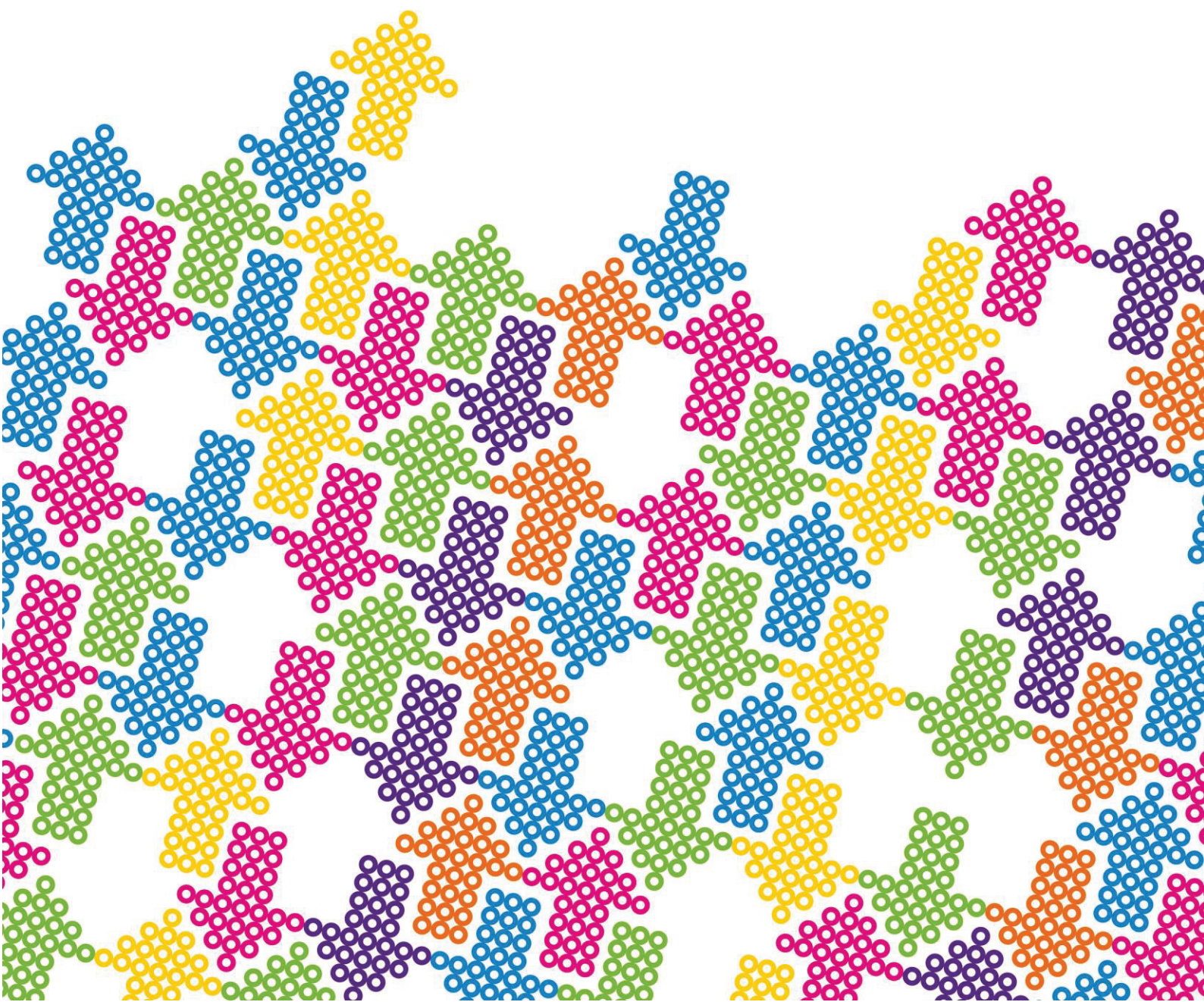




# Ireland's Competitiveness Scorecard 2015

July 2015





## Introduction to the National Competitiveness Council

The National Competitiveness Council reports to the Taoiseach and the Government, through the Minister for Jobs, Enterprise and Innovation on key competitiveness issues facing the Irish economy and offers recommendations on policy actions required to enhance Ireland's competitive position.

Each year the NCC publishes two annual reports.

- Ireland's Competitiveness Scorecard provides a comprehensive statistical assessment of Ireland's competitiveness performance.
- Ireland's Competitiveness Challenge uses this information along with the latest research to outline the main challenges to Ireland's competitiveness and the policy responses required to meet them.

As part of its work, the NCC also publishes an annual Submission to the Action Plan for Jobs and other papers on specific competitiveness issues.

The work of the National Competitiveness Council is underpinned by research and analysis undertaken by the Strategic Policy Division of the Department of Jobs, Enterprise and Innovation.

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Liam Casey	Chief Executive Officer, PCH International Ltd.
Kevin Callinan	Deputy General Secretary, IMPACT Trade Union
Micheál Collins	Senior Research Officer, NERI - Nevin Economic Research Institute
Isolde Goggin	Chair, Competition and Consumer Protection Commission
John Herlihy	Vice President, International SMB Sales and Head of Google Ireland
Declan Hughes	Assistant Secretary, Department of Jobs, Enterprise and Innovation
Danny McCoy	Chief Executive Officer, Ibec
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## Taoiseach's Foreword



After several years of reform, the prospects for Ireland's economy in 2015 and beyond look more promising than at any stage since the onset of the financial crisis and economic recession. A sustained programme of reform since my Government came into office in 2011 has stabilised the economy and delivered a platform for recovery and growth.

It has not been easy to get to where we are today. It is important that we take time to acknowledge the sacrifices made by so many and to recognise the progress made to date. Employment is now growing strongly, our exporting companies are confidently winning business in international markets, our reputation as a safe, secure and rewarding location in which to invest and do business has been restored, and the level of inward investment is stronger than ever.

While the economy is now growing, we cannot afford to pause in our efforts. Too many people are still without employment, too many of our young people have emigrated, and too many families are still struggling to make ends meet.

Protecting and improving Ireland's competitiveness is vital to securing our future interests, to underpinning a strong and stable euro and to helping address the fiscal, economic and social challenges we face. As an exceptionally open economy, enormously dependent on international trade and investment, our competitiveness is critical to our future prosperity.

By ensuring that Ireland is highly competitive, we can continue to grow the economy in a sustainable manner from which everyone will benefit, increasing the spending power of individuals and families, and helping our firms to compete successfully in international markets.

With this in mind, my Government will continue to take the necessary action to improve Ireland's competitiveness, through initiatives such as the multi-annual Action Plan for Jobs and a range of other strategies to encourage investment, entrepreneurship and job creation, across all regions of the country. Furthermore, as we look to a new Capital Expenditure Programme for the medium term, Ireland's competitiveness will be a core driver of investment.

I would like to thank the National Competitiveness Council for producing this highly valuable report, which provides a solid analytical foundation for competitiveness policy development and delivery, and which will provide an extremely useful input to policymakers across all of the arms of Government.

Enda Kenny, T.D.,  
Taoiseach

## Chairman's Preface



After a traumatic and difficult period of economic adjustment, the Irish economic recovery appears to be becoming more secure. Several quarters of strong economic growth has been translated into significant employment growth, spread across most sectors.

Ireland's ability to compete in international trade is a key determinant of wages, living standards and financing of social services like health, education and social protection. As a small open economy, Ireland's ability to achieve sustainable growth is dependent on our ability to maintain international competitiveness. To date, improvements in our competitiveness have been one of the key factors in driving recovery and growth. And yet, there are causes for concern.

There is a clear sense that benign external factors – favourable exchange rates, low energy prices and the weak euro - are boosting Ireland's international cost competitiveness. While these factors are currently working in our favour, they can be quickly reversed, eroding the gains made to date. They also serve to shield us from some harsh truths: Ireland's continuing competitiveness is under threat, and indeed, there are indications that pressures are already emerging which are undermining our international ability to compete.

In May 2015, we have seen Ireland's international competitiveness ranking fall slightly (from 15th to 16th, according to the IMD), after a number of years of steady improvement. While one should not read too much into a change in a single metric, this fall should alert us all to the risks of complacency. Ireland's recovery remains fragile and too reliant on external factors.

While a small, trade-dependent economy such as ours will always be buffeted by the rise and fall of global markets, ensure that Irish enterprise and the Irish economy are best placed to take advantage of global upturns and to survive global downturns. To achieve sustainable competitiveness, leading to sustainable growth, we must focus on policy areas within the control of domestic policymakers, and relentlessly pursue reforms that allow and assist Irish companies to aggressively compete for market share in the globalised economy. To avoid boom-bust economic cycles, we must deliver the necessary structural reforms required to support competitiveness and growth.

On the costs side, earlier this year the Council pointed out the significant risk that recent competitiveness gains will be eroded as economic growth strengthens. In the Costs of Doing Business in Ireland 2015 report, the Council noted that, relative to some of our key competitors, Ireland remains an expensive location in which to do business. The report highlighted that a number of upward domestic cost pressures are now emerging, particularly in relation to labour, property and business services. In addition, the report highlights the difficulty of achieving further cost reductions against a backdrop of low inflation throughout the EU.

Improved productivity performance offers the best pathway to prosperity. While cost competitiveness is absolutely essential, only productivity growth offers the opportunity over the medium term to grow incomes and employment sustainably. Productivity performance is, therefore, the crucial determinant of Ireland's international competitiveness.

To achieve the productivity growth necessary to continue Ireland's recovery, the Council's analysis has identified a number of policy challenges:

- i. There is a need to maintain fiscal stability, ensuring that the State's finances are prudently managed – this is a crucial element in providing a stable business environment in which enterprise can thrive. A stable and a prudent approach to fiscal policy is also key to ensuring that sufficient public funds are available for investment in productivity-enhancing programmes and infrastructures.
- ii. The availability of competitively-priced, world-class infrastructure (energy, telecoms, transport, waste and water) and related services is critical to support economic growth and enterprise development.

As the country returns to growth, further targeted and prioritised investment and reform is required to address existing and likely infrastructural bottlenecks which could constrain growth in the economy by dampening productivity growth, increasing costs and limiting sectoral opportunities for foreign direct investment (FDI) and indigenous enterprise development. Capital expenditure, however, is not just about physical infrastructure. Investment and growth is increasingly driven by knowledge-based capital – investing in people and R&D must remain a key strategy to improve productivity and competitiveness.

iii. Investment in people is not a new concept – the skills and talent of the work force are essential determinants of labour productivity. Training and upskilling of talent is associated with large increases in both productivity and output. From a national competitiveness perspective it is critical that industrial development and skills policies are adequately aligned and that labour/skills mismatches in the labour market are minimised. Issues relating to labour force participation and participation in lifelong learning also need to be addressed urgently to support competitiveness.

iv. While Irish export performance remains robust, we should not ignore the fact that much of our recent performance is dependent on a relatively small number of sectors selling a narrow range of products into a narrow range of markets. To minimise the adverse consequences from any potential external shocks, there is a need to broaden out into new products, markets and sectors, whilst maintaining the competitive advantages we enjoy in existing ones. We must also look to the domestic market, and ensure that we develop the most supportive environment possible to support entrepreneurship and enterprise development. A range of policy actions are likely to be required in this space, including improving access to finance for enterprise.

v. Finally, the Council's analysis highlights the importance of innovation as a source of growth. While Ireland's overall innovation performance has improved in recent years, performance lags innovation leaders such as Denmark, Finland, Germany and Sweden with whom we aspire to compete.

This report provides the evidential base to assist policy makers to identify the key challenges confronting Irish enterprise. The Council will discuss these issues and put forward proposals to address them in its annual policy document Ireland's Competitiveness Challenge which will be published later this year.

I would like to conclude by thanking the Council members and advisers for their valuable time commitment and helpful contributions throughout the development of this report. I would also like to acknowledge the invaluable work of secretariat in its preparation.

Professor Peter Clinch

Chairman, National Competitiveness Council

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# Chapter 1: Introduction

## International Competitiveness Rankings

Since 2011, Ireland's relative international competitiveness as measured by a range of international indices improved (Figure 1). We have moved from 24<sup>th</sup> to 16<sup>th</sup> in the IMD's World Competitiveness Yearbook and from 29<sup>th</sup> to 25<sup>th</sup> in the WEF Global Competitiveness Report. In addition, the World Bank's most recent "Doing Business" report shows Ireland is now ranked 13<sup>th</sup> out of 189 countries, up two places since 2014 (Figure 40).

While welcoming the improvement in Ireland's rankings over the period 2011-2014, the Council is concerned that hard won competitiveness gains are at risk of being eroded. International competitiveness is a dynamic process and competition in the global economy is intense and constant. The IMD's World Competitiveness Yearbook published in May 2015, shows that Ireland's overall competitiveness ranking slipped from 15<sup>th</sup> in 2014 to 16<sup>th</sup> in 2015. Ireland's decline in the IMD can be partially explained as a result of improved performance amongst some of our key competitors (most notably Luxembourg), emphasising the relative nature of cross country competitiveness comparisons. While the drop in performance is relatively slight, it serves as a reminder about Ireland's vulnerability, the fragile nature of our recovery, and the need to continually focus on policies to support and enhance competitiveness.

## A Return to Growth

Following annual GNP growth of 1.1% and 3.3% in 2012 and 2013 respectively, initial estimates indicate that the Irish economy is for now the fastest growing economy in Europe with GNP increasing by 5.2% year on year in 2014, and by 4.8% in GDP terms<sup>1</sup>. European economic growth resumed in 2014 after two years of negative performance, euro area growth however was modest at 0.9% GDP with the EU28 growing by 1.4%. From an Irish perspective, GDP growth in the UK and US of 2.8% and 2.4% respectively is particularly welcome, given the importance of both countries as export destinations for Irish produced goods and services.

Ireland's GDP per capita remains well above the euro area average (+24.5%) and is the fourth highest in the OECD-32 (Figures 2 & 3). In GNP per capita terms, however (a better measure of living standards), the differential is much narrower (+5%). Although, GDP and GNP are once again increasing, output and incomes remain approximately 11 per cent below their pre-recession peak. Despite the adverse impact of the recession, life satisfaction in Ireland (6.8) is above the OECD-32 average (6.7) (Figure 9).

Indeed, the impact of renewed Irish competitiveness and economic growth in our key trading partners is reflected in Ireland's buoyant export performance. Services exports, driven by computer sales (both hardware and software) are increasing strongly and, since 2013, services account for a larger share of exports than goods (Figure 18). This is evident in Ireland's increasing share in world services trade (2.7%) and declining share of merchandise trade (0.6%) (Figure 15). The EU and US accounted for 55% and 22% of total merchandise exports in 2014, relatively unchanged year on year. Ireland's current account surplus increased by almost €4 billion in 2014, suggesting that Ireland is now paying its way in the world, and offering the possibility of more sustainable growth to come (Figure 5). However, the positive current account data must be interpreted with

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<sup>1</sup> Data refers to the percentage change on the preceding year in GDP volume. See European Commission, European Economy 2/2015, European Economic Forecast, Spring 2015

caution. Irish export levels must be considered in relation to the performance of foreign owned firms (Figure 19)<sup>2</sup>

## Balanced and Sustainable Growth

Following some volatility in 2012 and 2013, the drivers of growth became more balanced in 2014 with a noticeable increase in the contribution made by consumption and investment, albeit from low bases (Figure 4). In 2014 consumption increased by over 1% year on year with retail sales continuing to show modest growth.

After sharp reductions in investment during the recession, gross fixed capital formation continues to recover, increasing by 11% in 2014, albeit from a very low base (Figure 12). Irish investment levels in all assets types almost halved between 2008 and 2013, falling from 22% of GDP to 11.2% of GDP. Over the same period, the euro area average declined by 18%. In GNP terms, Irish private investment (17%) mirrors the euro area average (16.8%), while public investment (1.8%) is significantly below average (2.8%). Inadequate capital investment, left unaddressed, will choke competitiveness and future economic growth.

Commercial and residential real estate transactions and prices increased in 2014, particularly in Dublin. Likely as a consequence of increased demand - and hence prices - planning permissions granted for all types of construction returned to growth and increased by 14% year on year. However, this level remains well below historic growth trends. New construction output levels also remain significantly below peak and property supply constraints are emerging. As the market tightens, a sustained shortage of supply of commercial and residential property and increasing rents and purchase prices could adversely impact competitiveness.

From an international investment perspective, Ireland remains an attractive location, and exhibited a strong performance in 2014, in terms of both FDI investment levels and employment (Figure 13). Despite intensified international competition for globally mobile investment, Irish tax rates (on corporations and income) remain competitive, although the gap between Ireland and OECD countries is narrowing (Figures 33, 34 & 35).

Ireland's stock of inward investment (173% of GDP) remains amongst the highest in the OECD, illustrating the significant dependence of the economy on FDI: inward FDI flows in 2013 amounted to 16.2% of GDP (Figure 13). Arising out of all of this activity, net employment amongst agency supported foreign owned firms increased by 7,131 in 2014 and now stands at 174,000.

From an indigenous enterprise perspective, performance was very strong in 2014 and exports from Irish owned Enterprise Ireland supported firms increased by approximately 10% to €18.6 billion. It was also a year of record employment levels for Enterprise Ireland supported companies, with total direct employment increasing to 180,072. Year on year, indigenous exports grew across all sectors and international markets. Irish-owned companies account for 12.2% of total development agency client exports. In export market share terms, "food and drink", "traditional manufacturing" and "business services" are the largest indigenous sectors. While this unprecedented performance is very welcome, maintaining these hard won gains in a global market where competition for FDI and export share is increasingly intense cannot be taken for granted.

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<sup>2</sup>In recent years, several large MNCs relocated their headquarters to Ireland, in a practice known as re-domiciling. This effect is estimated to add about 4 percentage points to the level of the current account balance. The indication is that the impact of 're-domiciled plcs' on the income balance fell out in 2014, with the impact effectively the same as 2013. See Department of Finance, Ireland's Stability Programme, Incorporating the Department of Finance's spring forecasts, April 2015 Update

## Balanced and Sustainable Public Finances

Economic growth has resulted in significant improvements in the Government finances. While debt levels remain very high - the Irish debt to GDP ratio has declined from 123.2% of GDP in 2013 to 109.7% in 2014, with a continued downward trajectory expected over coming years – the general Government deficit subject to continued discipline, is on course to be eliminated by 2018<sup>3</sup> (Figure 6). This reflects substantial consolidation on the expenditure side throughout the recession, as well as more buoyant tax revenues, reflecting new/increased taxes and the improvement in the economy. The Department of Finance estimate tax revenue grew by 9.2% in 2014 with significant growth in capital gains, stamp duties, income, VAT and corporation tax receipts. As a result, a primary general government deficit (i.e. the difference between government revenue and expenditure excluding interest payments) of 0.1% of GDP is expected for 2014, with a surplus of 0.7% forecast for 2015<sup>4</sup>.

Stable and sustainable public finances are a prerequisite for competitiveness. Looking out over a longer time horizon, while Ireland faces a significant challenge to achieve a 60% general government debt to GDP ratio, the level of fiscal consolidation required will not mirror the level experienced in recent years (Figure 7). The Council recognises the budgetary challenges of reducing the deficit level while at the same time ensuring that fiscal policies accommodate sustainable economic growth, investment and employment. Further, the impact of demographic pressures on the public finances in areas such as health and pensions in the future is acknowledged. The Council considers that policies which best facilitate and support competitiveness and growth while minimising the impact of cyclical factors are essential to maintain fiscal stability. Steering an appropriately balanced course between both revenue and expenditure, (and between current and capital expenditure), is essential if the State is to have sufficient resources to invest in productivity enhancing infrastructures and programmes.

Moving beyond the public finances, high levels of indebtedness amongst the business sector (non-financial corporations) and households continue to impose constraints on investment and consumption (Figure 8). Likewise the propensity for individuals and firms alike to rebuild their balance sheets (by repaying outstanding debts, and maintaining relatively high savings rates), while rational, also acts as an impediment to growth. The levels of non-performing household and business loans remain extremely high. It is positive that the value of impaired SME loans has been declining slowly in recent quarters- the Central Bank notes that there are positive signals in relation to arrears workout, particularly with regard to mortgages<sup>5</sup>. However, the resolution of non-performing loans (NPLs) by the Banks requires continued focus as the cost of making provisions for NPLs hinders credit supply to the economy as a whole.

## A Need for Jobs-Rich Growth

The impact of Ireland's improved competitiveness and the return to growth has fed through to the labour market (Figure 28). Employment has now grown for 3 consecutive years with seasonally adjusted data showing a 2.1% increase in the year to Q1 2015. By comparison, the European labour market has been sluggish – employment in the euro area grew by 0.6% in 2014 (Figure 30). From a crisis level low of 1.825 million employed, in Q1 2012, employment has now rebounded to over 1.9 million. This figure, however, remains

<sup>3</sup> See Table 10, Budgetary Projections 2015-2020 in Department of Finance, Stability Programme Update, April 2015

<sup>4</sup> According to Department of Finance figures, a General Government Balance of -2.3% of GDP is forecast for 2015, declining to -1.7% of GDP in 2016 and -0.9% in 2017. See Department of Finance, Stability Programme Update, April 2015

<sup>5</sup> <https://www.centralbank.ie/publications/Documents/Macro-Financial%20Review%202014.2.pdf>

some way short of peak employment of 2.1 million and provides an indication of the scale of the challenge which still confronts Ireland.

In a break with recent years, in 2014 full time employment accounted for all of the increase in employment in Ireland – indicating that employers are becoming more confident about the recovery, and that more hours paid employment are available. Equally importantly, employment growth is spread relatively equally across the different sectors of the economy. Growth was strongest in construction (7%), professional, scientific and technical (6%) and accommodation and food service activities (5%). At the same time, unemployment is noticeably declining. In 2014 unemployment was at 213,000 people – or 114,000 people below peak<sup>6</sup>. As a result, the standardised rate of unemployment in Ireland declined from a peak of 15.1% in 2011 to 10.4% in Q4 2014, and to 9.7% in June 2015. The Irish unemployment rate is now well below the euro area average (11.1% in May 2015).

With strong employment growth, it is likely that labour and skills shortages will increase in the medium term. Despite a more positive outlook, a number of worrying trends persist. While the number of persons classified as long-term unemployed decreased by 32,000 (-20.6%) in the year to Q4 2014, long term unemployment continues to account for approximately 57% of Irish unemployment. At 6.7%, Irish long term unemployment remains above the euro area average (6.1%) Likewise, the persistence of high rates of youth unemployment in Ireland is common across the euro area (Figure 29). Youth unemployment in Ireland peaked at 31.1% in June 2012 but had decreased to 23.9% by 2014, marginally above the euro area average.

Interestingly in Ireland, the recession did not result in large scale changes in unemployment differentials between regions (Figure 31). The differential in unemployment rates across Ireland's eight regions (15%) is amongst the lowest in the EU and has not changed significantly since 2009. With the onset of recovery, employment growth has occurred in most NUTS3 regions; however, employment growth across the Irish regions has been more uneven than was previously the case and the dispersion of employment rates between regions increased from 3% in 2008 to 5.1% in 2013.

The Irish labour force participation rate (59.8%) remains below the pre-crisis level (63.8% in Q4 2007), while the absolute size of the labour force has also decreased from 2.3 million to 2.15 million. This trend has continued in recent quarters - in the year to Q4 2014, the size of the labour force decreased. CSO data shows that this negative demographic effect is concentrated amongst 20 to 34 year olds, and is partly attributable to net outward migration. As a consequence of the recession, emigration returned as a feature of the Irish labour market in 2009 (Figure 50). Although net emigration in 2014 was at its lowest level since 2009, total net outward migration remains high at 21,400. More third level qualified people are leaving the country in recent years than are arriving (Figure 51).

In addition to the social loss associated with emigration, the migratory outflow of skills represents a significant loss of talent and undermines long term competitiveness. Competition for talent is global and intensifying. Despite significant increases in graduate numbers, skills shortages are emerging across multiple sectors—particularly, science, technology, engineering and ICT. Talent is increasingly mobile and Ireland's ability to attract and retain talent is necessary to ensure sustainable competitive advantage. The attraction and retention of talented people will require broadening the policy focus on talent beyond the provision of

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<sup>6</sup> The upturn in the economy is also reflected in the Live Register, which shows that, in gross terms, over 141,000 people left the live register to take up work during 2014 - an exit rate of 40%, up from 33% in 2012. This degree of churn is an indication of both job creation and destruction, and shows a welcome degree of activity in the Irish labour market.

education and training, economic migration policies, remuneration and tax policy. While these factors remain critical, the regulatory, market and social landscapes in a country also facilitate talent attraction and retention. Quality of life considerations such as ease of mobility, cost of living and personal factors are central to talent attraction and retention. Social and cultural development and effective city planning as well as the effective marketing of localities, regions and clusters is increasingly important internationally in attracting and sustaining talent.

## The Outlook and Challenges Ahead

Growth prospects for Ireland for 2015-2016 are expected to be strong (Table 1). Aided by generally positive forecasts in both the US and UK (Table 2) – our two principle trading partners outside of the euro area - and the continued weakness of the euro (evident in Ireland’s declining effective exchange rate), Irish exporting sectors are well positioned.

Table 1: Department of Finance Forecasts for the Irish Economy<sup>7</sup>, 2015-2020

	2015	2016	2017	2018	2019	2020
<b>Real GDP growth (%)</b>	4.0	3.8	3.2	3.2	3.0	3.0
<b>Real GNP growth (%)</b>	3.9	3.5	2.7	2.6	2.5	2.5
<b>Employment growth (%)</b>	2.2	2.2	1.9	1.9	1.8	1.7
<b>Employment ('000)</b>	1,960	2,000	2,040	2,080	2,115	2,155
<b>Unemployment (%)</b>	9.6	8.8	8.4	7.8	7.3	6.9
<b>General government balance (% GDO)</b>	-2.3	-1.7	-0.9	-0.1	0.7	1.7
<b>General government debt (% GDP)</b>	105.0	100.3	97.8	93.6	89.4	84.7

Table 2: European Commission GDP growth forecasts (%)<sup>8</sup>, 2015-2016

	2015	2016
<b>UK</b>	2.6	2.4
<b>Germany</b>	1.9	2.0
<b>Ireland</b>	3.6	3.5
<b>Euro area</b>	1.5	1.9
<b>EU28</b>	1.8	2.1
<b>US</b>	3.1	3.0
<b>World</b>	3.5	3.9

<sup>7</sup> This table is taken from Department of Finance, Spring Economic Statement, April 2015

<sup>8</sup> European Commission, European Economy 2/2015 European Economic Forecast, Spring 2015

On the other hand, the ongoing uncertainty in relation to the EU's economic prospects and the UK's continued membership of the EU represent significant downside risks. Nevertheless, the majority of economic indicators provide a cause for optimism in the short term. The challenge for Ireland is to ensure that the move towards more balanced growth, with contributions from all sectors of the economy, continues and is robust over the long term.

If Ireland is to take advantage of the upturn in the global economy however, policy action is required to address a number of constraints which are currently undermining our competitiveness. Specifically, the Council believes that to deliver the growth and jobs required to enhance Ireland's prosperity, a range of issues must be addressed to enhance productivity, thus improving competitiveness. Most immediately, Ireland's international competitiveness reflects our cost competitiveness vis-à-vis our competitors and trading partners. Costs, therefore, continue to be a major focus for the Council. In the medium term, however, productivity improvements must be the primary driver of Irish competitiveness. The challenges in improving the quantity and quality of human and productive capital, and enhancing total factor productivity (through technological change, innovation and the application of competition policy) are significant but key to achieving sustainable competitiveness resulting in economic growth, jobs and improved living standards. These challenges are considered below.

## Costs

The Council recently published its 2015 Cost of Doing Business in Ireland report. This report ([summarised in Figure 27](#)) notes that Ireland's cost base improved considerably in the period 2009-2014. This has made Irish firms more competitive internationally, and makes Ireland a more attractive location for firms to base operations. Increasingly, however, improvements in relative cost competitiveness have been driven by external factors beyond domestic policy control – in particular, the weak euro and low international fuel prices are the primary factors contributing to Ireland's cost competitiveness ([Figure 24](#)). Ireland cannot rely on benign external factors to maintain competitiveness, and furthermore, there are significant risks that recent gains will be eroded as economic growth strengthens.

Despite the improvements achieved during the recession, Ireland remains a high cost location. In 2013, Ireland was the 3rd most expensive location in the euro area for consumer goods and services ([Figure 22](#)). Price levels were 16.8% above the euro area-18, and costs relative to national income (GNP) remain particularly high compared to the euro area average. From an enterprise perspective, in Q3 2014, business service prices were 6.5% above 2010 levels. Upward cost pressures are already emerging in Ireland, particularly in relation to labour, property, insurance and education, as well as a range of business services. In relation to labour costs, the concern is not that incomes are growing, but rather the extent to which these increases are supported by productivity ([see Figure 26 and below](#)).

The *Costs* report also highlighted the difficulty of achieving further cost reductions against a backdrop of low inflation throughout the EU<sup>9</sup>, and the significant risk that recent competitiveness gains will be eroded as economic growth strengthens and inflationary pressures begin to emerge. It is imperative, therefore, that Irish economic policies continue to be considered in terms of their impact on competitiveness and do not unnecessarily result in cost increases.

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<sup>9</sup> Europe, in recent years, has been characterised by low inflation – inflation of 0.4% was recorded in 2014, well below the ECB's price stability target range.

## Human Capital: Enhancing Employability and Skills

### *The Labour Market*

Addressing weaknesses in Ireland's labour market will remain a key priority and necessity for years to come. As well as ensuring that companies are in the optimum position to grow and create employment, there is a need to continue to target the most challenging parts of the labour market and to assist the most vulnerable members of society. The issue of youth and long term unemployment have already been highlighted above. There is also a need to address low levels of female labour force participation in Ireland (52.4% in Q1 2015) which remain well below the euro area average. Ireland has the fourth lowest female participation rate in the euro area.

In addressing these issues, it is important that all of the factors impacting upon participation and the take up of employment are carefully considered. For instance, issues such as childcare costs, replacement rates, and levels of personal taxation are factors which influence labour market outcomes. Childcare costs in Ireland are among the highest in the OECD, and represent a major disincentive to work for lone parents, or parents seeking to return to work. In this regard, the replacement rate also plays a role in shaping the incentive to work for individuals (Figure 32). At present, replacement rates are significantly higher for lower income families in Ireland (i.e. those earning 67% of the average wage), than other OECD countries. Replacement rates, bands and thresholds for income tax have a direct impact on the labour market. Currently, the gap between what the employer pays and what a single employee earning 100% of the average wage receives has increased from 24.7% in 2009 to 28.2% in 2014 (Figures 34 & 35). However, this is still significantly below the OECD average of 35.7%. Generally, marginal tax rates in Ireland are lower for families with children than for single people. Attracting talent home is also an emerging issue. Marginal tax rates for higher earning and internationally mobile workers are less competitive.

At a broad level, as recovery deepens, policy makers must be cognisant of the interdependency of the taxation system, social welfare and replacement rates, and the impact that policy changes can have on labour market participation.

### *Skills and Talent*

Productivity growth is the preferred mechanism to drive competitiveness in the medium to longer-term, as it delivers improvements in competitiveness in tandem with sustainable increases in income levels. Labour productivity is one of the primary determinants of overall productivity performance. Irish (GDP) productivity grew by an average of 2.6% per annum between 2008 and 2013, and in 2013, productivity levels exceeded the OECD average (Figure 20). In GNP terms, productivity levels are close to the OECD average.

Despite the positive trend in productivity performance, the Council has previously drawn attention to the impact changes to the composition of employment had on Irish productivity growth. In particular, the collapse in the labour intensive construction sector and Ireland's large base of multinationals in high value added sectors serves to boost Ireland's productivity level and disguises to a degree underperforming sectors. Ireland's productivity performance (in common with many other countries) is built upon a narrow base of sectors, and indeed, in some cases, companies.

Skills and talent are two of the primary factors influencing labour and total factor productivity, and hence are key contributors to competitiveness, economic growth and improved living standards. The output of the formal Irish educational and training system has generally been increasing in recent years, both in terms of

quantity and quality, as Ireland's moves further along the path of becoming a knowledge-based economy. For example, the proportion of the Irish population aged 25-64 with a tertiary level degree has consistently increased over the past decade (Figure 45). In 2013, 41.5% of Irish adults aged 25-64 had attained a tertiary degree in 2013, an increase from 33.9% in 2008. Attainment levels are even higher for younger cohorts – amongst the population aged 25-34, 51% in Ireland have a third level qualification, compared with 41.6% in the OECD.

In terms of those skills most in demand from enterprise such as ICT, science, engineering and financial vacancies, Ireland had 22.5 maths, science and computing graduates per 1,000 of the population aged 20-29<sup>10</sup> (Figure 47). This is the 2nd highest level in the euro area, higher than the corresponding figures for the US (12.2). At second level, student ability as measured by the Programme for International Student Assessment (PISA) shows that Irish performance has improved since 2009 and that average test scores are above the OECD average in maths, reading and science. The early school leaving rate continues to decline in Ireland, from 11.7% in 2009 to 6.9% in 2014 and is well below the euro area average (11.7%).

Concerns remain, however, particularly in relation to the large proportion of adults who have left formal education with relatively low levels of attainment - the proportion of the population with less than upper secondary education remains high internationally (Figure 46) and this problem is compounded by low levels of participation in lifelong learning (Figure 49). More broadly, OECD research indicates that Irish people (aged 15-64) perform below the OECD averages on mathematical and reading proficiency (Figure 48).

## Investment to Drive Competitive Advantage

### Access to Finance

Access to affordable finance is a critical determinant of enterprise's ability to operate, invest and expand. For SMEs in particular, credit supply in the form of bank loans remains the key funding source. Across the euro area the volume of credit supplied to non-financial corporations (NFCs) has been weak as a result of low economic growth, structural adjustments in the banking system and weak demand for credit.

The Irish financial crisis saw significant public funds used to recapitalise the banking sector. Further, the State has intervened to boost the supply of credit to SMEs through a range of initiatives such as the Microenterprise Loan Fund, Credit Guarantee Scheme and the Strategic Banking Corporation of Ireland. Central Bank data shows that annualised gross new lending to non-financial, non-property related SMEs has increased from €1.9 billion in December 2013 to €2.1 billion in June 2014<sup>11</sup> and to €2.4 billion in December 2014<sup>12</sup>. However, the total stock of credit continues to fall (Figure 36). Long standing concerns about the cost of finance for enterprise also persist – with Irish firms paying higher interest rates than their peers elsewhere in the EU for loans of varying sizes (Figure 37 & 38).

The proportion of firms borrowing for 'growth and expansion' purposes continues to increase. The agriculture, wholesale/retail and business and administrative services sectors account for the largest share of new lending activity. In parallel, SME rejection rates for bank finance declined to 14% (a drop of 5%) in 2014. While the

<sup>10</sup> A recently published survey by the Expert Group on Future Skills needs found a range of "hard to fill" vacancies, primarily in IT, engineering, science, health, business and some construction-related occupations, as well as a number of associate professional occupations (including technicians and sales related). See EGFSN, Vacancy Overview 2014, May 2015; further, the most recent National Skills Bulletin identified a similar range of skills shortages but noted that "in most cases, shortages remained confined to specialised areas and were small in magnitude". See EGFSN, National Skills Bulletin, July 2014

<sup>11</sup> Central Bank of Ireland, SME Market Report, 2014 H2, December 2014

<sup>12</sup> Central Bank of Ireland, Statistical Release: Trends in Business Credit and Deposits: Q4 2014, March 2015



proportion of Irish SMES who consider access to finance a major concern has declined<sup>13</sup>, and the pillar banks returned to profitability in 2014, a number of weaknesses remain in the financial system.

As well as issues related to the availability of, demand for, and cost of credit for enterprise, the legacy of the financial crisis and the high proportion of non-performing loans in Ireland remains a cause for concern (Figure 39). Although the proportion is declining, such loans still account for 25.3% of gross loans in Ireland (compared to an OECD-32 average of 5.9%). The differential in interest rates charged to non-financial corporations between Ireland and the euro area also remains elevated and is concerning from a competitiveness perspective<sup>14</sup>.

### ***Broadening the Enterprise Base***

The resilience of our exporting sector has been one of the economy's greatest strengths in recent years. A more diversified and broad-based export oriented enterprise sector would enhance competitiveness and Ireland's ability to withstand external economic shocks. The availability of finance referred to above, is an essential factor for firms seeking to expand or reorient their operations, and to move into new markets and develop new products. Finance, however, is not the only factor which impacts upon the development of the enterprise base. Notwithstanding the strong performance of Enterprise Ireland supported companies, the economic crisis severely impeded the level of start-up activity in Ireland. Data for 2012 shows more businesses closed than were created with gains in the ICT and financial services sectors offset by construction sector losses (Figure 14). Ireland was ranked 15<sup>th</sup> in the euro area in terms of new business growth.

From a national competitiveness perspective, facilitating entrepreneurship by ensuring that the State does not place undue administrative burdens and costs on entrepreneurs and business owners is critical. While a range of recent structural reforms (e.g. the Companies Act and the Integrated Licensing Applications Service) will help to support entrepreneurship, other elements of Ireland's environment for entrepreneurship are relatively poor in an international competitiveness context; in particular, reducing the time and complexity of procedures associated with enterprise start-up must continue to be a policy priority.

The composition and range of goods exports from Ireland has changed considerably over the last decade. In contrast to global trends, goods exports in Ireland are increasingly concentrated in a relatively narrow base of sectors<sup>15</sup>. The shift in Irish exports since 2000 is evident in the data: exports of office machinery and electrical goods decreased from one third of all goods exported in 2000 to less than 10% of goods exports in 2014. Chemicals and pharmaceutical products' are now the key driver of export growth and their share of total exports has been growing steadily since 2000; chemicals now account for 60% of the value of goods exported from Ireland, compared with approximately 11% of total global exports. While the total value of exports from this sector is high, these exports are dominated by a small number of foreign owned MNCs. Research indicates that the high level of import content and the relatively high returns to capital means the sector's contribution to Gross National Income is much lower than its export size<sup>16</sup>.

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<sup>13</sup> See ECB/EC's Survey of SME Access to Finance

<sup>14</sup> For loans up to and including €1 million, rates charged to Irish business were 5.02% in 2014, 43% higher than the euro area average. Interest rates on loans over €1 million are 50% higher. Interest rates on revolving loans and overdrafts, convenience and extended credit card debt available to Irish NFCs were 26% higher than the euro area average in 2014.

<sup>15</sup> See: <https://www.centralbank.ie/publications/Documents/The%20Changing%20Nature%20of%20Irish%20Exports.pdf>

<sup>16</sup> <http://www.centralbank.ie/publications/Documents/Quarterly%20Bulletin%20No.%202%202015.pdf>

The impact made by foreign owned enterprises to exports from Ireland in terms of their contribution to competitiveness and productivity has been well documented<sup>17</sup>. Despite increasing competition and changing FDI composition, Ireland remains highly competitive as a location for new and existing FDI. The challenge of sustaining investments from established investors, while at the same time diversifying Ireland's FDI portfolio by tapping into new and emerging growth opportunities, is well recognised by IDA Ireland in its new strategy statement. Improving the linkages between indigenous and foreign owned firms also offers Ireland a potential source of competitive advantage.

Irish exports remain very dependent on strong trading activity with the euro area (35%), the UK (13%) and US (22%), accounting for 70% of goods exports in 2014. Trade with the UK is particularly important to the indigenous enterprise sector. In value terms, 37% of Enterprise Ireland client companies' exports are to the UK. As the Council has previously noted, Ireland's trading patterns leave us vulnerable to external shocks, particularly changes in the value of the euro. While exports to countries beyond these main trading partners have increased in recent years, the Council considers Irish exporters must diversify sustainably and strategically into more markets to reduce reliance on particular countries or regions (Figure 17). In recent years import growth has been strongest in Asia and emerging economies underlining the importance of policies that support Irish enterprises, particularly SMEs in broadening and diversifying their export market focus.

### **Capital Investment**

As noted previously, much of the Irish recovery has been driven by the growth of exports. To deliver a sustainable and balanced recovery, however, investment (both public and private) will need to contribute a greater proportion to overall growth in the future (Figure 8). The availability of competitively priced world class infrastructure (energy, telecoms, transport, waste and water) and related services is critical to support economic growth and enterprise development. Likewise, the provision of adequate housing supply (including social housing) is an essential determinant maintaining cost competitiveness.

Perceptions about the quality of Ireland's infrastructure have improved since 2010, reflecting both the impact of a decade or more of investment, and the reduced capacity constraints as a result of the economic downturn (Figure 41). Ireland, however, still lags behind the OECD average and scores significantly less than leading performers. As the economy continues to improve, further investment growth is forecast for 2015. However, projected public investment levels are insufficient to address the emerging infrastructural needs of a growing economy and population, particularly as a significant proportion of public funds will be absorbed in maintaining the existing stock, leaving less funding available for new investment. While recognising the importance of maintaining sustainable public finances, further additional targeted investment is urgently required to address constraints which could undermine the economy's growth prospects, dampening productivity growth, increasing costs, and weakening Ireland's attractiveness as an investment location (for both foreign and indigenous investors). To achieve the improvements required, prioritisation will be required such that over the medium term, investment is directed to those areas of the economy which can have the greatest impact upon competitiveness. It is critically important to put in place the appropriate policy and regulatory frameworks to facilitate this targeted approach.

Digital technologies facilitate increases in innovation and total factor productivity across all economic sectors. These are key drivers of competitiveness in the economy. However, the potential of digitalisation to support

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<sup>17</sup> <http://www.budget.gov.ie/Budgets/2015/Documents/Economic%20Impact%20of%20the%20FDI%20sector.pdf>

competitiveness and grow employment is currently under-exploited across the EU<sup>18</sup>. As a result, the Council are particularly interested in Ireland's international digital connectivity and our place in the global digital economy. Overall, Ireland performs relatively well in the European Commission's Digital Agenda Scoreboard (ranked 9<sup>th</sup> out of the EU28, but lagging behind leaders such as Denmark, Sweden, the Netherlands and Finland). Likewise, Ireland is performing well in terms of fixed and mobile broadband subscriptions (7<sup>th</sup> out of 19 and well ahead of the euro area average; subscriptions to faster broadband of at least 30Mbps are also growing rapidly) and in terms of broadband costs (ranked 5<sup>th</sup> out of 13) (Figures 43 & 44). Irish companies are also demonstrating improvements in their engagement with the digital world – Ireland is one of the best performing countries in Europe in terms of businesses trading on line, with 24% of enterprises selling goods and services online in 2014 compared with a euro area average of 14% (Figure 42). Despite being an above average performer, growth in online sales is coming from a very low base.

## Fostering Innovation

Capital expenditure, however, is not just about physical infrastructure. Investment and growth in OECD economies are increasingly driven by innovation, generated through the development of knowledge based capital. OECD research finds that the strongest evidence for private under-investment exists for R&D-related spending – suggesting a continued important role for public investment<sup>19</sup>. Investment in knowledge infrastructure can augment competitiveness through multiple channels. As well as facilitating indigenous employment growth and boosting productivity, research and development activity can also foster entrepreneurship and create new business models.

Ireland's commitment to research, development and innovation has expanded significantly, both in terms of the level of investment and the human resources engaged in R&D activity over the past decade. While Ireland's competitive performance is consistent and relatively strong it is not outstanding. According to the European Union's Innovation Scorecard, Ireland's overall innovation performance has improved incrementally in recent years, and in 2014 was 20% above the EU average (compared with 10% in 2007). Ireland is ranked 8<sup>th</sup> and performance lags innovation leaders such as Denmark, Finland, Germany and Sweden (Figure 53). Ireland leads the EU28 in how innovative firms are and in the economic impact of innovation in terms of employment, revenue and exports. A range of weakness (relating to community designs, non-R&D innovation expenditures, and R&D expenditures in the public sector) remain to be addressed.

Overall levels of investment in R&D in Ireland remain below the best performing countries such as Finland and Sweden (Figure 52). In 2012, Irish gross expenditure on R&D (GERD) accounted for 1.7% of GDP (2% of GNP), below the OECD-32 average. Business expenditure on R&D (BERD<sup>20</sup>) accounted for 1.2% - it is noticeable, however, that the multinational sector is the primary driver of BERD in Ireland, accounting for 70% of BERD in 2013 according to the CSO. On the other hand, the growing recognition amongst indigenous companies of the importance of R&D investment is also evident: in 2013, Irish owned firms spent 2.2% of sales revenue on in-house R&D, compared with an average of 1.5% amongst foreign owned firms (Figure 54). Investment alone is no guarantee of success. While the outcomes from R&D activity can sometimes be difficult to quantify, ensuring that the level and impact of R&D expenditure from both public and private sources over the coming years is maximised will remain a cornerstone of competitive advantage.

18 European Commission, Press Memo, 1.5 Million More Jobs Through Digital Entrepreneurship in Europe are possible, Brussels, 29 April 2014

19 OECD, New Sources of Growth: Knowledge-Based Capital Driving Investment and Productivity in the 21st Century, May 2012

20 Higher education expenditure on R&D (HERD) and government expenditure on R&D (GovERD) accounted for 0.38% and 0.08% of GDP respectively. Note that the Europe 2020 GERD target is 3% of GDP for Europe as a whole and 2.5% for Ireland.

## **Ireland's Competitiveness Challenge**

Ireland's Competitiveness Scorecard does not propose the answers to these challenges. Rather, this report provides the evidential base to assist policy makers to identify the key challenges confronting Irish enterprise. The Council will put forward proposals to address them in its annual policy document Ireland's Competitiveness Challenge which will be published later this year.

## Chapter 2: Sustainable Growth

Figure 1: Overview of Ireland's international competitiveness rankings (amongst OECD-32)

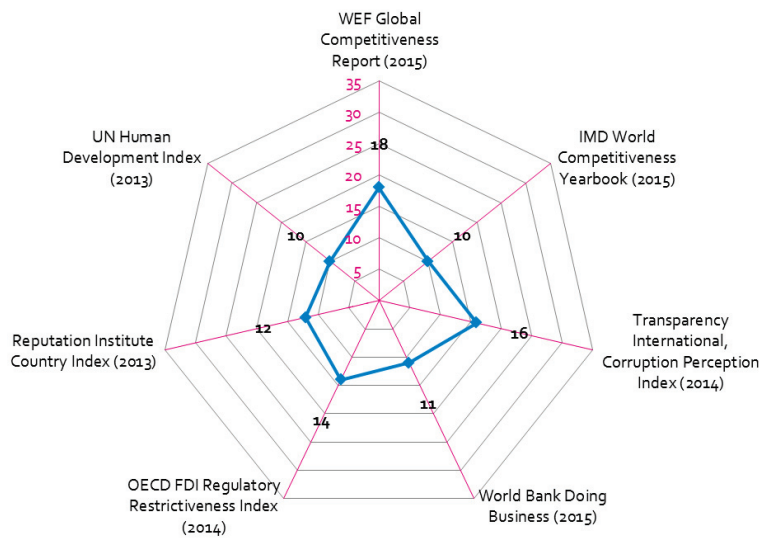
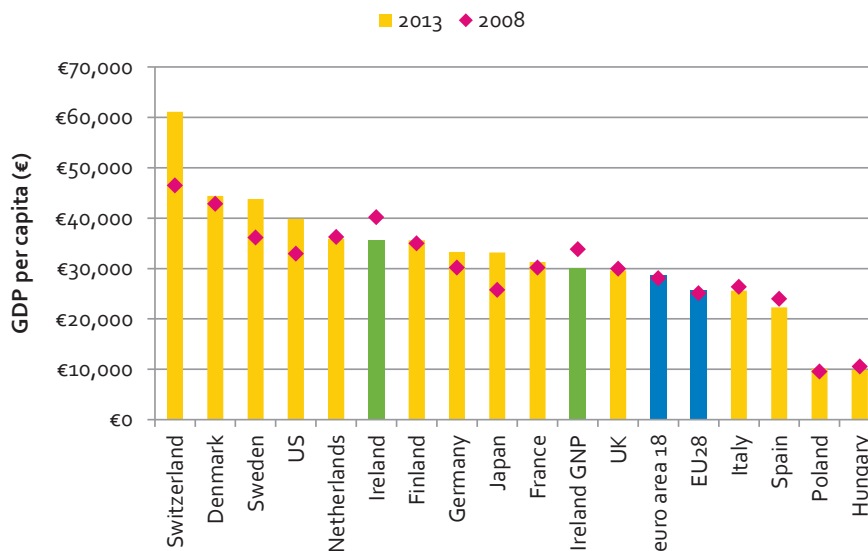


Figure 1 presents Ireland's ranking from amongst 32 OECD member states across a range of competitiveness indices - a ranking of 1 (i.e. close to the centre of the chart) would indicate that Ireland is the most competitive in the OECD. In general, Ireland is a mid-table performer across all of the indicators<sup>21</sup>.

**Rank:** n/a

Source: Miscellaneous

Figure 2: Gross domestic product, euros per capita, current market prices, 2013



Despite the recession related decline, Irish GDP per capita remains well above the euro area average (+24.5%). In GNP terms (i.e. removing the impact of the foreign owned sector), the differential is much narrower (+5%). The European Commission forecast per capita GDP growth of 4.5% in 2015 and 2.8% in 2016 for Ireland.

**Euro area-18 rank:**

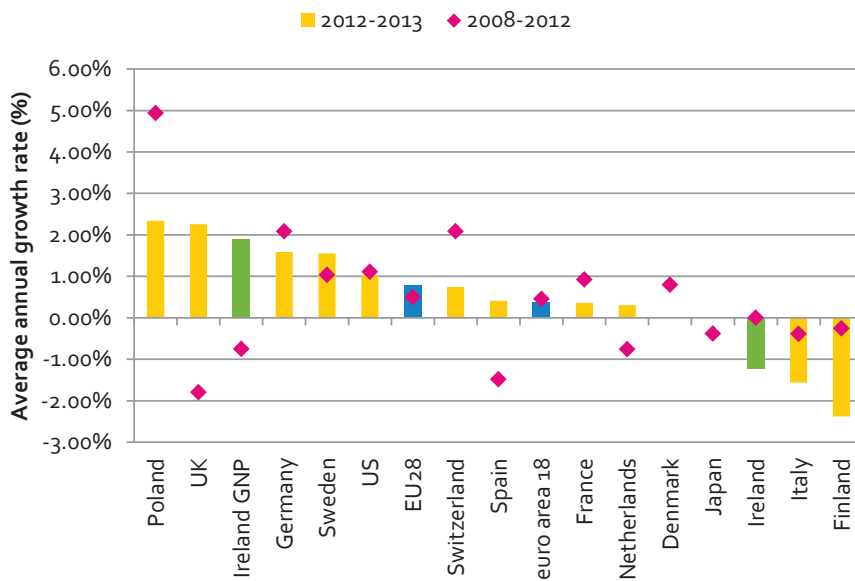
GDP: 4<sup>th</sup> (↓2)

GNP: 8<sup>th</sup> (↓3)

Source: Eurostat

<sup>21</sup> These indices cover a number of policy areas – some based on directly measurable aspects of policy (e.g. the World Bank Doing Business Index); others measure softer, more subjective issues such as reputation; indices such as the IMD and WEF competitiveness indices capture a mixture of both.

Figure 3: Growth in gross domestic product at current market prices, PPS per capita, 2013



Between 2012 and 2013, Irish GDP per capita (in PPP terms) declined by 1.2%. Over the same period, GNP per capita increased by 1.9%. More recent national data, however, shows that incomes per capita are once again increasing on the back of stronger economic growth.

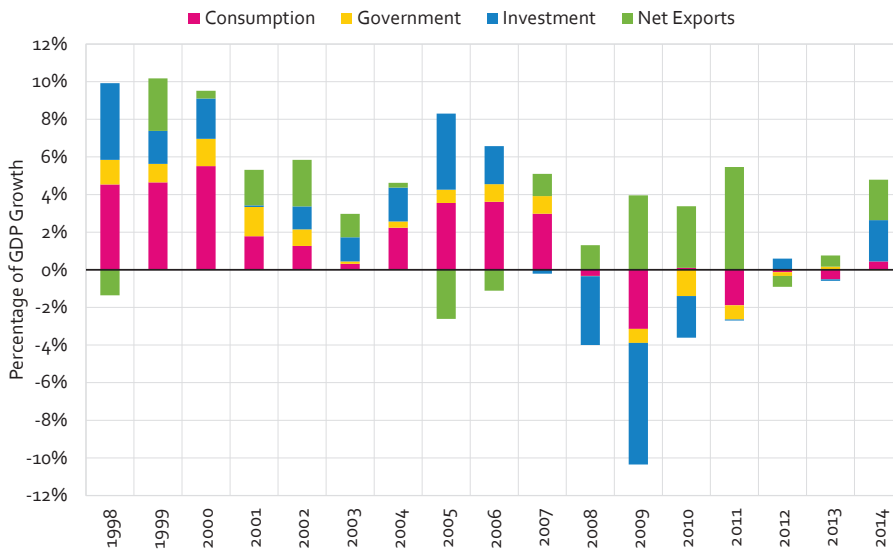
**Euro area-18 rank:**

GDP: 4<sup>th</sup> (↓1)

GNP: 8<sup>th</sup> (↓1)

Source: Eurostat

Figure 4: Components of Irish economic growth, 1998-2014

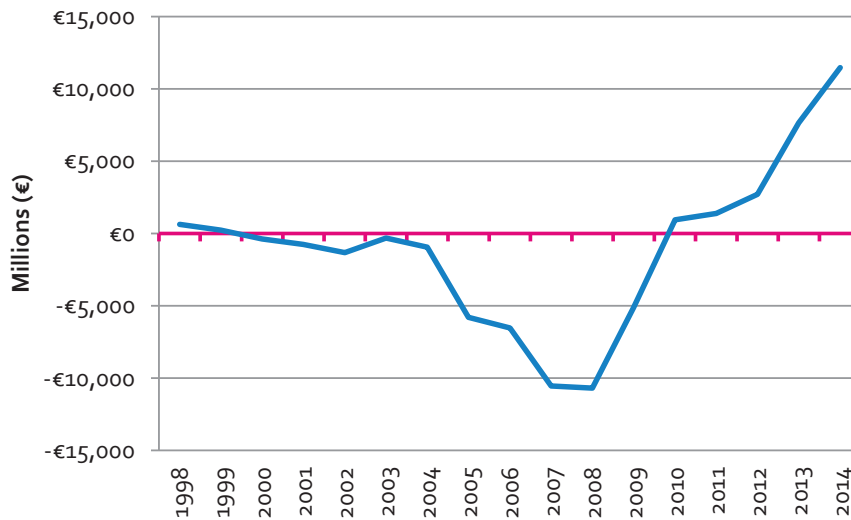


Over the course of the recession, net exports (the value of a country's total exports minus the value of its total imports) were the primary positive driver of Irish growth. Following some volatility in 2012 and 2013, in 2014 the drivers of growth became more balanced with a noticeable increase in the contribution made by investment.

**Rank:** n/a

Source: CSO, National Accounts

Figure 5: Balance of payments, current account balance (€millions), 1998-2014

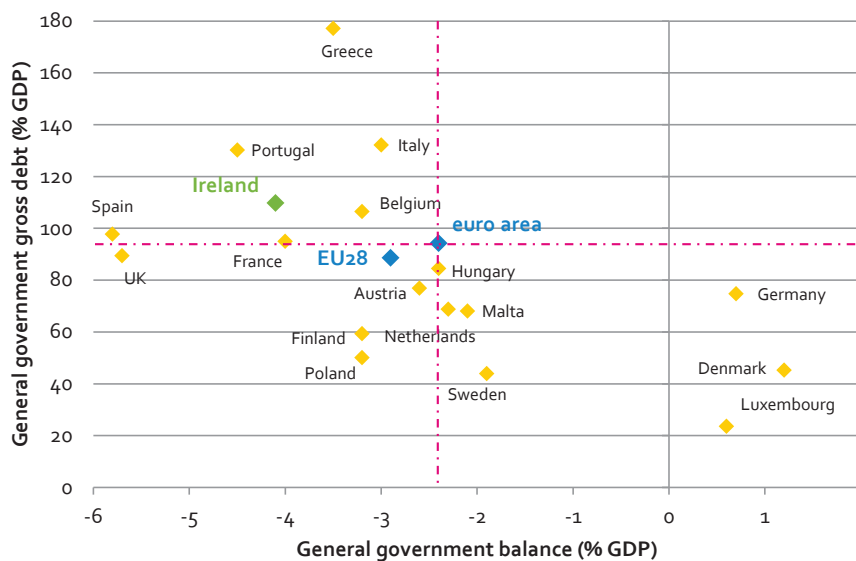


The current account balance measures earnings from net exports, plus net factor income and other transfers. Since 2008, the current account has moved from deficit to surplus (partly reflecting improved cost competitiveness). The current account surplus for 2014 was €11,467m, an increase of €3,834m on 2013.

Rank: n/a

Source: CSO Balance of Payments

Figure 6: General government debt (% GDP) and general government balance (% GDP), 2014



In recent years, Ireland's general government debt dramatically increased. Having peaked at 123% of GDP in 2013, EC data shows that the Irish debt to GDP ratio declined to 109.7% in 2014. A general government balance of -2.8% of GDP is expected for 2015.

Euro area-19 rank:

Debt/GDP: 16<sup>th</sup>

GGB/GDP: 15<sup>th</sup>

Source: European Commission (EC), European Economy 2/2015

Figure 7: Required fiscal consolidation to achieve a 60% debt-GDP ratio<sup>22</sup>, 2010-2030

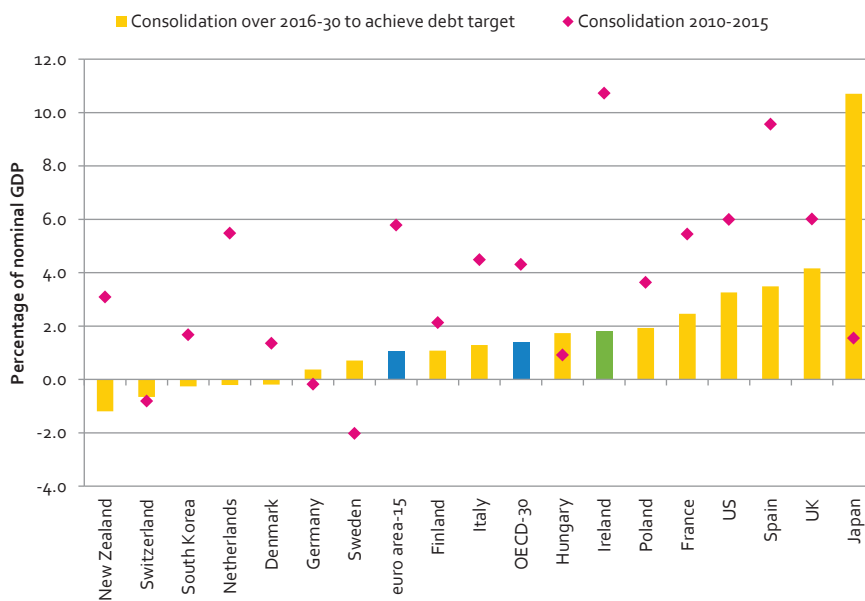


Figure 7 illustrates the average fiscal consolidation required to achieve a 60% debt target by 2030. For nearly all countries, further consolidation is required. For Ireland, average consolidation of 1.8% of GDP is required - a level significantly below that undertaken over recent years.

**OECD-30 rank:** 2016-2030: 22<sup>nd</sup>

Source: OECD

Figure 8: Composition of debt (% GDP), 2008 and 2012

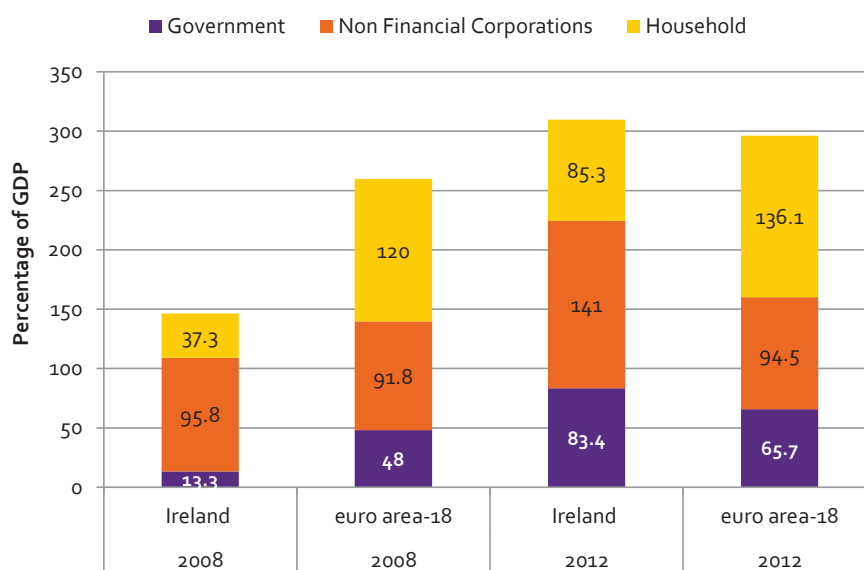


Figure 8 illustrates how much is owed by different sectors of the economy, and includes all loans and fixed-income securities of households, businesses and government. Although all sectors of the Irish economy have significant debt levels, the increase in household debt in Ireland is particularly evident<sup>23</sup>.

**Euro area-19 rank:**  
 NFCs (Businesses): 16<sup>th</sup> (↓7)  
 General Govt: 17<sup>th</sup> (↓9)  
 Households: 11<sup>th</sup> (↑6)

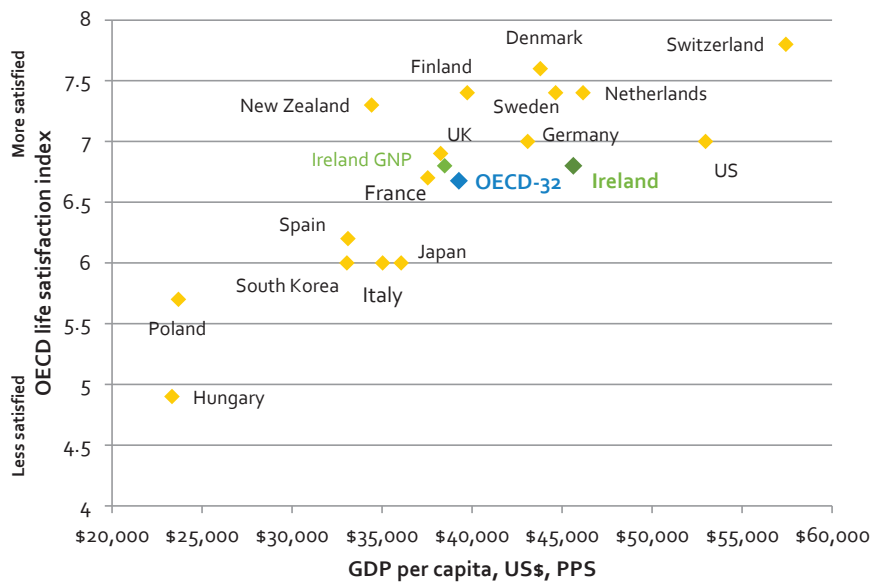
Source: Eurostat

<sup>22</sup> Consolidation is measured as the change in the underlying primary balance as a percentage of potential GDP. Over the projection period, countries with gross government debt ratios in excess of 60% of GDP are assumed to gradually reduce debt to this level, whereas other countries stabilise debt ratios at their current levels. Consolidation requirements from 2016 to achieve these objectives are measured as the difference between the underlying primary balance in 2015 and its average or its peak over the period to 2030 (or until the debt ratio stabilises).

<sup>23</sup> According to Eurostat, the gross debt-to-income ratio of Irish households increased from 112% in 2002 to a peak of 209% in 2009, before declining somewhat to 198% in 2012. This was more than twice the euro area average. Figure 7 excludes the debt of financial corporations.



Figure 9: OECD better life index<sup>24</sup>, 2014 and GDP per capita (PPP), 2013

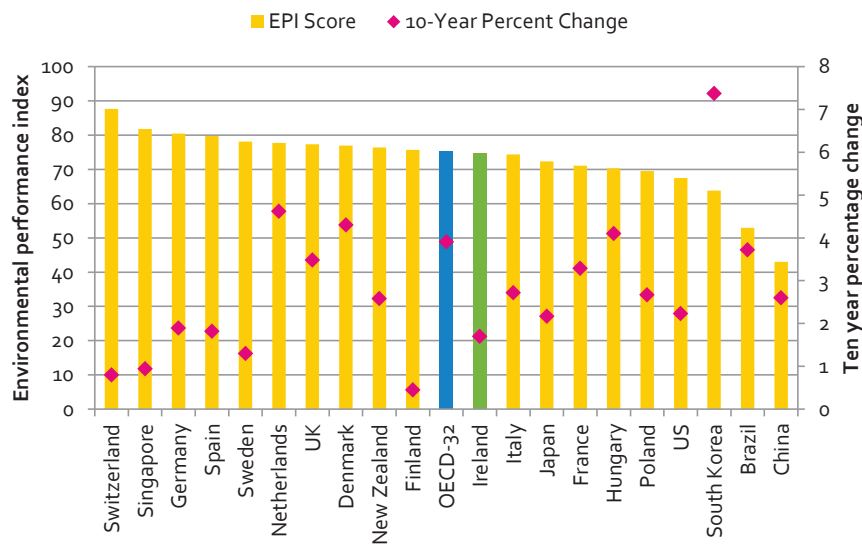


This graph plots life satisfaction against GDP per capita (using purchasing power parity to adjust for differences in the cost of living across countries). While Irish GNP per capita is slightly below the OECD-32 average, life satisfaction in Ireland (6.8) is above the OECD-32 average (6.7).

**OECD-32 rank:** Life satisfaction: 18<sup>th</sup> (↓5)

Source: OECD

Figure 10: Environmental performance index (Scale 0-100)<sup>25</sup>, 2014



Ireland's environmental performance (EPI score) and rate of improvement lag the OECD average. Ireland performs well on indicators relating to health impacts and air quality but performs poorly in relation to biodiversity and protection of habitats, fisheries and water sanitation.

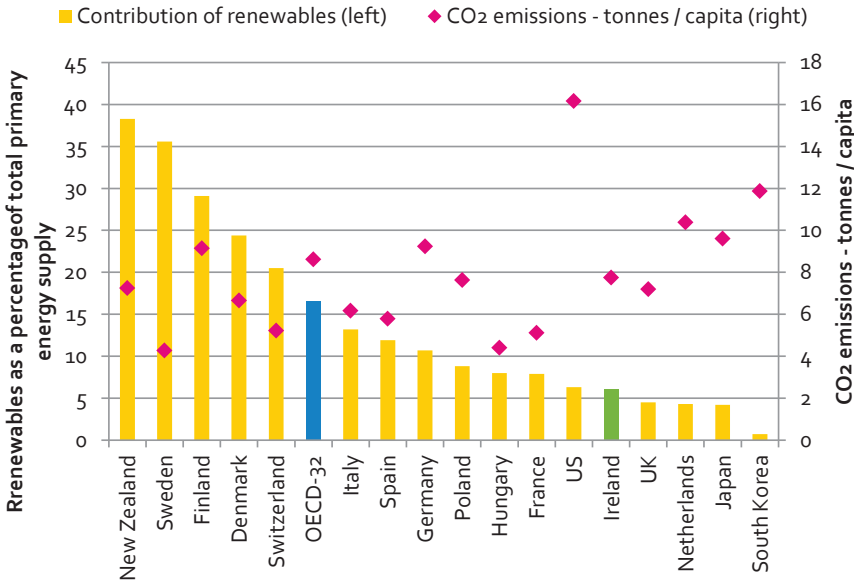
**OECD-32 rank:** EPI score: 18<sup>th</sup>

Source: Yale Centre for Environmental Law and Policy

24 The OECD Better Life Index compares well-being across 11 topics (housing, income, jobs, community, education, environment, civic engagement, health, life satisfaction, safety and work-life balance). The data in the chart above is based on the life satisfaction metric which considers people's evaluation of their life as a whole. It is a weighted-sum of different response categories based on people's rates of their current life relative to the best and worst possible lives for them on a scale from 0 to 10. Change in ranking compares 2014 results with 2013 results.

25 The Environmental Performance Index (EPI) is constructed through the calculation and aggregation of 20 indicators reflecting national-level environmental data. These indicators are combined into nine issue categories, each of which fit under one of two overarching objectives (i.e. Environmental Health and Ecosystem Vitality). For more information see [www.epi.yale.edu/](http://www.epi.yale.edu/)

Figure 11: Percentage of energy from renewable sources, and per capita carbon dioxide emissions from fuel combustion, 2012



Renewable sources accounted for 6.1% of Ireland’s 2012 energy consumption – well below the OECD-32 average of 16.5%. In part, this reflects the limited hydro options in Ireland. Ireland’s level of CO<sub>2</sub> emissions per capita have declined in recent years: in 2012 emissions were 20.5% below 2008 levels. CO<sub>2</sub> emissions per unit of GDP have also.

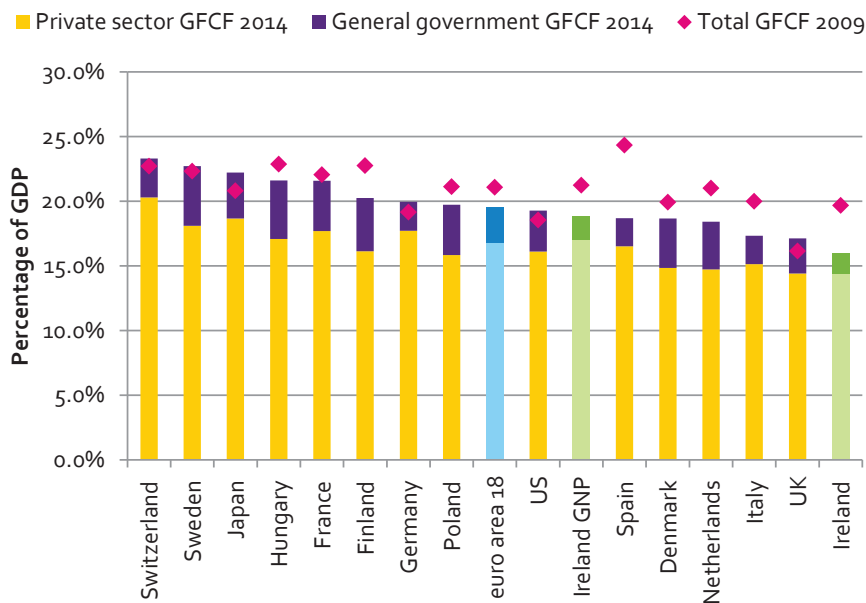
**OECD-32 rank:**

Renewables: 24<sup>th</sup>  
 CO<sub>2</sub> emissions: 19<sup>th</sup>

Source: OECD / International Energy Agency

## Chapter 3: Essential Conditions

Figure 12: Gross fixed capital formation (GFCF), current prices (% GDP), 2014



After sharp reductions in investment during the recession, GFCF began to recover in 2014. Further growth is forecast for 2015<sup>26</sup>. In GNP terms, Irish private investment (17%) exceeds the euro area average (16.8%), while public investment (1.8%) is significantly below average (2.8%).

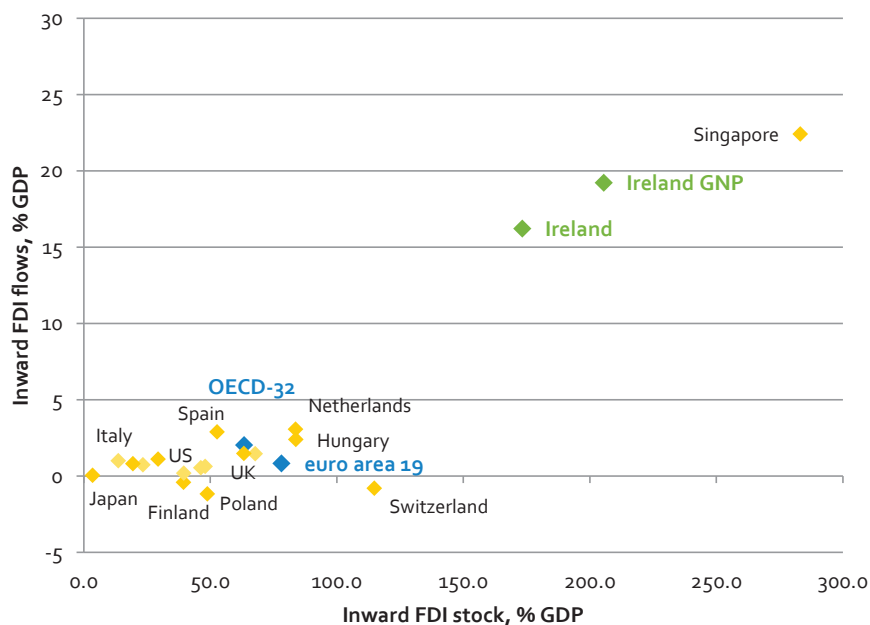
### Euro area-18 rank:

GDP: 15<sup>th</sup> (-)

GNP: 10<sup>th</sup> (↑1)

Source: European Commission, AMECO Database

Figure 13: Inward FDI stock and flow (% GDP), 2013



Ireland's stock of inward investment, at 173% of GDP, remains amongst the highest in the OECD, illustrating the significant underpinning provided by FDI to the Irish economy. Inward FDI flows in 2013 amounted to 16.2% of GDP (19.2% of GNP), equivalent to €35.5 billion.

### OECD-32 rank:

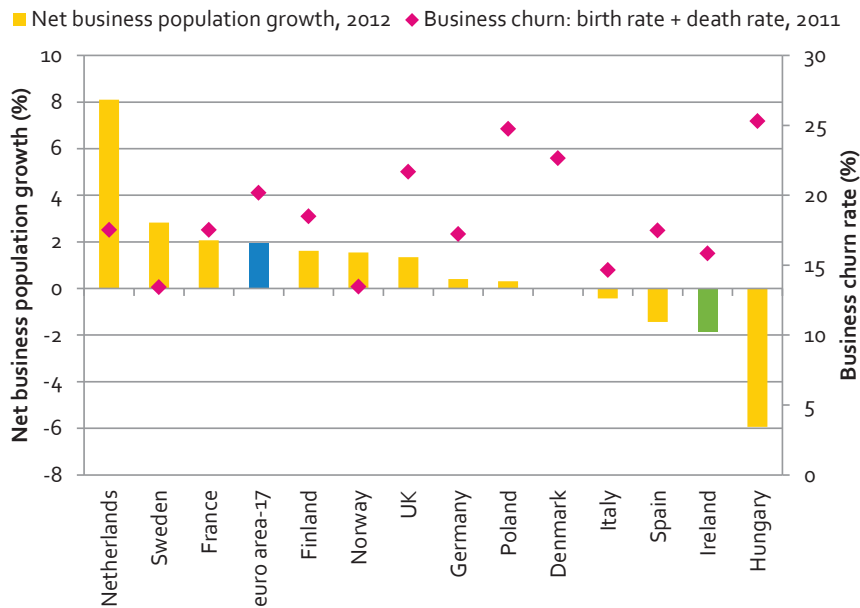
Stock (%GDP): 3<sup>rd</sup> (↑2)

Flow (%GDP): 1<sup>st</sup> (↑30)

Source: UNCTAD, FDI/TNC database

<sup>26</sup> Overall, Irish investment fell by more than 50% between peak levels in 2007 and 2013. Growth in 2015 is likely to be driven almost entirely by increases in private sector investment, according to AMECO.

Figure 14: Net business population growth, 2012

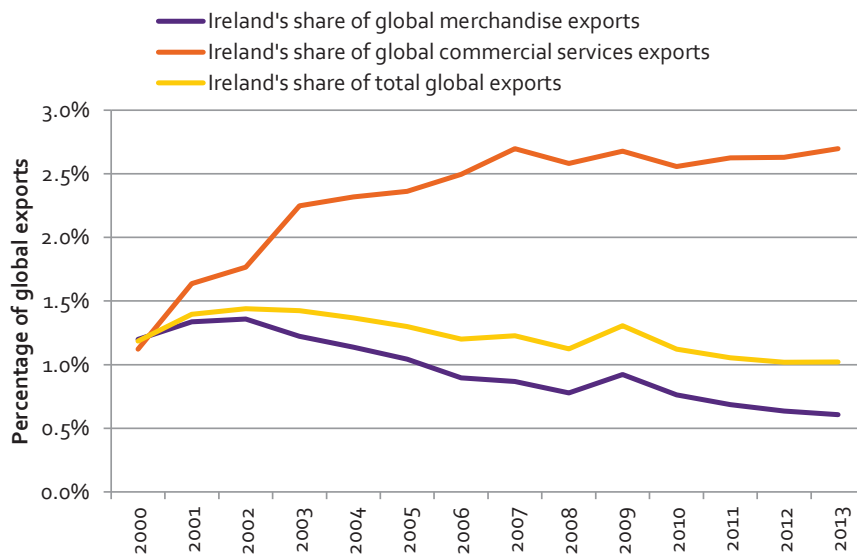


In 2012 in Ireland, more businesses closed than were created. Gains in the ICT and financial services sectors were offset by construction losses. Ireland had one of the lowest business churn<sup>27</sup> rates in the euro area in 2011.

**Euro area-17 rank<sup>28</sup>:**  
Business population growth: 15<sup>th</sup> (↓2)<sup>29</sup>

Source: Eurostat, CSO Business Demography

Figure 15: Ireland's share of global export markets, 2000- 2013



Ireland has expanded its share of the world's services market, reaching 2.7 per cent in 2013, up from 1.1% in 2000. However, Ireland's share of global merchandise exports has declined to 0.6% in 2013 (down from a peak of 1.4% in 2002) as has our share of total global export markets (1% in 2013).

Rank: n/a

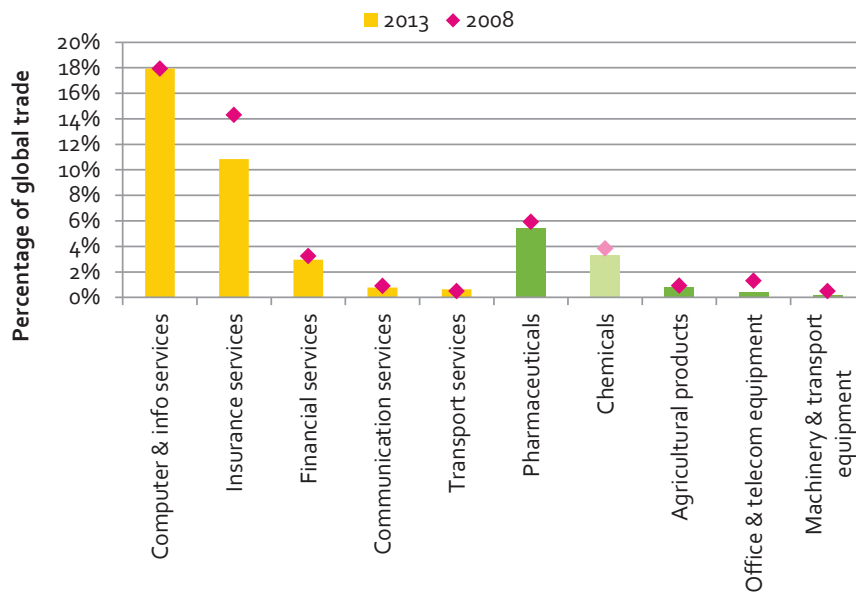
Source: World Trade Organisation

<sup>27</sup> Business churn considers the total number of firm births and deaths as a proportion of the enterprise population.

<sup>28</sup> Euro area 17 excludes Greece and Malta.

<sup>29</sup> Change in ranking measured from 2009. Ranking based on euro area-18 which excludes Greece. Euro area-17 in the chart excludes Greece and Malta.

Figure 16: Ireland's share of global export markets by sector<sup>30</sup>, 2013

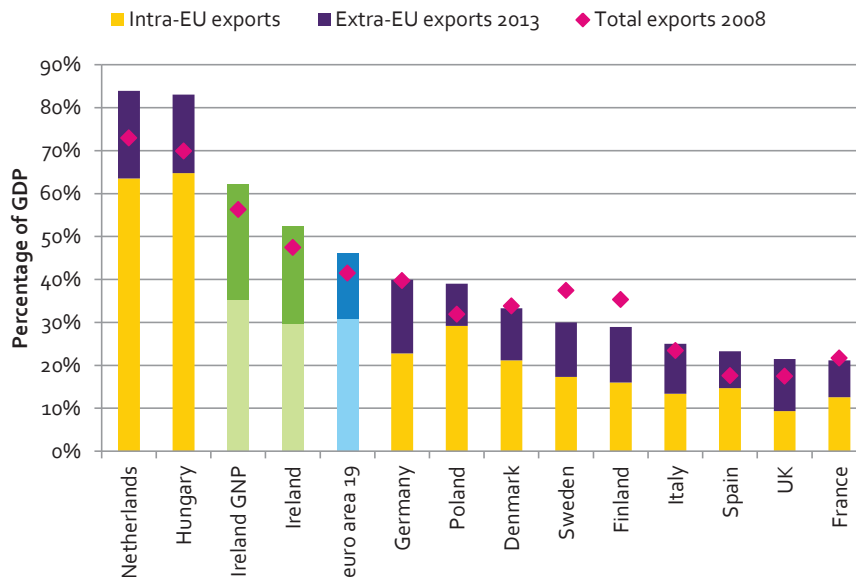


This data examines Ireland's share of world exports at a sectoral level. While Ireland's market share in computer and information services held constant between 2008 and 2013 (as the sector grew rapidly globally), slight reductions in market share occurred in financial services and pharmaceuticals. Larger reductions were recorded in the insurance sector.

Rank: n/a

Source: World Trade Organisation

Figure 17: Intra and extra-EU merchandise exports (% GDP), 2013



Ireland is one of the most open trading countries in the EU. Irish merchandise exports to the EU-28 amounted to 30% of GDP in 2013. Ireland also has significant trading links with non-EU countries (e.g. US). As a result of the importance of non-euro denominated trade, Irish firms are particularly influenced by exchange rate fluctuations.

**Euro area-19 rank:**

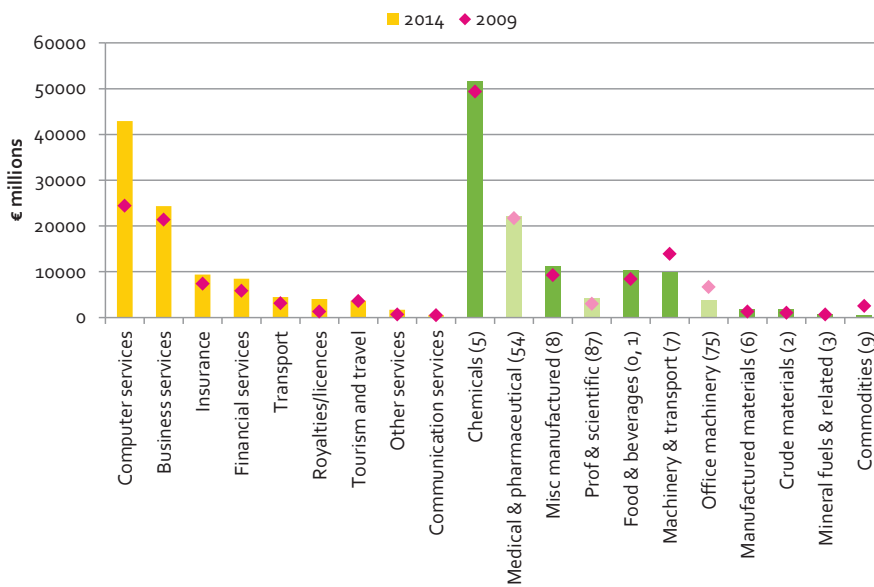
Merchandise exports: 7<sup>th</sup> (-)

Extra-EU trade: 3<sup>rd</sup>

Source: Eurostat

<sup>30</sup> Chemicals are a subset of the pharmaceutical sector – this is indicated by the lighter shade of green in the bar chart.

Figure 18: Goods and services exports from Ireland by sector (€ millions)<sup>31</sup>, 2014

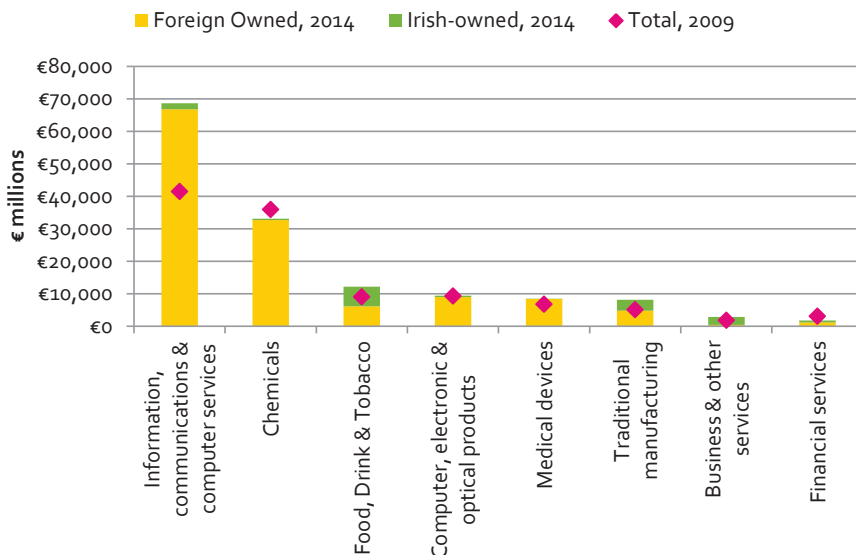


As noted previously, exports have been the primary engine of economic growth in Ireland in recent years. Services, driven by computer services, have increased by almost 50% since 2009, while growth in merchandise exports has been more muted (4%). The composition and range of goods exported from Ireland has become increasingly concentrated.

Rank: n/a

Source: CSO External Trade / Balance of Payments

Figure 19: Enterprise agency client exports from Ireland by sector and firm ownership (€ millions)<sup>32</sup>, 2014



Irish-owned companies account for 12.2% of total agency client exports. In market share terms, “food and drink”, “traditional manufacturing” and “business services” are the largest indigenous sectors. Over the period examined, exports from Irish owned companies increased in all sectors. In predominantly foreign-owned sectors, exports are often driven by a small number of firms.

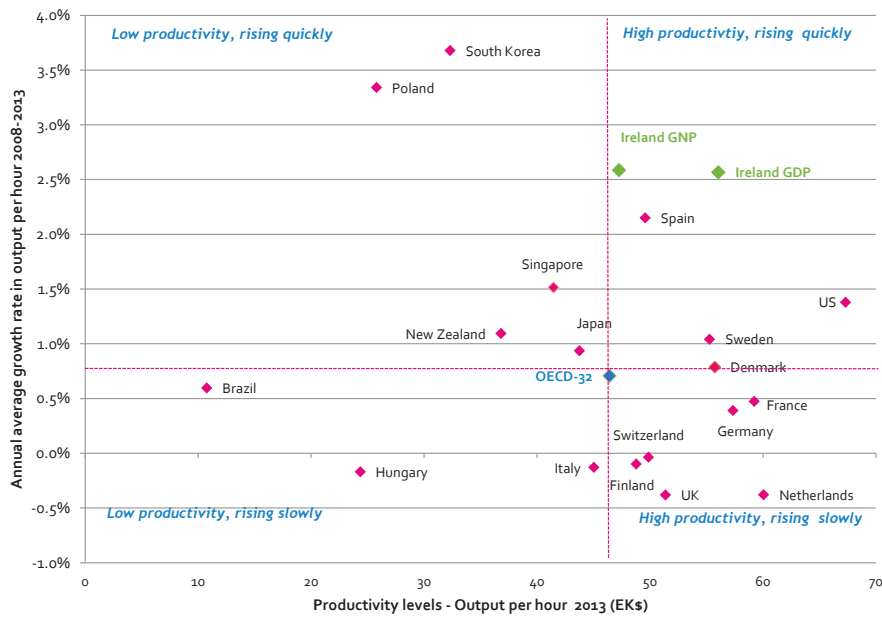
Rank: n/a

Source: Department of Jobs, Enterprise and Innovation, Annual Business Survey of Economic Impact

<sup>31</sup> The lighter shades of green in the bar chart indicate that a merchandise category is a subset of a larger category (i.e. medical and pharmaceuticals are a subset of chemicals). The numbers in the brackets after each merchandise category relate to Standard International Trade Classification (Rev.4) codes.

<sup>32</sup> A number of categories from the ABSEI have been merged for presentation purposes. For example, traditional manufacturing includes textiles, wood products, paper, rubber and plastics, basic and fabricated metal products, machinery and equipment, transport and miscellaneous manufacturing.

Figure 20: Output per hour worked (EK\$), 2013 and annual average growth in output per hour (%), 2008-2013

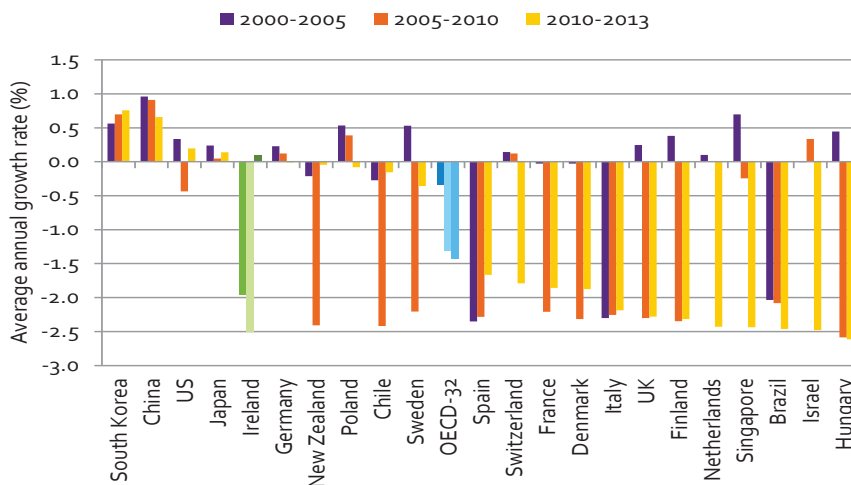


Irish (GDP) productivity grew by 2.6% per annum between 2008 and 2013, and productivity levels now exceed the OECD average. In GNP terms, productivity levels are close to the OECD average. NCC analysis shows that much of Ireland's recent productivity performance was driven by changes in employment composition rather than broad based productivity growth.

**OECD rank:**  
 Levels: 6<sup>th</sup> (↑1)  
 Growth rate: 7<sup>th</sup> (↑1)

Source: The Conference Board Total Economy Database

Figure 21: Average annual growth in total factor productivity (%)<sup>33</sup>, 2000-2013



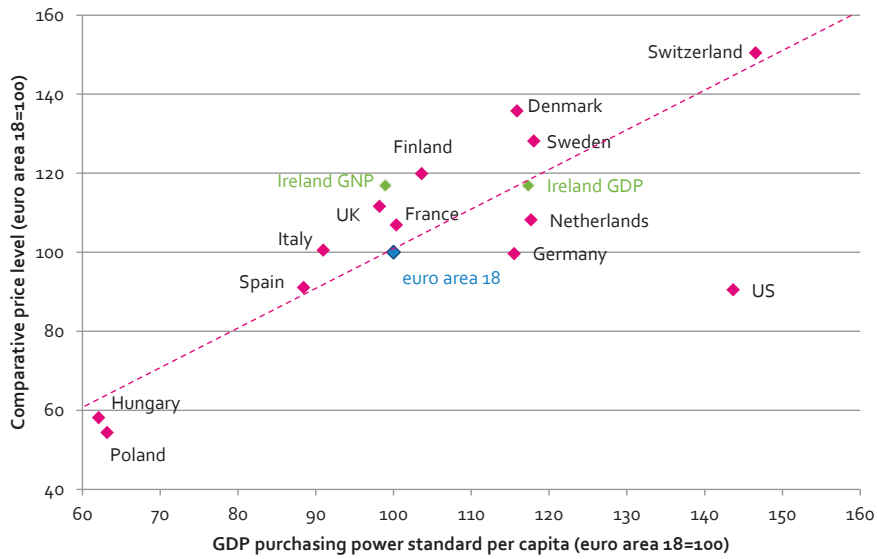
Total-factor productivity (TFP) can be taken as a measure of an economy's long-term technological change or technological dynamism. While performance was poor in earlier periods, since 2010, Ireland is one of the few countries to demonstrate positive TFP.

**OECD-32 rank:**  
 2010-2013: 5<sup>th</sup> (↑22)

Source: The Conference Board, Total Economy Database

<sup>33</sup> Total-factor productivity (TFP), also called multi-factor productivity, accounts for effects in total output not caused by traditionally measured inputs of labour and capital.

Figure 22: Price levels and GDP per capita, 2013



Despite some downward adjustment, Ireland remains an expensive place to live—Irish price levels are 16.8% above the euro area 18. In 2013, Ireland was the 3<sup>rd</sup> most expensive location in the euro area for consumer goods and services. Costs relative to national income (GNP) remain particularly high compared to the average.

**Euro area-19 rank:** Price level: 17<sup>th</sup> (↑2)

Source: Eurostat

Figure 23: Consumer price levels, 2013 and average annual inflation, 2012-2014

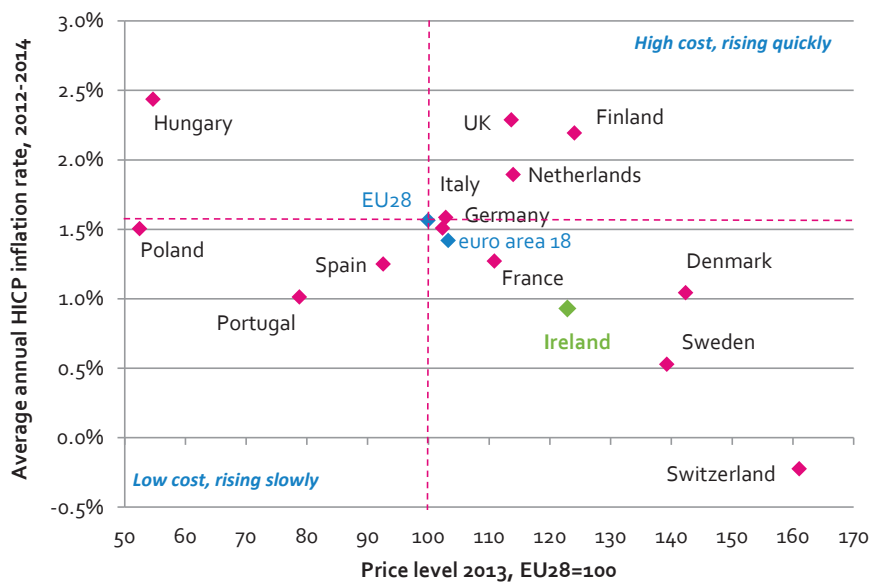


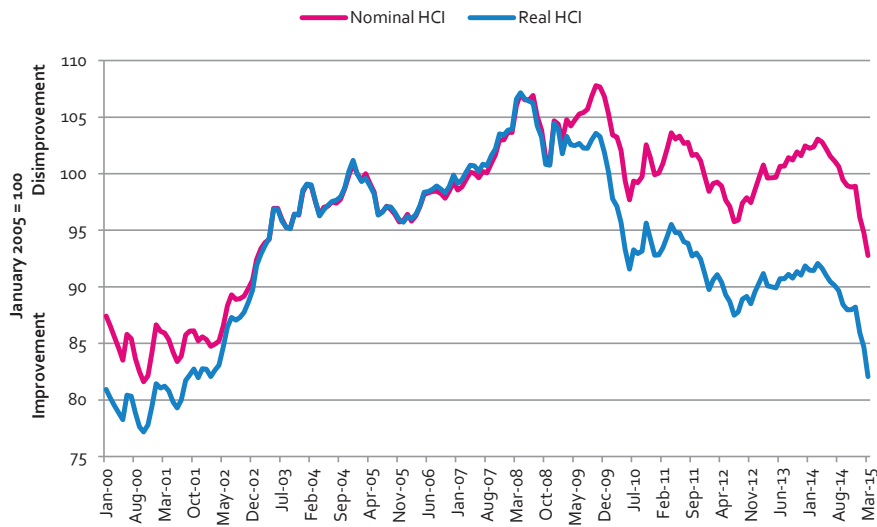
Figure 29 shows both changes in prices (inflation) and the actual price level. Ireland’s current price profile can be described as “high cost, rising slowly”. Europe, in recent years, has been characterised by low inflation – indeed, the threat of deflation persists across the euro area and in several members states. As Europe struggles to return to growth, inflation across the euro area fell to just 0.4% in 2014.

**Euro area-19 rank:**  
HICP 2012-2014: 2<sup>nd</sup>

Source: Eurostat



Figure 24: Ireland's harmonised competitiveness indicator (HCI), 2000-2015

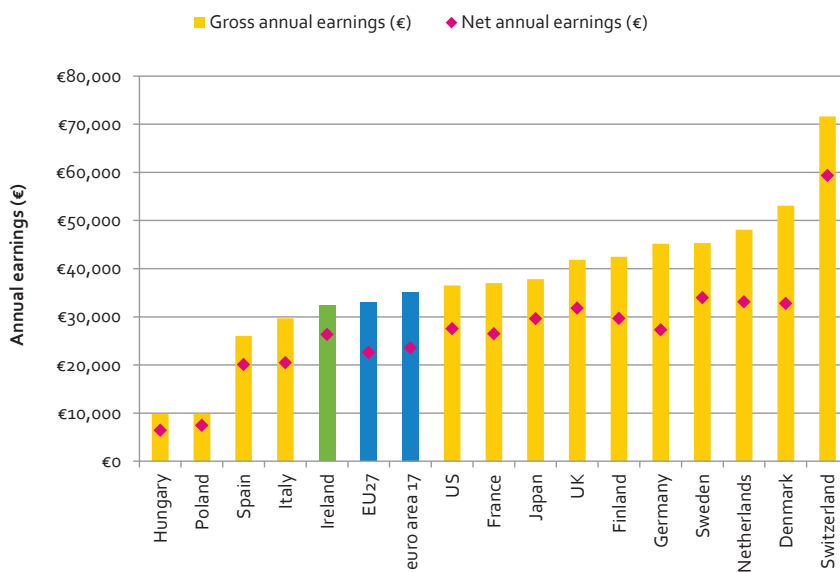


The HCI has been quite volatile over recent years. Between 2008 and mid-2012, Ireland's relative competitiveness improved, as a consequence of favourable exchange rates and low inflation. From mid-2012, partly driven by an appreciating euro, the HCI deteriorated again, eroding some of these gains. Renewed euro depreciation since March 2014 has boosted Irish competitiveness.

**Rank:** n/a

Source: Central Bank of Ireland

Figure 25: Average annual gross & net earnings, single individual, no children, 100% of average earnings, 2013<sup>34</sup>



Ireland has the 8<sup>th</sup> highest gross and net wage level in the euro area-17 (in 2008, the net wage was the 3<sup>rd</sup> highest). While gross earnings are 8% below the euro area average, net earnings are 11.6% above average. While Irish wage growth was recorded in 2014, the rate of increase is below the euro area average.

**Euro area-17 rank:**

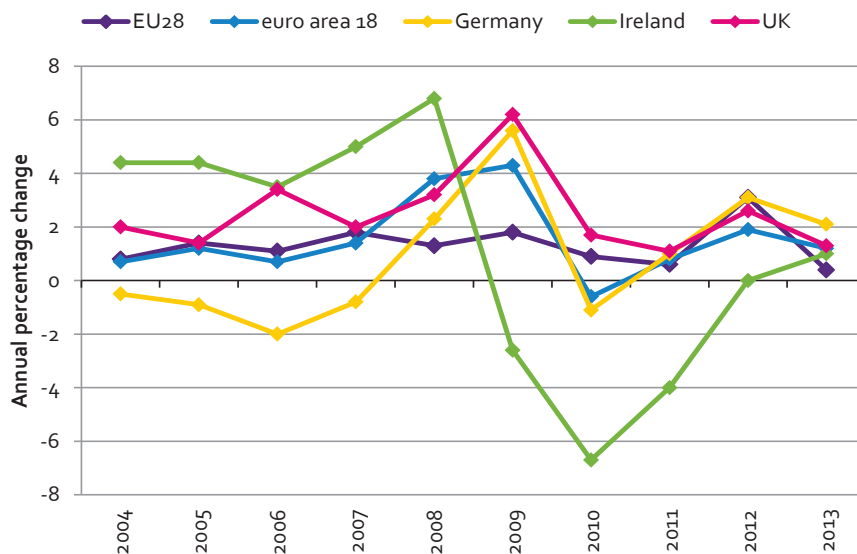
Gross: 8<sup>th</sup> (-)

Net: 8<sup>th</sup> (↓5)

Source: Eurostat

<sup>34</sup> Gross wages include wages, taxes on income and employer and employee social security contributions. EU27 and euro area 17 excludes Cyprus.

Figure 26: Annual growth in nominal unit labour costs (%)<sup>35</sup>, 2004-2013

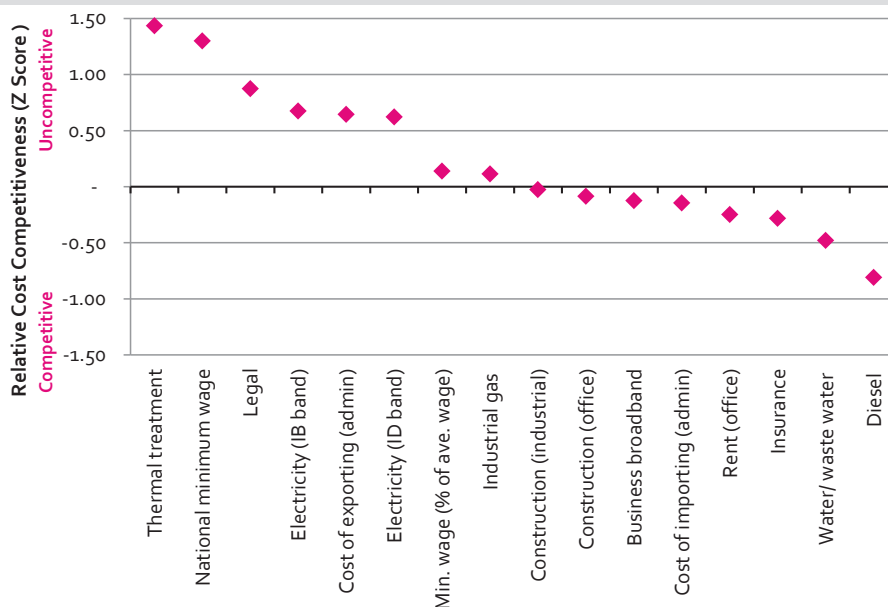


Between 2009 and 2011, significant reductions in nominal Irish ULCs were recorded while increases were recorded across most of the euro area. This represents an Irish competitiveness. While ULCs increased by 1% in 2013, growth remained below the euro area average and Irish increases in 2015 and 2016 are forecast to remain below the euro area average<sup>36</sup>.

Rank: n/a

Source: Eurostat

Figure 27: Costs of doing business in Ireland – summary z-scores<sup>37</sup>, 2014



This chart summarises the relative cost competitiveness of a range of goods and services in Ireland vis-à-vis a range of benchmarked countries. Irish costs are most out of line in relation to waste costs, the minimum wage, legal costs and electricity costs. For further details, see the Costs of Doing Business 2015 report.

Rank: n/a

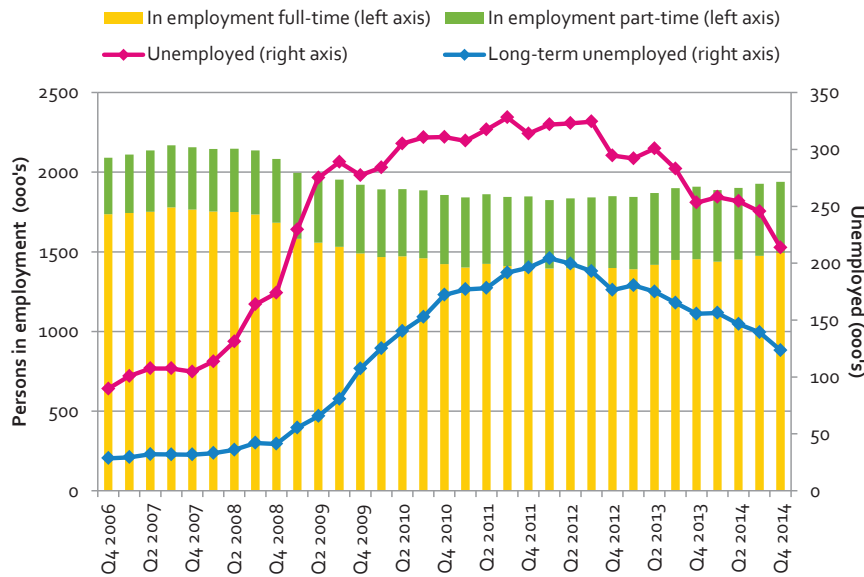
Source: NCC Costs of Doing Business 2015 / DJEI Calculations

<sup>35</sup> ULCs measure the average cost of labour per unit of output. ULCs represent a direct link between productivity and the cost of labour used in generating output. Nominal ULCs are defined as total wage compensation per unit of output. This is equal to the nominal wage rate per worker divided by labour productivity. Real ULCs are derived by dividing nominal unit labour costs by the price level and are therefore identical with the wage share in GDP.

<sup>36</sup> European Commission, European Economy 1/2015: Winter Forecast, February 2015

<sup>37</sup> A Z-Score is a statistical measurement of a score's relationship to the mean in a group of scores. A Z-score of 0 means the score is the same as the mean. A Z-score can also be positive or negative, indicating whether it is above or below the mean and by how many standard deviations. In this case, the further above zero the score is, the more expensive that good or service is in Ireland, relative to the average score of the benchmarked countries.

Figure 28: Employment, unemployment & long term unemployment (000's), 2006-2014



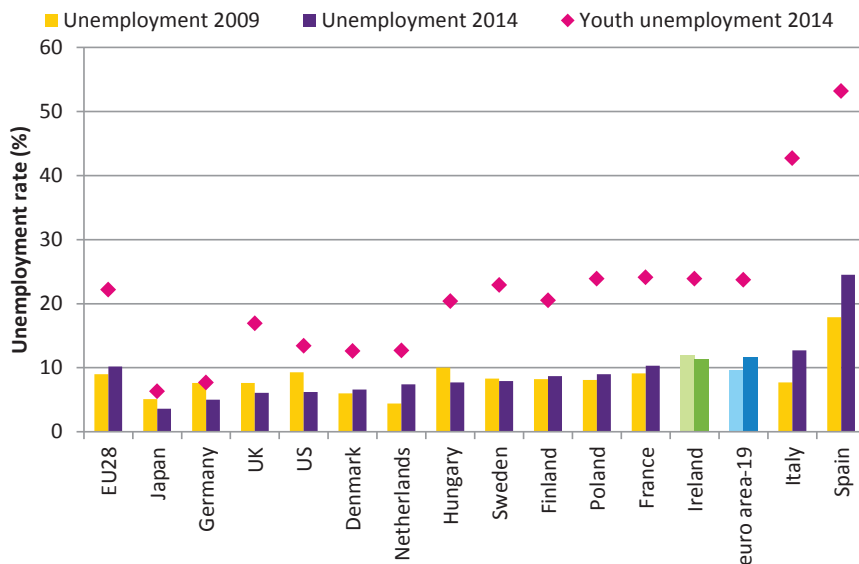
Employment has grown for 3 consecutive years. On an annual basis, employment increased by 2.7% in the year to Q4 2014. Full time employment accounts for all of the increase.

Unemployment has fallen by 114,000 from peak, decreasing in 2014 by 15.6% year on year. While it continues to account for approximately 57% of unemployment, long term unemployment decreased by 20.6% in the year.

Rank: n/a

Source: CSO QNHS

Figure 29: Unemployment and youth unemployment rate, 2009-2014



The euro area seasonally-adjusted unemployment rate was 11.6% in 2014 – up from 9.6% in 2009. By comparison, the Irish rate fell from 12% to 11.3% over the same period. Youth unemployment rates are generally much higher, than the overall rates. The persistence of high rates of youth unemployment in Ireland is clear – at 23.9% in 2014, it remains virtually unchanged from 2009.

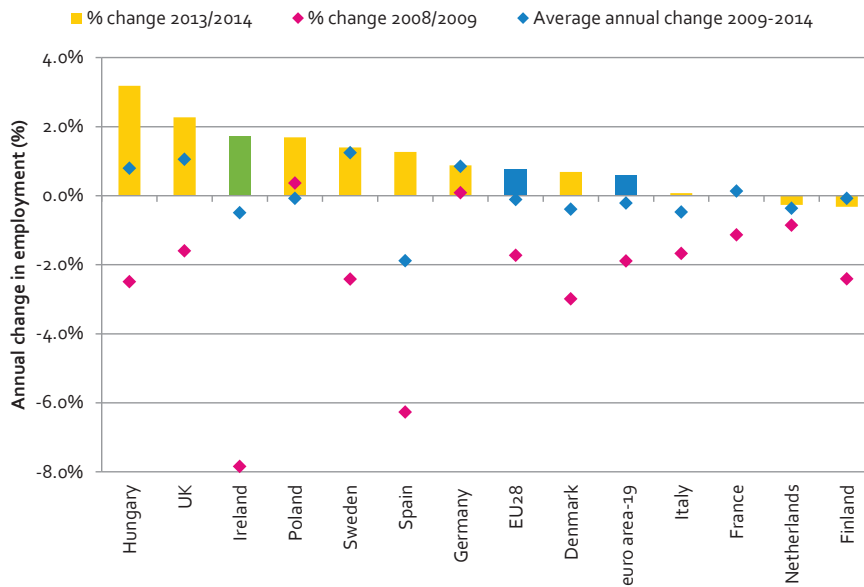
**Euro area-19 rank:**

Unemployment: 13<sup>th</sup> (↑1)

Youth: 12<sup>th</sup> (↓1)

Source: Eurostat

Figure 30: Employment growth rates, 2009- 2014

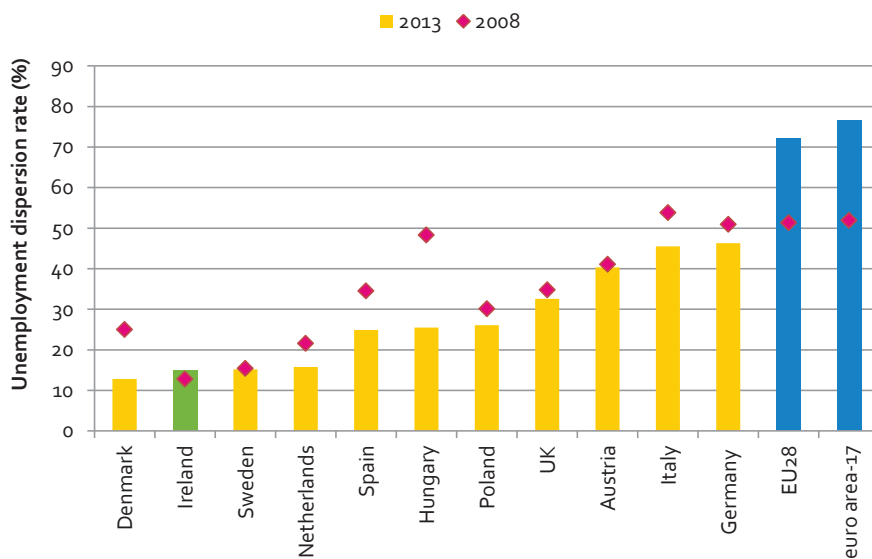


Employment growth varied considerably across the EU between 2009 and 2014, decreasing in most countries. In Ireland, a sharp decline of 7.8% in employment occurred in 2009. Employment fell by an average of 0.5% per annum between 2009 and 2014. In 2013, employment growth in Ireland resumed. 1.7% growth was recorded in 2014, above the euro area average (0.6%).

**Euro area-19 rank: 3<sup>rd</sup> (↑10)**

Source: Eurostat

Figure 31: Dispersion of regional unemployment rates (amongst those aged 15-64), NUTS 3 level<sup>38</sup>, 2013



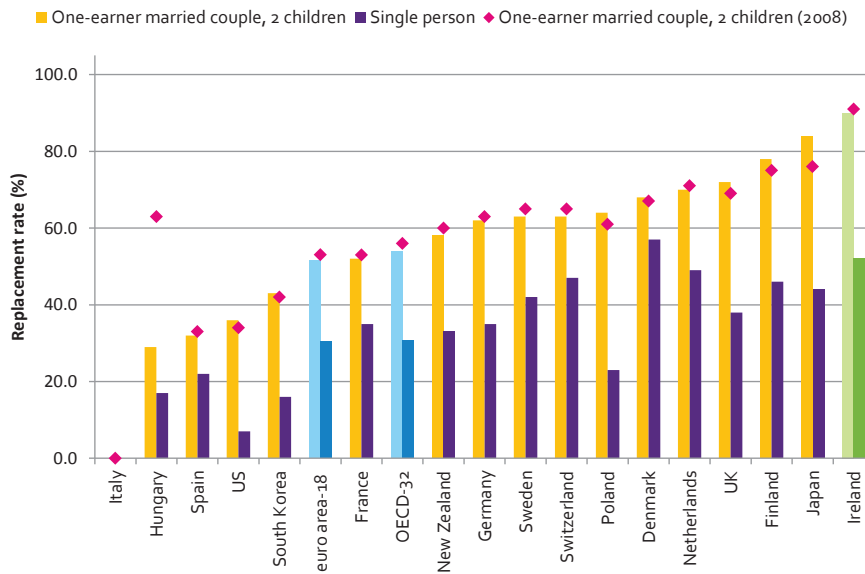
This chart illustrates differences in unemployment between regions. The lower the dispersion rate, the greater the level of cohesion between regions. At 15%, the differential in unemployment rates across Ireland's eight regions is low and has not changed significantly since 2009. Unemployment has decreased in all NUTS3 regions since 2009.

**Euro area-13 rank: 1<sup>st</sup> (-)**

Source: Eurostat

<sup>38</sup> Dispersion is zero when unemployment rates in all regions are identical; it increases as the differences between unemployment rates among regions increases. Ranking is based on euro area-13 which excludes Belgium, Cyprus, France, Luxembourg, Malta and Portugal. No 2008 data was available for Ireland so 2009 used instead. Data is also available measuring the dispersion of regional employment rates. The difference in employment rates between regions in Ireland is significantly lower than the euro area average. Since 2008 employment growth across Irish regions has been uneven, and employment rates in Ireland varied by 5.1% in 2013 (compared with 3% in 2008).

Figure 32: Replacement rate (long term unemployment)<sup>39</sup>, 2013



For a long term unemployed, one earner married couple with 2 children earning 100% of the average wage, the Irish replacement rate (91%) exceeds the OECD average (56%). The rate for single individuals (58%) also exceeds the OECD average (32%). Replacement rates are significantly higher for lower income families in Ireland (i.e. those earning 67% of the average wage).

**OECD-31 rank:**

Single 100% AW: 30<sup>th</sup> (-)

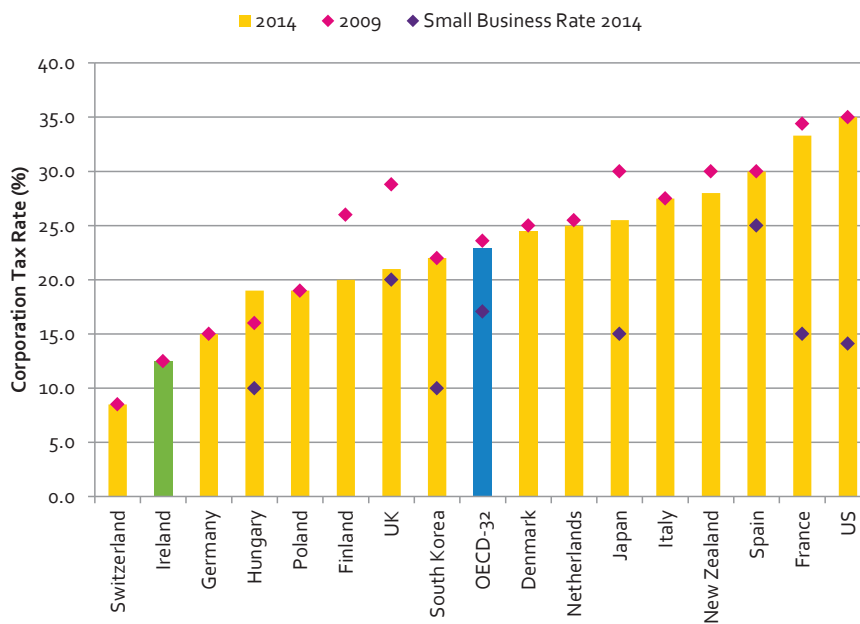
Married 100% AW: 31<sup>st</sup> (-)

Source: OECD

<sup>39</sup> Replacement rates compare pre-unemployment income with social welfare income after unemployment. The higher the ratio, the greater the financial disincentive to take up employment. A rate above 70% is considered a disincentive. The chart illustrates the replacement rate for a family qualifying for cash housing assistance or social assistance "top ups" if available, and is calculated based on 100% of the average industrial wage. Long term unemployment is based on those in their 60<sup>th</sup> month in receipt of benefits. Data is also available for the initial phase of unemployment: for a single person in Ireland the replacement rate for the initial phase of unemployment is 51% - less than the OECD average (58%). For a one earner, married couple with 2 children, however, the initial Irish replacement rate (81%) exceeds the OECD average (70%). OECD-31 excludes Chile, Mexico and Turkey; euro area-18 excludes Cyprus.

## Chapter 4: Policy Inputs

Figure 33: Central government corporate income tax rate (%), 2014

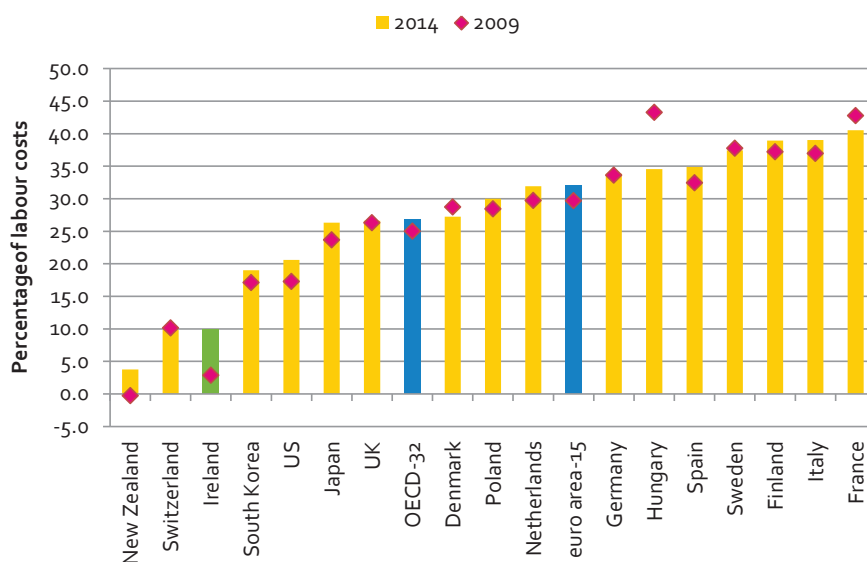


Ireland's corporation tax rate is internationally competitive at 12.5%. While Ireland's rate has remained consistent over time, many countries have reduced their rates, notably the UK, Japan and Finland. Many countries also have separate rates for small businesses. Further, effective rates are often significantly lower than headline rates.

OECD-32 rank: 2<sup>nd</sup> (-)

Source: OECD

Figure 34: Income tax plus employee and employer contributions less cash benefits, married couple, 2 children, 100% of average earnings, 2014



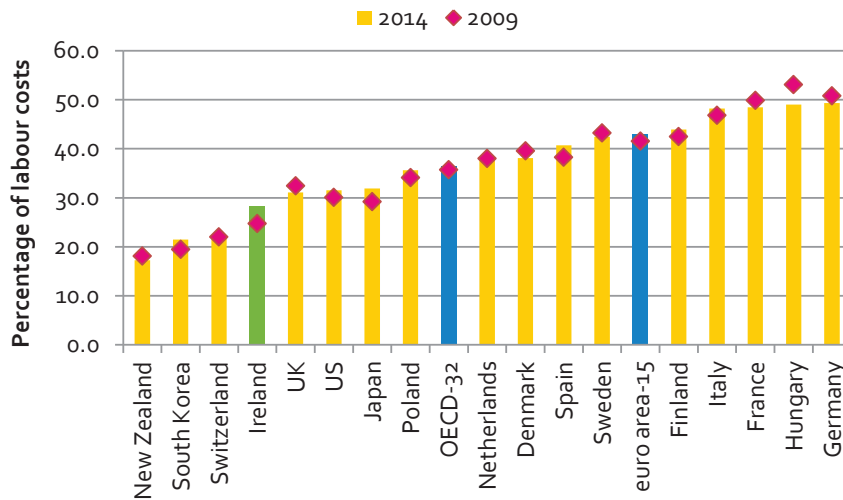
Based on earning 100% of the average wage, the gap between what an employer pays and what an employee receives is 9.9% in Ireland for a married couple with two children. This is the 4<sup>th</sup> lowest in the OECD, and despite increasing (from 2.8% in 2009), it remains significantly below the OECD-32 average 26.8%<sup>40</sup>.

OECD-32 rank: 4<sup>th</sup> (↓2)

Source: OECD, Taxing Wages 2015

<sup>40</sup> The marginal rate for a married couple with 2 children earning 100% of the average wage in 2014 (based on income tax plus employee and employer contributions less cash benefits) was 37.7% - significantly lower than the 2013 marginal rate of 75.1%.

Figure 35: Income tax plus employee and employer contributions less cash benefits, single persons, no children, 100% of average earnings, 2014



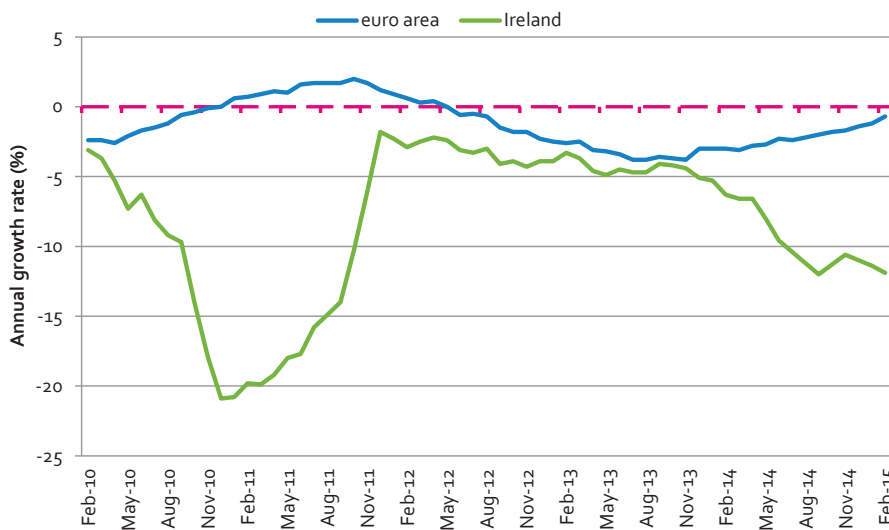
The gap between what the employer pays and what a single employee earning 100% of the average wage receives has increased from 24.7% in 2009 to 28.2% in 2014.

Nevertheless, this is still significantly below the OECD average of 35.7%<sup>41</sup>.

**OECD-32 rank: 7<sup>th</sup> (↓1)**

Source: Source: OECD, Taxing Wages 2015

Figure 36: Annual growth rate in outstanding credit to non-financial corporations, February 2010-February 2015



Annual growth rates in the stock of credit in Ireland have been negative since June 2009, with loan repayments exceed drawdowns. While the rate of decline slowed in 2012 and 2013, it accelerated again in 2014 and the stock of credit continues to shrink more quickly in Ireland than in the euro area with lending to Irish non-financial corporations down 8.9% in the year to March 2015.

**Rank: n/a**

Source: ECB

<sup>41</sup> The marginal rate for a single person with no children earning 100% of the average wage (based on income tax plus employee and employer contributions less cash benefits) was 56.7% in 2014. Note that according to statistics from the Revenue Commissioners, from a base of 2.1 million income earners in 2012, 843,000 were exempt from income tax, 853,000 were charged at the standard rate, and 372,000 were charged the higher rate of income tax in Ireland.

Figure 37: Interest rates available to non-financial corporations by loan size and duration, 2014

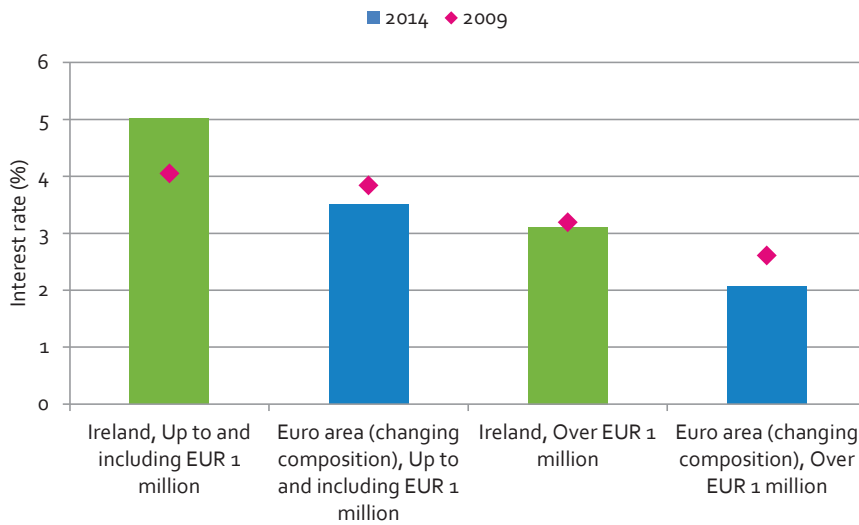
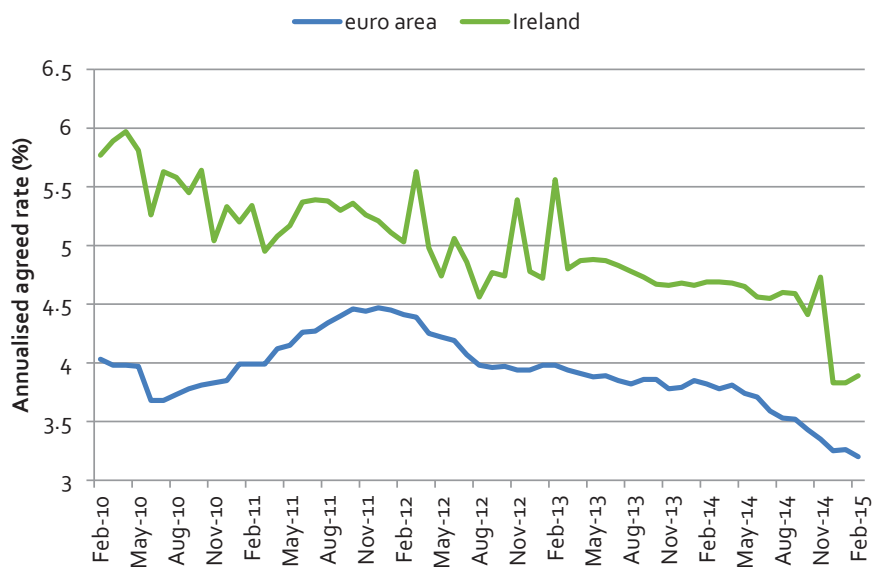


Figure 37 shows interest rates available to businesses (on loans other than revolving loans and overdrafts, convenience and extended credit card debt). For loans up to and including €1 million, rates charged to Irish business were 5.02% in 2014, 43% higher than the euro area average. At 3.11%, interest rates on loans over €1 million are also higher (by 50%) in Ireland than in the euro area.

Rank: n/a

Source: ECB

Figure 38: Revolving loans and overdrafts, convenience and extended credit card debt, February 2010-February 2015



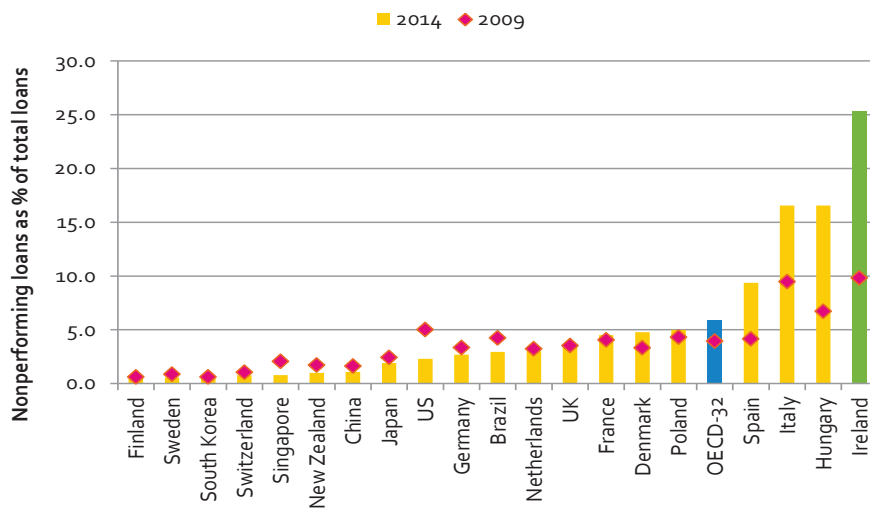
At 3.89%, interest rates on revolving loans and overdrafts, convenience and extended credit card debt were 0.69 percentage points higher in Ireland compared to the Euro area in February 2015. On average, interest rates available to Irish non-financial corporations were 26% higher than the euro area average in 2014.

Rank: n/a

Source: ECB



Figure 39: Ratio of non-performing loans<sup>42</sup>, 2014

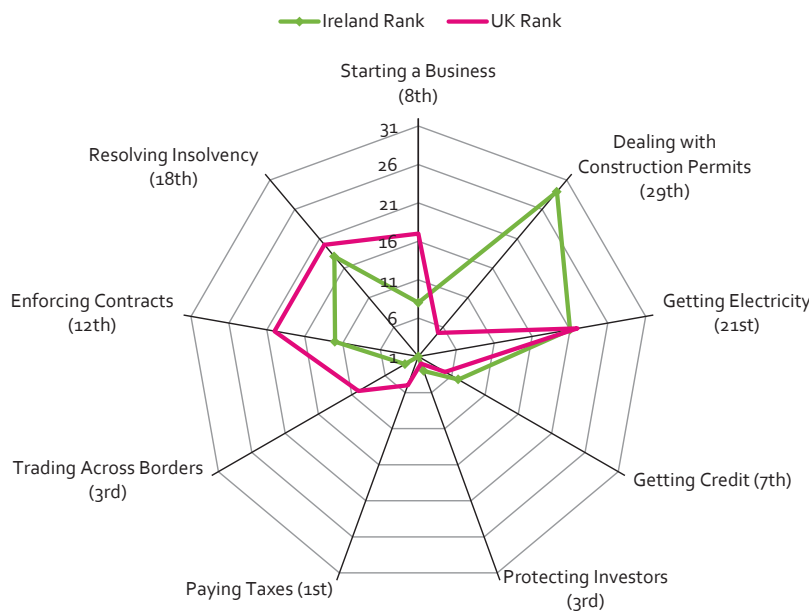


Non-performing loans (includes all lending, not just business lending) make up 25.3% of gross loans in Ireland. This compares to an OECD-32 average of 5.9%, and has a negative impact upon consumption and investment<sup>43</sup>. In 2009 non-performing loans accounted for 9.8% of Irish loans.

OECD-32 rank: 31<sup>st</sup> (-)

Source: IMF Financial Soundness Indicators

Figure 40: Ease of doing business rankings<sup>44</sup>, 2015



Overall, Ireland is ranked 11<sup>th</sup> out of 32 OECD countries in Doing Business, 5 places below the UK. Ireland performs strongly across a number of indicators and is 1<sup>st</sup> in the OECD in terms of paying taxes, 3<sup>rd</sup> for trading across borders and 3<sup>rd</sup> for protecting investors. Our weakest scores relate to dealing with construction permits (29<sup>th</sup>) and getting electricity (21<sup>st</sup>).

OECD-32 ranking: Doing Business: 11<sup>th</sup>

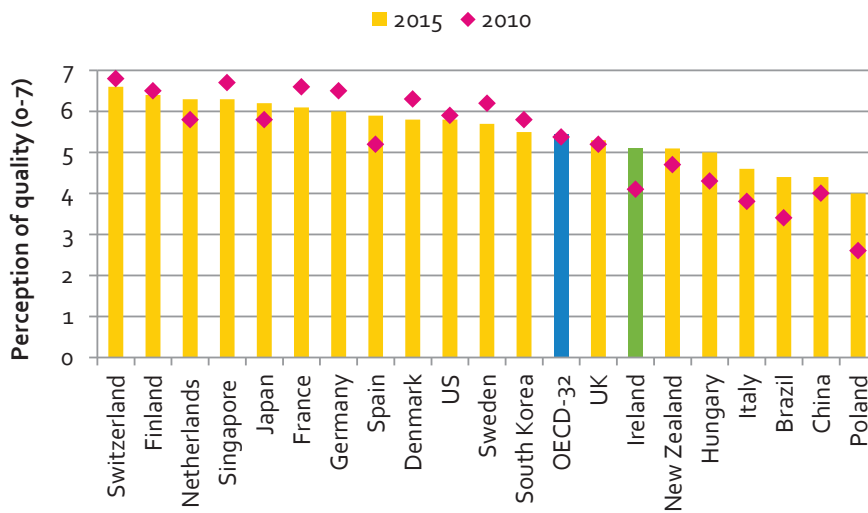
Source: World Bank, Ease of Doing Business 2015

<sup>42</sup> Non-performing loans are calculated on the basis of the gross value of loans on which (1) payment of principal and interest is past due by 90 days or more, or (2) interest payments equal to 90 days interest or more have been capitalized, refinanced, or rolled over, and (3) loans less than 90 days past due, which are recognized as nonperforming under national supervisory guidance.

<sup>43</sup> Schoenmaker, D., *Stabilising and Healing the Irish Banking System: Policy Lessons*, Duisenberg School of Finance, January 2015 (paper prepared for the CBI-CEPR-IMF Conference Ireland—Lessons from its Recovery from the Bank-Sovereign Loop 19 January 2015, Dublin)

<sup>44</sup> "Doing Business" ranks Ireland's performance across ten metrics. For comparison purposes, rankings relate only to OECD-32 rather than the full set of countries included in Doing Business. Due to changing country composition and methodological changes, it is not possible to prove a change in ranking.

Figure 41: Perception of the quality of overall infrastructure, 2015

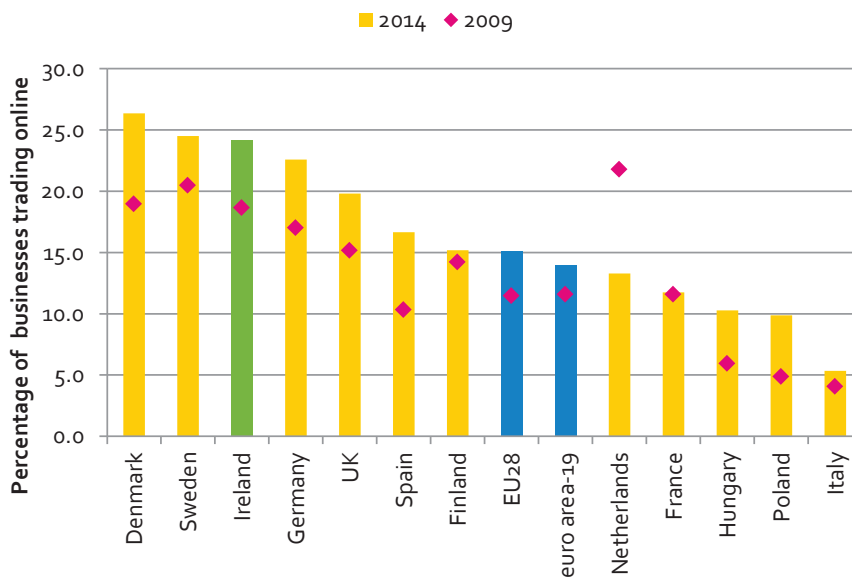


The WEF Executive Opinion Survey assesses perceptions about the quality of infrastructure. While Ireland's score has improved (from 4.1 to 5.1) since 2010, perceptions of quality in Ireland still lag the OECD average (5.5) and are well behind leading performers.

**OECD-32 rank: 21<sup>st</sup> (↑8)**

Source: World Economic Forum

Figure 42: Businesses trading online<sup>45</sup>, 2014



Irish businesses are using eCommerce more intensively than those in most other EU countries. Ireland is one of the best performing countries in the EU with 24% of enterprises selling goods and services online, accounting for 52% of turnover. By comparison, 14% of euro area businesses sell online.

**Euro area-19 rank: 1<sup>st</sup> (↑2)**

Source: European Commission, Digital Agenda Scoreboard 2015

<sup>45</sup> This indicator measures sales realised during the previous calendar year, via any computer networks that represent at least 1% of the total turnover value (in monetary terms, excluding VAT). Computer networks include websites, EDI-type systems and other means of electronic data transfer, excluding manually typed e-mails. Data includes all manufacturing and service sector enterprises with 10 or more persons employed, excluding the financial sector.

Figure 43: Monthly price of fixed broadband internet access, 2014

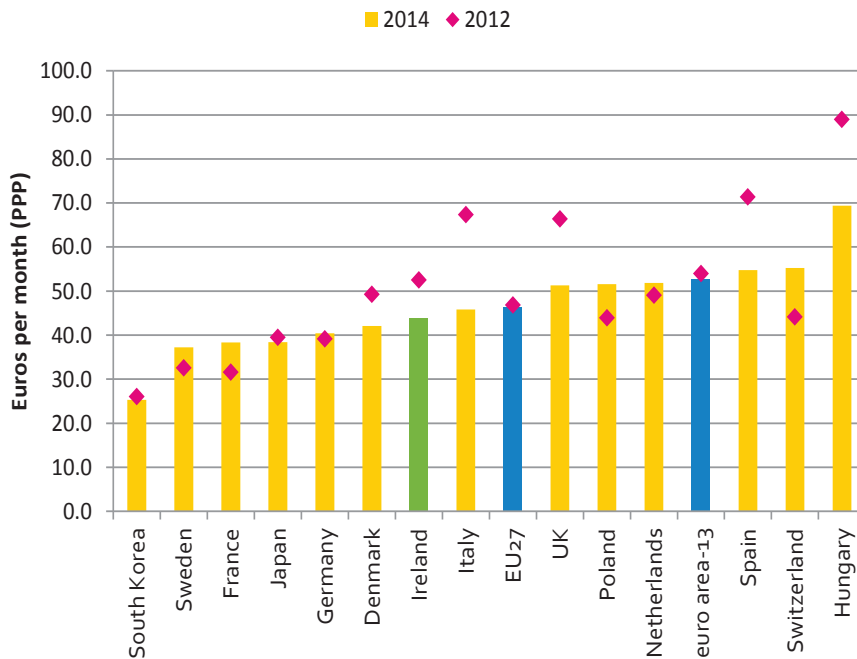
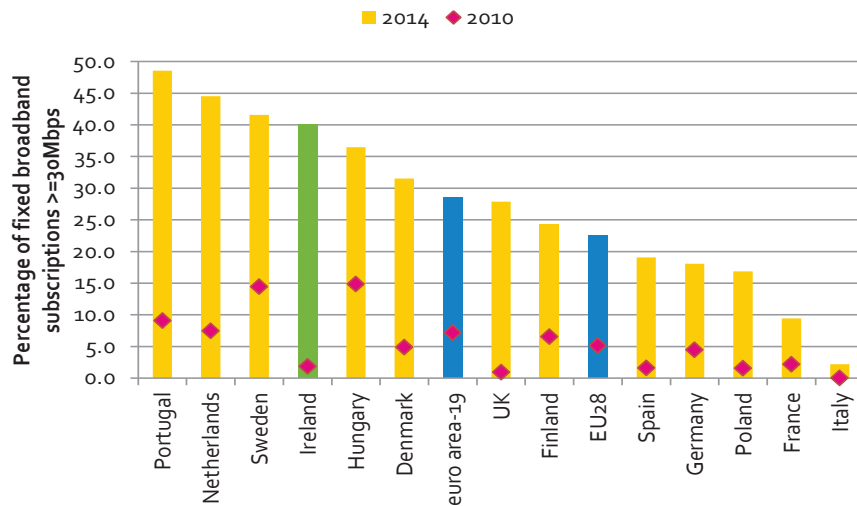


Figure 44 shows price data for monthly fixed broadband internet access offers with advertised speeds  $\geq 30$ -100 Mbps<sup>46</sup>. Prices per month vary considerably across the EU. Ireland's relative cost competitiveness has improved between 2012 and 2014. Prices have decreased by 20% to €43.70 per month (PPP basis). Ireland is below the EU average cost (€46.40). **Euro area-13 rank<sup>47</sup>: 5<sup>th</sup> (↑2)**

Source: European Commission, Digital Agenda Scoreboard

Figure 44: Share of fixed broadband subscriptions  $\geq 30$  Mbps, 2014



Average broadband speeds continue to increase in Ireland. European Commission data shows that 40% of fixed broadband subscriptions in Ireland are at speeds greater than 30 Mbps. This is significantly ahead of the euro area average (28.6%)<sup>48</sup>. **Euro area-19 rank: 7<sup>th</sup> (↑5)**

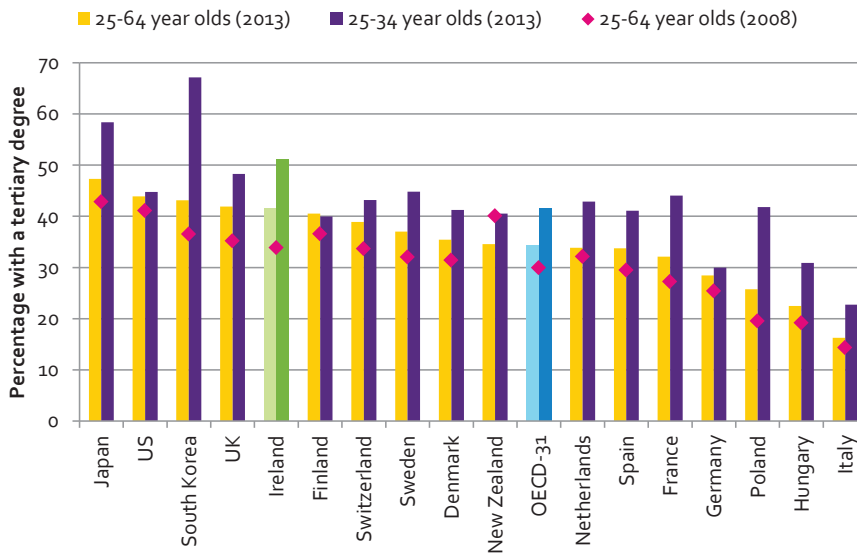
Source: European Commission, Digital Agenda Scoreboard

<sup>46</sup> Offers include fixed telephony, including value added tax, excluding the additional cost of telephony or cable line (if any). The minimum and median prices refer to the group of similar subscriptions offered by internet service providers. Offers are not weighted by market shares, so the offers' median price cannot be interpreted as the median price paid by consumers.

<sup>47</sup> Euro area 13 excludes Belgium, Cyprus, Finland, Lithuania, Malta and Portugal.

<sup>48</sup> According to ComReg data, 63.8% of all fixed broadband subscriptions were equal to or greater than 10 Mbps, up from 53.4% in Q4 2013. See ComReg, Market Report, Q4 2014

Figure 45: Population 25-64 year-olds with a tertiary education degree, 2013



The proportion of the Irish population aged 25-64 with a tertiary level degree has consistently increased over the past decade. 41.5% of Irish adults aged 25-64 had attained a tertiary degree in 2013, an increase from 33.9% in 2008. A greater proportion of those aged 25-34 in Ireland (51%) have a third level qualification than the OECD average (41.6%).

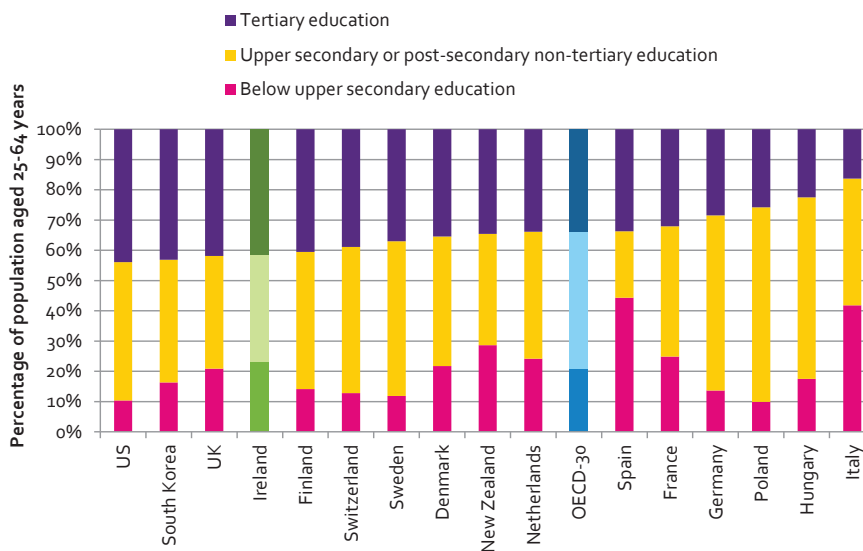
**OECD-31 rank:**

25-64 years: 7 (↑5)

25-34 years: 4 (↑2)

Source: OECD

Figure 46: Population aged 25-64 by educational attainment level, 2013



Educational attainment in Ireland has improved significantly over the last two decades. In particular, the proportion of the working age population with tertiary level education has increased. However, although declining, the proportion with less than upper secondary education remains high internationally.

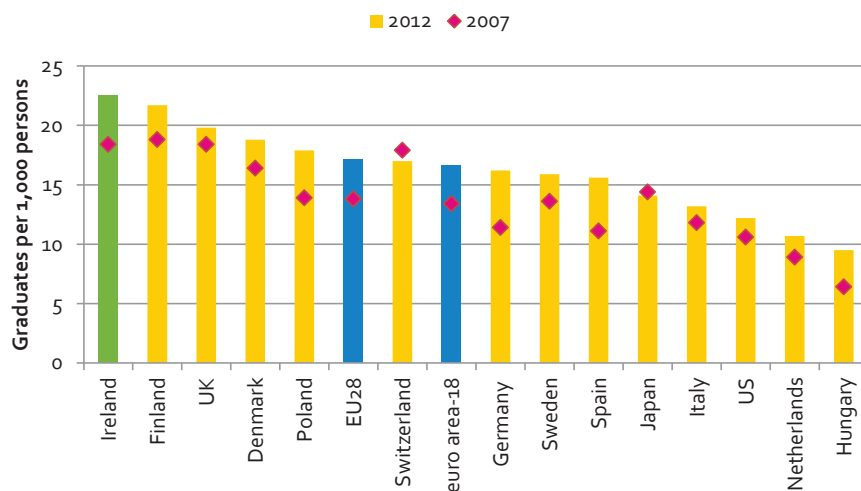
**OECD-30 rank:**

Below upper secondary: 20<sup>th</sup> (↑4)

Upper secondary: 3<sup>rd</sup> (↓3)

Source: OECD

Figure 47: Tertiary graduates in science and technology per 1,000 inhabitants aged 20-29 years, 2012<sup>49</sup>

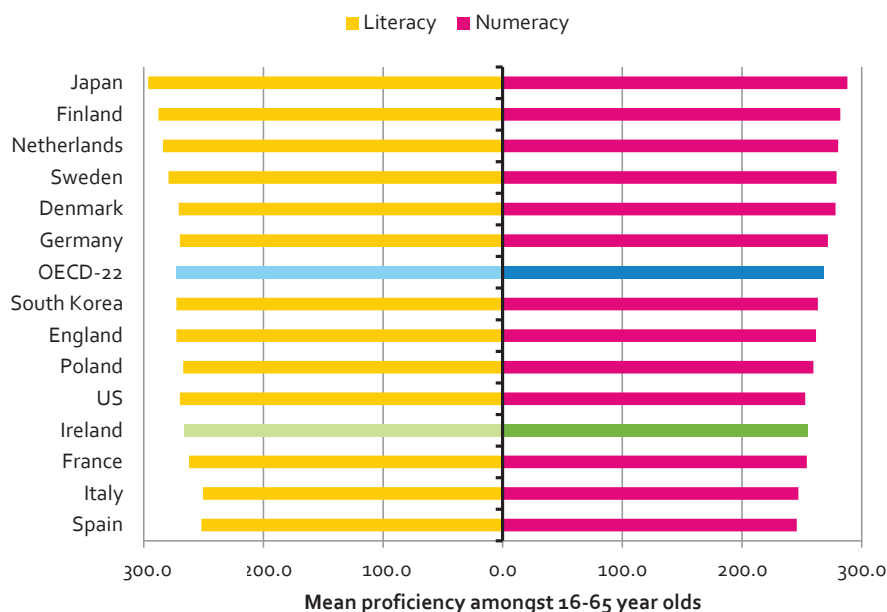


In 2013, Ireland had 22.5 maths, science and computing graduates per 1,000 of the population aged 20-29, which compares favourably with the euro area average (16.6 per 1,000). This is the 2<sup>nd</sup> highest level in the euro area, behind Lithuania (23), and higher than the corresponding figures for the US (12.2). Euro area and EU27 averages are steadily increasing.

**Euro area-18 rank: 2<sup>nd</sup> (↑2)**

Source: Eurostat

Figure 48: Mathematical and reading proficiency population aged 15-64, 2012



Those aged 16–65 in Ireland scored an average of 266 on the literacy scale, compared with an OECD average of 272. While the number scoring at lower literacy levels has dropped since the 1990s, one in six Irish adults were at the lowest proficiency level. Ireland (255) scores below the OECD average (268) on the numeracy scale.

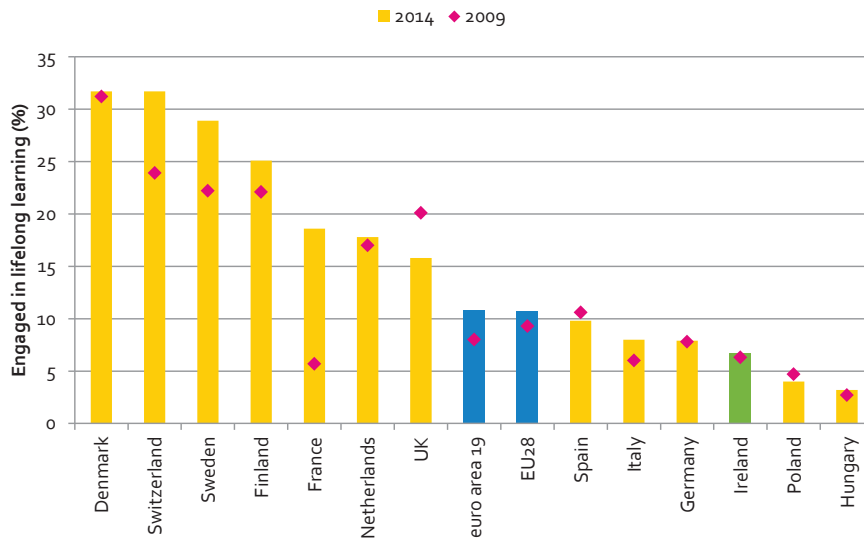
**OECD-22 rank<sup>50</sup>:**  
 Literacy: 19<sup>th</sup>  
 Numeracy: 18<sup>th</sup>

Source: OECD

<sup>49</sup> The latest available data for France and Japan is from 2011.

<sup>50</sup> OECD-22 excludes Chile, Greece, Hungary, Iceland, Israel, Luxembourg, Mexico, New Zealand, Portugal, Slovenia, Switzerland and Turkey.

Figure 49: Population aged 25-64 engaged in lifelong learning, 2014

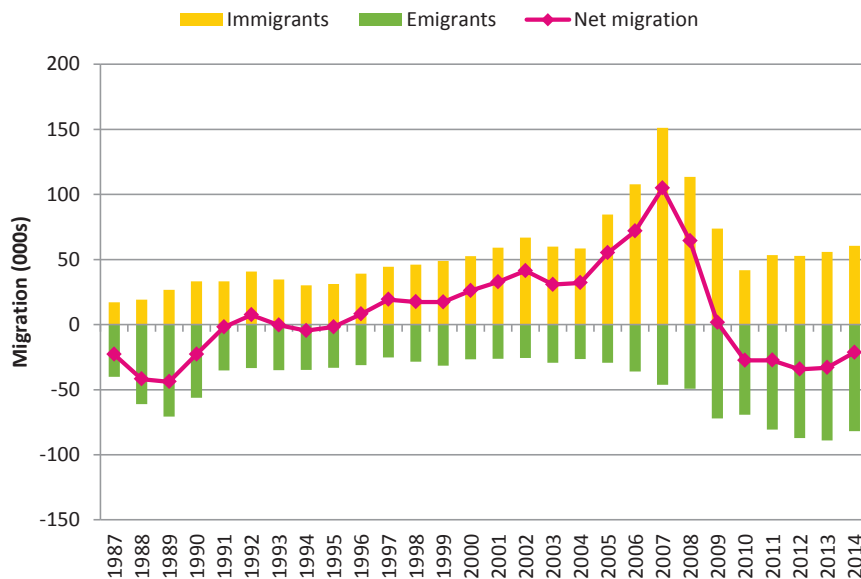


The Europe 2020 Strategy sets a target that an average of at least 15% of adults aged 25 to 64 years old should participate in lifelong learning. Ireland (6.9%) lags behind the EU28 average of 10.7% and is significantly behind Denmark and Switzerland (31.7%).

**Euro area-19 rank: 15<sup>th</sup>**  
(↓4)

Source: Eurostat

Figure 50: Net migration (000s), 1987-2014

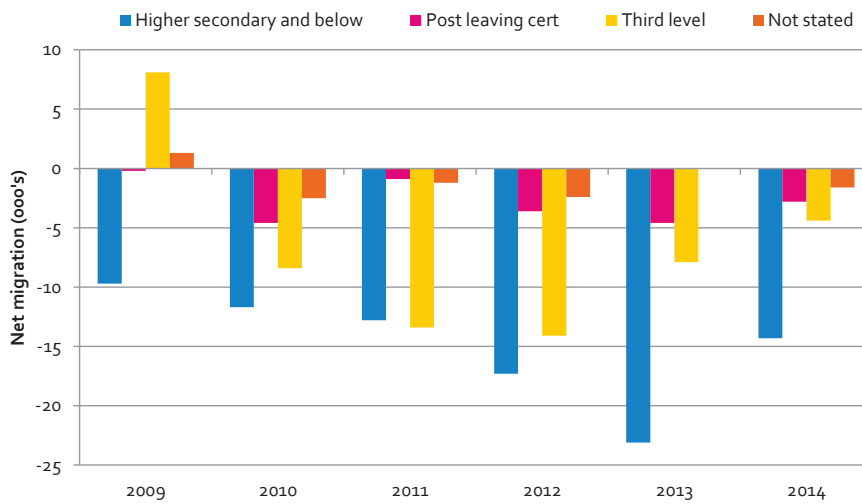


Total emigration from Ireland in the year to April 2013 is estimated at 81,900 – a slight reduction from the previous two years. The number of immigrants also increased to 60,600, resulting in total net outward migration of 21,400. This is the lowest level since 2009.

**Rank: n/a**

Source: CSO, Population and Migration Estimates

Figure 51: Net migration by educational attainment, (aged 15 and over), 2009-2014

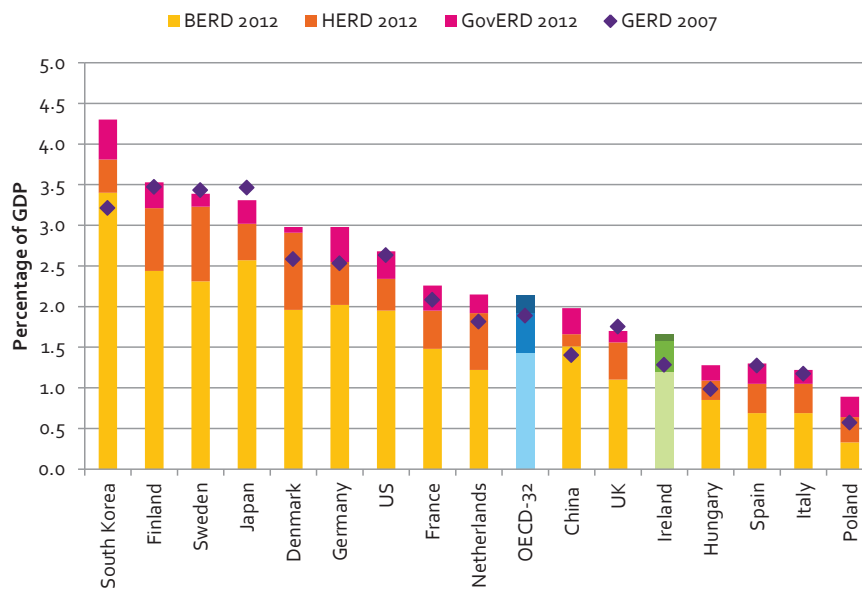


A majority (58.5%) of immigrants (and 46.5% of emigrants) in 2014 have attained a third level qualification. Overall, however, more third level qualified people are leaving the country in recent years than are arriving, representing a potential loss of skills.

Rank: n/a

Source: CSO, Population and Migration Estimates

Figure 52: Gross domestic spending on R&D, % of GDP<sup>51</sup>, 2012



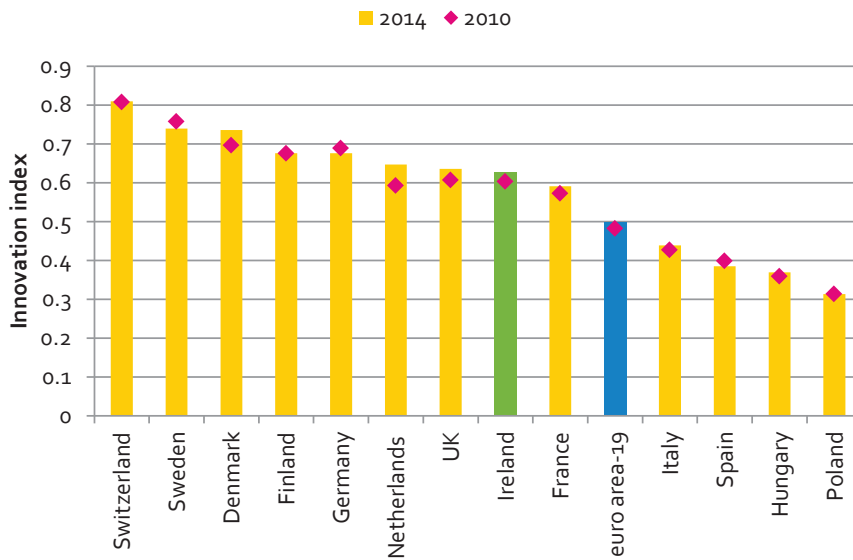
In 2012 Irish gross expenditure on R&D (GERD) accounted for 1.66% of GDP (2% of GNP). Business expenditure on R&D (BERD) accounted for 1.2%, while the higher education sector (HERD) and government sector (GovERD) accounted for 0.38% and 0.08% respectively. The Europe 2020 GERD target is 3% of GDP for Europe as a whole, and 2.5% for Ireland.

OECD-32 rank: GERD: 18<sup>th</sup> (↑4)

Source: OECD

<sup>51</sup> Business Expenditure on R&D (BERD) refers to R&D performed in the business sector and includes both publicly and privately funded R&D. Similarly, Higher Education Expenditure (HERD) on R&D refers to R&D performed in the higher education and includes both publicly and privately funded R&D. Government Expenditure on R&D (GovERD) refers to R&D performed in the Government sector. Gross expenditure on R&D (GERD) is the sum of these three. Government Budget Appropriations or Outlays on R&D (GBAORD) measures total public investment in R&D. In 2012, GBAORD accounted for 0.46% of GDP (€760 million).

Figure 53: Summary innovation index<sup>52</sup>, 2015

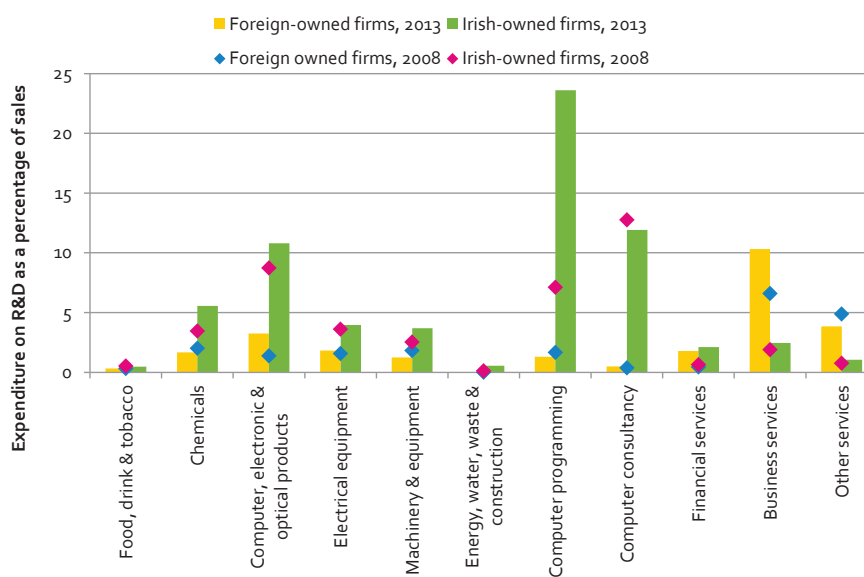


Ireland is classed as an innovation follower, with a score that is 20% above the euro area-19 average. Ireland's relative strengths relate to human resources, license and patent revenues from abroad, and scientific co-publications. Relative weaknesses include non-R&D innovation expenditures, and R&D expenditures in the public sector.

**Euro area-19 rank:** 5<sup>th</sup> (-)

Source: European Commission, Innovation Union Scoreboard 2015

Figure 54: Total expenditure on in-house R&D as a percentage of sales by agency supported firms, 2013



In 2013, Irish owned firms spent 2.2% of sales on in-house R&D, compared with an average of 1.5% amongst foreign owned firms. The increase in R&D amongst indigenous firms since 2008 in the computer programming sector is particularly noticeable. Indigenous service firms spent more on R&D than manufacturing firms.

**Rank:** n/a

Source: Department of Jobs, Enterprise and Innovation, Annual Business Survey of Economic Impact

<sup>52</sup> The measurement framework used in the Innovation Union Scoreboard distinguishes between 3 main types of indicators and 8 innovation dimensions, capturing in total 25 different indicators.

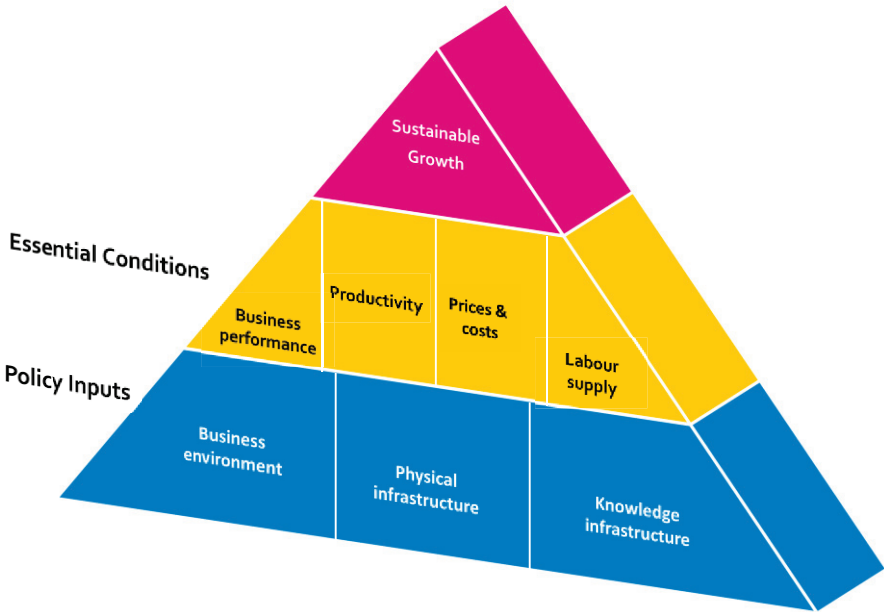


# Appendix One: Note on Methodology

Competitiveness refers to the ability of firms to compete in markets. Ireland’s national competitiveness refers to the ability of the enterprise base in Ireland to compete in international markets. The NCC uses a competitiveness pyramid to outline the framework within which it assesses Ireland’s competitiveness (Figure 56).

At the top of the pyramid is sustainable growth in living standards – the fruit of past competitiveness success. Below this are the essential conditions for achieving competitiveness, including business performance (such as trade, investment, and business sophistication), productivity, prices and costs and labour supply.

Figure 55: The NCC Competitiveness Pyramid



These can be seen as the metrics of current competitiveness. Lastly, there are the policy inputs covering three pillars of future competitiveness, namely the business environment (taxation, regulation, finance and social capital), physical infrastructure and knowledge infrastructure.

Source: National Competitiveness Council

## How to read this report

This report uses internationally comparable metrics, with the OECD, the EU, the UN, IMF and the WTO as the sources for the majority of indicators. Indicators from specialist international competitiveness bodies (e.g. from the World Bank’s Doing Business report, the World Economic Forum’s Global Competitiveness Report and the Institute for Management Development’s World Competitiveness Yearbook) are also used. Where further depth is of benefit, national sources such as Forfás, the Central Bank, the CSO, and the ESRI are used.

Subject to data availability, Ireland’s performance is benchmarked against 19 other countries. Countries have been chosen to provide a mix of euro area members (Finland, France, Germany, Italy, the Netherlands and Spain), other non-euro area European countries (Denmark, Sweden, Switzerland and the UK), and two newer EU member states (Hungary and Poland). Seven non-European countries which are global leaders or are of a similar size or pace of development to Ireland are also included. These countries are Brazil, China, Japan, South Korea, New Zealand, Singapore, and the US. This allows for a detailed comparison between Ireland and

many of its closest trading partners and competitors. Ireland is also compared to a relevant peer group average – either the OECD or the euro area average.

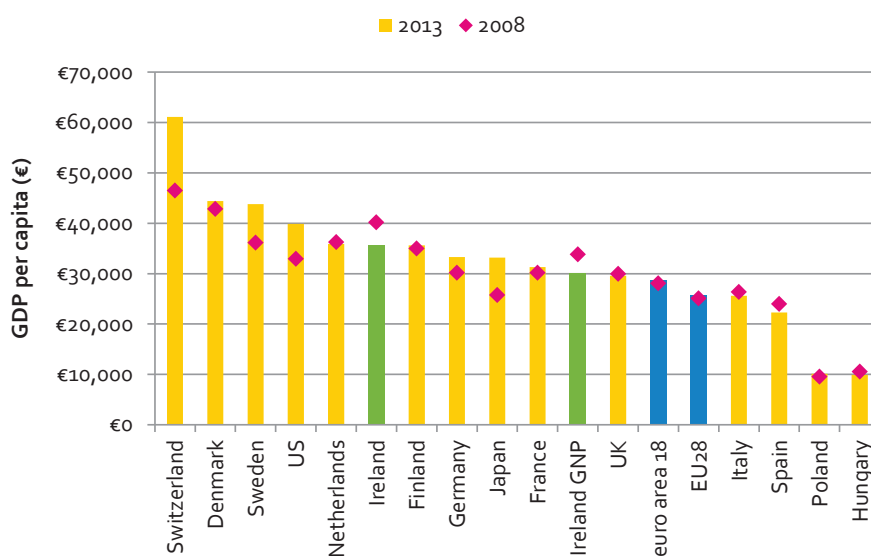
Benchmarking competitiveness is useful - it informs the policymaking process and raises awareness of the importance of national competitiveness to Ireland’s wellbeing. Nonetheless, there are limitations to benchmarking:

- While every effort is made to ensure the timeliness of the data, there is a natural lag in collating comparable official statistics across countries. There are also factors that are difficult to benchmark (e.g. the benefit of being in the GMT time zone or of speaking English fluently);
- Secondly, given the different historical contexts and economic, political and social goals of various countries, and their differing physical geographies and resource endowments, it is not realistic or even desirable for any country to seek to outperform other countries on all measures of competitiveness. There are no generic strategies to achieve national competitiveness as countries face trade-offs; and
- Finally, it is important to note that trade and investment between countries is not a zero-sum game; economic advances by other countries can, in aggregate terms, lead to improvements in living standards for the Irish population.

### Interpretation of the charts

We have endeavoured to ensure that all charts are self-explanatory. However, with reference to the sample chart that follows, the following points may be of value when interpreting the charts:

Figure 2: Gross domestic product, euros per capita, current market prices, 2013



Ireland’s GDP per capita remains well above the euro area average (+24.5%). However in GNP per capita terms (i.e. with the impact of the foreign owned sector removed), the differential is much narrower (+5%). Since their pre-recession peak, Irish incomes have declined significantly.

**Euro area 18 ranking:**  
 GDP: 4<sup>th</sup> (↓2)  
 GNP: 8<sup>th</sup> (↓3)

Source: Eurostat

- The majority of chart titles are given a traffic light colour, green, yellow or red, in order to provide a general indication of Ireland’s performance. Green indicates a strong performance (top third of OECD, euro area, or comparator group), orange signals an average performance, while red means that Ireland is ranking within the bottom third of the comparator group. Certain indicators, which are not ranked, are

also given a traffic light colour, in which case the colour is determined (somewhat subjectively) based on Ireland's performance over time, or vis-à-vis a peer group average.

- Rankings are provided where appropriate, but in a number of charts, it is not possible to designate a best performer. In charts with both GDP and GNP performance for Ireland, where feasible rankings are provided for both sets of data.
- In interpreting the ranking for each indicator, a low ranking (i.e. close to 1st) implies a healthy competitiveness position, while a high ranking implies an uncompetitive position.
- Changes in rankings refer to the change in Ireland's position since either the previous year, or in the case of charts displaying more than one year of data, since the oldest data displayed. Exceptions to this are highlighted in endnotes. (↑) refers to an improvement in Ireland's competitive position, so 4 means an improvement of four places in Ireland's ranking. (-) means that there has been no change in Ireland's ranking, while (↓) refers to a fall in ranking.

