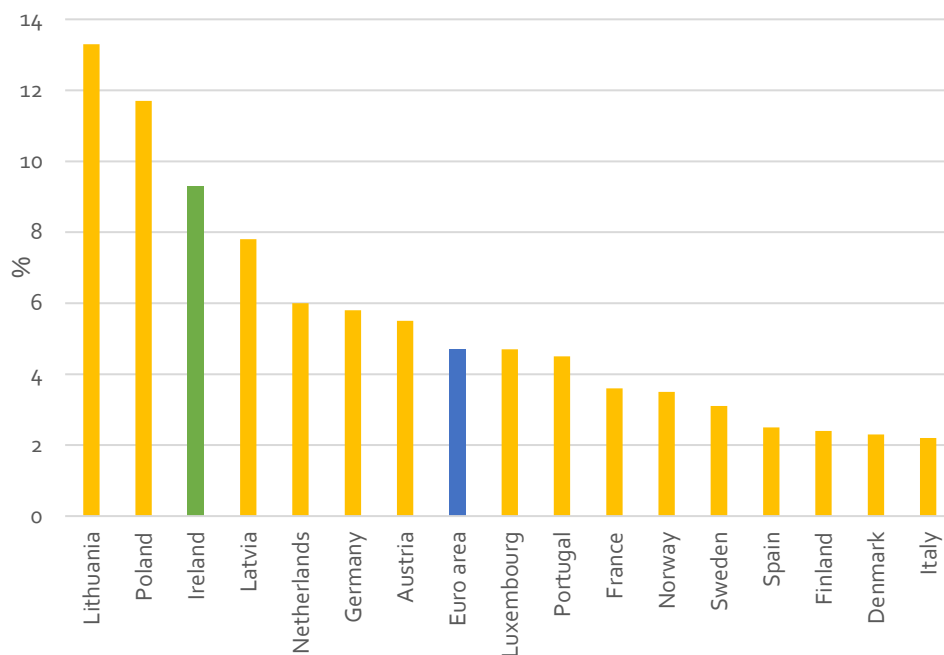
⁷⁶ Wages and salary costs include direct remuneration, bonuses, and allowances paid by an employer in cash or in kind to an employee in return for work done, payments to employees saving schemes, payments for days not worked and remuneration in kind such as food and drink. Labour costs other than wages 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.

⁷⁷ 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.

⁷⁸ The dual economy refers to Ireland's global, export-oriented multi-national sector (which includes the ICT sector) and its more domestically oriented, labour intensive sector dominated by small and medium-sized enterprise (SMEs) (which includes the Accommodation and Food sector).

Ireland's Competitiveness Scorecard 2023

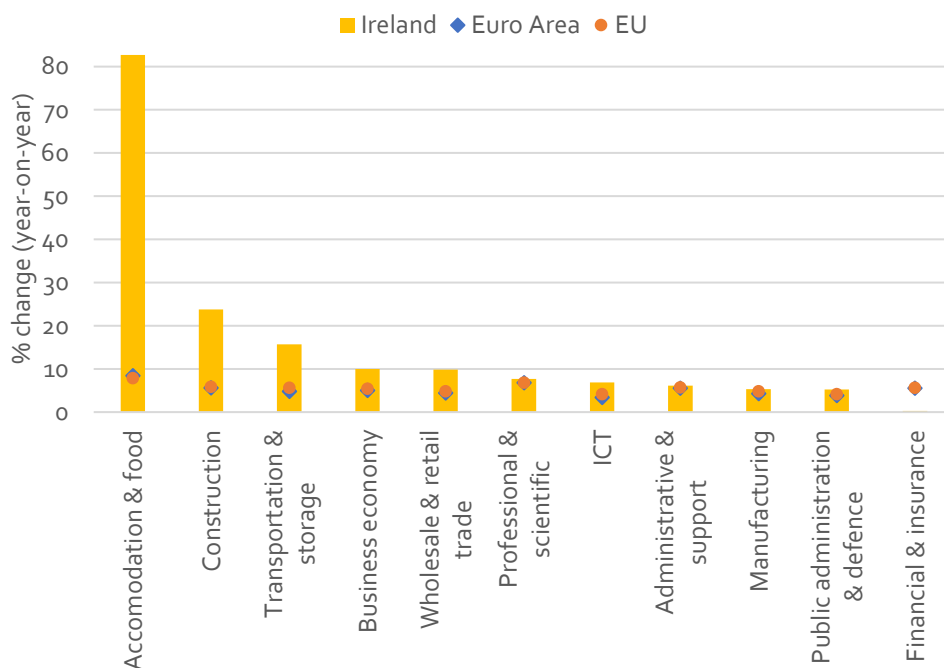
Figure 5.2.9 Growth in Hourly Labour Costs ⁷⁹, 2022



Between 2021 and 2022, Ireland's hourly labour costs increased by almost twice the euro area average (9.3% versus 4.7%). This growth may reflect effects emerging from wage supports implemented across 2020-2021, particularly in the Accommodation and food sector (see Figure 5.2.10). Lithuania and Poland experienced larger increases but coming from a very low base, as per Figure 5.2.7. The rate of growth in Ireland's labour costs since 2016 has broadly been in line with the EU and Euro area (see Figure 5.2.11).

Source: Eurostat

Figure 5.2.10 Growth in labour costs⁸⁰, by economic sector, annual percentage change, 2022



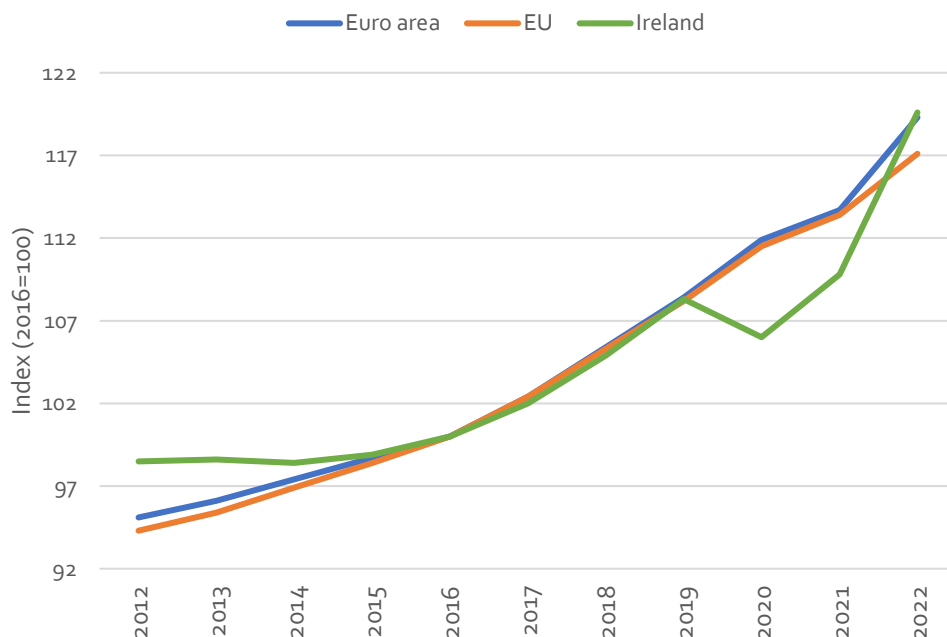
Growth rates of labour costs/employee compensation vary by sector, reflecting different supply, demand and productivity conditions. In 2022 these costs increased in Ireland by more than the EU and euro area averages in all sectors. The large increase in Accommodation & food illustrates the recovery following the impact of COVID-19 on this sector in 2021, when growth in labour costs fell by 17.8%. The construction sector has also had a relatively large percentage increase, following a rise in labour costs in this sector (see Figure 5.2.8).

Source: Eurostat

⁷⁹ National currency. Includes wages and salaries and labour costs other wages and salaries.

⁸⁰ Labour cost for LCI (compensation of employees plus taxes minus subsidies).

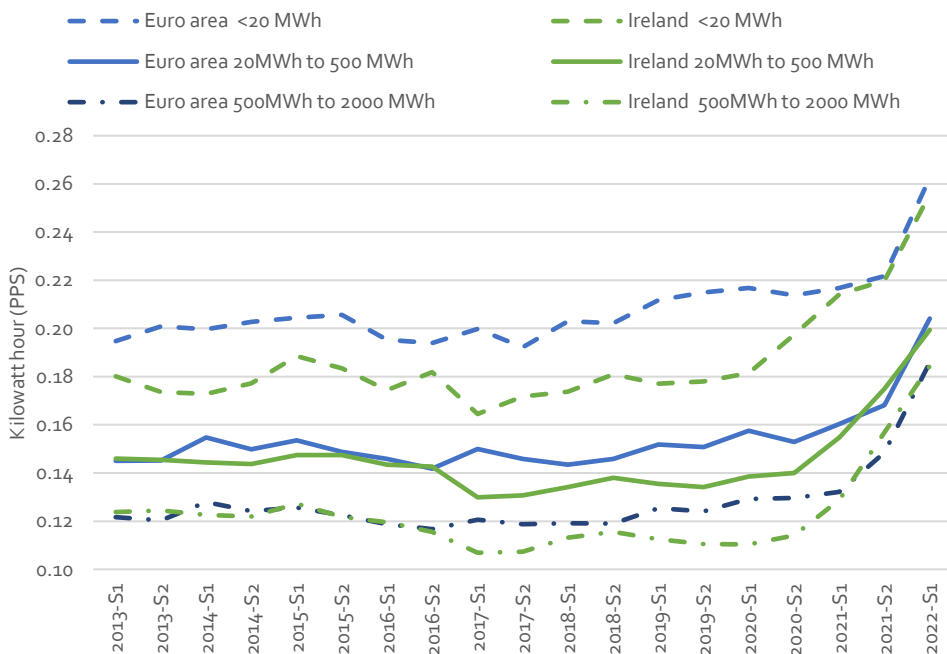
Figure 5.2.11 Labour costs index, 2012-2022



Irish nominal labour costs have followed a similar trend to labour costs in the EU and euro area since 2015. In 2020 the Irish Government introduced schemes to support those whose income has been affected due to COVID-19. This resulted in a fall in Ireland's labour costs⁸¹. Since these subsidies unwound in 2021, labour costs started rising again and in 2022 labour costs in Ireland were above the European Union and the euro area averages.

Source: Eurostat

Figure 5.2.12 Non-household electricity prices, low consumption bands (excluding VAT and other recoverable taxes and levies)⁸², 2013 – 2021



Electricity prices are of particular importance for international competitiveness, as electricity usually represents a significant proportion of total energy costs for businesses. Irish prices have largely followed a similar trend to average euro area prices since 2013. Since 2021, Irish and euro area prices have experienced significant increases, driven by reduced gas supply as a result of the Russian invasion of Ukraine. Irish prices were marginally lower than euro area prices on average in the second half of 2022.

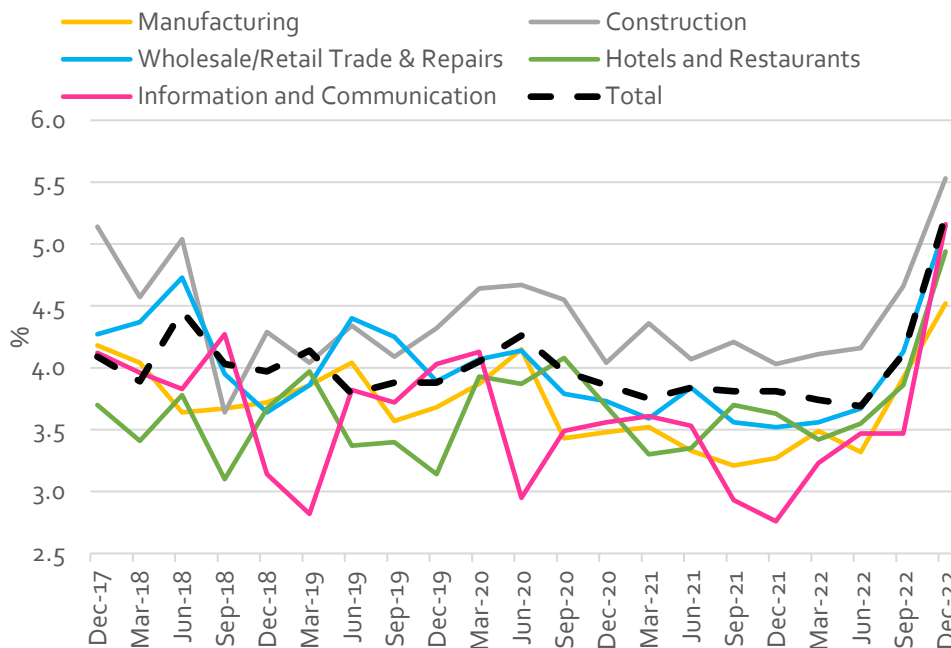
Source: Eurostat

⁸¹ As per Eurostat, it is important to note that labour cost statistics only record the governmental support schemes that are channelled through employers and transit through the accounts of the enterprise. The support measures introduced by EU governments varied in scope, intensity and time span, depending on how the COVID-19 pandemic affected each national economy. This limits inference regarding EU and Irish labour costs over the period 2020-2021.

⁸² Non-household consumers are defined as medium-sized consumers with an annual consumption up to 2 000 MWh. Until 2016, the domain of non-household consumers was defined as industrial consumers, consequently reporting authorities could include other non-household consumers.

Ireland's Competitiveness Scorecard 2023

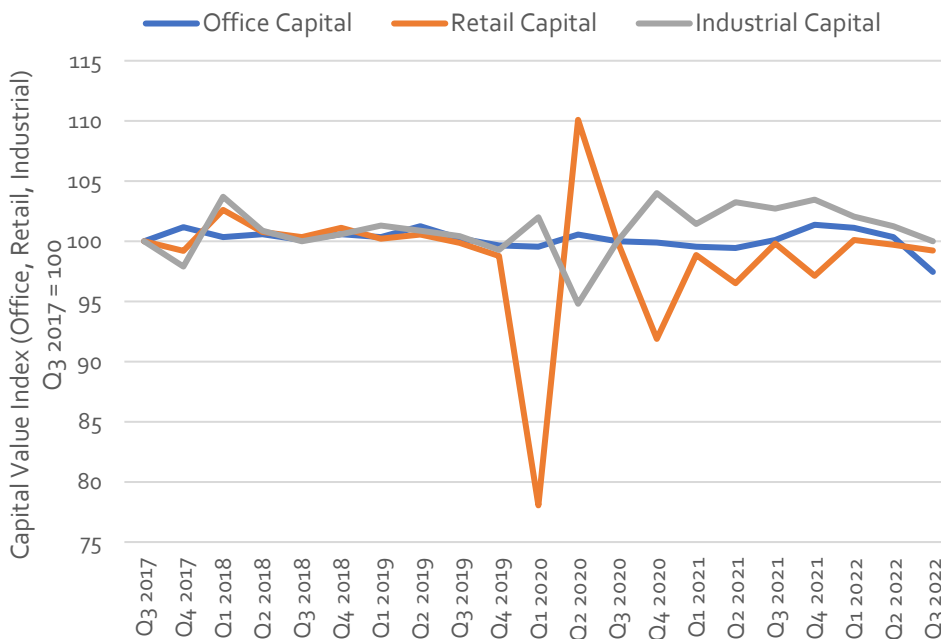
Figure 5.2.13 Interest Rates on Gross New Lending for Irish SMEs, selected sectors



Following a period of decline between 2020 and 2022, the total interest rate on gross new lending facing SMEs has been rising again since June 2022, following interest rates hikes by the ECB to curb inflation. The cost of borrowing across all sectors has increased significantly in December 2022 as shown in Figure 5.2.13. Lending costs for construction have remained elevated compared to other domestic sectors. Higher borrowing costs can have significant implications for SMEs when they operate on tight margins.

Source: SME and Large Enterprise Credit and Deposits, CBI

Figure 5.2.14 Quarterly change in Irish commercial property markets , Q3 2017-Q3 2022^{83 84}



Following rising values since 2017, growth in overall commercial property values has slowed more recently as investors face rising inflation, tighter financial conditions and an uncertain economic outlook. The value of retail capital declined significantly in the wake of COVID-19 restrictions, and remains well below previous values. Office capital and industrial capital both grew in the four quarters to Q3 2022 (0.1% and 2.3% respectively), but declined in the office market in Q3 2022.

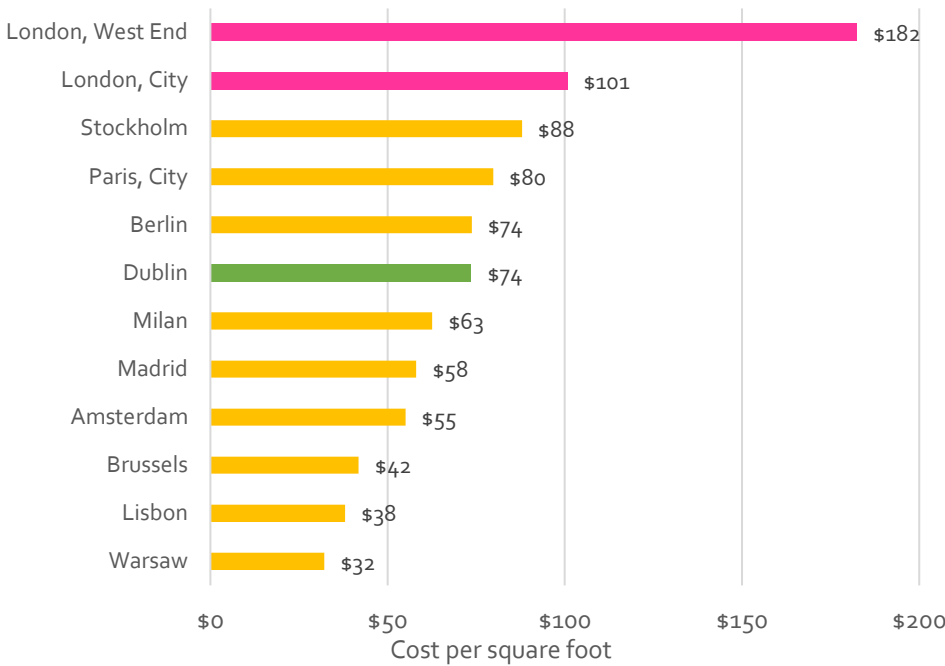
Source: Jones Lang LaSalle, Irish Property Index

⁸³ The JLL Irish Property Index, which JLL has undertaken since 1969, measures returns on direct investment in property and represents a typical institutional investment portfolio. The portfolio, worth approximately €766m, is weighted 57% Offices, 17% Retail, 13% Industrial, and 13% Residential. This data has been gathered by JLL using their own data on prices, rents and transactional market activity.

⁸⁴ Rebased to 100 from Q3 2017 using NCPC's own calculations.

Ireland's Competitiveness Scorecard 2023

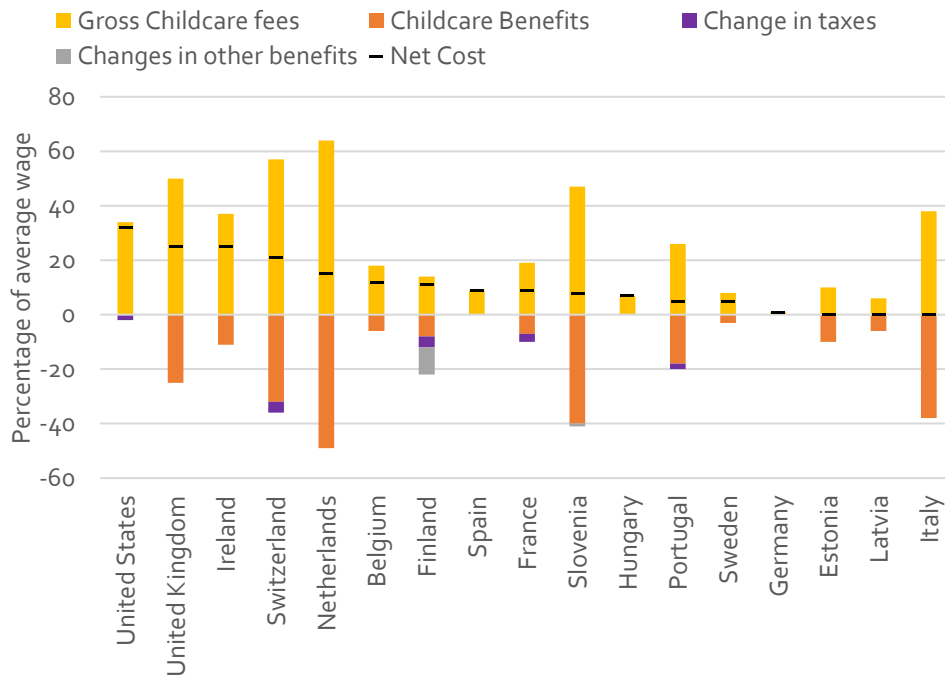
Figure 5.2.15 Cost of renting a premium office unit, \$ per square foot per year, Q3 2022⁸⁵



Relatively high rental rates for office space reduce a location's attractiveness as a base for services. In Q3 2022, Dublin was the fifth most expensive city among the European countries bench-marked with the rental price of a premium office unit costing \$74 per square foot on average in Q3 2022. Premium office rents grew globally by 4.8% over the year highlighting ongoing demand for premium office space. It is as yet unclear how increases in remote working will affect demand for office space in the long-term.

Source: Jones Lang LaSalle Premium Office Rent Tracker

Figure 5.2.16 Childcare Costs: Out-of-pocket childcare costs for a two-earner couple family, 2022⁸⁶



Net Irish childcare costs for parents with two children, where both parents earn 67% of the average wage (median), remain amongst the highest in the OECD. In 2022, Irish childcare fees were 37% of the average wage (a slight reduction from 39% in 2019). Childcare benefits in Ireland were 11% of the average wage in 2021 (down from 12% in 2019). This is notably lower than countries with comparable childcare fees such as Italy (childcare benefits were 38% of the average wage).⁸⁷

Source: OECD

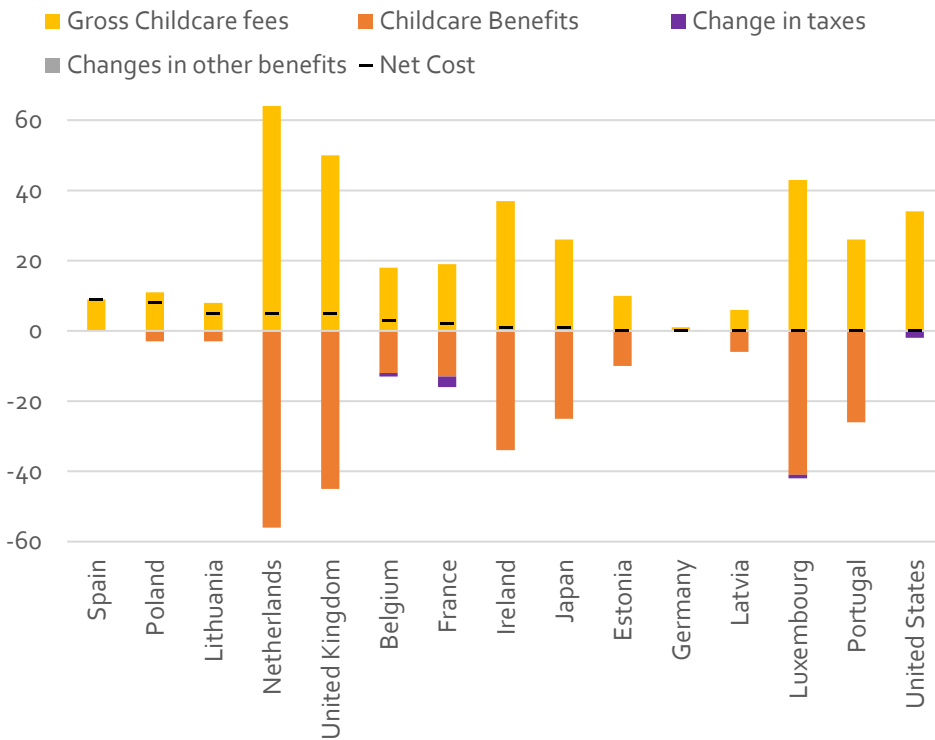
⁸⁵ The Premium Office Rent Tracker (PORT) 2022 ranks occupation costs across 134 major office markets in 116 cities.

⁸⁶ The OECD data does not reflect actual hours of usage, and their comparisons do not factor in the subsidies available to parents. In addition, the data appear to make no allowance for the free ECCE programme hours that the three-year-old could receive in Ireland. [Funding-Model-FINAL-REPORT-2.pdf \(firstsfundingmodel.gov.ie\)](https://www.firstsfundingmodel.gov.ie/funding-model-final-report-2.pdf)

⁸⁷ 2022 data predate reforms to NCS in 2023 (i.e. the increase in the minimum hourly subsidy under NCS from €0.50 to €1.40).

Ireland's Competitiveness Scorecard 2023

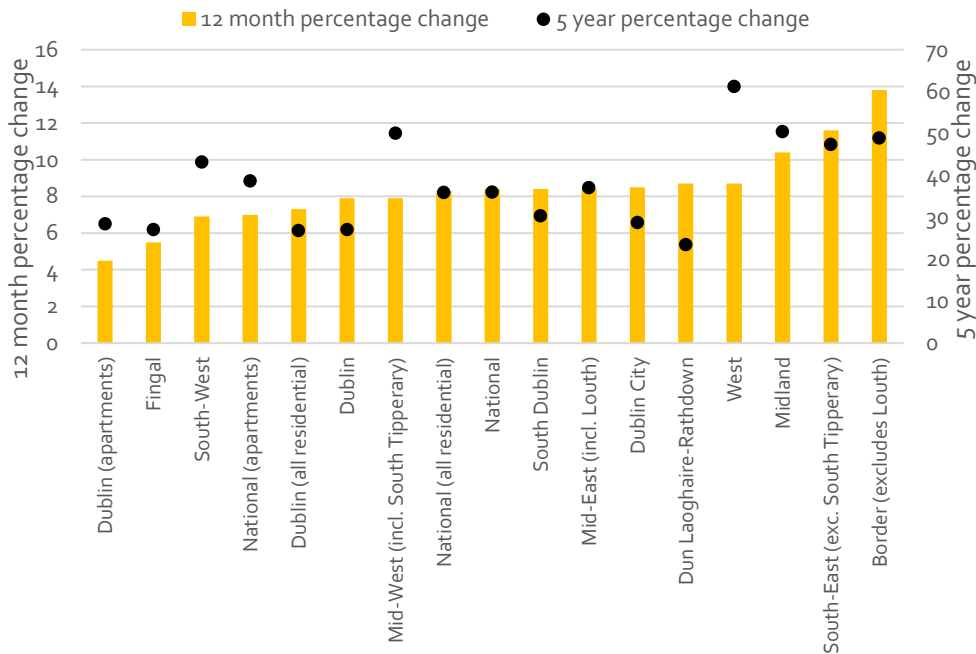
Figure 5.2.17 Out-of-pocket childcare costs for a single-earner lone-parent family, 2022



Although childcare costs remain high for couples in Ireland earning the median wage (see Figure 5.2.16), 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, as per Figure 5.2.17. In 2022, Irish childcare fees for lone parents earning the minimum wage were just 1% of the average wage, a significant reduction from 20% in 2019.

Source: OECD

Figure 5.2.18 Housing Costs: Residential Property Index (houses unless stated otherwise), Average Percentage Change, 2021



Over the five years to 2021, residential property prices nationally rose by 36% and this trend has continued in 2021. National house prices saw a significant rise in 2021 - increasing by 8.4% in 2021 - while national apartment prices increased by 7.0%, with Dublin apartment prices increasing by 4.5%. On average in 2021, the rate of increase in house prices was highest in the Border region excluding Louth (13.8%) and lowest in Fingal (5.5%).

Source: CSO

Ireland's Competitiveness Scorecard 2023

Figure 5.2.19 Housing Costs: Residential Tenancies Board National Rental Index, Ireland Q4 2007 – Q2 2022

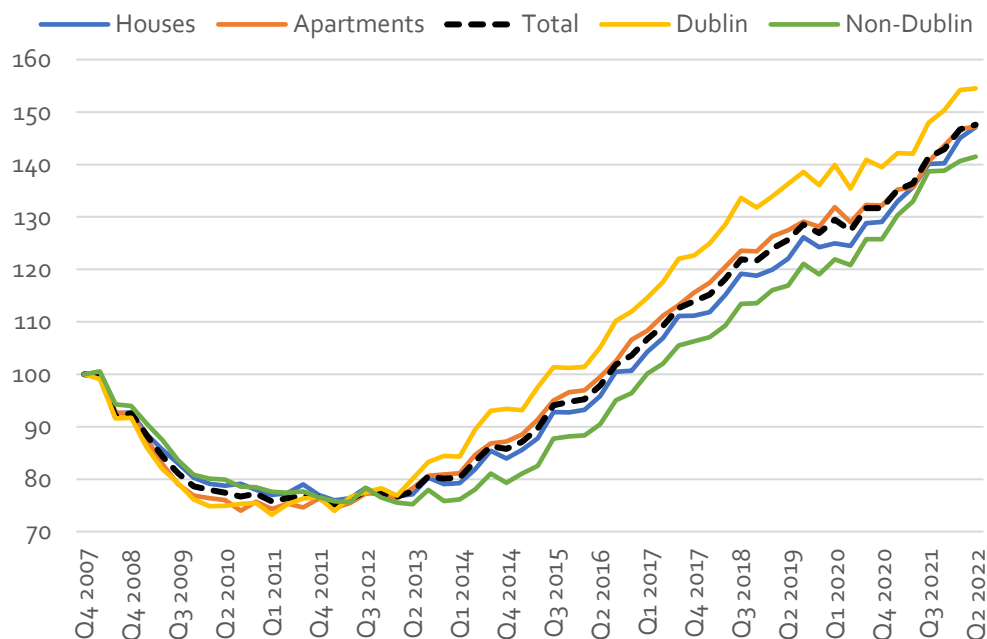
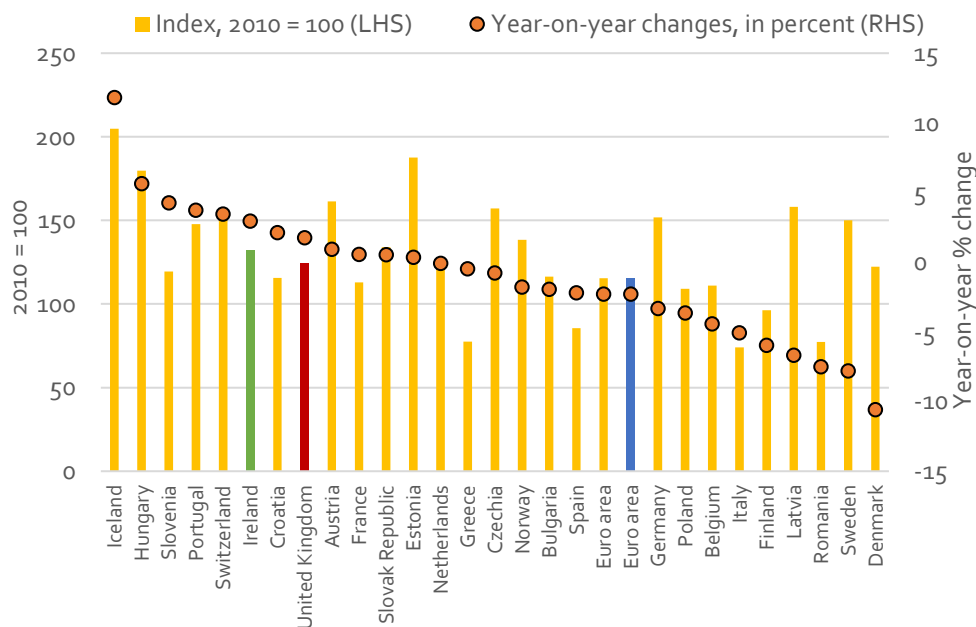


Figure 5.2.19 shows that Irish apartment and house rental prices have followed similar trends since Q4 2007. On a regional basis, the index for all properties in Dublin measured 154 in Q2 2022, well above the 141 for non-Dublin, indicating a higher level of increasing average rents for new tenancies in Dublin than outside of Dublin. These higher rental levels in Dublin reflect significantly higher demand for rental property in Ireland's capital city in comparison to other urban areas in Ireland.

Source: Residential Tenancies Board

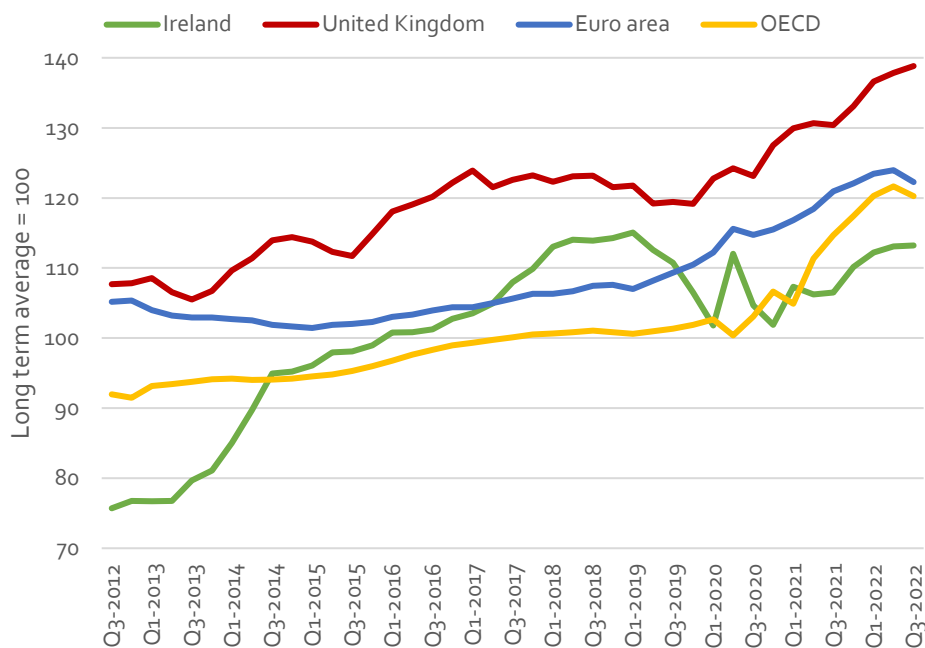
Figure 5.2.20 Housing Prices: Residential Property Prices (Real prices), European Countries, Q3 2022



Compared to other European countries, Ireland's real house prices were behind some European countries such as Switzerland, Germany and Sweden in Q3 2022, but above those in the UK and significantly above the Euro area average. However, on a year-on-year percentage change basis, Ireland ranked the 6th highest of countries shown in Figure 5.3.20, indicating that house prices have risen faster than most other European countries in the past year.

Source: Bank for International Settlement's property price statistics

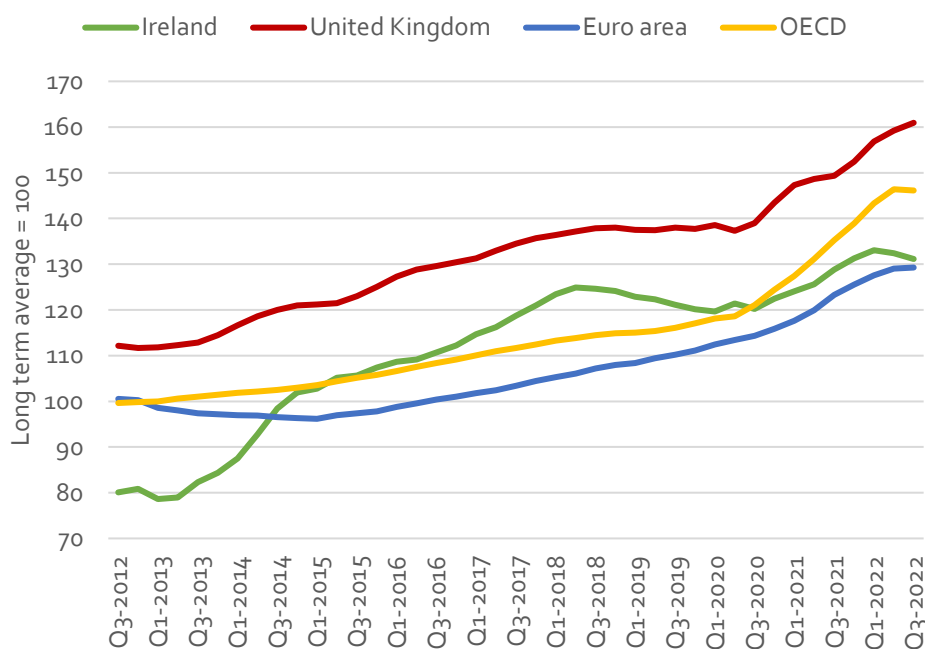
Figure 5.2.21 Housing Prices: Standardised Price to income ratio⁸⁸, Q3 2012 - Q3 2022



Ireland's house price to income ratio in Q3 2022 was 113, up from 105 in Q3 2017 and 76 in Q3 2012. This indicates that house prices have grown faster than incomes and that unaffordability has increased in Ireland over the past decade. Notwithstanding these changes, Ireland's ratio is below the UK, euro area and OECD average.⁸⁹

Source: OECD

Figure 5.2.22 Housing Prices: Standardised Price to rent ratio⁹⁰, Q3 2012 - Q3 2022



Ireland's house price to rent ratio has risen significantly in recent years but at a comparatively slower pace than the euro area average, OECD and the UK. Ireland's ratio has been falling over 2022 as rents rise due to demand from those unable to afford or find a property to purchase. Ireland's ratio in Q3 2022 was 125, up from 113 in Q3 2017 and 80 in Q3 2012, and is below the euro area, OECD average and the UK. Taking both Figure 5.2.21 and 5.2.22 together, it is clear that house price valuations remain elevated in Ireland with respect to incomes and to rents.⁹¹

Source: OECD

⁸⁸The price to income ratio is the nominal house price index divided by the nominal disposable income per head.

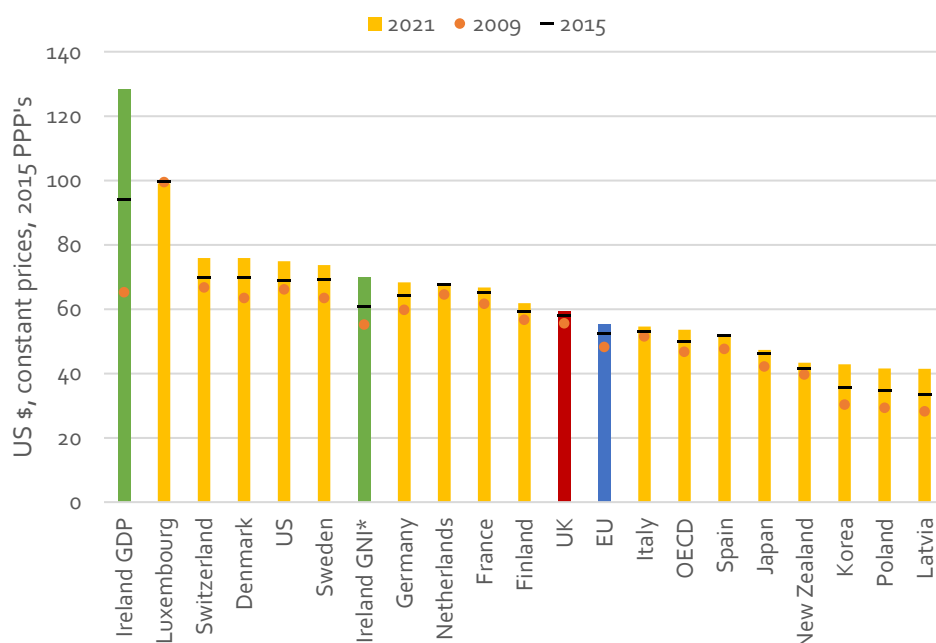
⁸⁹A comparison of nominal house prices levels across countries is difficult, as definitions differ across countries. For example, the level of house prices may refer to different entities (dwellings as opposed to square meters, for example), to different types of dwellings and different periodicity (monthly, quarterly, semi-annual, annual).

⁹⁰The price to rent ratio is the nominal house price index divided by the housing rent price index.

⁹¹The standardised price-rent and price-income ratios show the current price-rent and price-income ratios relative to their respective long-term averages. The long-term average, which is used as a reference value, is calculated over the whole period available when the indicator begins after 1980 or 1980 if the indicator is available over a longer time period. The standardised ratio is indexed to a reference value equal to 100 over the full sample period. Values over 100 indicate that the present price-rent ratio, or price-income ratio, is above its long-run norms. This provides an indication of possible housing market pressures.

5.3 Productivity

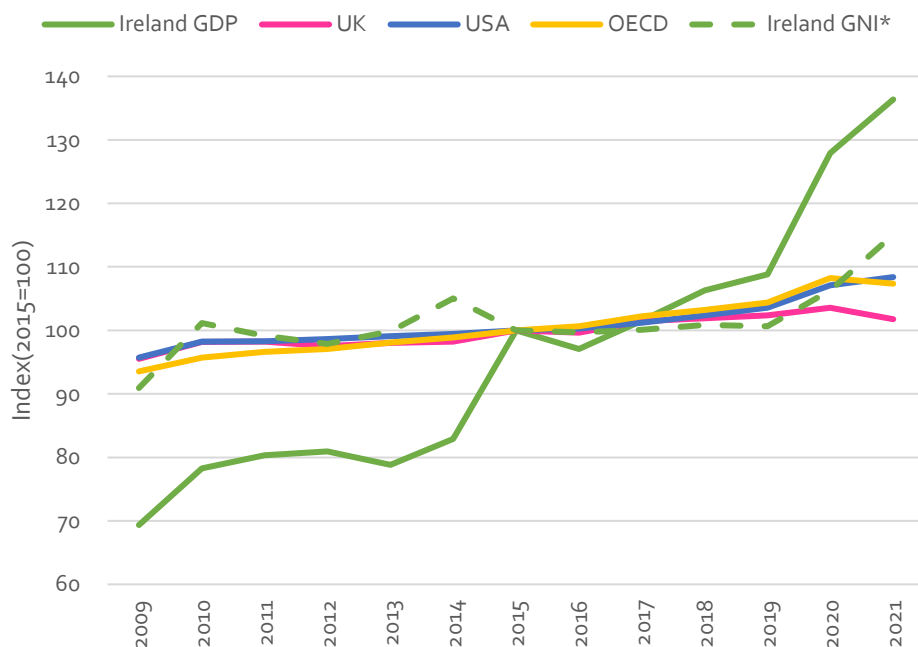
Fig 5.3.1 GDP per hour worked (and GNI*- Ireland⁹²), USD, constant prices, 2015 PPPs, 2021



In terms of productivity levels, Ireland continues to perform well compared to other countries. Ireland's GNI* per hour worked was \$70 in 2021. This was above productivity levels (GDP per hour worked) for the OECD (\$54), UK (\$59) and EU average (\$55) but below Denmark (\$76) and the US (\$75). Ireland's GNI* per hour has increased since 2015 (\$61) and 2009 (\$55), indicating increased productivity levels in the overall economy over this time period.

Source: OECD, CSO, NCPD Calculations

Fig 5.3.2 GDP per hour worked⁹³ (and GNI* - Ireland), USD, constant prices, Index, 2009-2021⁹⁴



This figure shows the trend in GNI* per hour worked in index form for Ireland. Ireland's GNI* per hour worked has trended slightly below the UK, USA and the OECD from 2015 but rose above these in 2021.

Source: OECD, CSO, NCPD Calculations

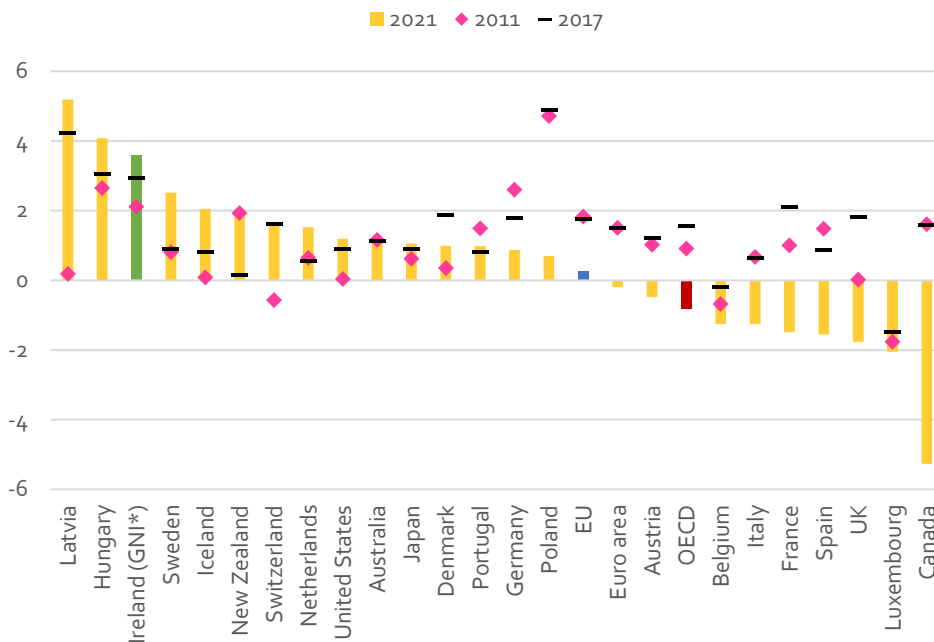
⁹² Measured productivity in Ireland is complicated because of the scale of high value-added activities of FDI companies located here.

⁹³ Ireland saw an unprecedented increase in GDP per hour worked in 2015 due to the globalisation activities of a very small number of firms but this is not a reliable metric for the purpose of comparisons.

⁹⁴ Attracted by low corporation tax rates, a number of large multinational corporations relocated their economic activities, and more specifically their underlying intellectual property, to Ireland in 2015. As a result, sales (production) generated from the use of intellectual property now contribute to Irish GDP rather than to other countries' GDP (OECD, 2016). More information at: <http://www.oecd.org/sdd/na/Irish-GDP-up-in-2015-OECD.pdf>

Ireland's Competitiveness Scorecard 2023

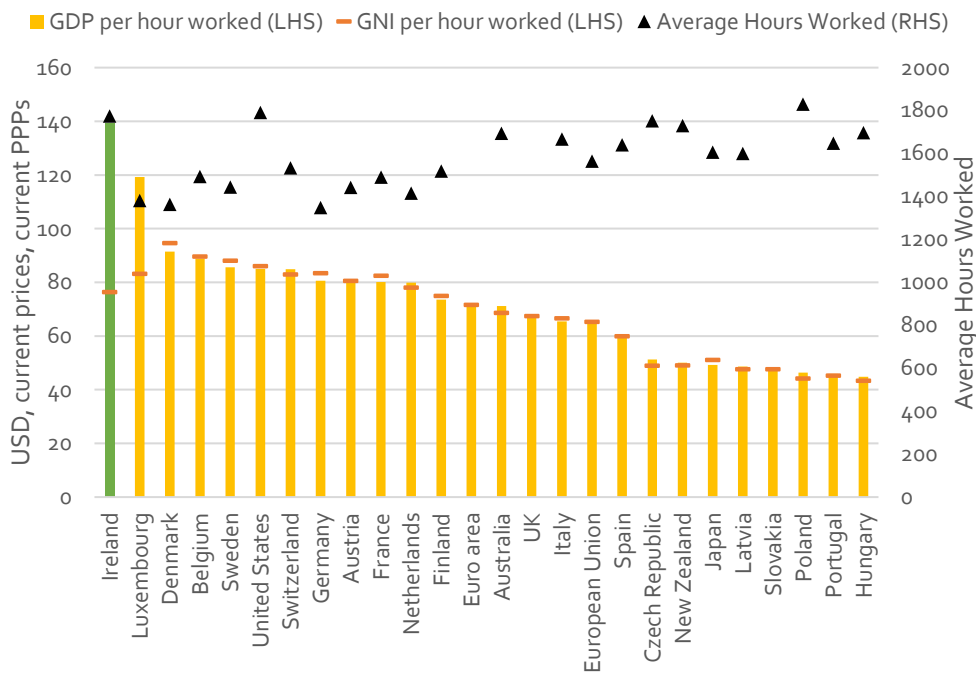
Fig 5.3.3 Labour Productivity growth (GDP per hour worked and GNI* per hour worked – Ireland), 2021, 2017, 2011



There are large variations in labour productivity growth across OECD member countries. In 2021 Ireland was the third highest country of countries benchmarked for labour productivity growth. Ireland has performed well in its productivity performance comparatively for the overall economy in all time periods shown.

Source: OECD, CSO and NCPC calculations

Fig 5.3.4 GNI (and GNI* - Ireland) and GDP per hour worked (USD, current prices, current PPPs)⁹⁵, 2021



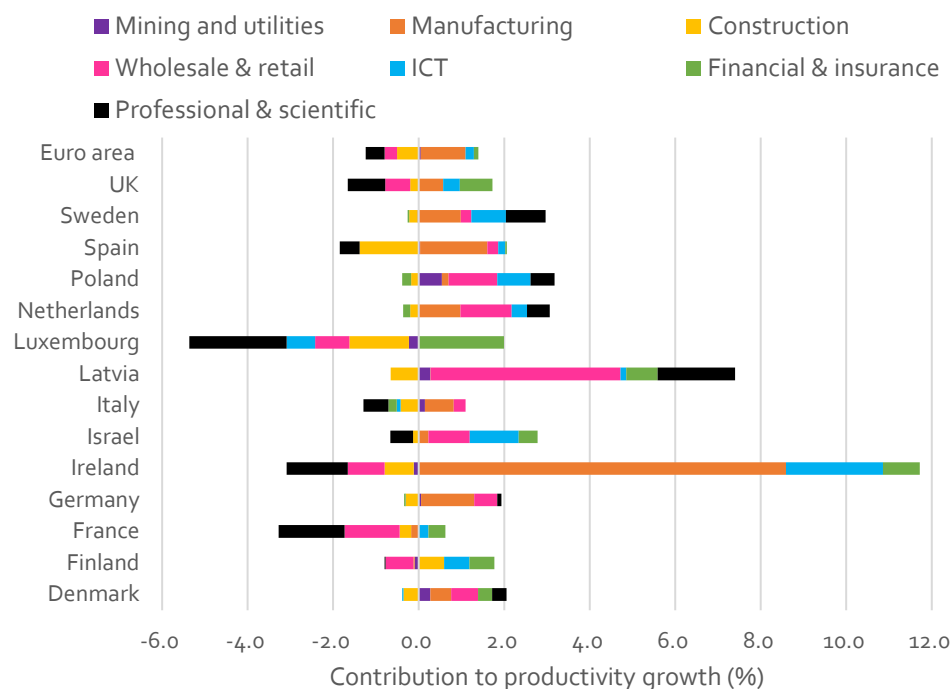
This figure illustrates the significant impacts of multinational companies on Ireland's productivity figures. In most countries, labour productivity measures based on GDP and GNI are similar. However, in Ireland there is a notable difference. In 2021, Ireland's GNI* per hour worked was \$76.4. In GDP per hour worked this rises to \$139. Irish workers also work a comparatively higher number of hours on average (third highest of countries shown after the US and Poland).⁹⁶

Source: OECD

⁹⁵ GNI is equal to GDP less primary incomes payable to non-resident units plus primary incomes receivable from non-resident units (OECD).

⁹⁶ This reflects the importance of using per hour worked as the basis for measuring productivity in Ireland, rather than per worker which is an alternative way of examining productivity.

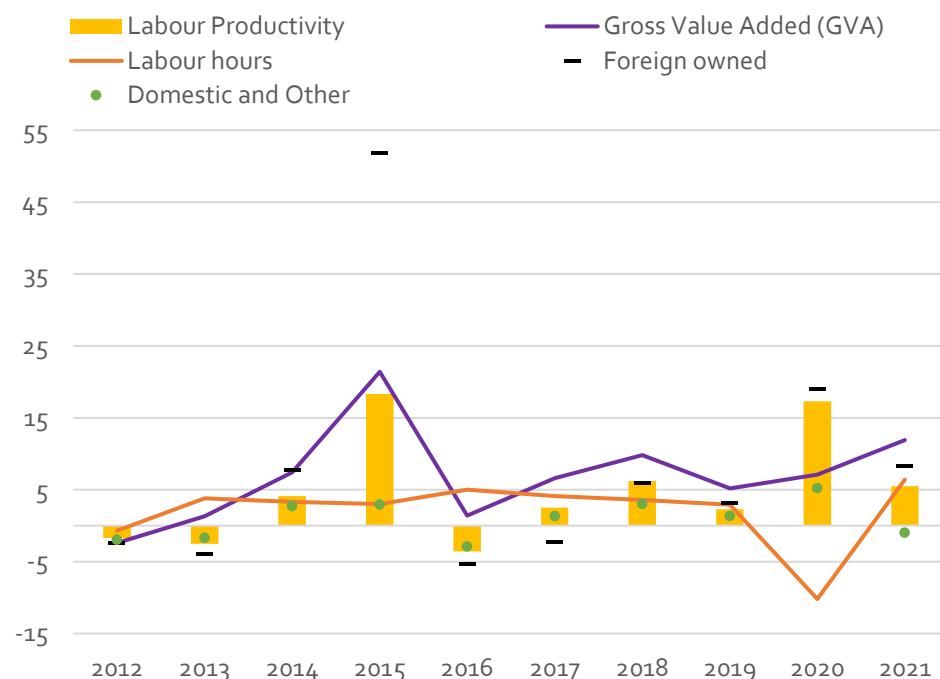
Fig 5.3.6 Contributions to labour productivity growth of business services, 2021⁹⁷



In Ireland, the relative contribution of manufacturing (9%) and ICT (3%) to business service's productivity growth was particularly strong in 2021; no other countries had as high a percentage contribution from these two sectors as Ireland. Positive contributions also came from the financial & insurance sector. Ireland's remaining sectors had a negative impact, further illustrating the duality of Ireland's economy. Some other countries had greater negative contributions, for example Luxembourg.

Source: OECD

Fig 5.3.7 Labour Productivity growth, Ireland, 2012-2021⁹⁸



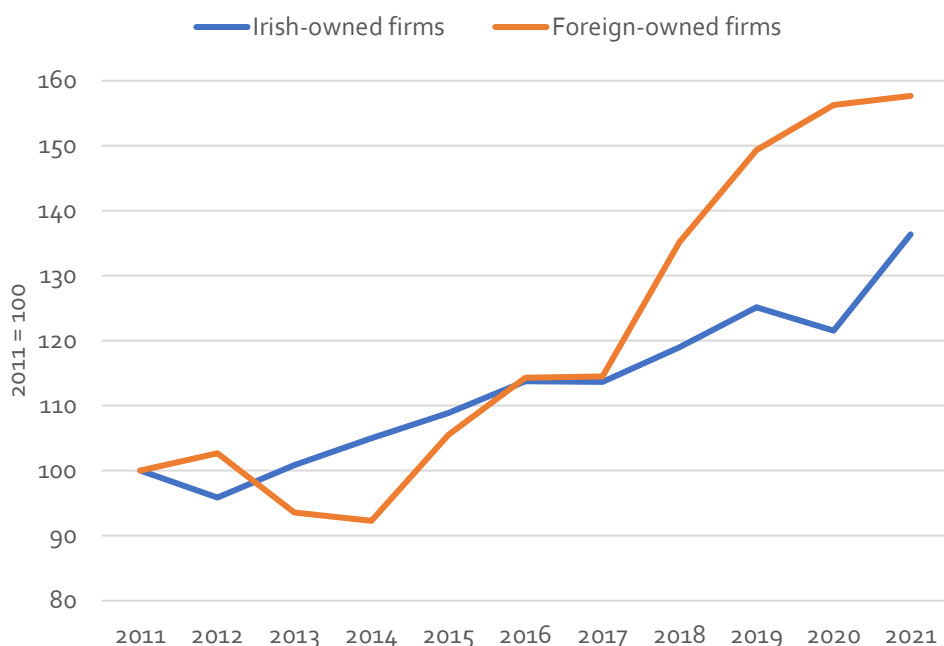
Since 2015, Ireland's labour productivity growth has been dominated by the Foreign-owned sector, while the domestic and other sector has seen much lower growth in labour productivity. This highlights the two-speed nature of labour productivity in the Irish economy. The rapid decreases in hours worked in the Domestic sector in 2020 due to COVID-10 restrictions led to a temporary 'spike' in labour productivity growth in that sector but the large-scale return of workers to employment led to a rebound effect in 2021.

Source: CSO

⁹⁷ Much of the variation in productivity across sectors in 2021 is impacted from the COVID-19 pandemic, including prolonged lockdowns and restrictions on opening hours, strong demand for pharma company products, and reallocation effects.

⁹⁸ The peak in Ireland's labour productivity in 2015 was driven by increased capital deepening and the globalisation activities of a small number of large firms.

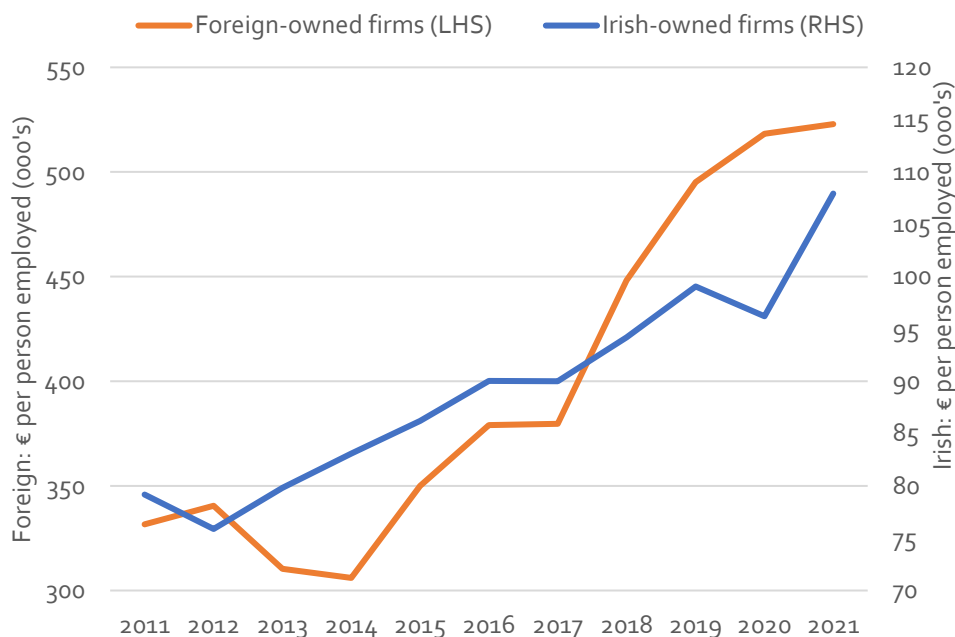
Fig 5.3.8 Labour productivity in Ireland's Enterprise Agencies Client Firms, Index (2011 = 100)⁹⁹, 2011-2021



The ABSEI¹⁰⁰ dataset, which covers client businesses of the enterprise agencies, shows the wide and increasing divergence in Labour Productivity amongst their client firms as between foreign-owned and Irish-owned firms. Figure 5.3.8 shows that while foreign firms saw a large increase in labour productivity since 2017, there has been a relatively smaller increase for Irish firms over the same period (labour productivity actually fell among Irish firms in 2020 before recovering in 2021).

Source: Annual Business Survey of Economic Impact (ABSEI)

Fig 5.3.9 Labour productivity in Ireland's Enterprise Agencies Client Firms, € per person employed¹⁰¹, 2011-2021



Productivity in foreign firms increased from €331k to €523k per person employed over the period 2011 to 2021, however this is strikingly different for Irish firms who only saw an increase in productivity from 79k to 108k over the same period - albeit performance differed across sectors.

Source: Annual Business Survey of Economic Impact (ABSEI)

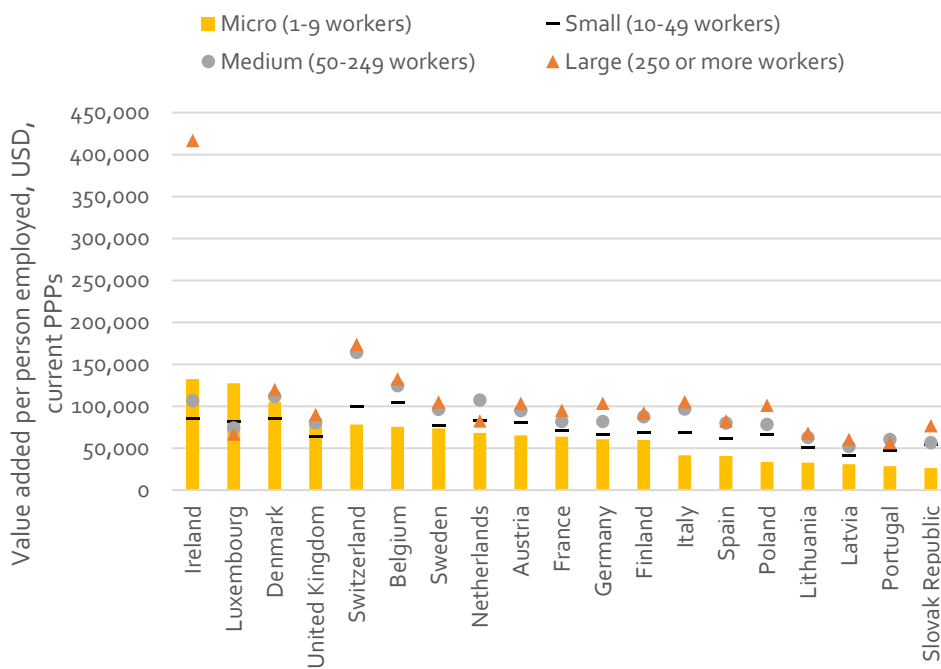
⁹⁹ The Foreign Sector is defined by the CSO as sectors dominated by foreign MNEs include the following: Chemicals and Chemical Products (NACE 20), Software and Communications (NACE 58-63), Reproduction of recorded media, Pharmaceutical products, Electrical equipment and Medical supplies (NACE 18.2, 21, 26, 27, and 32.5). The Domestic and Other Sector refers to all sectors not categorised as Foreign sector.

¹⁰⁰ The labour productivity figures for the Foreign and Domestic sectors differ to that of the CSO in Figure 5.3.7 as The Annual Business Survey of Economic Impact (ABSEI) is a survey of approximately 4,200 client companies of Enterprise Ireland, IDA Ireland and Údarás na Gaeltachta employing ten or more employees in Ireland and comprises the Manufacturing and Information, Communication and Other Internationally Traded Services sectors.

¹⁰¹ The Foreign Sector is defined by the CSO as sectors dominated by foreign MNEs include the following: Chemicals and Chemical Products (NACE 20), Software and Communications (NACE 58-63), Reproduction of recorded media, Pharmaceutical products, Electrical equipment and Medical supplies (NACE 18.2, 21, 26, 27, and 32.5). The Domestic and Other Sector refers to all sectors not categorised as Foreign sector.

Ireland's Competitiveness Scorecard 2023

Fig 5.3.10 Labour productivity in SME's and large firms, business economy, 2020



In most countries, labour productivity gaps between micro/small and medium-sized firms on the one hand, and large firms on the other hand are relatively high. This is particularly evident in Ireland. In 2020 large firms (many of which are FDI companies) the average value added per person employed was \$416k. This compares with \$132k for micro, \$106k for medium and \$85k for small sized firms that year. This increased divergence over the past decade, was driven by the increase in value added per person for large firms, which was \$149k in 2013.

Source: OECD

Fig 5.3.11 Irish Labour Productivity Index, (Base 2000=100) by Economic Sector, 2012-2021

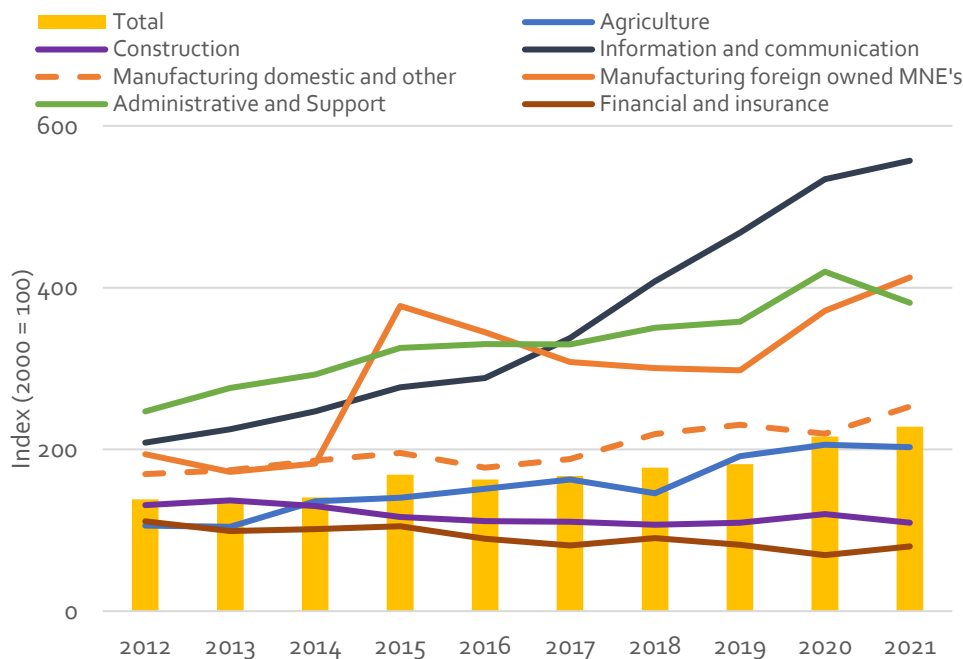
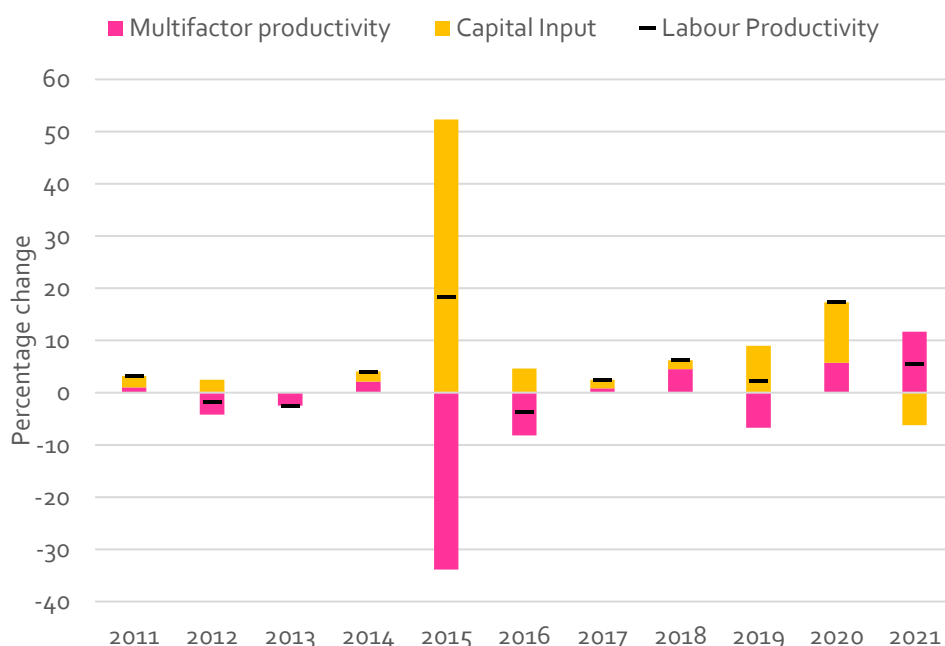


Figure 5.3.11 shows that the growth in Ireland's total labour productivity since 2012 has been driven by the ICT and Foreign-dominated manufacturing sectors. This growth performance contrasts with the Financial and insurance, the Manufacturing domestic and other, Construction and Agriculture sectors, which have seen much less growth in the past decade.¹⁰²

Source: CSO, NCP own calculations

¹⁰² The CSO have indicated that the increase in labour productivity for the Administrative and Support services sector in 2020 was due to a change in source for hours worked, from usual hours worked to actual hours worked using the Labour Force Survey.

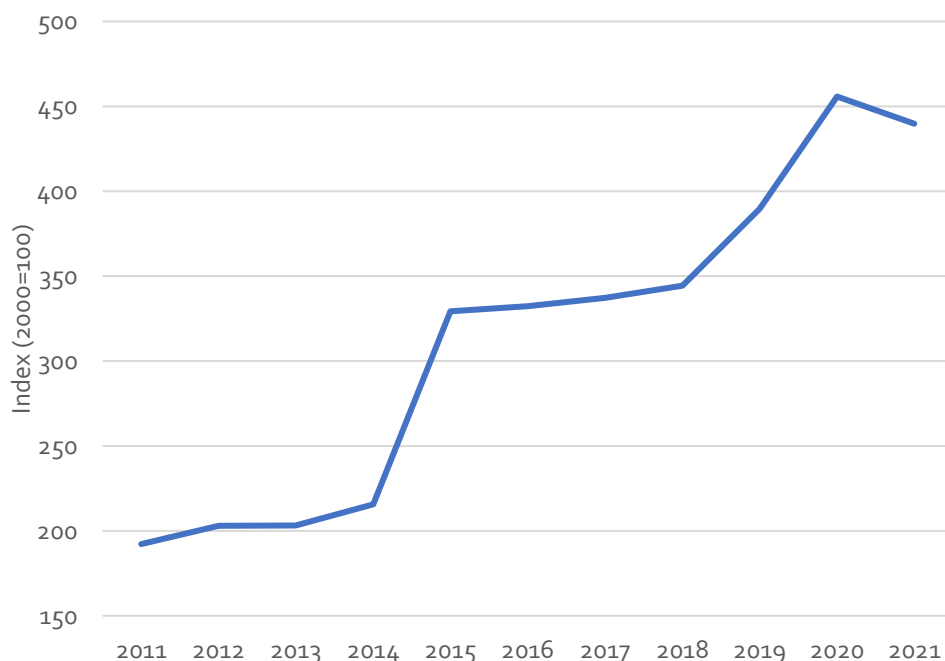
Fig 5.3.12 Labour Productivity: Contribution of Multifactor Productivity¹⁰³ and Capital Deepening¹⁰⁴, Ireland, 2009-2021



Prior to 2015, MFP and capital deepening had a relatively similar influence for the majority of years in explaining the swings in labour productivity growth. In the last five years - with the exception of 2018 - capital deepening has been the driver of growth in labour productivity, with the majority occurring in the ICT sector due to increased growth of intangible assets. The slowdown in MFP over the past decade follows a global trend, and highlights slower efficiency improvements in production processes.

Source: CSO

Fig 5.3.13 Capital available per hour worked, 2011-2021



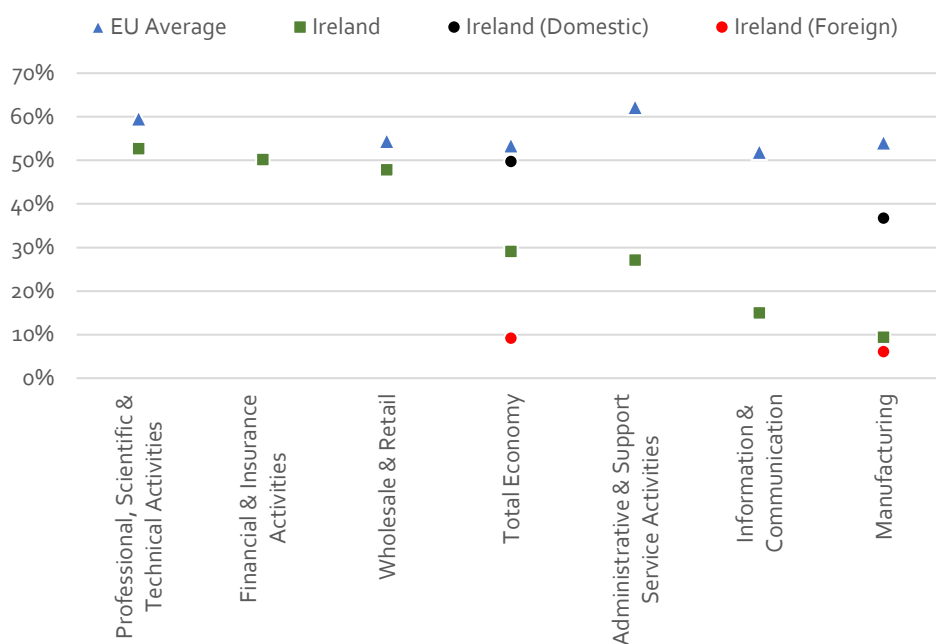
Over the period 2011-2014, Ireland's capital stock per hour worked increased incrementally; this was followed by a sharp rise in 2015. Between 2016 and 2020 capital stock per hour worked continued to rise, particularly since 2018. Ireland has the lowest Labour Share in the EU and OECD meaning that it is also the most capital intensive. While capital assets cover a wide range of investments, it is the developments in intangible assets - Intellectual Property Products (IPP) - which have driven these results since 2015. The fall in 2021 is largely explained by decreased investment in IPP.

Source: CSO, NCPC own calculations

¹⁰³ MFP reflects the overall efficiency with which labour and capital inputs are used together in the production process. Changes in MFP reflect the effects of changes in management practices, brand names, organisational change, general knowledge, network effects, spill overs from production factors, adjustment costs, economies of scale, the effects of imperfect competition and measurement errors.

¹⁰⁴ Capital deepening is growth in the capital intensity of labour (the amount of capital available per hour worked).

Fig 5.3.14 Labour share of Gross Value Added, high productivity sectors, 2021

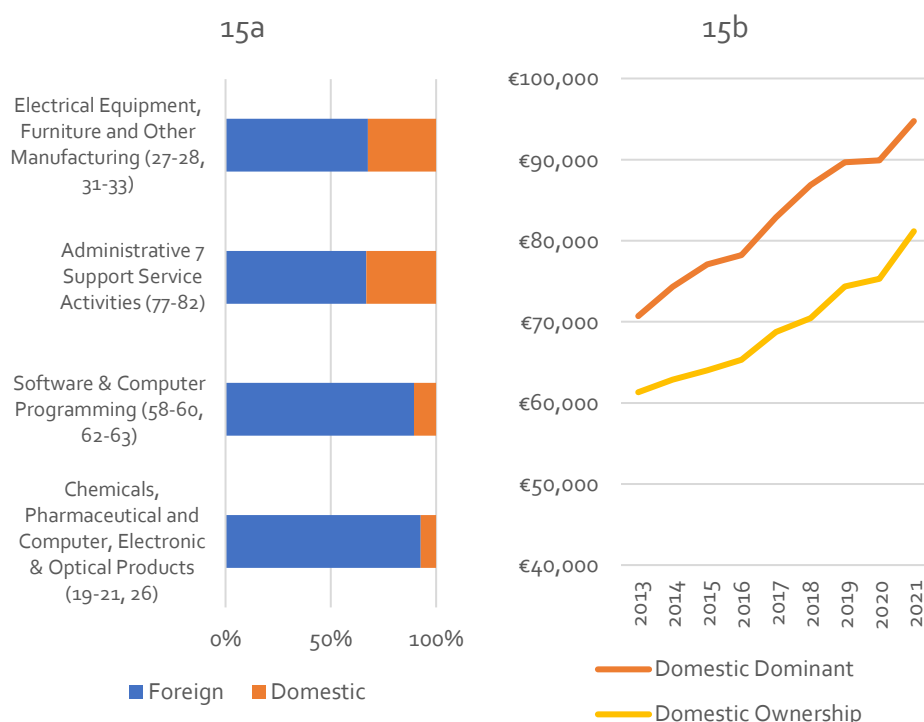


Among high productivity sectors, in 2021, Ireland had a lower share of labour in Gross Value Added (GVA) than the EU average, particularly for Administrative and Support Services, Information and Communication, and Manufacturing. When this is broken down into domestic and foreign dominated sectors, the Total Economy share of labour in GVA is almost in line with the EU average for sectors dominated by domestic firms. However, for sectors dominated by foreign firms, the labour share is significantly below than the EU average.

Source: CSO

Fig 5.3.15a Labour productivity – ownership criterion, high productivity sectors, 2021

Fig 5.3.15b GVA per employee – dominance and ownership criteria, 2021¹⁰⁵



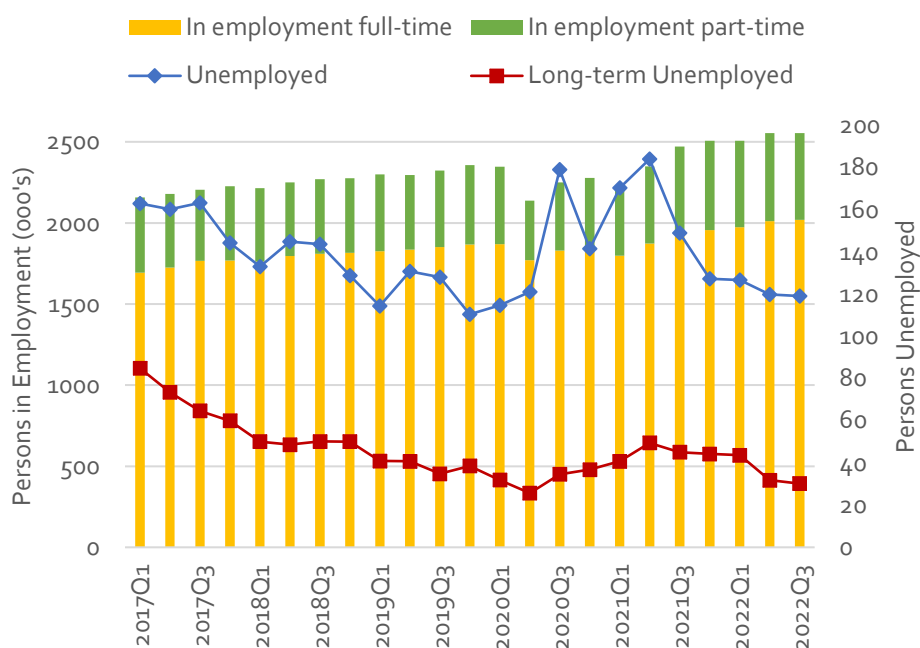
The significant contribution of foreign-owned MNCs in terms of labour productivity is evident when assessed on a firm ownership basis. Fig 5.3.15.a compares labour productivity between foreign- and domestic-owned firms in the most productive sectors. The gap in GVA per employee when the ownership and dominance criteria are compared for domestic sectors, indicates that foreign-owned firms within domestic dominated sectors are inflating domestic productivity metrics under the dominance criterion (Fig 5.3.15.b).

Source: CSO

¹⁰⁵ In line with the dominance criterion, sectors in which foreign-owned MNCs account for more than 85% of turnover, are “foreign dominated” (and vice versa for “domestic dominated”). Under the ownership criterion, “foreign” and “domestic” refer to ownership within sectors, with ownership determined by whether the immediate owner is a foreign or domestic company. On an ownership basis, domestic excludes foreign firms in sectors such as Aircraft Leasing, Finance & Insurance, Wholesale & Retail, but includes domestic ICT companies, and some manufacturing sectors that are excluded from the dominance criterion.

5.4 Employment

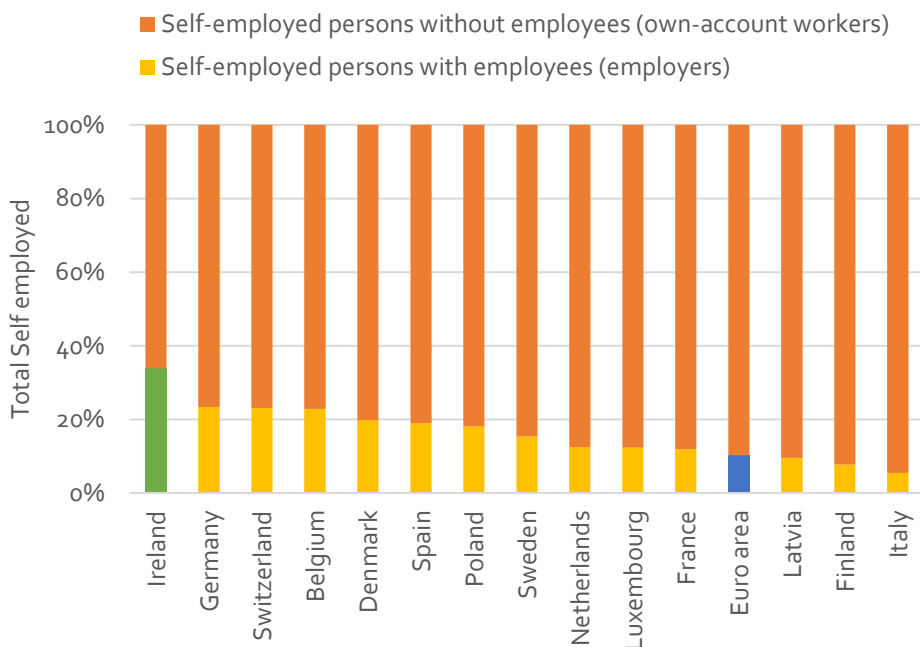
Figure 5.4.1 Employment, unemployment & long-term unemployment (000's), Q3 2017 – Q3 2022



In 2022, there were 2.5 million people in employment (full-time and part-time), 119,100 people unemployed and 30,200 people in long-term unemployment in Ireland¹⁰⁶. Over the past five years long-term unemployment has fallen steadily, apart from the years of the pandemic when it increased alongside a drastic increase in unemployment. This has now started to decline again as the economy has recovered. Ireland's labour market has rebounded strongly following the impact of COVID-19.

Source: CSO, Labour Force Survey

Figure 5.4.2 Self-employed persons, with and without employees, 2021



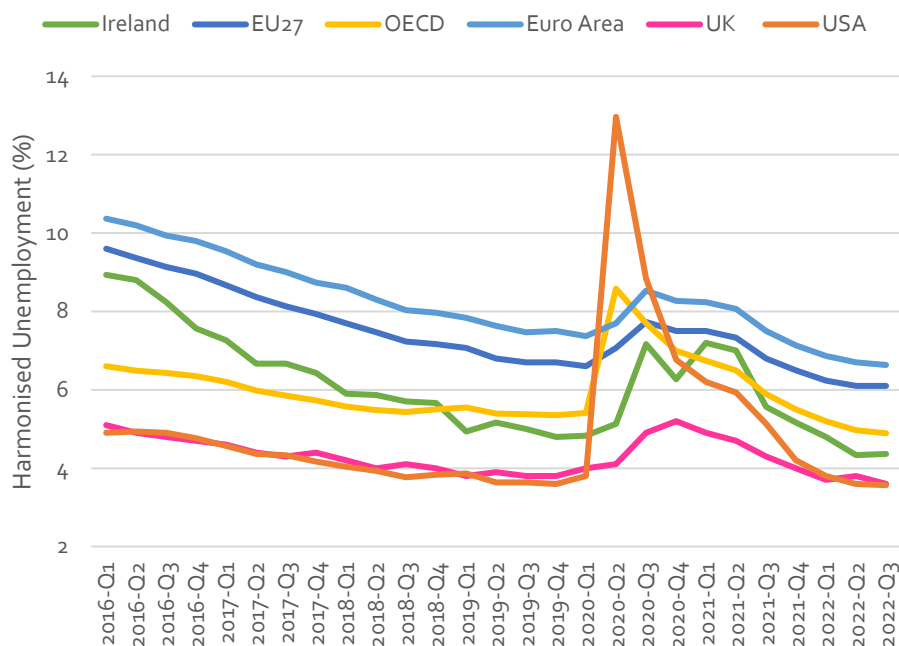
The share of self-employed persons with no employees in Ireland was 68.7% in 2021, above that in the euro area (66.5%). The number of self-employed people in Ireland was 223,800, a fall of 11% from 252,500 in 2011. This downward trend in self employment is also evident internationally as countries become wealthier. The largest declines in Irish self-employment have been in agriculture, wholesale and retail, and food and accommodation.

Source: Eurostat, Labour Force Survey

¹⁰⁶A person is classified as 'In Employment' if they worked in the week before for one hour or more for payment or profit, including work on the family farm or business and all persons who had a job but were not at work because of illness, holidays etc. in the week. A person is classified as unemployed if they were without work and available for work within the next two weeks, and had taken specific steps, in the preceding four weeks, to find work. The upper age limit for classifying a person as unemployed is 74 years. A person is classified as long-term unemployed if they are unemployed for one year or more.

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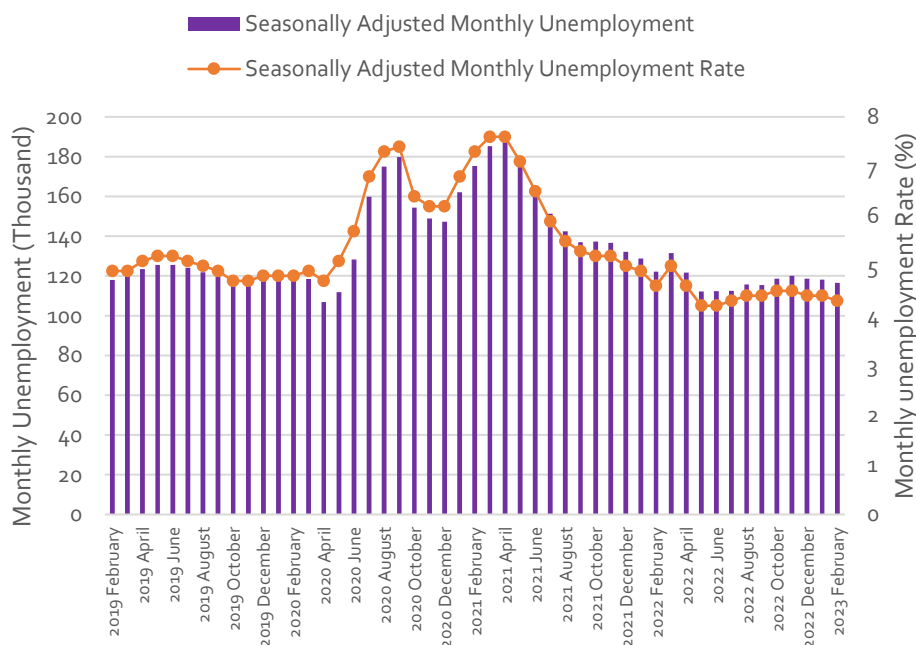
Figure 5.4.3 Unemployment rate (seasonally adjusted, standardised rate)¹⁰⁷, Q1 2016 – Q3 2022



In Ireland, unemployment declined from 8.9% in Q1 2016 to 4.4% in Q3 2022, lower than the euro area (6.6%) but above that recorded in the UK (3.6%). The OECD seasonally adjusted unemployment rate had been trending downwards until the impact of COVID-19 in 2020. Since 2021 unemployment has been declining again and is now below pre-pandemic levels for all groups of countries.

Source: OECD, Harmonised Unemployment Rates

Figure 5.4.4 Monthly Unemployment Statistics, February 2019 – February 2023



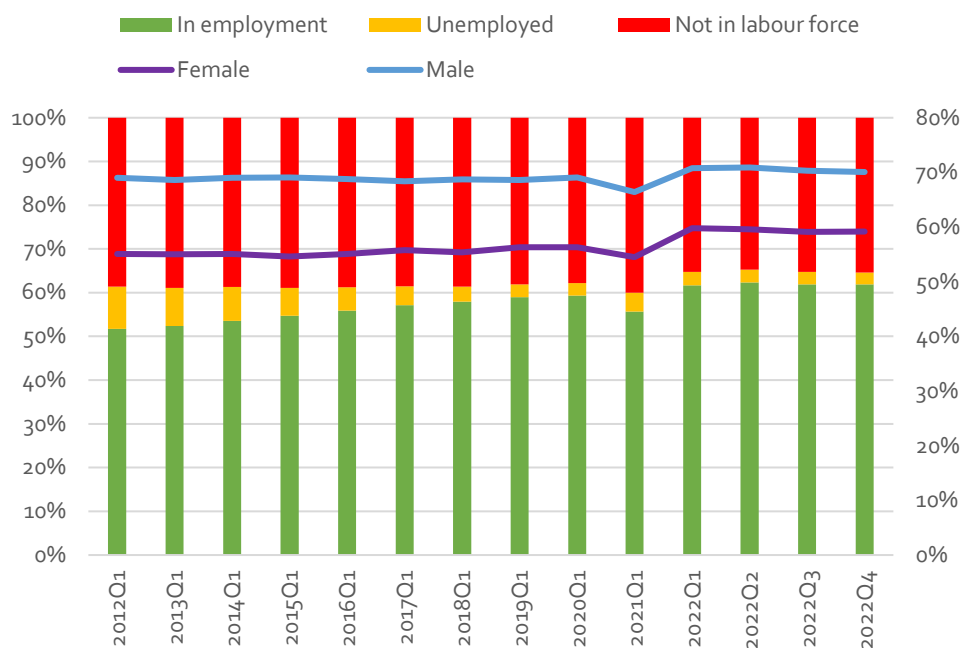
Prior to the COVID-19 pandemic, Ireland's labour market has low unemployment. Following the onset of the pandemic, the official monthly unemployment rate rose from 4.8% in February 2020 to a peak of 7.6% in April 2021. The COVID-19 Adjusted Monthly Unemployment measure, which included those in receipt of the Pandemic Unemployment Payments, measured a significantly higher unemployment rate of 23.3% in April 2021. The unemployment rate returned to its pre-COVID level quickly as the economy has recovered, and is now below pre-pandemic levels, measuring 4.3% in December 2022.

Source: CSO, Labour Market Statistics

¹⁰⁷ Harmonised unemployment rates define the unemployed as people of working age who are without work, are available for work, and have taken specific steps to find work.

Ireland's Competitiveness Scorecard 2023

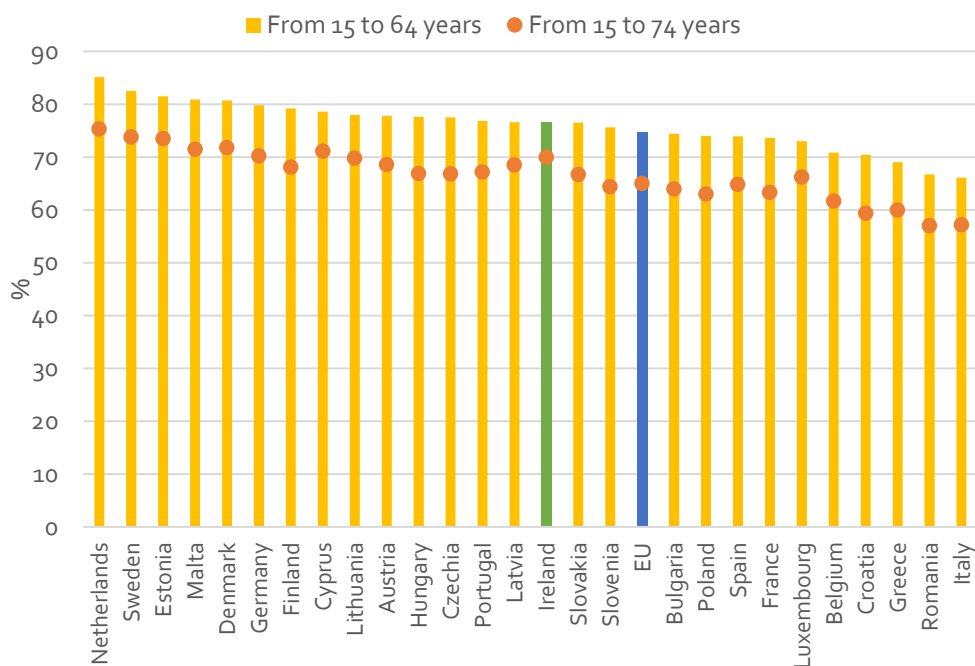
Figure 5.4.5 Labour force participation, persons aged 15 and over, Q1 2007 – Q4 2022



Over the past decade the overall Irish participation rate has steadily increased. While participation rates¹⁰⁸ for males has remained relatively constant - with the exception of the impact of the pandemic - female participation is now higher than pre-pandemic - attributed to factors such as remote working, underlying societal and structural reasons. The affordability of childcare costs are a barrier for female participation (see Figure 5.2.16). Participation by age is also changing over time, as younger people are staying in education longer and older people are working longer.

Source: CSO, Labour Force Survey

Figure 5.4.6 Labour Force Participation rate, EU countries, Q4 2022

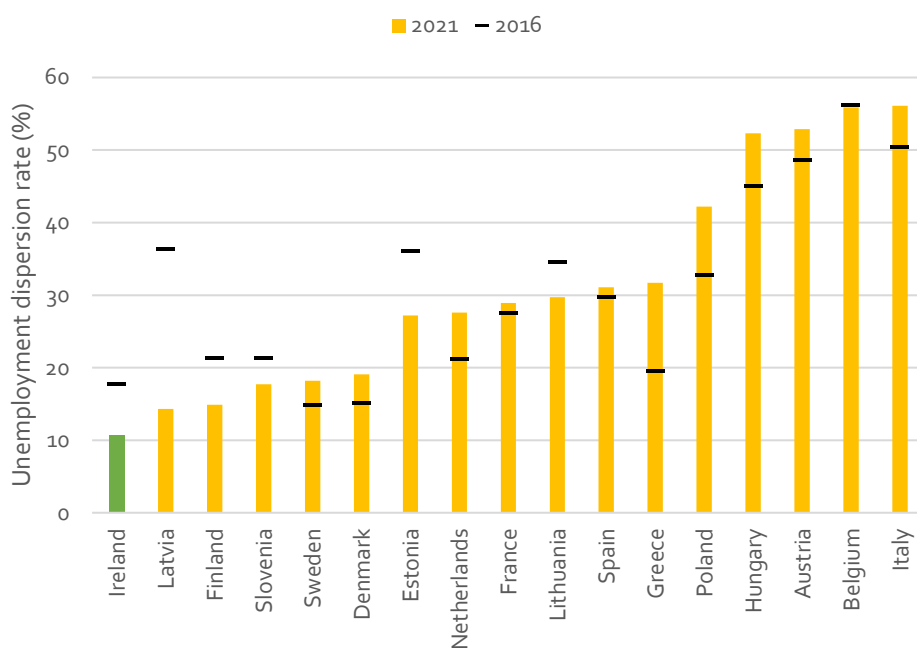


When compared internationally, Ireland performs above the EU average for labour force participation of persons aged 15 to 64 years old, but behind other European countries including Netherlands, Sweden, Denmark and Germany. Ireland's participation rate for persons aged 15 to 64 years old in Q4 2022 was 76.5%, compared to that of the average of all EU countries (74.7%). Ireland performance internationally improves for participation rates of persons aged 15 to 74 years old (70% vs an EU average of 65%).

Source: Eurostat, Labour Force Survey

¹⁰⁸ The proportion of people in the labour force. The labour force participation rate is calculated as the labour force divided by the total working-age population (15 years and over).

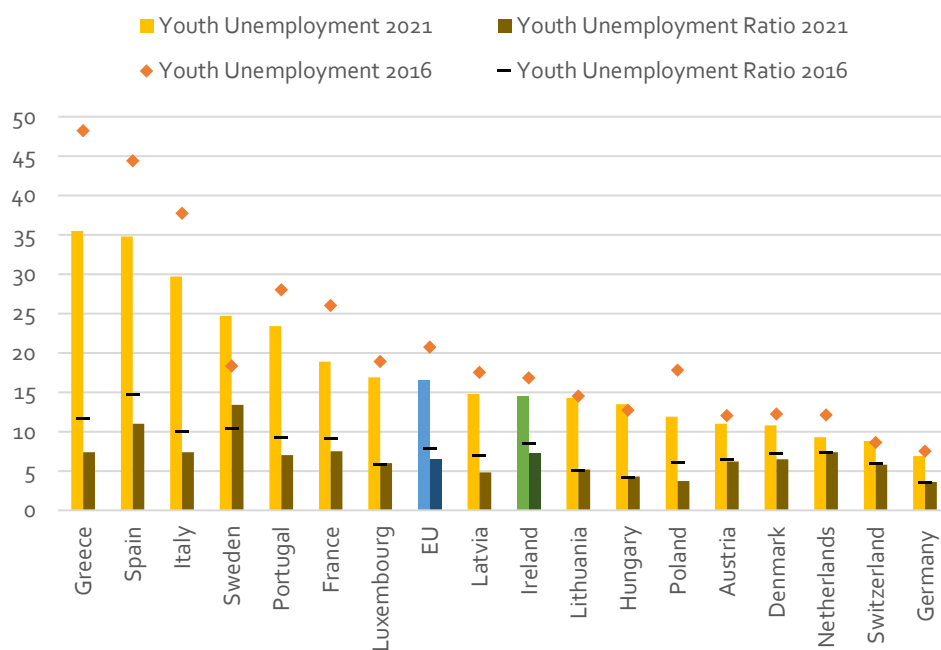
Figure 5.4.7 Dispersion of regional unemployment (selected economies)¹⁰⁹, 2021



Lower dispersion rates indicate higher levels of cohesion across regions in relation to the level of unemployment. In 2021, Ireland had the lowest dispersion rate among the bench-marked countries. This is even lower than it was in 2016 and illustrates a comparatively low level of divergence in levels of unemployment across Ireland's regions.

Source: Eurostat, Dispersion of regional unemployment rates by NUTS 3 region

Figure 5.4.8 Youth¹¹⁰ unemployment rate¹¹¹ and youth unemployment ratio¹¹², 2016 and 2021



The youth unemployment rate in Ireland (14.5%) was lower than the EU average (16.6%) in 2021, down from 16.8% in 2016. This captures only economically active¹¹³ youth, including those in full-time education and ignores economically inactive youth. An alternative measure, the youth unemployment ratio, which includes the economically inactive youth, was 7.3% in 2021, down from 8.5% in 2016, but above the EU average of 6.5%. These measures indicate an improving labour market for those in this age bracket in Ireland.

Source: Eurostat, Labour Force Survey

¹⁰⁹ Dispersion of regional unemployment rates refers to the coefficient of variation of regional unemployment rates in a country, weighted by the absolute population (active population) of each region.

¹¹⁰ 15-24 years of age.

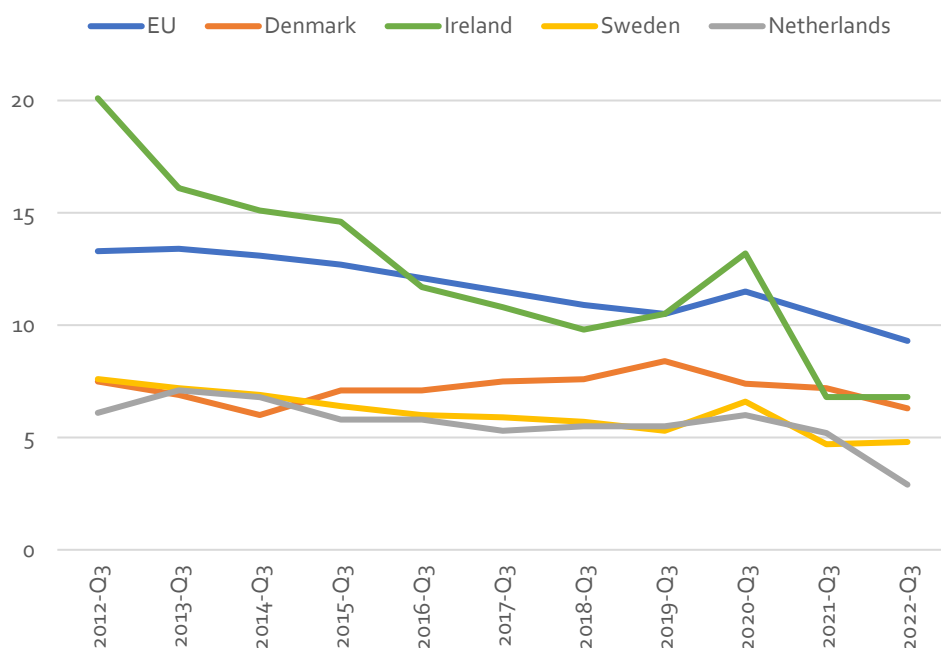
¹¹¹ The youth unemployment rate refers to the share of the economically active population aged 15 to 24 currently without work but in search of employment. The youth unemployment rate does not include economically inactive persons such as the long-term unemployed or full-time students.

¹¹² The youth unemployment ratio is the percentage of unemployed young people (i.e. people aged 15-24) in the total population of this age group. This considers all those aged 15-24 (i.e. all youth) regardless of their participation in the labour force / economic activity, therefore includes full-time students.

¹¹³ Employed persons and unemployed persons constitute 'economically active population.' Those who are not employed or unemployed are categorized as 'economically inactive population, i.e. out of work, not actively looking for work, and not waiting to start a job.'

Ireland's Competitiveness Scorecard 2023

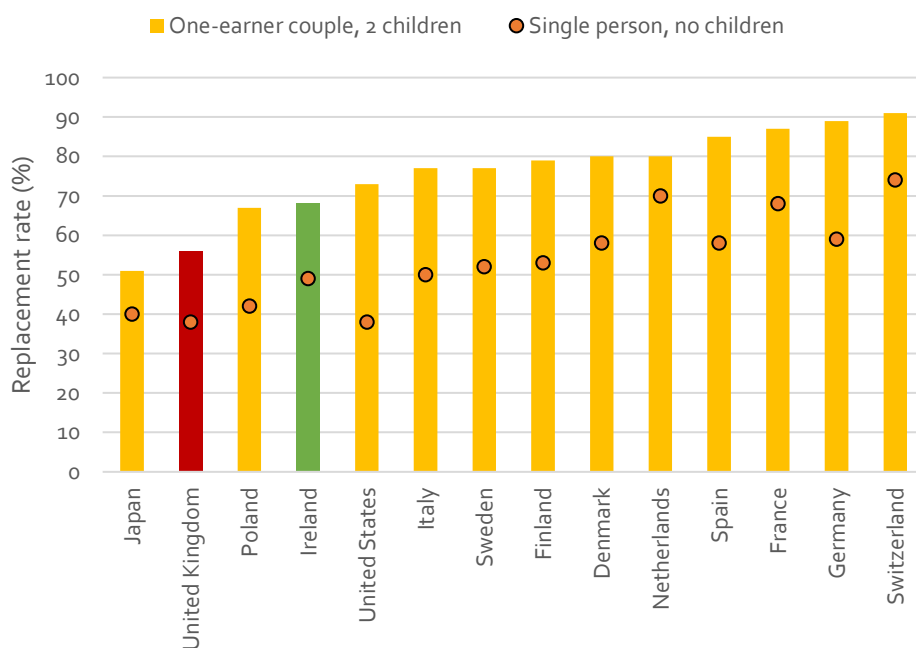
Figure 5.4.9 Youth NEET (Not in Employment, Education or Training) Rate, Q3 2012– 2022 Q3



Eurostat, Labour Force Survey

The NEET rate adds those aged 15-24 who are both not employed and not in education (i.e. unemployed non-students) to those not economically active and not in education (i.e. inactive non-students). It therefore incorporates youth who are both engaged and disengaged in/from employment and/or education or training. Ireland's NEET rate has been on a downward trend – except for the COVID-19 period – and was 6.8% in 2021, below the EU average (9.3%), but above those best in class, such as Sweden (4.8%) and the Netherlands (2.9%).

Figure 5.4.10 Net replacement rates for long-term unemployed¹¹⁴ 2021



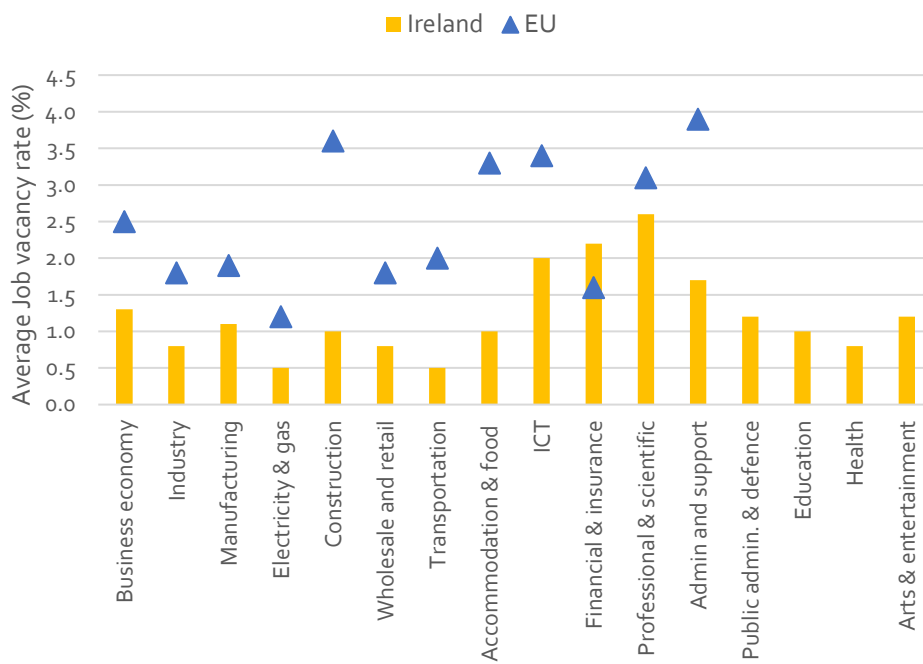
Source: OECD, Net Replacement Rates in Unemployment

The net replacement rate in unemployment measures the proportion of previous in-work income that is maintained after a job loss. The net replacement rate in Ireland for a one-earner couple with two children was 59%, and 46% for a single person with no children. Ireland's net replacement rate for a one-earner couple with two children was above the UK (56%) but considerably lower than the EU countries benchmarked. Ireland's net replacement rate for a single person with no children was less than all EU countries considered except Poland.

¹¹⁴ Long term unemployed refers to someone who is out of employment for the duration of 12 months or more.

Ireland's Competitiveness Scorecard 2023

Figure 5.4.11 Job vacancy rate by sector, 2021

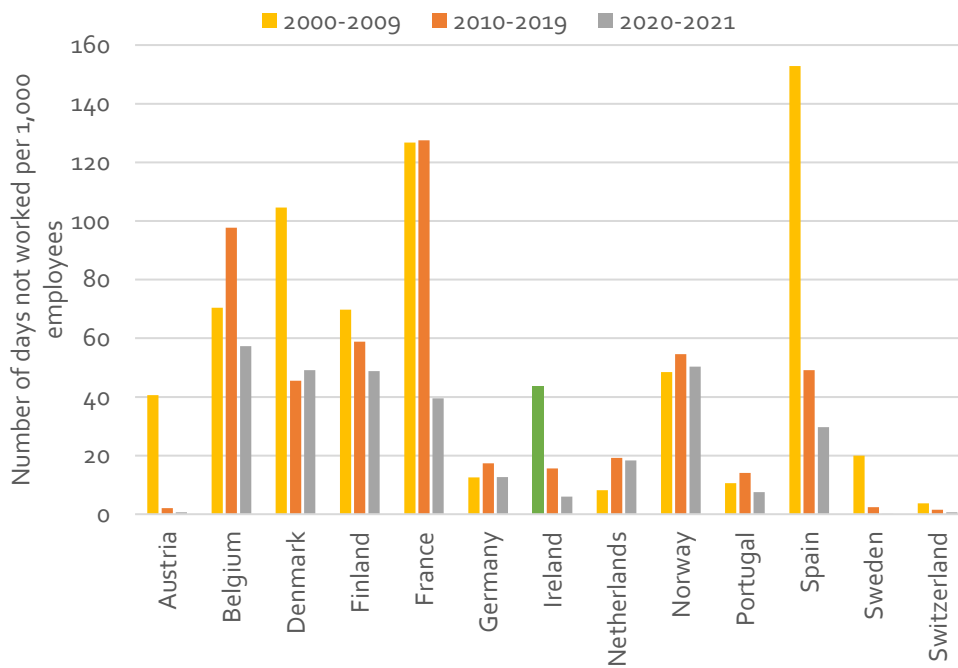


The job vacancy rate (JVR) can reflect an unmet demand for labour, as well as potential skills mismatches. In 2021, Ireland's job vacancy rate was below the EU average for all sectors (where data is available) except finance and insurance, indicating tighter labour market conditions in Ireland than the EU average. Ireland's total JVR was 1.5% in Q3 2022, lower than 2.9% for the EU average, and up from 0.9% in Q4 2019.

Source: Eurostat, Labour Market, Job Vacancy Statistics

Ireland's Competitiveness Scorecard 2023

Figure 5.4.12 Annual averages of days not worked due to Industrial Action¹¹⁵ per 1,000 employees¹¹⁶



The number of working days lost due to strikes can vary greatly depending on the frequency and duration of industrial action, as well as the size and impact of the strikes on different industries or sectors. Strikes can result in significant economic costs to employers, workers, and the overall economy, including lost wages, reduced productivity, disrupted supply chains, and damaged business reputations. Figure 5.4.12 shows that Ireland performs particularly well comparatively against other EU countries with regards to days lost due to industrial action since 2010.

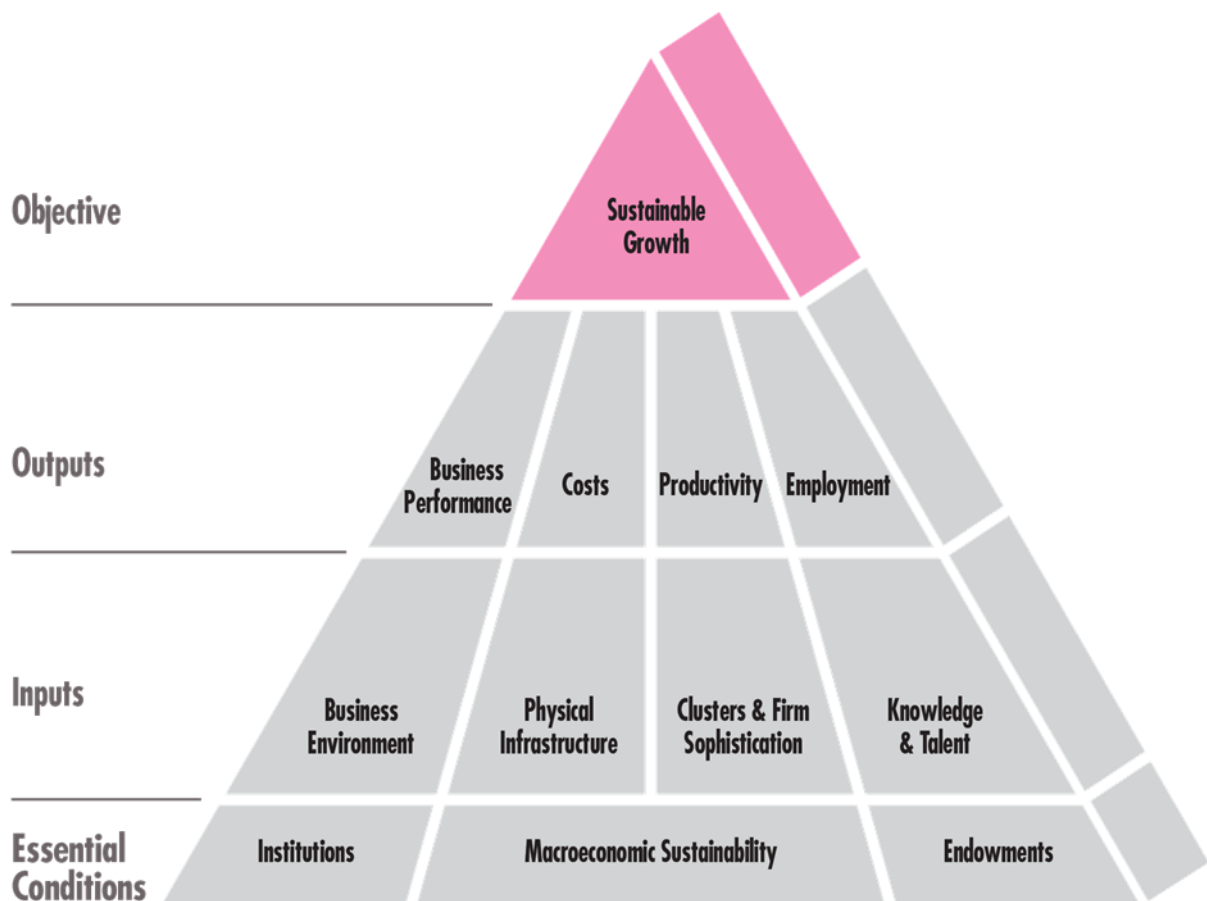
Source: The European Trade Union Institute (ETUI)

¹¹⁵ Industrial actions includes being on strike or taking part in a lockout.

¹¹⁶ The CSO collects data on the Total Days Lost due to Industrial Disputes in Ireland. When the NCPC combined this with the total number of employees in Ireland using Labour Force Survey data, it showed this to be broadly in line with what is shown in the chart above for Ireland.

Chapter 6

Sustainable Growth



Sustainable Growth

Sustainable growth is the ultimate outcome of a competitive economy. An economy with sustainable growth is one which improves people's living standards and quality of life, while ensuring there is broad social inclusion in the benefits of growth, and which seeks to minimise environmental damage. This section examines indicators in each of these areas in determining Ireland's progress on sustainable growth. It looks at how Ireland performs in terms of quality of life using consumption-based measures of welfare and national income-based indicators (which can be impacted by GDP distortions). In terms of social inclusion, it explores how Ireland is performing in including those less well-off in the benefits of sustainable economic growth by exploring at risk of poverty rates, and the degree to which Ireland's net income position is equalised across society. It also explores how Ireland performs in addressing environmental issues, at a time when progress in this area is essential to the sustainability of the Irish economy. There are four broad headings under which Ireland's success in achieving the goals for competitiveness and productivity is evaluated.

Section 6.1 National Income

High and rising incomes are a key measure of the success of national competitiveness. While higher incomes are not the only elements for a happy life, they are an important factor. While recognising its limitations, national income is used as a broadly accepted, standard indicator of economic welfare. The indicators in this section cover the level and growth of Ireland's national income per capita, and the distribution of income. Ireland's performance under these metrics is referenced in the context of both averages for both the euro area and the OECD.

Section 6.2 Quality of Life

A key objective of competitiveness is to support a high quality of life, which is broader than material living standards. Several international organisations produce indices that attempt to capture these broader factors, such as life satisfaction and work-life balance, that are not always captured by headline economic indicators. The Council monitors three indices – the OECD Better Life Index, the UN Human Development Index, and the UN Sustainable Development Solutions Network World Happiness Rankings – which are designed to measure well-being.

Section 6.3 Environmental Sustainability

Climate goals are now a major issue for all countries. Ireland has committed to halving its emissions by 2030 (relative to 2018 levels), under the Climate Action and Low Carbon Development (Amendment) Act 2021. Historically, economic growth has been associated with increasing greenhouse gas emissions and environmental damage – it is now imperative that this relationship is disentangled particularly as the means now exist to achieve growth without environmental degradation. The purpose of indicators in this section is to show how Ireland is performing relative to its environmental commitments, and what lies behind this performance. The indicators are also used to compare Ireland with reference economies in the EU and OECD in terms of green-house gases and also water quality.

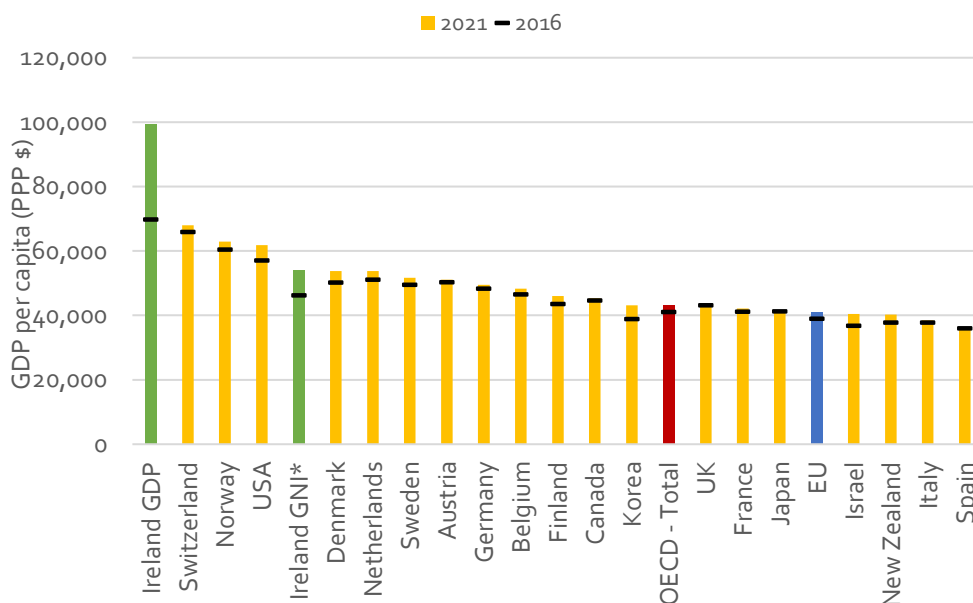
Section 6.4 Social Inclusion

As set out in the Roadmap for Social Inclusion 2020-2025¹¹⁷, social exclusion can be described as cumulative marginalisation from production (unemployment), from consumption (income poverty), from social networks (community, family, and neighbours), from decision making (agency) and from an adequate quality of life. An economy which is growing sustainably is one which can adequately support those in need in a broader sense, ensuring that society as a whole benefits from productive economic growth. Indicators of social inclusion include the Gini coefficient, the proportion of households with difficulty in making ends meet, and the proportion of those employed at risk of poverty. Ireland is referenced against EU and OECD countries.

¹¹⁷ <https://assets.gov.ie/46557/bf7011904ede4562b925f98b15c4f1b5.pdf>

6.1 National Income

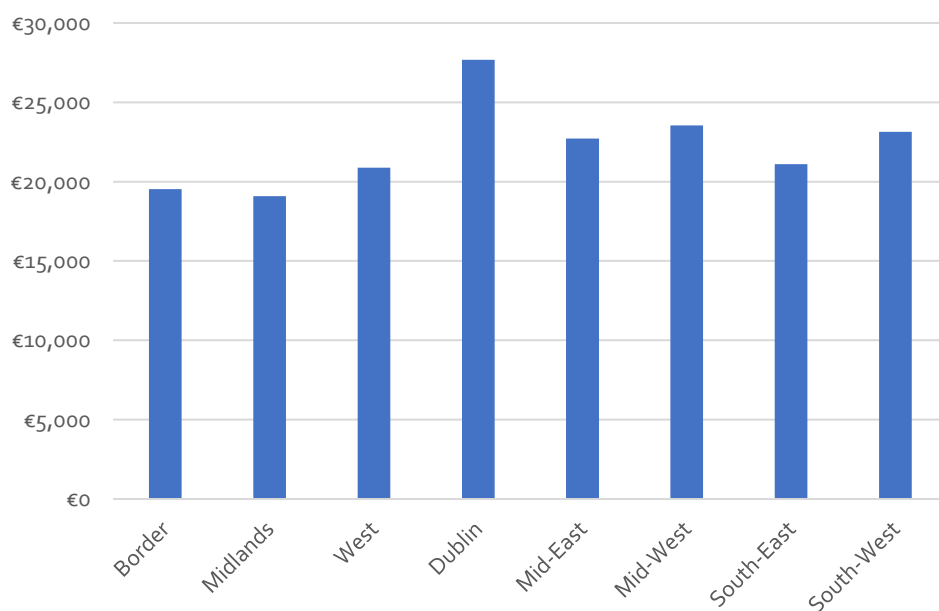
Fig. 6.1.1 GDP per capita, constant prices (2015 PPP, US\$), Ireland GNI* per capita



Ireland's GNI* per capita recorded a significant increase in the five years to 2021, rising by more than 17% in US dollar terms. GDP for Ireland is also shown for reference but should not be used to measure economic performance. Ireland's national income growth continues to exceed OECD and EU averages. This growth has contributed to Ireland ranking highly among OECD countries on income (GNI*) per capita basis, moving from 10th position in 2016 to 4th in 2021 among OECD countries (on a GNI* basis).

Source: OECD, GDP per capita and Productivity, CSO (GNI*)

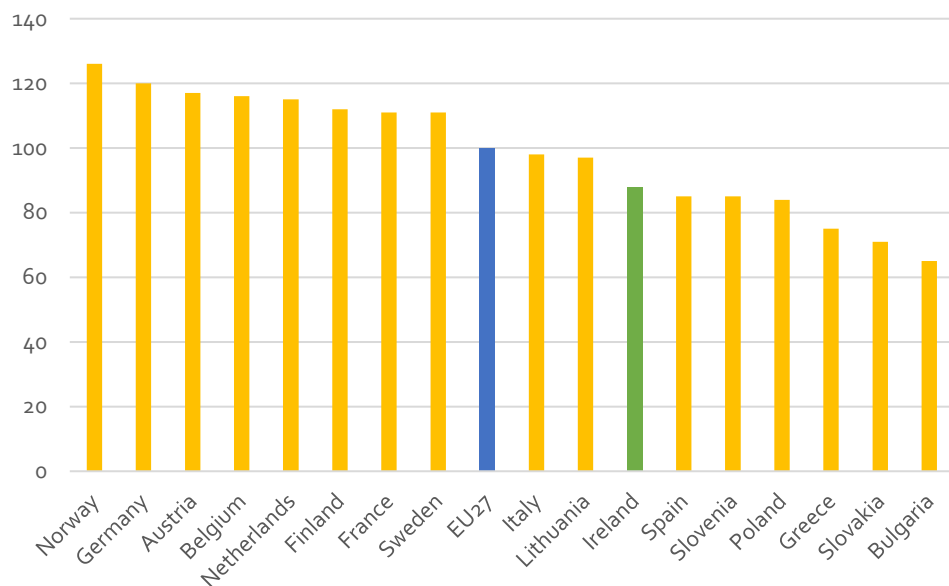
Fig. 6.1.2 Disposable Income per capita, by region, 2020



Disposable income per person varies by region and reflects employment patterns in each of the regions as well as the role the tax system and social transfers play in equalising the final income position between regions to a greater degree. Dublin has the highest level of disposable income per person at €27,686 per person, while the Midlands has the lowest disposable income at €19,076. Both the Midlands and Border regions have a lower concentration of industry and manufacturing, and are more reliant on public sector employment compared to other regions.

Source: CSO

Fig. 6.1.3 Actual Individual Consumption per capita in purchasing power standard (PPS), 2021



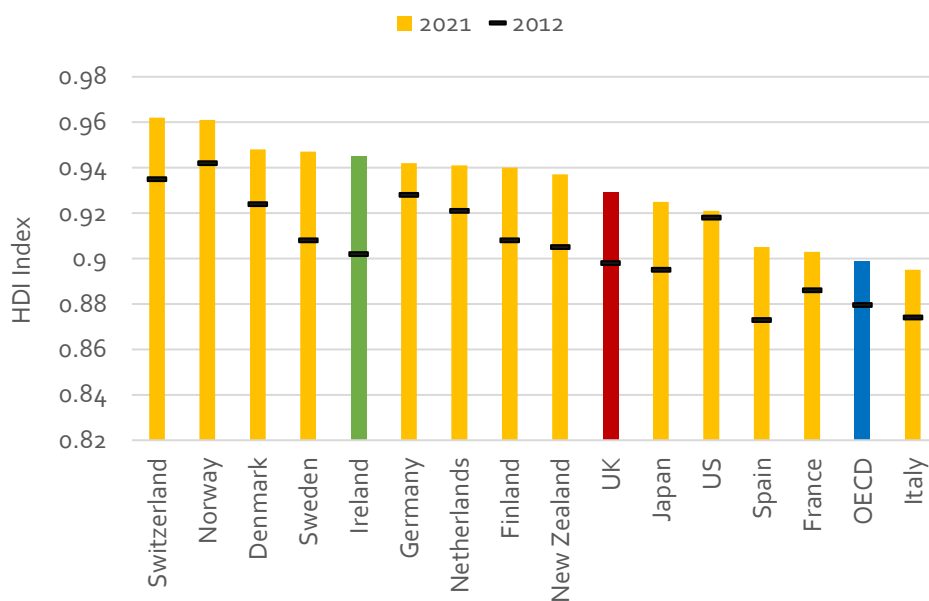
Actual individual consumption (AIC) refers to all goods and services actually consumed by households, and is a measure of material welfare of households, in contrast to GDP-based measures of welfare (which capture output). Ireland ranks below the EU27 average (100) of AIC per capita at 88. This reflects the higher price level for goods and services in Ireland than the EU27 average and its impact on households' ability to purchase goods and services. The high savings rate seen in Ireland across 2020 and 2021 also impacts AIC¹¹⁸.

Source: Eurostat

¹¹⁸ CSO data shows that households saved 19% of their income in Q3 2022, down from 20% in Q2 2022. Before the pandemic, households saved around 10% of their total disposable income. Central Bank of Ireland data shows that total household deposits have increased from €104 billion in December 2019 to €132 billion in September 2022 – a 27% increase.

6.2 Quality of Life

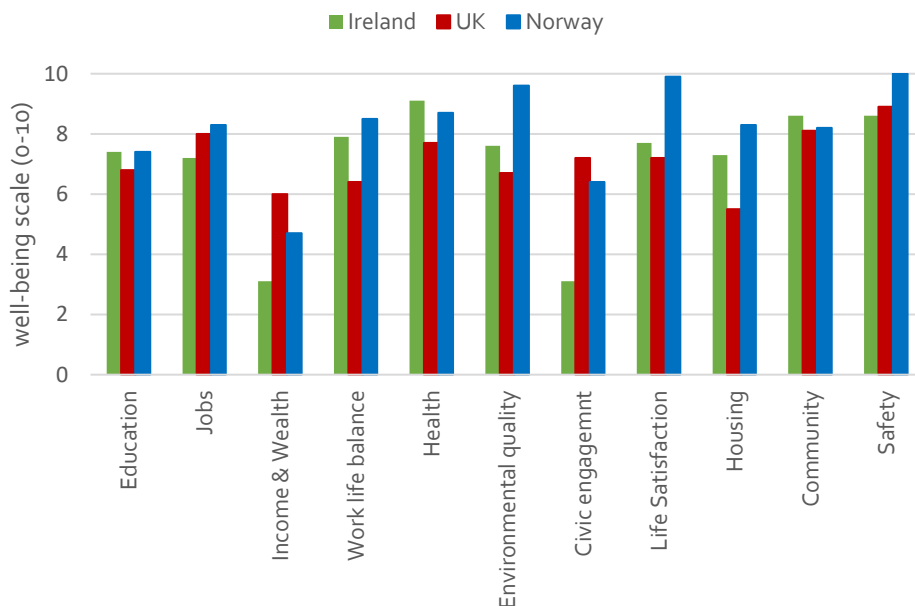
Fig. 6.2.1 Human Development Index



The Human Development Index measures average achievement in three basic dimensions of human development – a long and healthy life, knowledge, and a decent standard of living. In 2021, Ireland performed very well among OECD countries, coming next after Switzerland and the Nordic countries, with an HDI score of 0.95, above the OECD average (0.90). Ireland's HDI score increased by over 4.7% between 2012 and 2021, improving its relative position on the HDI index.

Source: United Nations, HDI, 2021

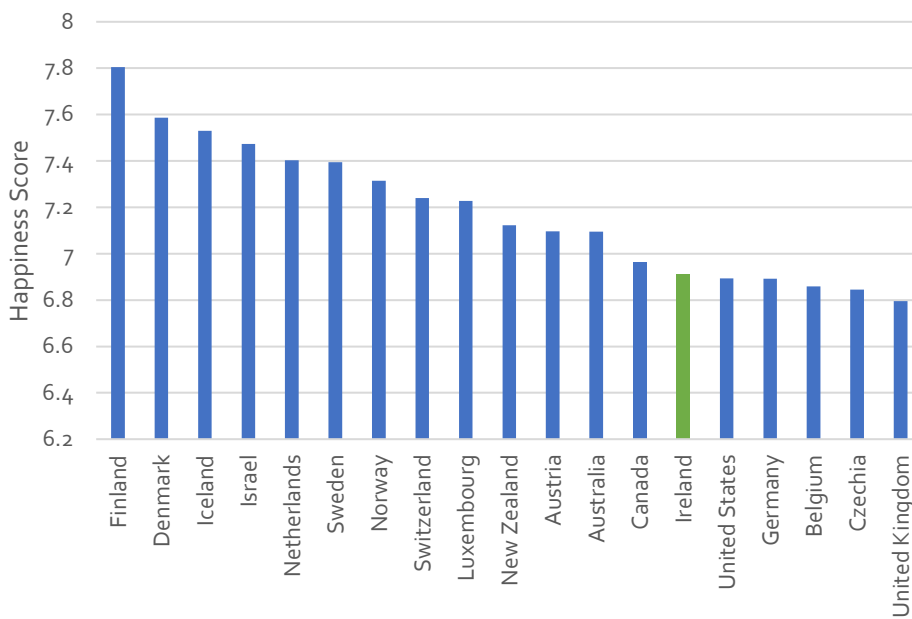
Fig. 6.2.2 OECD Better Life Index, Measuring Well-Being 2020



This chart ranks Ireland relative to our closest neighbour the UK, and the leading OECD performer Norway, across a number of OECD Better Life Index well-being indicators. Ireland scores higher than the UK in seven out of eleven indicators but lags significantly on the Income & Wealth (based on household disposable income) and Civic Engagement indicators. Ireland performs better than Norway on just two indicators: Health and Community.

Source: OECD, Better Life Index 2020

Fig. 6.2.3 Happiness Rankings¹¹⁹, 2020-2022



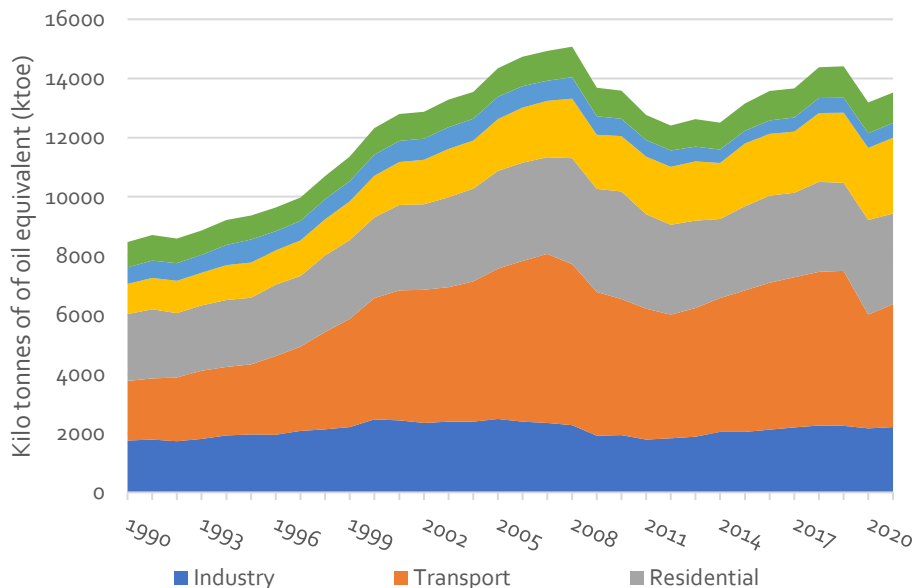
Happiness rankings are based on scores devised from Gallup World Poll data across the top 19 performing countries, with data drawn across and averaged over the period 2020 to 2022 (thereby reflecting trends during and post-pandemic). Scores are based on self-reported subjective life evaluations. With an overall score of 6.9, Ireland is ranked 15th (out of 153 countries) in the Happiness rankings, down from 13th position in 2022. Finland has occupied the top ranking for six consecutive years.

Source: UN Sustainable Development Solutions Network, The World Happiness Report 2023

¹¹⁹ Happiness scores are based on individuals' assessments of their subjective well-being, as indicated by their survey responses in the Gallup World Poll. Data relates to 2019-2021.

6.3 Environmental Sustainability

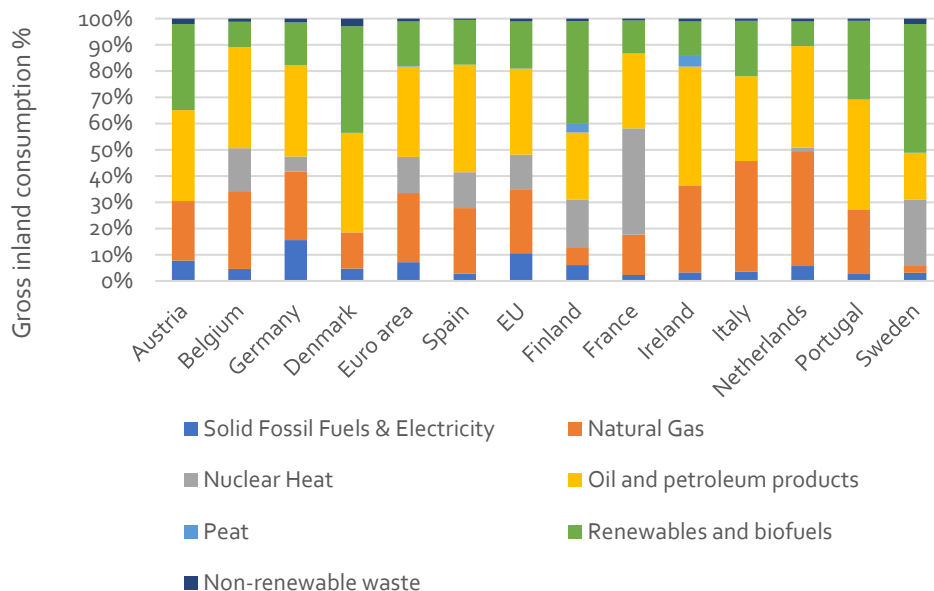
Fig. 6.3.1 Total final energy consumption by sector, Ireland, 1990-2021



Total final energy consumption in Ireland has increased by 56% relative to 1990, but has remained in a range of 12,500-15,000 ktoe over the period 2000-2021, having peaked in 2008. Transport and Residential continue to be the two biggest energy-consuming sectors accounting for 31% and 23%, respectively, of total energy consumption in 2021.

Source: SEAI Energy Statistics

Fig. 6.3.2 Gross inland consumption¹²⁰, percentage by fuel type, 2020



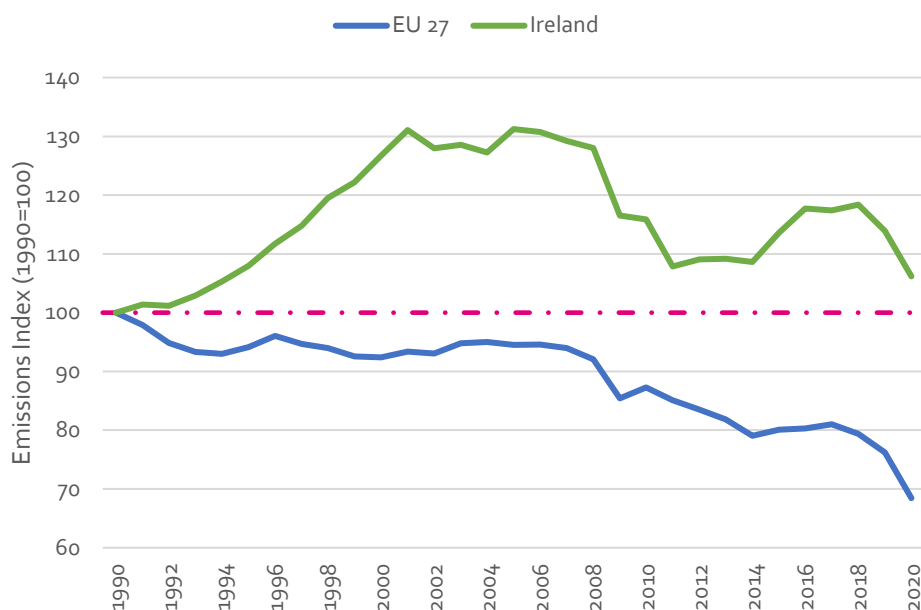
The composition of gross inland energy consumption (the total energy demand of a country) varies significantly across Europe. In 2020, 12.9% of Ireland's energy consumption was derived from renewables, just over half way towards meeting the 2020 renewable energy target (20%) and well behind the 2030 target (27%). Renewables accounted for 17.8% of energy consumption in the EU.

Source: Eurostat, Simplified Energy Balances

¹²⁰ Gross inland consumption is measure of the energy inputs to the economy, calculated by adding total domestic energy production plus energy imports minus energy exports, plus net withdrawals from existing stocks.

Ireland's Competitiveness Scorecard 2023

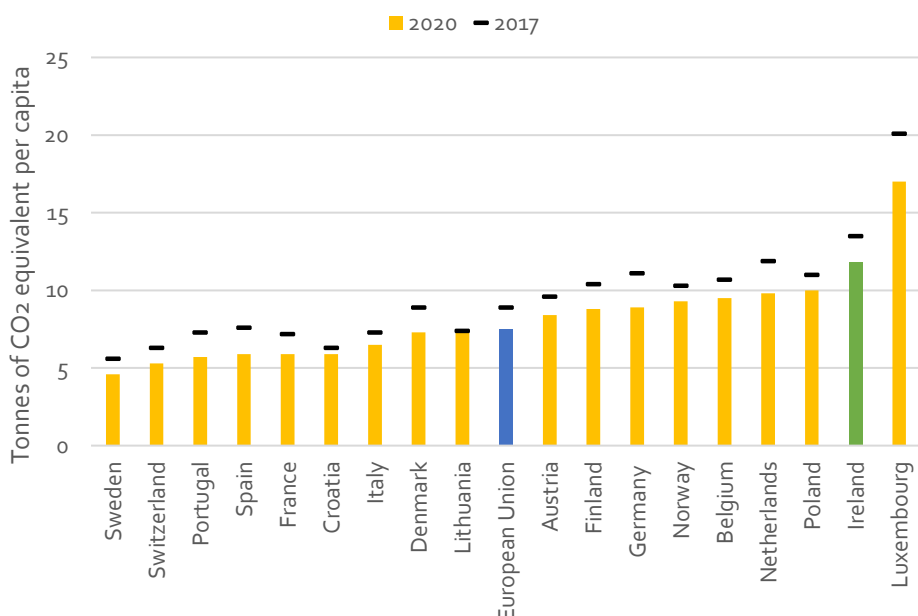
Fig. 6.3.3 Greenhouse Gas emissions (Kt CO₂ equivalent indexed to 1990), Ireland, EU-28, 1990-2020



This indicator demonstrates the change in greenhouse gas emissions in Ireland and the EU27 relative to 1990. It shows that the EU27 has made greater progress in reducing emissions than Ireland, falling by over 30 percent since 1990. Ireland's emissions increased significantly from 1990 to 2001, the highest level ever reported. GHG emissions fluctuated before declining sharply between 2008 and 2011, but rose again with the economic recovery post 2014. Total annual emissions in Ireland are now over 6% higher than 1990.

Source: Eurostat, Greenhouse Gas Emissions Index

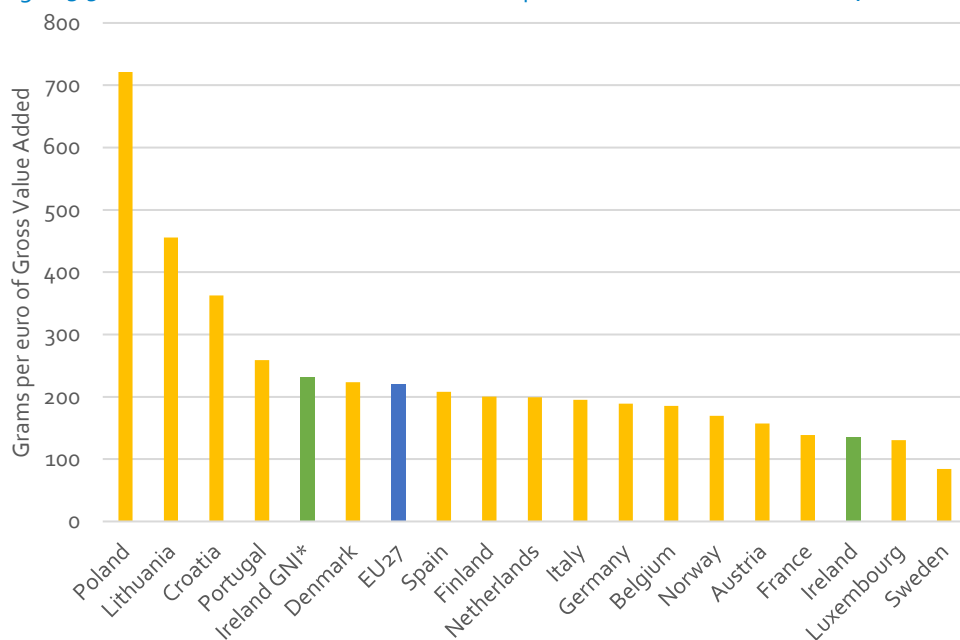
Fig. 6.3.4 Greenhouse Gas emissions per capita, 2020



In 2020, Ireland emitted 11.8 tonnes of CO₂ equivalent per capita, well above the EU average (7.5 tonnes). Ireland has committed to halving its emissions by 2030 (relative to 2018 levels), under the Climate Action and Low Carbon Development (Amendment) Act 2021. This high level of emissions reflects the scale and structure of the agriculture sector in Ireland as well as a higher reliance on fossil fuels in comparison to other EU27 countries (as per Fig 6.3.2).

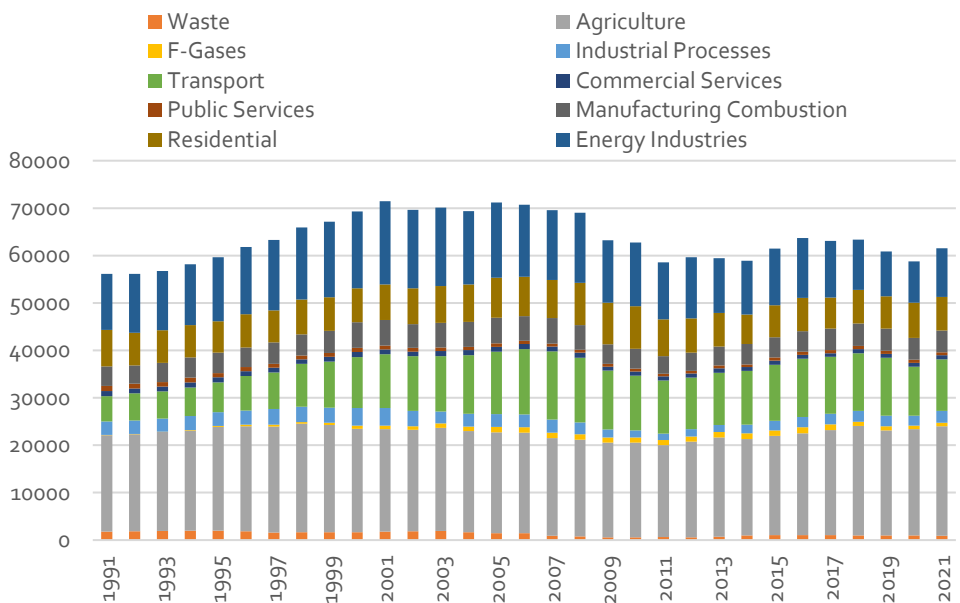
Source: European Environment Agency (EEA), Energy Statistics

Fig. 6.3.5 Greenhouse Gas emissions intensities per euro of Gross Value Added, 2021



A different picture of Irish greenhouse gas emissions emerges when adjusted for value added. In contrast to emissions on a per capita basis, Ireland is one of the better performing countries in the EU when emissions are adjusted on a value-added basis. In 2021 Ireland produced 232 grams per euro of modified gross national income in 2021 – reflecting the greenhouse gas intensity of Ireland’s economic activity once de-globalised¹²¹. Ireland produced 135 grams of CO₂ equivalent per euro of gross value added, compared to an EU27 average of 221 grams.
 Source: Eurostat, CSO

Fig. 6.3.6 Greenhouse Gas emissions by national climate change sectors (Kt CO₂ equivalent), Ireland, 1990-2021

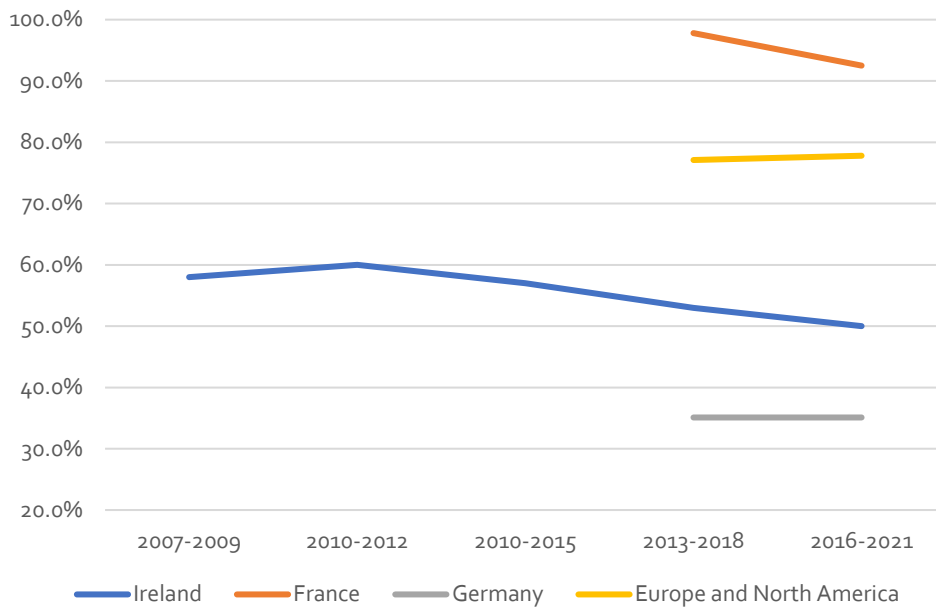


Between 1990 and 2021, the Transport sector recorded the greatest overall increase in Greenhouse Gas emissions, up 112% over the period, despite a fall in transport emissions in both 2020 and 2021 compared with earlier years. The Agriculture sector remains the largest source of Greenhouse Gas emissions in Ireland, and emitted its highest ever annual level of CO₂ equivalent in 2021.

Source: EPA, Ireland's Final Greenhouse Gas Emissions 1990-2021

¹²¹ Modified GNI is an indicator which is designed to exclude globalisation effects which disproportionately impact the measurement of the size of the Irish economy. While not strictly comparable to the other GVA estimates here, it is included to give readers an insight into the de-globalised Irish position.

Fig. 6.3.7 Proportion of rivers with good ambient water quality by year, Ireland, 2007-2021

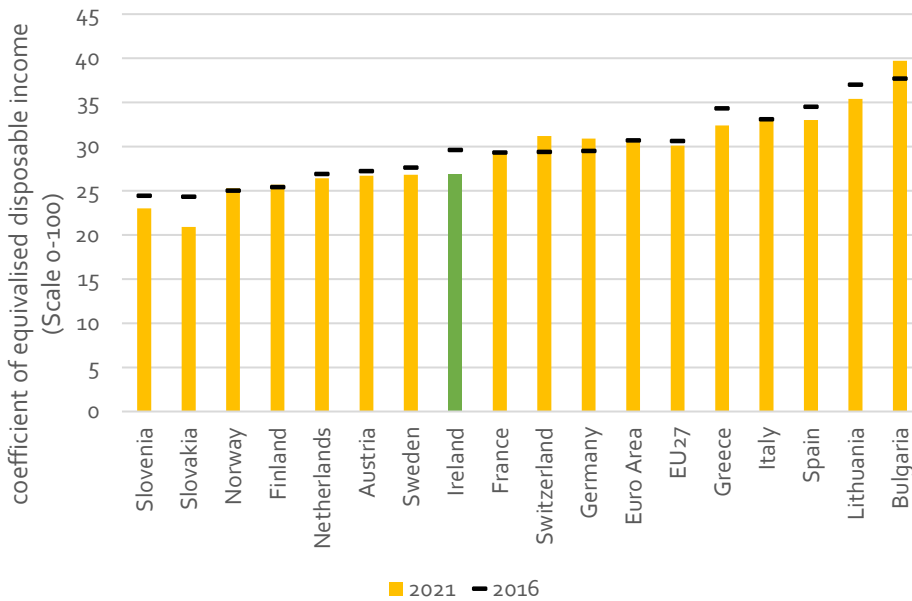


This chart shows the proportion of rivers classified as having good ambient water quality – a key indicator under Goal 6 ‘Clean Water and Sanitation’ of the UN Sustainable Development Goals. This measure has declined over the past 10 years to 50%, despite some improvements between 2007-2009 and 2010-2012, when 60% of Irish rivers were classified as having good ambient water quality. Ireland scores poorly on this measure in comparison to a number of European countries – with 77.8% of rivers in Europe and North America having good ambient water quality.

Source: EPA, Ireland's Final Greenhouse Gas Emissions 2005-2021

6.4 Social Inclusion

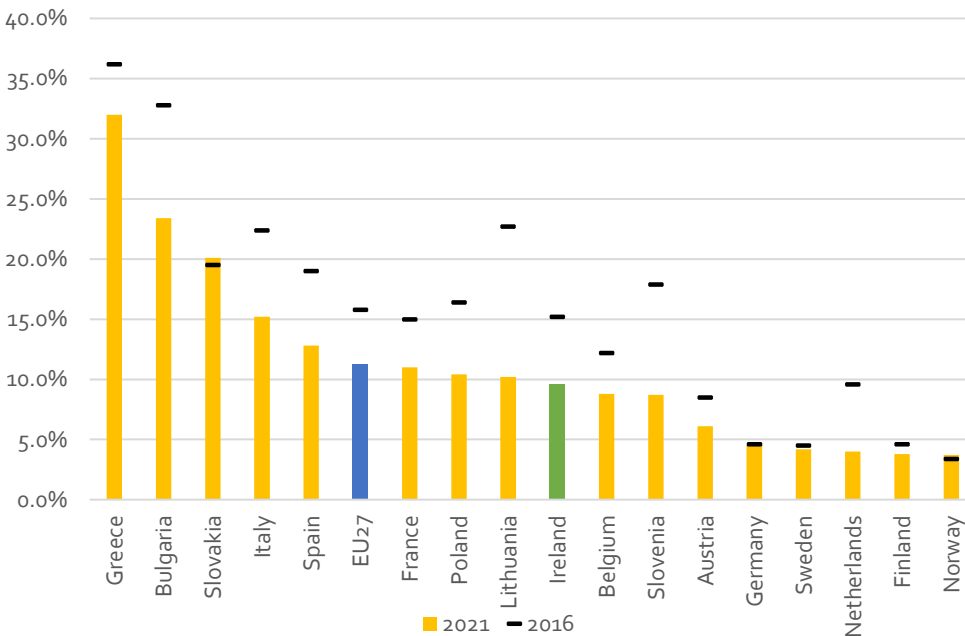
Fig. 6.4.1 Gini²²² coefficient of equivalised disposable income, 2021



The Gini coefficient is a measure of equality of income in the population. Ireland's Gini coefficient was 26.9 in 2021, below the euro area average of 30.5. It has fallen from 29.6 in 2016, indicating that incomes are now more equitably distributed. Prior to social transfers (including pensions) Ireland had a Gini coefficient of 47.9 in 2021 (EU27 average of 52.5) – highlighting the significant role social transfers and the income tax system play in equalising Ireland’s final income position.

Source: Eurostat, EU-SILC Survey

Fig. 6.4.2 Proportion of households making ends meet with difficulty, 2021

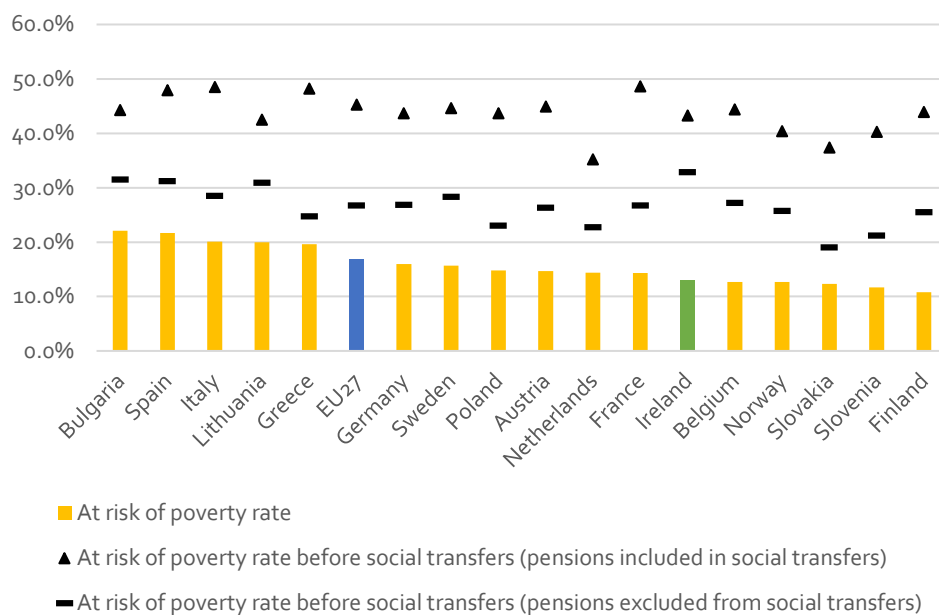


In 2021 some 9.6% of Irish households expressed difficulty in making ends meet. This measure has been on a downward trend over the last number of years and stood at 15.2% in 2016. Over that time-period the proportion of EU27 households expressing difficulty in making ends meet has declined from 15.8% to 11.3% in 2021. A greater proportion of Irish households’ express difficulties in making ends when compared to households in Nordic countries, Germany and the Netherlands where less than 5% of households express difficulty.

Source: Eurostat, EU-SILC Survey

²²² The Gini coefficient is a measure of equality of income in the population where 0 represents a situation where all households have an equal income and 100 indicates that one household has all national income.

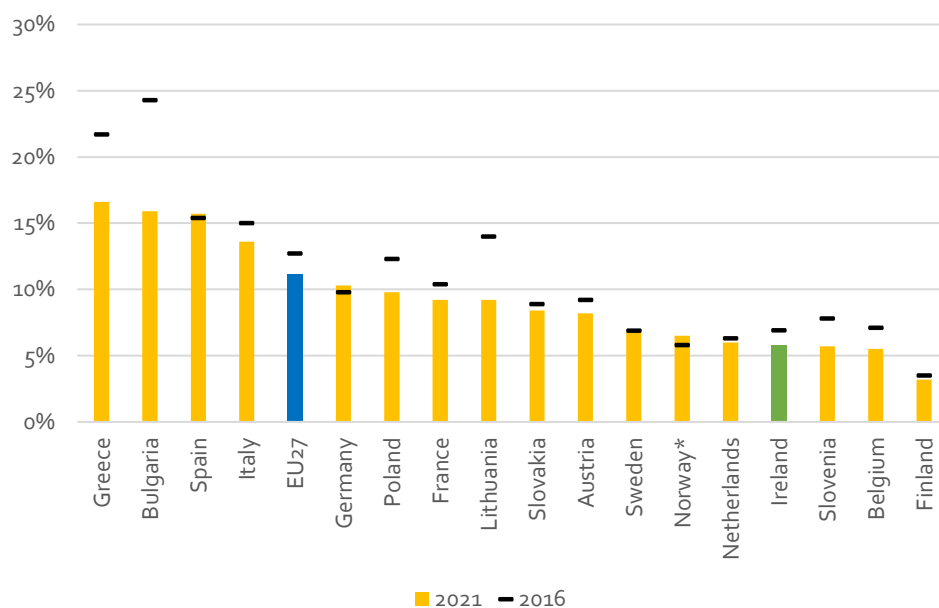
Fig. 6.4.3 Proportion of persons at risk of poverty before and after social transfers, 2021



Social transfers – including pensions – play a significant role in minimising the risk of poverty in Ireland, and in creating more inclusive social outcomes¹²³. In 2021 Ireland had an at risk of poverty prior to social transfers (including pensions) of 43.3%, close to the EU27 average of 45.5%. Pension provision reduces this to 32.8% - which is above the EU27 average of 26.7% (somewhat reflecting the lower average age of Ireland's population). Social transfers reduce the at risk of poverty rate to 12.9% in Ireland, compared to a final EU27 at risk of poverty rate of 16.8%.

Source: Eurostat, EU-SILC Survey

Fig. 6.4.4 Proportion of employed persons at risk of poverty, 2021



Individuals are classified as being at risk of in-work poverty when their equivalised yearly disposable income is below 60% of the national household median income level. In 2021, Ireland had one of the lowest at risk of poverty levels among employed persons in the EU at 5.88%, down from 7% in 2016. This compares with 11.1% for EU27 in 2021 (13% in 2016). This points to the impact of the Irish labour market and social transfers on minimising poverty among employed persons and the importance of labour market activation policies in minimising poverty in Ireland.

Source: Eurostat, EU-SILC Survey

¹²³ Individuals are classified as being at risk of poverty when their equivalised yearly disposable income is below 60% of the national household median income level