OECD Economic Surveys
IRELAND

MARCH 2018

OECD

OECD Economic Surveys: Ireland 2018

OECD

BETTER POLICIES FOR BETTER LIVES

This document, as well as any data and any map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

Please cite this publication as:
OECD (2018), *OECD Economic Surveys: Ireland 2018*, OECD Publishing, Paris.
http://dx.doi.org/10.1787/eco_surveys-irl-2018-en

ISBN 978-92-64-29177-5 (print)
ISBN 978-92-64-29179-9 (PDF)
ISBN 978-92-64-29178-2 (epub)

Series: OECD Economic Surveys
ISSN 0376-6438 (print)
ISSN 1609-7513 (online)

OECD Economic Surveys: Ireland
ISSN 1995-3267 (print)
ISSN 1999-0324 (online)

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Photo credits: Cover © Paul Campbell/Shutterstock.com.

Corrigenda to OECD publications may be found on line at: *www.oecd.org/about/publishing/corrigenda.htm*.

© OECD 2018

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgement of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to *rights@oecd.org*. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at *info@copyright.com* or the Centre français d'exploitation du droit de copie (CFC) at *contact@cfcopies.com*.

Table of contents

Basic statistics of Ireland, 2016 ..... **8**

Executive summary **9**

Key Policy Insights **15**

Recent macroeconomic developments and short-term prospects 18
Solving the legacies of the crisis by buttressing the financial system and public finances 27
Addressing medium-term challenges for wellbeing 39
Bibliography 52
Annex - Progress in structural reform 55
Appendix – Estimating underlying housing demand 61

Reforms for sustainable productivity growth **67**

Productivity among local firms has stagnated 68
Enhancing business dynamism 82
Enhancing the allocation of finance 96
Maximising knowledge spillovers to local firms 107
Bibliography 117

Tables

Table 1. Macroeconomic indicators and projections 21
Table 2. Possible shocks to the Irish economy 24
Table 3. Past recommendations related to improving financial stability 31
Table 4. Share of total tax revenues by tax head, % 32
Table 5. Potential impact of structural reforms on GDP per capita after 10 years 35
Table 6. Illustrative fiscal impact of recommended reforms 38
Table 7. Past recommendation related to health spending 46
Table 8. Past recommendation related to improving access and affordability of childcare 51
Table 1.1. Estimating the foreign ownership productivity premium 80
Table 1.2. Estimating productivity spillovers 81
Table 1.3. Four alternative resolution mechanisms for personal insolvency in Ireland 95
Table 1.4. Financing sources used in Ireland more than in other euro area countries 97
Table 1.5. Funds that provide access to finance for small businesses in Ireland 104
Table 1.6. Managerial skills and dispersion across firms 113

Figures

Figure 1. Many Irish firms believe they are negatively exposed to Brexit 16
Figure 2. Most businesses have experienced a decline in productivity 17
Figure 3. Growth in modified GNI has recently been weaker than GDP 18
Figure 4. Domestic demand has been solid 19
Figure 5. Export performance has been strong and the current account balance has improved 20
Figure 6. Property prices are rising strongly 22
Figure 7. Private sector indebtedness remains high 23
Figure 8. Macro-financial vulnerabilities remain high in some areas 24
Figure 9. There are disparities in sectoral impacts under the Brexit scenario 26
Figure 10. The size of banks has been reduced 27
Figure 11. The non-performing loan ratio remains high 28
Figure 12. The process of collateral repossession is slow 29
Figure 13. Tighter macro-prudential policy is not warranted at this stage 31
Figure 14. Public debt ratios have improved but remain high 34
Figure 15. The majority of potential VAT revenues remain uncollected 36
Figure 16. Wellbeing is high, but some aspects can be improved 39
Figure 17. The current level of housing supply is insufficient to meet future demand 40
Figure 18. Green growth indicators are mixed 43
Figure 19. Many Irish people are unsatisfied with the health system 44
Figure 20. There are lengthy waiting times for medical procedures 45
Figure 21. Labour utilisation remains low and differs across groups 47
Figure 22. High market income inequality is reduced by the tax and transfer system 48
Figure 23. Net replacement ratios are relatively high 49
Figure 24. The active labour market policy spending mix can be improved 50
Figure 25. Childcare subsidies will reduce the participation tax rate 51
Figure 1.1. A stylised depiction of the factors impacting the magnitude of productivity spillovers 68
Figure 1.2. Trend productivity growth has slowed 69
Figure 1.3. Most businesses have experienced a decline in productivity 70
Figure 1.4. Foreign-owned firms tend to be more productive 70
Figure 1.5. Wages are substantially higher in foreign firms 71
Figure 1.6. The share of SMEs adopting innovation strategies is high 72
Figure 1.7. Both the firm entry rate and exit rate are low in Ireland 73
Figure 1.8. Default rates are high for Irish SMEs 74
Figure 1.9. The efficiency of resource allocation is weaker for local firms 76
Figure 1.10. A decline in the efficiency of resource allocation has pulled down aggregate productivity 77
Figure 1.11. Foreign-owned firms are much less likely to source production inputs from Ireland 78
Figure 1.12. Disparities in the sourcing behaviour of foreign and local firms differ by sector 79
Figure 1.13. Regulatory barriers are low overall but some barriers to entrepreneurship exist 83
Figure 1.14. The cost of construction permits is high in Ireland 84
Figure 1.15. Electricity costs are high in Ireland 85
Figure 1.16. The costs in the legal services sector are high in Ireland 86
Figure 1.17. The investment share of government spending is low 88
Figure 1.18. Many Irish firms sell online 89
Figure 1.19. Capital productivity has declined sharply in Ireland 89
Figure 1.20. The insolvency regime for corporate restructuring is efficient 92
Figure 1.21. Reforms to bankruptcy law have reduced penalties for failed entrepreneurs 93
Figure 1.22. The importance of different types of finance varies across firms 96

Figure 1.23. Financing conditions for SMEs remain tight 98
Figure 1.24. The ratio of NPLs net of provisions to capital is high 99
Figure 1.25. Venture capital investment is higher than in most other OECD countries 101
Figure 1.26. Venture capital finance is concentrated in the middle-development stage in Ireland 101
Figure 1.27. The alternative stock exchange platform can be developed further 103
Figure 1.28. Funding through the Seed and Venture Capital Scheme is concentrated in certain sectors 105
Figure 1.29. Funding through the Microenterprise Loan Fund Scheme is diversified 106
Figure 1.30. Irish innovators are less likely to collaborate 109
Figure 1.31. Public support to business R&D has increased significantly over recent years 111
Figure 1.32. Irish R&D tax incentives are more beneficial for profitable firms 112
Figure 1.33. Lifelong learning participation is relatively low 113
Figure 1.34. Irish-owned companies in most sectors have reduced employee training 114
Figure 1.35. Wages are substantially lower in local firms 115

Figure A.1. Housing supply is currently lower than underlying demand 62
Figure A.2. Future household formation rates are uncertain 62
Figure A.3. The current level of housing supply is insufficient to meet future demand 63

Boxes

Box 1. Modified GNI – A new indicator of underlying economic activity in Ireland 18
Box 2. Simulating the economic effects of an illustrative Brexit scenario 25
Box 3. Simulations of the potential impact of structural reforms 35
Box 4. Quantifying fiscal recommendations 38
Box 1.1. Productivity analysis using OECD MultiProd 75
Box 1.2. Estimating productivity spillovers from firm-level data 80
Box 1.3. Science Foundation Ireland research centres 110

This Survey is published on the responsibility of the Economic and Development Review Committee of the OECD, which is charged with the examination of the economic situation of member countries.

The economic situation and policies of Ireland were reviewed by the Committee on 18 January 2018. The draft report was then revised in light of the discussions and given final approval as the agreed report of the whole Committee on 12 February 2018.

The Secretariat's draft report was prepared for the Committee by Ben Westmore and Yosuke Jin under the supervision of Pierre Beynet. Statistical research assistance was provided by Paula Adamczyk and editorial assistance by Heloise Wickramanayake.

The previous Survey of Ireland was issued in September 2015.

Information about the latest as well as previous Surveys and more information about how Surveys are prepared is available at www.oecd.org/eco/surveys.

Follow OECD Publications on:

http://twitter.com/OECD_Pubs

http://www.facebook.com/OECDPublications

http://www.linkedin.com/groups/OECD-Publications-4645871

http://www.youtube.com/oecdilibrary

http://www.oecd.org/oecddirect/

This book has...

StatLinks

A service that delivers Excel® files from the printed page!

Look for the *StatLinks* at the bottom of the tables or graphs in this book. To download the matching Excel® spreadsheet, just type the link into your Internet browser, starting with the *http://dx.doi.org* prefix, or click on the link from the e-book edition.

Basic statistics of Ireland, 2016

(Numbers in parentheses refer to the OECD average)*

LAND, PEOPLE AND ELECTORAL CYCLE					
Population (million)	4.6		Population density per km²	69.1	(37.2)
Under 15 (%)	20.6	(17.9)	Life expectancy (years, 2015)	81.5	(80.5)
Over 65 (%)	13.6	(16.6)	Men	79.6	(77.9)
Foreign-born (%, 2011)	16.4		Women	83.4	(83.1)
Latest 5-year average growth (%)	0.2	(0.6)	Latest general election	February	2016
ECONOMY					
Gross domestic product (GDP)			Value added shares (%)		
In current prices (billion USD)	304.8		Primary sector	1.0	(2.5)
In current prices (billion EUR)	275.1		Industry including construction	39.3	(26.6)
Latest 5-year average real growth (%)	7.8	(1.9)	Services	59.7	(70.9)
Per capita (000 USD PPP)	72.8	(42.1)			
GENERAL GOVERNMENT					
Per cent of GDP					
Expenditure	27.1	(41.5)	Gross financial debt	84.5	(100.2)
Revenue	26.4	(38.6)	Net financial debt	55.5	(65.2)
EXTERNAL ACCOUNTS					
Exchange rate (EUR per USD)	0.904		Main exports (% of total merchandise exports)		
PPP exchange rate (USA = 1)	0.809		Chemicals and related products, n.e.s.	56.7	
In per cent of GDP			Machinery and transport equipment	16.3	
Exports of goods and services	121.7	(53.9)	Miscellaneous manufactured articles	12.6	
Imports of goods and services	99.8	(49.5)	Main imports (% of total merchandise imports)		
Current account balance	3.3	(0.2)	Machinery and transport equipment	39.3	
Net international investment position (2014)	-93.2		Chemicals and related products, n.e.s.	21.5	
			Miscellaneous manufactured articles	11.8	
LABOUR MARKET, SKILLS AND INNOVATION					
Employment rate for 15-64 year-olds (%)	64.8	(66.9)	Unemployment rate, Labour Force Survey (age 15 and over) (%)	7.9	(6.3)
Men	70.2	(74.7)	Youth (age 15-24, %)	17.2	(13.0)
Women	59.5	(59.3)	Long-term unemployed (1 year and over, %)	4.2	(2.0)
Participation rate for 15-64 year-olds (%)	70.9	(71.7)	Tertiary educational attainment 25-64 year-olds (%, 2015)	42.8	(35.7)
Average hours worked per year	1 879	(1 763)	Gross domestic expenditure on R&D (% of GDP, 2014)	1.5	(2.4)
ENVIRONMENT					
Total primary energy supply per capita (toe, 2015)	2.9	(4.1)	CO_2 emissions from fuel combustion per capita (tonnes, 2014)	7.3	(9.4)
Renewables (%, 2015)	8.1	(9.6)	Municipal waste per capita (tonnes, 2012)	0.6	(0.5)
Exposure to air pollution (more than 10 g/m³ of PM2.5, % of population, 2015)	2.8	(75.2)			
SOCIETY					
Income inequality (Gini coefficient, 2014)	0.298	(0.311)	Education outcomes (PISA score, 2015)		
Relative poverty rate (%, 2014)	9.2	(11.3)	Reading	521	(493)
Median disposable household income (000 USD PPP, 2014)	24.3	(22.9)	Mathematics	504	(490)
Public and private spending (% of GDP)			Science	503	(493)
Health care	7.8	(9.0)	Share of women in parliament (%)	22.2	(28.7)
Pensions (2013)	5.4	(9.1)	Net official development assistance (% of GNI)	0.33	(0.39)
Education (primary, secondary, post sec. non tertiary, 2014)	3.7	(3.7)			

Better life index: www.oecdbetterlifeindex.org

* Where the OECD aggregate is not provided in the source database, a simple OECD average of latest available data is calculated where data exist for at least 29 member countries.

Source: Calculations based on data extracted from the databases of the following organisations: OECD, International Energy Agency, World Bank, International Monetary Fund, Inter-Parliamentary Union, and Central Statistics Office of Ireland.

Executive summary

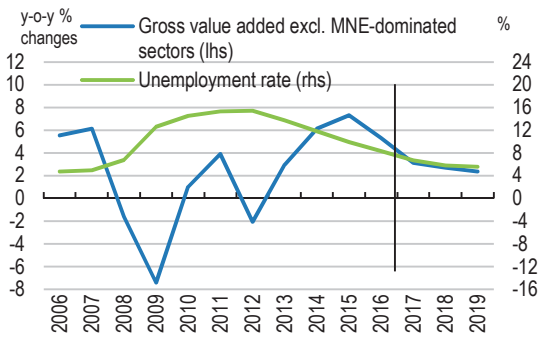
- *Economic prospects are good but clouded with uncertainty*
- *Reviving productivity is the key for future output and labour earnings*

Economic conditions are good…

Living standards are high in Ireland, with recent improvements underpinned by the strongest post-crisis output recovery in the OECD. The Irish economy has demonstrated impressive durability over the past three decades. Average wages are now comparable with the top tier of OECD countries and income inequality is reduced through the highly redistributive tax and transfer system. At the same time, the population report a high level of work-life balance, feel safe in public spaces and have strong social connections.

The robust economic recovery has now broadened to domestic demand. Irish export performance has displayed a sustained improvement and business investment by local firms is now recovering strongly, particularly in the construction sector. Household consumption has also been revived, aided by cuts in direct household taxes, strong employment growth and modest import price inflation. The unemployment rate has declined rapidly (Figure A), leading to a pick-up in wage growth in some sectors.

Figure A. The economy has recovered strongly



Source: OECD Economic Outlook: Statistics and Projections (database); Central Statistics Office.

StatLink http://dx.doi.org/10.1787/888933684238

The economy is projected to continue expanding over the next two years, albeit at a more sustainable pace. The labour market will tighten further, with the unemployment rate projected to fall to around 5½ per cent. This will place further upward pressure on wages and inflation, with consumer prices expected to rise by over 2% in 2019. As real disposable income growth weakens, household consumption growth will also slow. Private construction activity will continue to be spurred by rising property prices, but equipment and machinery investment is likely to be held back by increasing uncertainty in the business sector. GDP growth is expected to be around 2½ per cent in 2019 (Table 1).

Table 1. The economy will continue to expand at a solid pace

	2017	2018	2019
Gross domestic product (GDP)	4.0	2.9	2.4
Private consumption	2.0	2.2	1.9
Government consumption	2.1	2.1	2.0
Gross fixed capital formation	-19.7	4.9	3.3
Exports	4.3	1.1	3.5
Imports	-5.0	0.5	4.0
Gross value added (exc. MNEs)	3.1	2.7	2.4
Unemployment rate	6.7	5.8	5.6
Consumer price index	0.3	1.4	2.1

Source: OECD Economic Outlook.

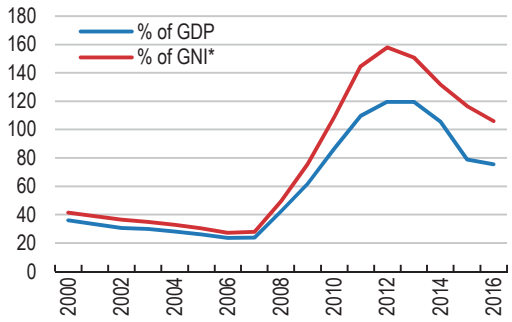
…but prospects are clouded with uncertainty

Brexit is a serious risk to the economic outlook. OECD estimates show that a trade arrangement between the UK and EU governed by the World Trade Organisation's Most-Favoured Nation Rules could reduce total Irish exports by 20% in some sectors such as agriculture and food. Given the large share of multinational firms in the Irish economy, an additional risk to the outlook is rising international tax competition.

Heightened uncertainty makes it vital to further improve the fiscal position. Public finances have improved noticeably, but government debt remains high and tax receipts have become more subject to volatility (Figure B). Further public debt reduction would create scope for budgetary policy to support the economy in the event of a negative shock. This could be achieved through broadening the tax base in a way that does not significantly reduce medium-term growth. For example, while ensuring that social inclusiveness is maintained, VAT preferential rates and exemptions could be

eliminated and the property tax yield raised through more regular revaluations of the base.

Figure B. Gross government debt ratios are declining but remain high



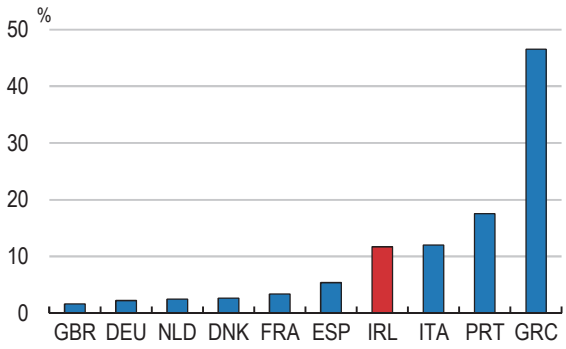
Source: Central Statistics Office and OECD.

StatLink http://dx.doi.org/10.1787/888933684257

Vulnerabilities in the financial sector also need to be further addressed. While non-performing loans on bank balance sheets have declined by around 60% from their peak, the stock remains high (Figure C). This reflects judicial inefficiencies relating to the repossession of collateral and limited progress in improving the regulatory framework for writing-off NPLs. Measures that address these weaknesses, such as introducing stronger incentives for banks to reduce NPLs, will promote the efficient allocation of capital as well as the resilience of the economy overall.

Figure C. The NPL ratio remains high

Q2 2017



Source: European Banking Authority.

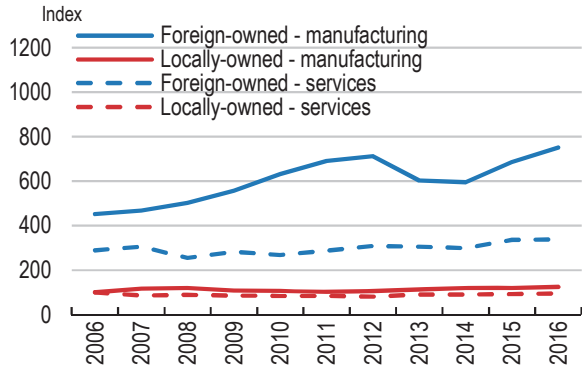
StatLink http://dx.doi.org/10.1787/888933684276

Reviving productivity is the key for future output and labour earnings…

Most Irish firms have experienced declining productivity over the past decade. This has largely reflected the poor performance of local firms, with the large productivity gap between foreign-owned and local enterprises having widened (Figure D). The resilience of the Irish economy hinges on unblocking the productivity potential of these local businesses. This can be achieved by further improving the enabling environment for them to succeed and grow.

Figure D. The large productivity gap has widened

Labour productivity index (Irish firms in 2006=100)

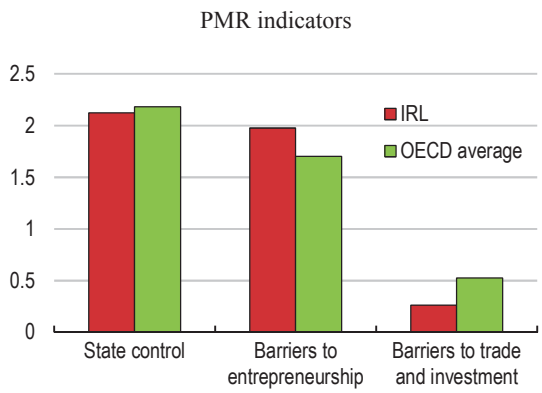


Source: Department of Business, Enterprise and Innovation.

StatLink http://dx.doi.org/10.1787/888933684295

There are high regulatory barriers to entrepreneurship (Figure E). This reduces competitive pressures on incumbents and the reallocation of resources to new firms that have good ideas. In particular, there are costly regulations relating to commercial property and legal services, while the costs of business failure are high. Access to finance for young firms needs to improve as well and will benefit from further efforts that mend the health of the banking sector and raise the efficacy of state-supported lending initiatives.

Figure E. Barriers to entrepreneurship are high

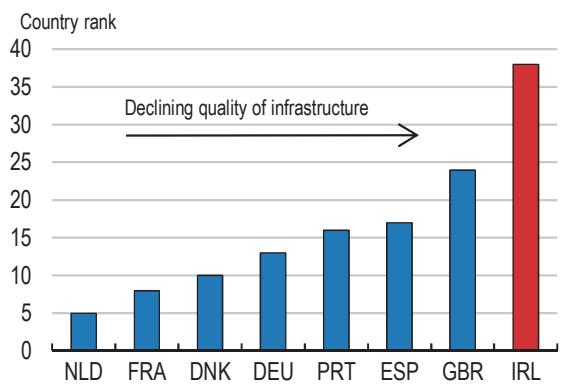


Source: OECD PMR Indicators Database.

StatLink http://dx.doi.org/10.1787/888933684314

Further improvement in Irish infrastructure is needed to promote firm growth (Figure F). The government plans to increase capital spending significantly over the coming four years and the projects undertaken must continue to be carefully prioritised through evidence-based evaluation of those with the highest returns. To do this more effectively, systemic collection of information on the performance of existing assets is crucial.

Figure F. The quality of domestic infrastructure needs to be improved



Source: World Economic Forum.

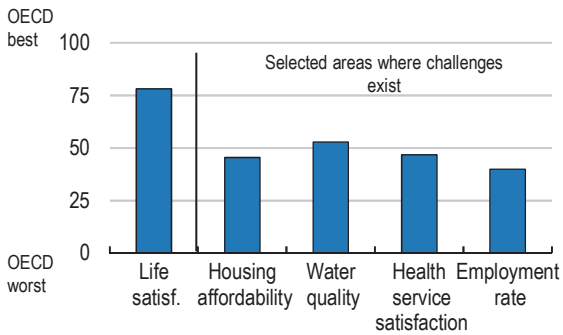
StatLink http://dx.doi.org/10.1787/888933684333

Productivity spillovers can be enhanced by raising the absorptive capacity of local businesses. The capacity of local firms to absorb and implement new technologies is impeded by relatively weak managerial skills. This partly reflects the low proportion of workers participating in lifelong learning activities. With burgeoning skill demand, there should be an increase in the share of training funding to those in employment. Innovation and the ability for Irish firms to fully utilise new technologies is also weakened by low research and development activities. There is scope to reorient innovation policy to better promote the research intensity of local firms. In particular, public grants for business research and development could be increasingly used, as it would better reach local entrepreneurs that may be in a loss-making position and hence less swayed by tax exemptions on research funding.

…though other significant challenges for wellbeing exist

Life satisfaction is high, but Ireland underperforms in housing, health and getting people into work (Figure G). In each of these policy domains, it is often individuals with lower incomes or skills that are most adversely impacted by policy deficiencies. As such, well-designed reforms can both improve aggregate wellbeing and contribute to a more inclusive society.

Figure G. Life satisfaction is high but challenges exist



Note: The figure represents the relative position of Ireland with respect to OECD's best (100) and worst (0) performer in each of the areas.
Source: OECD Better Life Index 2017 and OECD Government at a Glance 2017.

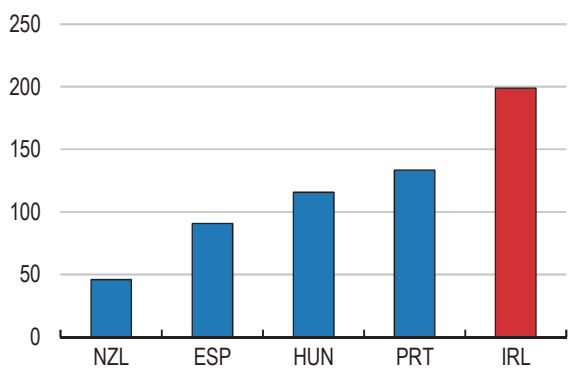
StatLink http://dx.doi.org/10.1787/888933684352

Housing affordability is reduced by low dwelling supply in Ireland's main cities. Recent policy measures have sought to improve affordability, but have mostly focused on the demand-side. A longer-term solution is to prioritise measures that promote dwelling supply. At present, some unnecessary housing regulations in urban centres reduce the density of housing development and raise costs for developers. There are also well-located swathes of land that are underutilised and should be rezoned for residential purposes. To promote the efficient use of such land, a broad-based land tax should be introduced.

The health system is failing in terms of cost, patient satisfaction and waiting times (Figure H). Demand pressures are likely to heighten as well, with the population expected to age markedly over the coming 15 years. Ireland does not have universal coverage for primary healthcare, contributing to poor access and high health costs for some households that cannot afford private insurance. While there is scope for further improvements in health spending efficiency, a path to providing universal coverage should be laid out.

Figure H. There are lengthy waiting times for medical procedures

Days waiting, 2016

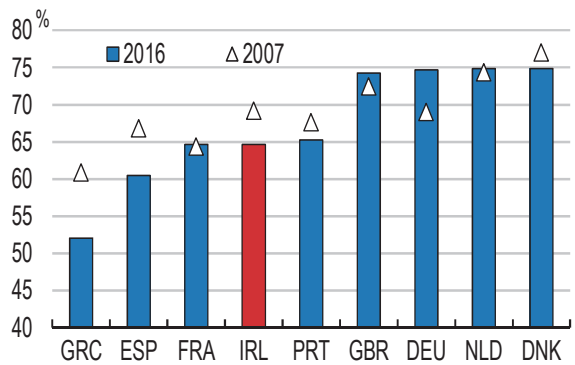


Note: The figure shows average waiting times across a variety of procedures. Data are for 2015 for NZL.
Source: OECD Health Statistics 2017.

StatLink http://dx.doi.org/10.1787/888933684371

Some vulnerable groups do not participate in the labour market (Figure I). Employment rates are particularly low for young low-educated individuals. Some aspects of the social welfare system continue to disincentivise labour market participation by imposing high effective tax rates when taking up work. More active engagement with the labour market may be promoted through well-enforced job search requirements attached to social benefits and effective training programmes for the long-term unemployed. Ireland also exhibits relatively weak labour force participation for women. In response, the government is introducing a new childcare subsidy. However, the comparatively steep withdrawal of some means-tested benefits means that the participation tax rate will remain high for many women.

Figure I. The labour utilisation rate is low



Source: OECD Employment Outlook.

StatLink http://dx.doi.org/10.1787/888933684390

MAIN FINDINGS	KEY RECOMMENDATIONS
Improving the stability of public finances and the financial system	
The planned departure of the United Kingdom from the European Union is a significant economic risk. Long-term fiscal sustainability is difficult to assess because of the volatility of the economy. However, public debt needs to be reduced further.	Set medium-term government debt targets as a share of measured underlying economic activity (i.e. GNI*). Pay down public debt with windfall revenue gains and implement the proposed Rainy Day Fund. Identify productivity-enhancing fiscal initiatives that could also have a large short-term impact on growth in the face of a negative shock.
The bank non-performing loan ratio remains elevated. The resolution of impaired loans is particularly slow in the primary dwelling sector, as repossession proceedings are long with uncertain results.	Introduce regulatory measures to incentivise banks to further reduce non-performing loans. Grant creditors a possession order for a future date. Protect debtors against slipping into poverty by continuing to raise the social housing stock.
Some aspects of Ireland's tax system both narrow the tax base and distort the efficient allocation of resources.	Reduce the number of VAT rates. Reassess property values more regularly for the purposes of calculating local property tax. At the same time, protect those low-income workers adversely impacted.
Creating the conditions for sustained productivity growth	
Managerial skills are relatively poor, weakening the potential for productivity spillovers to local firms. This reflects low lifelong learning participation by employees.	Increase the share of funding to training for those in employment and financial support to workers undertaking postgraduate courses.
The design of the local business tax and regulations related to commercial property and legal services weigh on the productivity of entrepreneurial firms.	Reduce the price of construction permits and registration of property charged by the relevant authorities. Permit the introduction of new forms of legal businesses. Replace local business tax with a broad-based land tax.
Entrepreneurial activity, as measured by entry and exit rates, is low. This partly reflects the high costs of business failure.	Introduce guidelines for banks that specify circumstances under which personal guarantees from businesses should not be sought.
Bank financing has declined significantly since the crisis. Young businesses often face investment financing constraints, partly reflecting a lack of competition between lenders.	Further develop alternative financing platforms for young businesses.
Research and development capacity in local firms is weak, reducing their ability to innovate and the diffusion of new technologies from foreign firms located in Ireland. This partly reflects public support for business research and development being heavily skewed towards tax incentives.	Increase the use of direct public support for business research and development such as grants, loans and loan guarantees.
The quality of Irish infrastructure is low compared with other comparable countries.	Systematically collect information on the performance of existing public assets to better enable transparent, evidence-based, prioritisation of future infrastructure projects.
Improving wellbeing further	
Housing supply is not keeping up with demand, manifesting in strong growth in house prices and rents. Supply is impeded by stringent regulations that add to the cost of dwelling construction and reduce the supply of low-cost housing.	Encourage local councils to rezone underutilised sites as residential. Relax building regulations in urban centres relating to minimum dwelling sizes and bans on north-facing apartments.
Labour force participation remains weak, given high average effective tax rates for some groups when returning to work, weak enforcement of job search requirements, a lack of relevant skills and high childcare costs.	Make all social benefits conditional on earnings, not employment status, and withdraw them more gradually as earnings rise. Review programmes for the long-term unemployed and fully roll-out the new information system for training programmes.
Ireland does not have universal coverage for primary healthcare. There are lengthy waiting times in public hospitals and limited public coverage leads to high out-of-pocket payments for those without private health insurance.	Move towards providing universal access to health and social services and incentivise patients to access care outside of hospitals.

Key Policy Insights

- *Recent macroeconomic developments and short-term prospects*
- *Solving the legacies of the crisis by buttressing the financial system and public finances*
- *Addressing medium-term challenges for wellbeing*

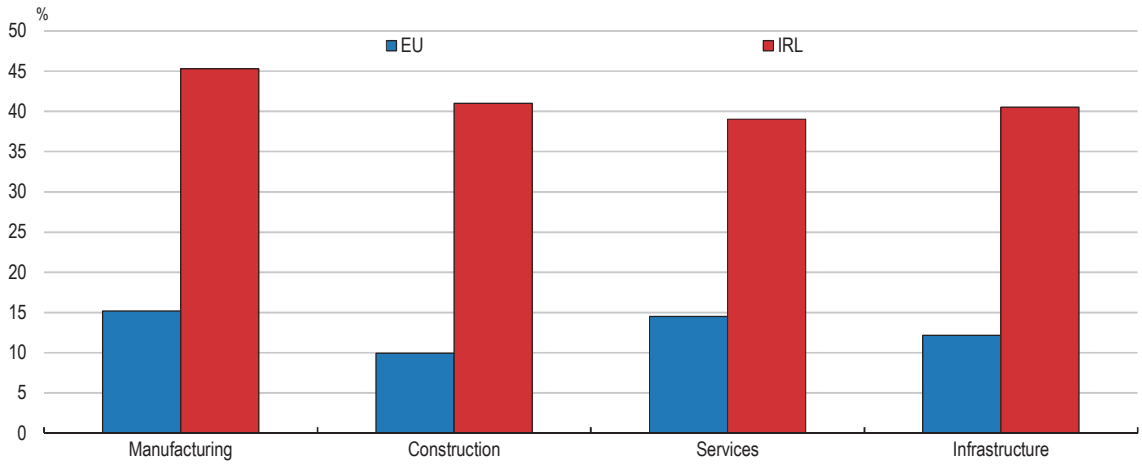
The Irish economy continues to grow rapidly and has come a long way since exiting the EU-IMF financial assistance programme in late-2013. In the subsequent years, nominal measures of national income have grown by over one-third. The labour market, which is probably the best barometer of economic trends at present, has shown a decline in the unemployment rate from above 15% to close to 6%. At the same time, Ireland continues to outperform other OECD countries in many non-income indicators of wellbeing, such as personal security, environmental quality and the strength of social connections.

The economic recovery has benefitted from past reforms. New measures have focused on changes to the budgetary framework and macro-prudential policies which have safeguarded the economy against a new banking and fiscal crisis. Barriers to employment have also been reduced by improving job creation schemes, ongoing reductions in childcare costs and lowering marginal tax rates for low-income households.

Both public finances and the stability of the financial sector have also improved in recent years. With heightened uncertainty relating to the United Kingdom's planned departure from the European Union ("Brexit"; Figure 1) and potential reductions in corporate tax rates in other countries, such progress is welcome. Yet, the ability for the economy to absorb a fresh economic shock is threatened by public debt per person remaining one of the highest in the OECD and a large stock of non-performing loans lingering on bank balance sheets.

Figure 1. Many Irish firms believe they are negatively exposed to Brexit

Proportion of firms expecting a negative impact from Brexit.

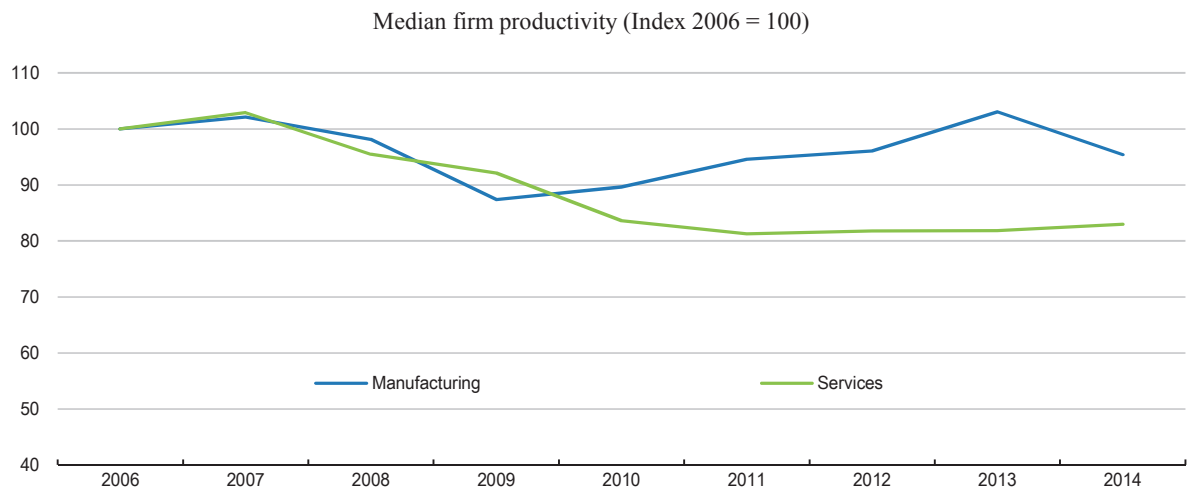


Source: EIB Investment Survey.

StatLink http://dx.doi.org/10.1787/888933683174

Resilience to future shocks is also weakened by underlying fragilities in the economy. Aggregate productivity has been rising in recent years, but this has owed to the performance of some large foreign-owned companies. New firm level analysis, undertaken in tandem with this Economic Survey, highlights that the majority of firms in Ireland experienced a decline in productivity between 2006 and 2014 (Figure 2). Consequently, a critical question to further raise living standards in Ireland is how to enhance the productivity of local Irish firms. This is the focus of the thematic chapter of this Economic Survey and the growth-impact of some of the related reform recommendations are quantified in Box 3 (further below).

Figure 2. Most businesses have experienced a decline in productivity



Note: The firm level analysis using OECD MultiProd is explained in more detail in the thematic chapter. The figure above shows multifactor productivity (using the Solow method) of the median firm in the productivity distribution at each point in time. These results are consistent with labour productivity estimates based on both micro and macro data.

Source: Department of Finance (2018a).

StatLink http://dx.doi.org/10.1787/888933683193

There are other medium-term challenges to wellbeing on the horizon. With the population likely to expand notably over the coming years, pressures will mount on the health system and existing infrastructure. Furthermore, unless inclusive-minded reforms are undertaken, the burden of these pressures may disproportionately fall on lower-income households. Such pressures need to be addressed while ensuring that pro-cyclical budgetary policy is avoided.

Against this backdrop, the main messages of this Economic Survey are:

- The resilience of the economy to future shocks needs to be buttressed by improving the stability of public finances and the financial system.
- Creating the conditions for sustainable productivity growth of local firms is critical to supporting future Irish living standards.
- While Ireland is a rich country with a highly redistributive tax and transfer system, there are several areas where wellbeing could be improved over the medium-term, including the supply of housing, water infrastructure, health services and labour market participation.

Recent macroeconomic developments and short-term prospects

The Irish economy has continued to grow robustly over the past four years. The recovery from the crisis was initially driven by exports due partly to improved cost-competitiveness (OECD, 2015). Subsequently, growth has also been supported by domestic demand. The strength of underlying economic activity has been difficult to gauge over the past two years due to some distortions in the headline national accounts measures (Box 1). Nonetheless, estimates of underlying domestic demand, which exclude volatile components related to the activities of multi-national enterprises (MNEs), grew by around 5% in 2016.

Box 1. Modified GNI – A new indicator of underlying economic activity in Ireland

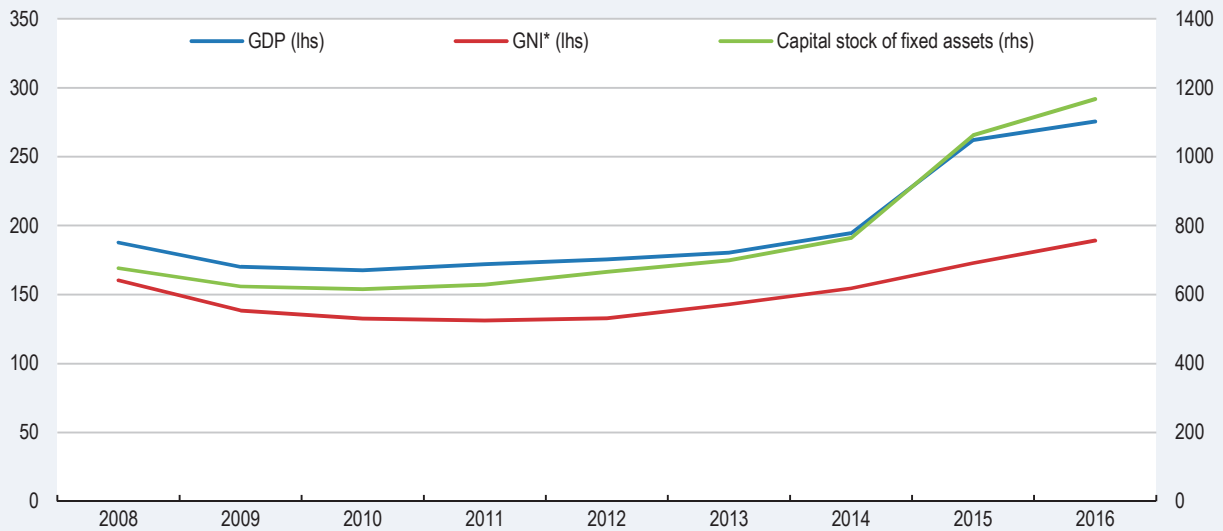
Irish economic indicators recently made headlines due to an enormous upward revision for the year 2015. According to the Irish Central Statistics Office, real GDP grew by 25.6% in 2015 (compared to 8.3% recorded in 2014 and the initial estimate of 7.8% in 2015) while real GNP rose by 16.3%. The strength of these figures reflects issues associated with measures of economic activity produced in accordance with international standards in an increasingly globalised economy.

A small number of multinational enterprises (MNEs) relocated their intellectual property assets to Ireland in 2015. This resulted in a huge increase in the Irish capital stock. In 2015, the gross capital stock of fixed assets rose by some 300 billion Euros (compared with Irish GDP of 195 billion in 2014). The relocation of intellectual property assets was accompanied by a substantial increase in exports through contract manufacturing (for more details, see FitzGerald, 2015).

In this context, the headline GDP figure is becoming less relevant for explaining underlying economic activity in Ireland, which is problematic for policy-makers. An Economic Statistics Review Group was convened in 2016. It proposed a Modified Gross National Income (GNI) indicator that adjusts standard GNI for the depreciation of foreign-owned domestic capital assets and the retained earnings of re-domiciled firms (both of which are not considered relevant for explaining the resources available to the domestic population). The Central Statistics Office announced its first estimates in July 2017 with nominal GNI* growth of 11.9% in 2015, still very robust but significantly lower than the 34.7% nominal GDP growth reported for the year (Figure 3).

Figure 3. Growth in modified GNI has recently been weaker than GDP

Current prices, euro billions



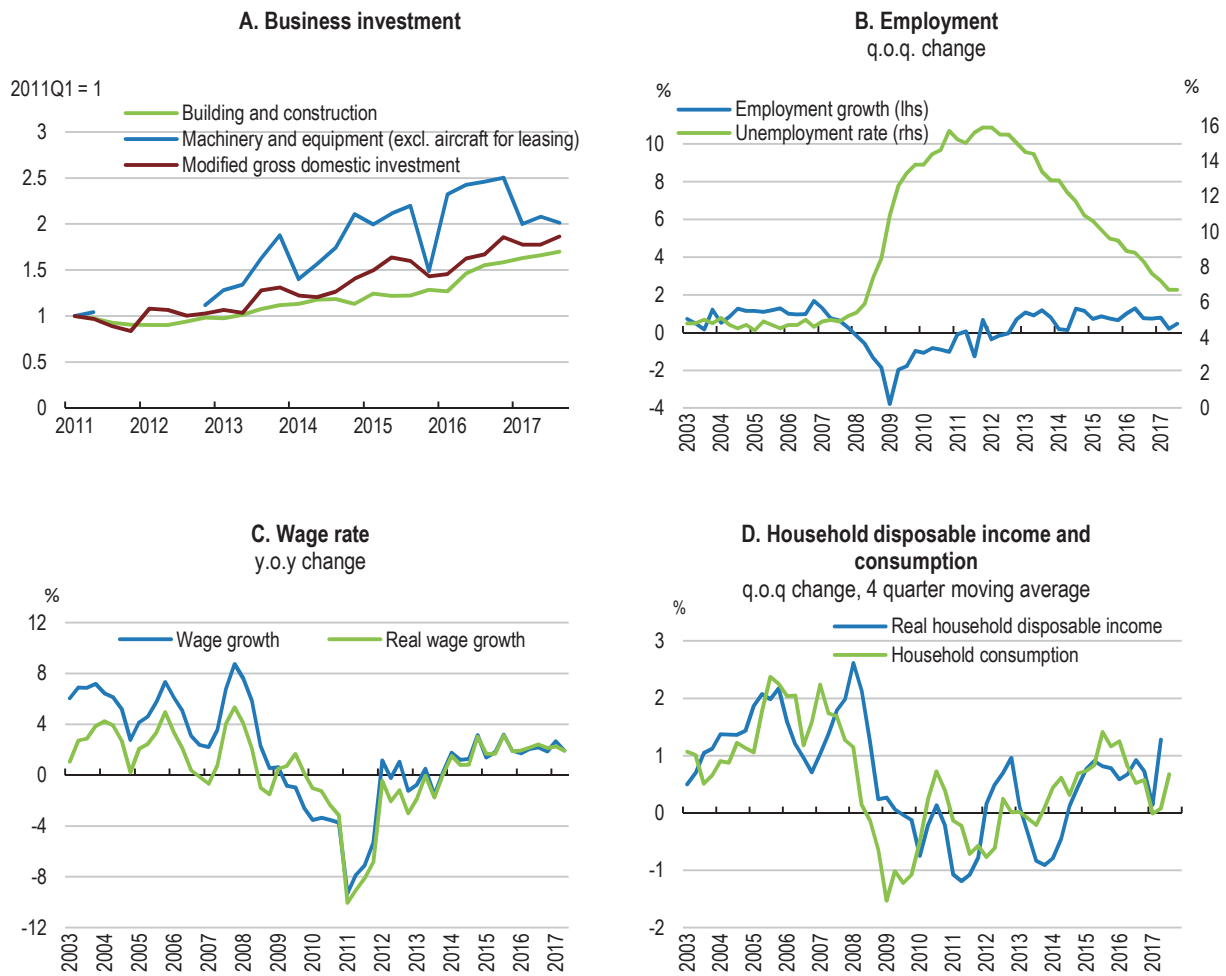
Source: Ireland Central Statistics Office.

StatLink http://dx.doi.org/10.1787/888933683212

Business investment was significantly boosted by intellectual property (IP) investment by multinational enterprises in 2016, and intellectual property assets now account for around half of total business investment. Abstracting from such volatile items, investment among local Irish firms has been recovering, albeit from a very low base (Figure 4, Panel A). This has occurred despite SMEs facing lending interest rates that are among the highest across the euro area. Many local firms have instead opted to finance investment from retained earnings (Department of Finance, 2017a). Property prices have been rising rapidly due to excess demand that has partly owed to a natural rise in the population as well as a return to net inward migration. Construction investment has picked up in response, albeit off a low base (Figure 4, Panel A).

Employment has risen in line with the recovery in economic conditions. This has led the unemployment rate to fall to around 6½% (Figure 4, Panel B). The tightness in the labour market in some sectors has contributed to a pick-up in wage growth over the past two years (Figure 4, Panel C), with household disposable incomes also buoyed by cuts in direct taxes (including cuts in the Universal Social Charge; Figure 4, Panel D). These factors have supported household consumption (Figure 4, Panel D). Nevertheless, inflationary pressures remain contained so far due to the appreciation of the euro against the sterling dampening import prices.

Figure 4. Domestic demand has been solid

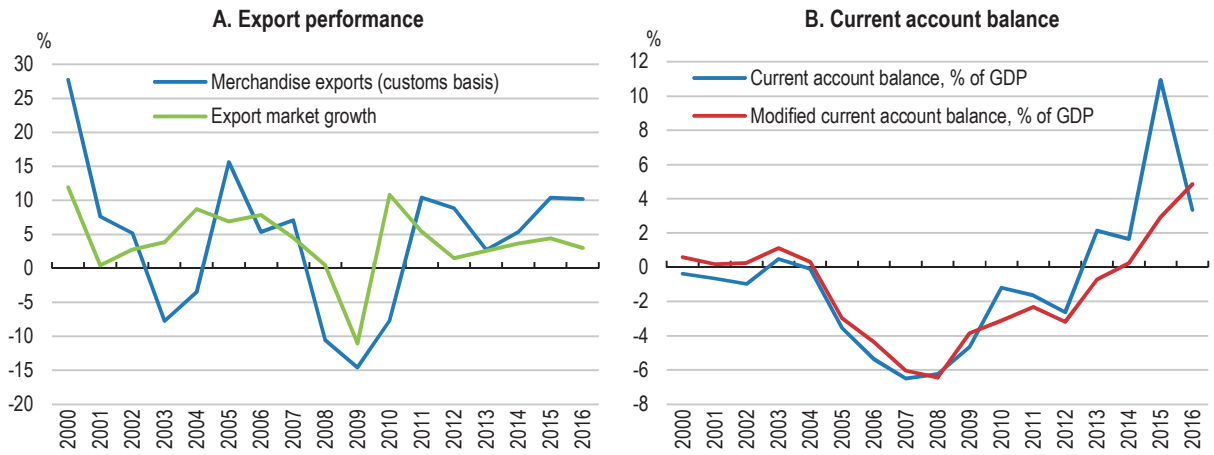


Source: OECD (2017), OECD Economic Outlook: Statistics and Projections (database), Central Statistics Office.

StatLink http://dx.doi.org/10.1787/888933683231

On the external side, exports have continued to rise, even excluding volatile items attributed to multinational enterprises (Box 1). Irish goods exports have tended to grow faster than external demand, with the emergence of pharmaceutical goods, computer and information services and financial services as key exports (Byrne and O'Brien, 2015). Consequently, Ireland's export performance and current account balance have steadily improved (Figure 5). Trade with the UK has held up, despite the appreciation of the euro against sterling. Nevertheless, the impact of these exchange rate developments may only become evident with a lag.

Figure 5. Export performance has been strong and the current account balance has improved



Note: "merchandise exports (customs basis)" excludes contract manufacturing trade.

Source: OECD (2017), OECD Economic Outlook: Statistics and Projections (database); Central Statistics Office of Ireland.

StatLink http://dx.doi.org/10.1787/888933683250

Looking ahead, the Irish economy is projected to expand at a more sustainable pace over the next two years (Table 1), with limited further productivity gains. Despite a less contractionary fiscal stance than in past years, activity in the domestic sector, notably business investment among Irish firms, will rise at a more moderate pace. Equipment investment will weaken, with the prospect of Brexit dampening confidence even if an agreement on a transition period is concluded. Employment growth will slow, but the labour market will increasingly tighten, feeding wage pressures and higher inflation. Weaker real disposable income growth will result in some easing in household consumption growth. On the back of high property prices (Figure 6, Panel A, B), construction investment will be solid, although dwelling supply is still expected to fall short of demand (Duffy et al., 2016). The exposure of the Irish economy to both significant internal and external shocks remains high (Table 3).

Table 1. Macroeconomic indicators and projections

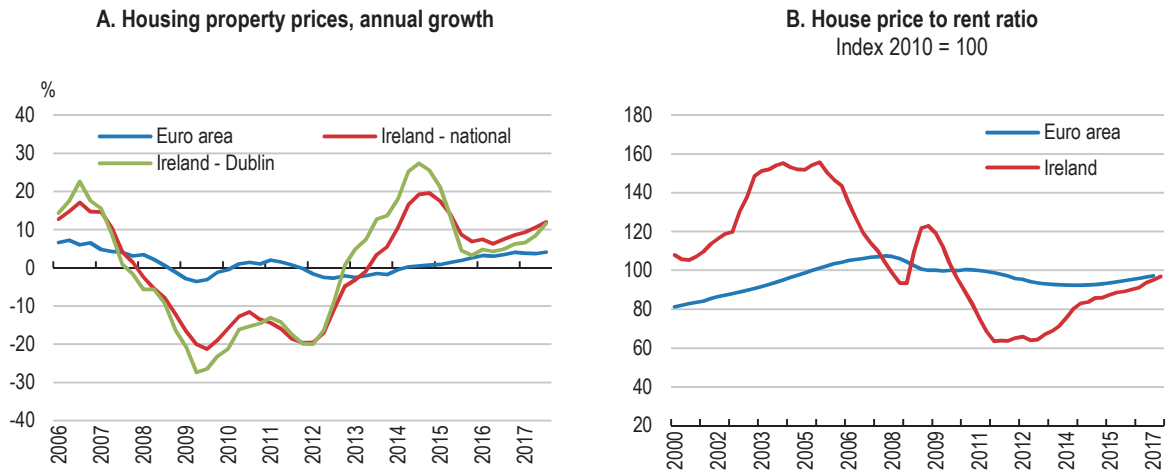
Annual percentage change, volume (2015 prices)

	2014 Current prices (EUR billion)	2015	2016	2017	2018	2019
Gross domestic product (GDP)	194.2	25.5	5.1	4.0	2.9	2.4
Gross value added excl. MNE dominated sectors (GVA*)	134.1	7.3	5.1	3.1	2.7	2.4
Private consumption	83.4	4.2	3.2	2.0	2.2	1.9
Government consumption	31.4	2.1	5.1	2.1	2.1	2.0
Gross fixed capital formation	40.3	27.9	59.7	-19.7	4.9	3.3
Housing	4.2	4.9	13.7	11.5	6.2	7.4
Final domestic demand	155.1	10.0	21.0	-6.9	3.2	2.4
Stockbuilding[1]	5.1	-0.2	0.5	-5.0	0.0	0.0
Total domestic demand	160.2	8.8	20.2	-14.7	3.2	2.4
Exports of goods and services	219.4	38.5	4.7	4.3	1.1	3.5
Imports of goods and services	185.4	26.0	16.4	-5.0	0.5	4.0
Net exports[1]	34.0	18.6	-9.2	10.2	0.9	0.7
Other indicators (growth rates, unless specified)						
Potential GDP	. .	3.2	3.3	3.0	2.1	2.1
Output gap[2]	. .	-0.4	1.4	1.5	2.1	2.3
Exports of goods		11.3	8.7	. .	. .	. .
Employment	. .	3.5	3.7	2.5	2.2	1.8
Unemployment rate	. .	9.9	8.4	6.7	5.8	5.6
GDP deflator	. .	7.3	0.0	1.0	2.5	2.6
Consumer price index (harmonised)	. .	0.0	-0.2	0.3	1.4	2.1
Core consumer prices (harmonised)	. .	1.6	0.7	0.2	1.2	2.1
Household saving ratio, gross[3]	. .	6.8	6.7	6.1	6.1	5.9
Current account balance[4]	. .	10.9	3.3	6.9	8.5	8.8
General government fiscal balance[4]	. .	-1.9	-0.7	-0.4	-0.2	-0.1
Underlying general government fiscal balance[2]	. .	-1.1	-1.3	-0.9	-0.9	-0.9
Underlying government primary fiscal balance[2]	. .	1.2	0.9	1.1	1.1	1.0
General government gross debt (Maastricht)[4]	. .	77.1	72.9	71.9	69.2	67.0
General government net debt[4]	. .	57.6	55.5	53.2	50.6	48.3
Three-month money market rate, average	. .	0.0	-0.3	-0.3	-0.3	-0.3
Ten-year government bond yield, average	. .	1.1	0.7	0.8	0.9	1.1
Underlying indicators of economic activity						
Modified Gross National Income (GNI*)[5]	154.5	11.9	9.4			
Modified Total Domestic Demand[5]	149.7	8.1	6.5			
Modified Gross Fixed Capital Formation (GFCF*)[5]	31.7	25.2	13.0			
Modified Current Account Balance (CA*)[4]	. .	2.9	4.9			

1. Contribution to changes in real GDP.
2. As a percentage of potential GDP. Based on OECD estimates of cyclical elasticities of taxes and expenditures. For more details, see OECD Economic Outlook Sources and Methods.
3. As a percentage of household disposable income.
4. As a percentage of GDP.
5. In current prices.
6. Modified GNI adjusts for the depreciation of foreign-owned domestic capital assets and the retained earnings of re-domiciled firms (see Box 1).
7. Modified GFCF and TDD: adjusts for investment related to leasing aircraft and R&D related intellectual property imports.
8. Modified CA adjusts for the depreciation of foreign-owned domestic capital assets and the retained earnings of re-domiciled firms in the same way as the modified Gross National Income (see Box 1) and for excluding imports related to leasing aircraft and R&D related intellectual property imports.
9. The substantial growth in exports and imports in 2015 is largely driven by "contract manufacturing" by multinational enterprises (see Box 1). The substantial growth in gross fixed capital formation and imports in 2015 and 2016 is largely related to the on-shoring of intellectual property which was imported to Ireland.

Source: OECD (2017), OECD Economic Outlook: Statistics and Projections (database).

Figure 6. Property prices are rising strongly



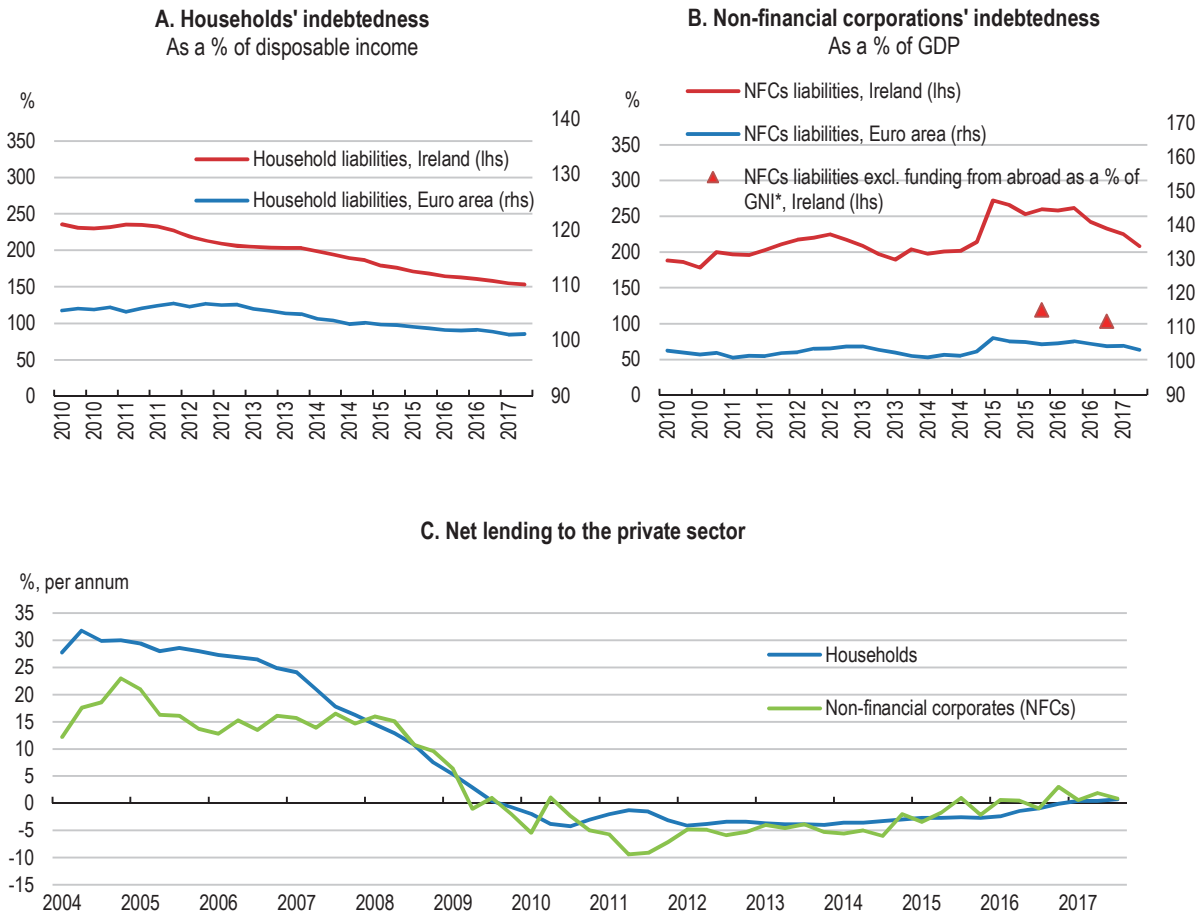
Source: Eurostat, Central Statistics Office, OECD Analytical House Price Indicators database.

StatLink http://dx.doi.org/10.1787/888933683269

Risks to the outlook are elevated. On the upside, a stronger-than-expected recovery in Ireland's trading partners may lead to a larger boost in exports and investment than is currently projected. Furthermore, property prices may increase more strongly, which would support construction activity in the near term. However, such a scenario may also sow the seeds of another property bubble, especially if it is associated with a strong pick up in credit growth from its currently low levels (Figure 7, Panel C). A disorderly trajectory for Brexit negotiations is a key downside risk which would heighten uncertainty and lower consumption and investment growth. Alternatively, increased clarity about the future trade relationship – especially if it begins to look more likely that an agreement with minimal tariff and non-tariff barriers will be reached – could have the opposite effect. In mid-December 2017, the first phase of negotiations between the EU and the UK resulted in an agreement to move to the second phase related to transition and the framework for the future relationship. Nonetheless, the eventual outcome of negotiations remains highly unpredictable.

Persistently high private indebtedness also poses a downside risk (Figure 7, Panel B), as it leaves the economy sensitive to rising interest rates. A more rapid tightening of the domestic labour market could raise labour costs by more than expected, undermining cost competitiveness and the exports of local Irish firms. While geopolitical tensions in oil producing countries could significantly raise energy prices, activity in Ireland would be impacted to a lesser degree than in most other countries due to lower energy intensity of production (Figure 18, Panel B further below).

Figure 7. Private sector indebtedness remains high



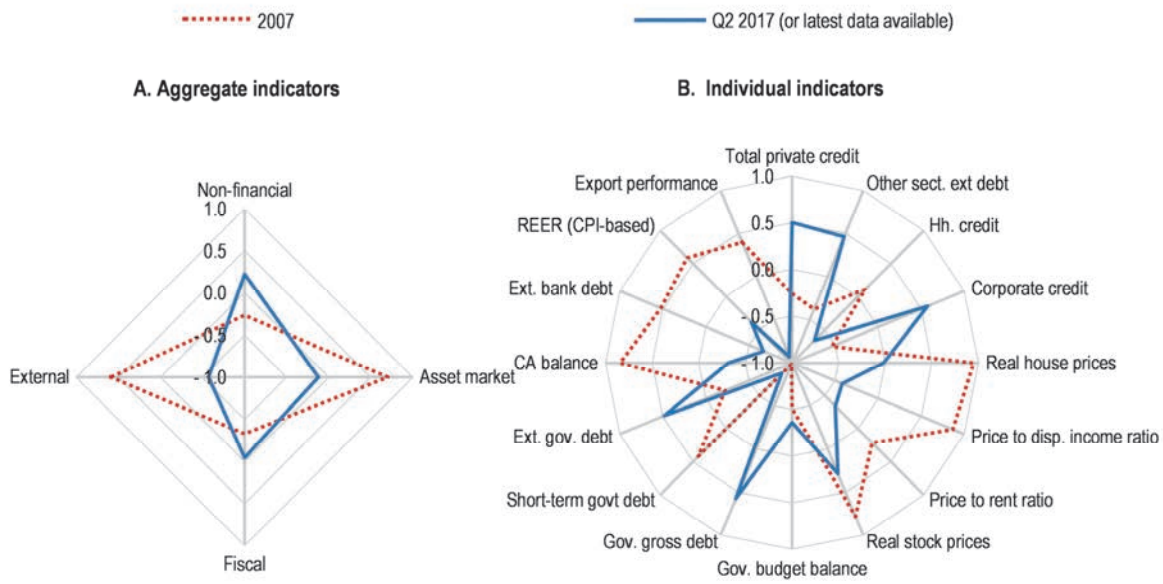
Source: OECD Economic Outlook database, Central Bank of Ireland, Eurostat.

StatLink http://dx.doi.org/10.1787/888933683288

Overall, macro-financial vulnerabilities have decreased since 2007, but remain high in some areas due to the legacies of the crisis (Figure 8, Panel A). External debt has been significantly reduced, notably in the banking sector (Figure 8, Panel B). Property prices, though rising rapidly, remain somewhat below the long-term average (Figure 8, Panel B). In contrast, despite having declined in recent years, public and private sector debt remains above pre-crisis levels (Figure 8, Panel B), reducing the ability of the economy to withstand a future economic shock (Table 2). Such shocks could come in the form of a significant increase in policy barriers governing relations with the UK. Indeed, new modelling of a stylised Brexit scenario using the OECD METRO model highlights that a substantial increase in bilateral trade protection will have a relatively large negative impact on Irish exports. There will be substantial differences in the sectoral and regional impacts of such a shock (Box 2). For example, external demand for the agriculture and food sectors will be particularly hard hit. In contrast, the financial services sector may experience a slight increase in external demand.

Figure 8. Macro-financial vulnerabilities remain high in some areas

Index scale of -1 to 1 from lowest to greatest potential vulnerability, where 0 refers to long-term average, calculated for the period since 2000[1]



Note: Each aggregate macro-financial vulnerability dimension is calculated by aggregating (simple average) four normalised individual indicators from the OECD Resilience Database. Individual indicators are normalised to range between -1 and 1, where -1 to 0 represents deviations with the observation being below long-term average [less vulnerability], 0 refers to long-term average and 0 to 1 refers to deviations where the observation is above long-term average [more vulnerability]. Non-financial dimension includes: total private credit (% of GNI*), other sector external debt (% of GNI*), household credit (% of GNI*), and corporate credit (% of GNI*). Asset market dimension includes: real house prices, price-to-income ratio, price-to-rent ratio and real stock prices. Fiscal dimension includes: government budget balance (% of GNI*) (inverted), government gross debt (% of GNI*), short-term government debt, and external government debt. External dimension includes: current account balance (inverted), external bank debt (% of GNI*), real effective exchange rate, and export performance.

Source: Calculations based on OECD (2017), OECD Resilience Database.

StatLink http://dx.doi.org/10.1787/888933683307

Table 2. Possible shocks to the Irish economy

Vulnerability	Possible outcome
Brexit	A significant increase in policy barriers governing relations with the UK, and notably Northern Ireland, in the areas of trade, investment and labour markets would have large negative economic effects on Ireland.
Increased international tax competition	A significant reduction in corporate tax rates elsewhere (including the US) could reduce the attractiveness of Ireland as a destination for multinational enterprises.
Rise in protectionism	The Irish economy has benefited greatly from the globalisation process, so any significant reversal would have a detrimental impact.

Box 2. Simulating the economic effects of an illustrative Brexit scenario

Past work has suggested that the consequences of the United Kingdom's planned departure from the European Union (i.e. "Brexit") will be felt more acutely in Ireland than in most other countries (Barrett et al., 2015). However, there are expected to be vastly different impacts across sectors of the Irish economy (Department of Finance, 2016). With this in mind, an illustrative Brexit scenario is simulated using the OECD METRO Model. This computable general equilibrium model consists of 13 regions (with the UK and Ireland disaggregated from the rest of the European Union), covers 27 sectors of the economy and specifies eight types of production factors (land, capital, natural resources and five different types of labour).

The modelled scenario is purely illustrative and does not represent a judgment about the most likely outcome of Brexit negotiations. Under the scenario, trade relations between the UK and all of its partners, both EU and non-EU, are assumed to be governed by the World Trade Organisation's Most-Favoured Nation Rules. Consistent with past OECD work (Kierzenkowski et al., 2016), the scenario assumes that tariffs on goods exported from the UK increase to the importing country's World Trade Organisation Most-Favoured Nation bound rates once the UK formally exits the EU. The UK contemporaneously imposes tariffs, equivalent to EU bound rates, on goods imports from the EU. The scenario is extended to consider non-tariff measures (NTMs) that could arise once Brexit occurs due to regulatory divergence and the associated increase in compliance costs (e.g. through border checks, health or technical compliance reviews, customs declaration).

The results highlight that the negative economic impacts of Brexit may be much larger for Ireland than for the average of all other EU countries (consistent with past work; i.e. Department of Finance, 2017b). However, there is a high degree of heterogeneity in the impact on exports across Irish sectors (for further details, see Arriola et al., 2017) and Figure 9 illustrates some of the most affected sectors. The most severe contraction in exports is for the Irish agriculture and food industries, which experience a fall in gross exports of around 20%. This mostly reflects a reduction in trade with the UK, but there is also a decline in exports to the other remaining EU countries. While not as large in value terms, there are falls in exports from other important sectors such as chemicals (which includes pharmaceuticals), business services, insurance and machinery and equipment. Notably, exports from the financial sector increase by 1% as a result of the Brexit scenario. UK financial services exports to the EU26 countries are simulated to decline notably, resulting in Irish financial services exports picking up to fill some of the void. The results suggest that financial services exports from Ireland to the EU26 would rise by around 6% following the shock.

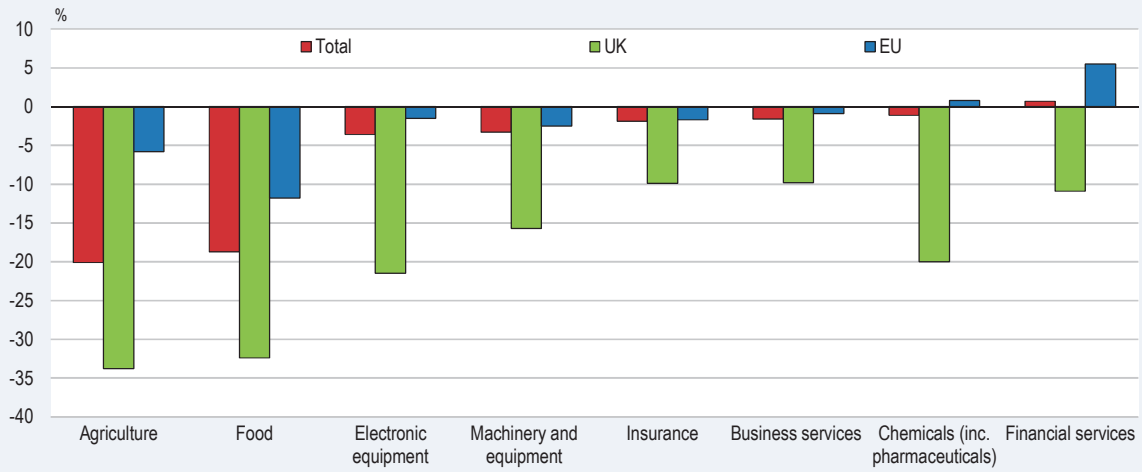
Some of the sectors hardest hit in the illustrative scenario are concentrated in rural areas, highlighting regional disparities from the economic impact. For example, the majority of employment in the agriculture and food sectors is outside of Dublin. This is also true for the manufacturing sector, a large share of which is located in the Midlands and Border region. The fact that the latter has experienced the slowest post-crisis labour market recovery of any region suggests that the realisation of the illustrative Brexit scenario could be accompanied by rising poverty in this region and expanding aggregate income inequality. In response, the government should be prepared to deploy or reorient targeted social policies accordingly.

Incorporating the trade shock from METRO as well as assumptions relating to changes in exchange rates and sovereign risk premium into the National Institute Global Econometric Model (NiGEM) provides an indication of the potential GDP effects of the illustrative shock on Ireland. The results suggest that real GDP would fall by around 2½ per cent in the long run through the effect on trade and uncertainty. Nevertheless, it should be highlighted that the GDP effects are sensitive to the choice of model and assumptions about the increase in NTMs: while the macroeconomic channels are not as well specified in the METRO model, it estimates a larger decline in output for the observed trade shock – around a 4½ per cent fall in real GDP. Furthermore, using the Core Structural Model of the Irish economy (COSMO), previous work by Ireland's Economic and Social Research Institute and Department of Finance find that the imposition of WTO MFN trade restrictions with different assumptions taken in relation to NTMs (than those assumed in METRO) would result in a 3.8% decline in real GDP (Bergin et al., 2017).

There may be countervailing impacts to the trade shock due to a relocation of foreign direct investment from the UK if such a shock were realised. Nevertheless, the economic impact of such relocation is estimated to be modest (Arriola et al., 2017), with the costs of the illustrative Brexit scenario likely to far outweigh any benefits for the Irish economy in net terms.

Figure 9. There are disparities in sectoral impacts under the Brexit scenario

% change in gross Irish exports of selected sectors, by destination



Source: Arriola et al., 2017.

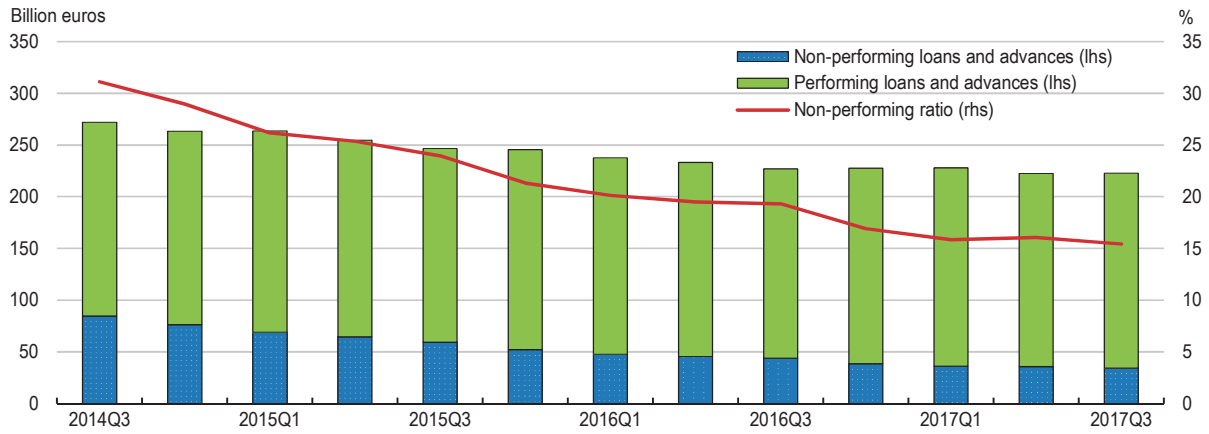
StatLink http://dx.doi.org/10.1787/888933683326

Solving the legacies of the crisis by buttressing the financial system and public finances

Continuing to stabilise the financial system

Ireland has emerged from a severe banking crisis with a deleveraged, recapitalised and restructured banking sector (OECD, 2015). The size of banks has shrunk and the quality of bank assets has improved (Figure 10), owing to the improvement in general macroeconomic conditions and specific actions undertaken by banks (i.e. restructures, sales, debt redemptions and write-offs). The aggregate bank capital adequacy ratio has improved: the fully-loaded (based on the Basel III rules that will apply at the end of the transition period in 2019) Tier I capital ratio stands at around 17% on average across Irish retail banks, around 9 percentage points higher than at the start of 2014. Looking forward, Brexit could present a headwind to future bank profitability. This could be the case, for instance, if it reduces borrowing by UK entities from Irish banks, has a negative economic impact on local Irish firms or is accompanied by a further depreciation in the pound sterling against the euro.

Figure 10. The size of banks has been reduced



Note: Data are consolidated and collected in accordance with the EBA's FINREP reporting requirements.

Source: Central Bank of Ireland.

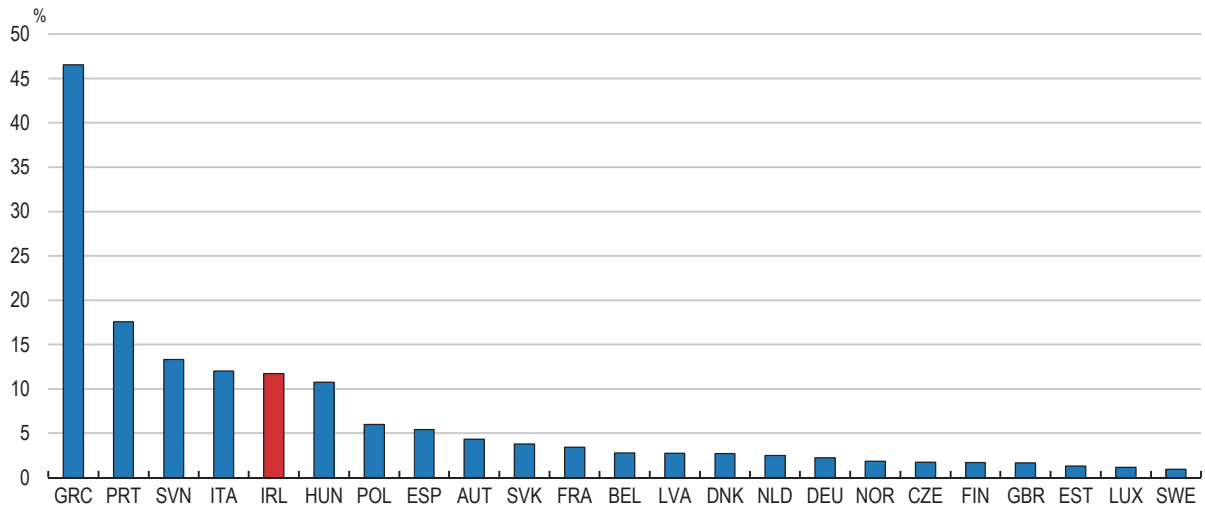
StatLink http://dx.doi.org/10.1787/888933683345

Despite higher capital buffers, the banking system remains impaired due to a stubbornly high stock of non-performing loans (NPLs), leaving it vulnerable to possible shocks in the future. The NPL ratio, although having declined markedly, remains well above the EU average (Figure 11). Since the crisis, Ireland has made significant efforts to reduce NPLs. First, 11 500 property-related impaired loans worth 74 billion euro (43.5% of 2009 GDP) were transferred to the National Asset Management Agency (NAMA), a "bad bank", and removed from banks' balance sheets. These impaired loans were essentially large-scale commercial property loans and the contingent liabilities that this created for the state have now been fully eliminated. However, outside of these loans, the stock of NPLs remaining on banks' balance sheets has also declined. The reduction in NPLs has been particularly rapid in the business sector, partly because the repossession of business assets is straightforward if collected by the receiver specified in the original loan contract, in which case a court order is not required.

In contrast, the NPL resolution has been slow in cases where the debtor's primary dwelling is contested. These are usually mortgage loans or SME loans where the business owner has

committed personal guarantees with their dwelling as collateral. In contrast with business assets, repossession of primary dwellings requires a court order, the issuance of which is inefficient.

Figure 11. The non-performing loan ratio remains high



Note: As described in the EBA's risk indicator guide, the NPL ratio is calculated based on gross volumes from a sample of 189 European banks. See the EBA's methodological guide (http://www.eba.europa.eu/risk-analysis-and-data/riskindicators-Guide).

Source: European Banking Authority (EBA), "Risk Assessment Report of the European Banking System, November 2017".

StatLink http://dx.doi.org/10.1787/888933683364

Further resolution of NPLs is a challenge

There has been substantial progress in reforming the regulatory framework to address NPLs on bank balance sheets since the crisis. For example, the Central Bank of Ireland (CBI) has issued specific guidelines in addition to those set out in the EU Capital Requirements Regulation and Capital Requirements Directive IV. These have included recommendations on disclosure, provisioning, loan restructures and collateral valuation. In March 2017, the European Central Bank also produced guidelines on NPL management practices and processes (ECB, 2016).

In contrast, there has been less progress in strengthening the regulatory framework relating directly to writing-off NPLs (ECB, 2016). The 2017 ECB guidelines have sections relating to NPL write-offs, but these are very general and not binding. The authorities may consider introducing stronger incentives for banks to reduce the stock of NPLs such as additional provisioning requirements for longstanding problem loans, as has been done in some other European countries. The introduction of such provisioning requirements should be accompanied by reforms improving the efficiency in collateral enforcement and strengthening the personal insolvency regime (see thematic chapter).

Improving the efficiency of repossession proceedings

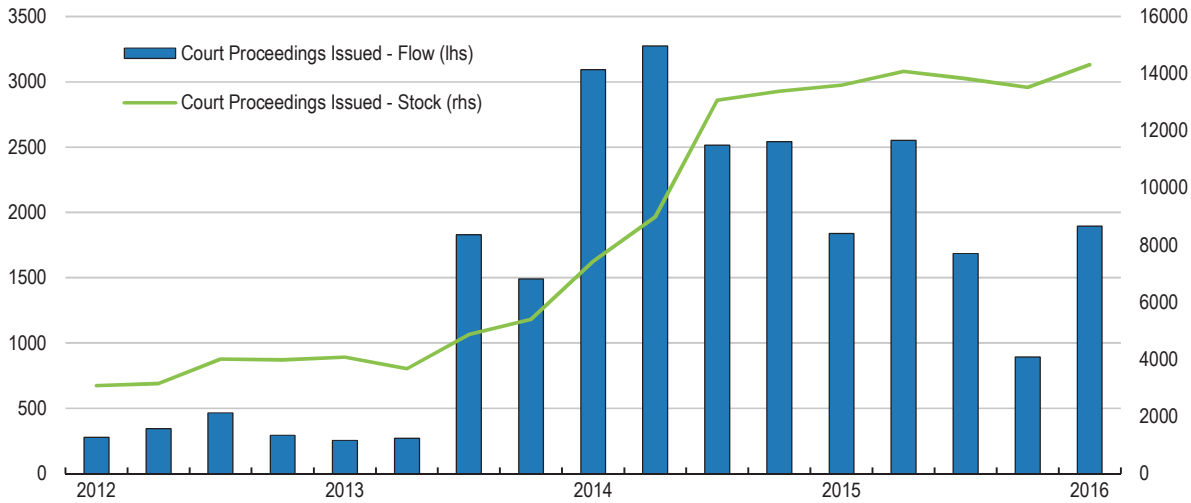
NPLs have primarily been resolved through restructures rather than repossessions when the debtor's primary dwelling is used as collateral. Debt restructures, even if successful, can impose a large debt servicing burden on the borrower over a long time. Almost

120 000 current primary dwelling accounts have been restructured at end-September 2017. As of mid-2017, around one third of these were in the form of arrears capitalisation, whereby some or all of the outstanding arrears are added to the remaining principal balance and then repaid over the life of the mortgage. In about 25% of cases, restructures have been in the form of a split mortgage, whereby a portion of the mortgage is warehoused at a lower interest rate for future payment. So far, the majority of restructured accounts are meeting the terms of the restructuring agreement.

The resolution of NPLs through restructures will become more difficult given the share of highly distressed borrowers is increasing. There are still 51 750 primary dwelling accounts in arrears (accounting for 7% of total outstanding primary dwelling accounts). Out of the accounts currently in a legal process (around 12 000), around 87% are over 720 days past due and 60% have already had some type of forbearance or modification, but remain non-performing (CBI, 2016a). A large proportion of the borrowers are highly indebted with limited income, meaning they are unlikely to be able to bear the cost of a restructured loan. In such cases, loss of ownership is likely to be inevitable, through repossession, mortgage to rent or voluntary surrender.

Improving judicial efficiency in repossession proceedings is a key factor for further addressing NPLs (ECB, 2016). As it stands, Ireland's repossession process for residential properties takes a long time. From when the legal process for repossession commences, it has typically taken around 1½ years for a matter to be concluded (Expert Group on Repossessions, 2013). Despite a steady decline in applications for new court proceedings related to primary dwelling repossessions, the stock of accounts before the courts has remained stubbornly high (Figure 12). In 2016, less than 10% of primary dwelling accounts before the courts were repossessed with a court order.

Figure 12. The process of collateral repossession is slow



Note: Underlying data is confidential.

Source: CBI (2016a).

The elevated stock of accounts before the courts is due to the high frequency of adjournments. In some instances, the documents submitted to the court by the lender are not adequate and the grounds for forbearance pleaded by the borrower evolve over time, which both often result in further adjournments. This problem was addressed in a 2015 reform which introduced

standardised documentation outlining the grounds on which repossession is being contested, accompanied by a statement of means. The authorities should evaluate whether this reform has had any success in improving case management of repossession proceedings (including through accelerating them), though the persistent high stock of court proceedings (Figure 12) suggests that any impact has been limited.

In order to speed up repossession proceedings, case management should be improved further. The authorities should consider standardising the 'suspended' possession order, like in the United Kingdom (CCPC, 2017). This would grant lenders a collateral possession order at a future date with the suspension of possession only conditional on well-defined criteria. By reaching a court mandated solution at an early stage, engagement between the borrower and lender would be better encouraged, standardising and speeding up repossession proceedings, while raising predictability for both parties. Trade-offs exist, as such a policy may have the unintended consequence of encouraging collateral to be run-down by debtors in some instances. The impact of any such policy change on debtor wellbeing should also be evaluated, with the reform carefully designed to ensure that the benefits with regard to reducing uncertainty and encouraging the provision of finance outweigh any unintended costs.

Protection of debtors

To protect heavily indebted households from slipping into poverty, adequate flanking policies are essential. The introduction of the "Abhaile" scheme in 2016, which provides vouchers to those with mortgage arrears so that they can access independent financial and legal advice, was important in this context. Adding to this, the provision of social housing through the realisation of the government's Action Plan for Housing and Homelessness – Rebuilding Ireland will be critical. This plan aims to deliver 50 000 additional long-term social homes across the period 2016 to 2021 (Table 3). Importantly for social inclusiveness, the new units will be integrated in mixed tenure developments alongside private owners. Other reforms that promote housing supply in the right locations (discussed further below) will complement these aims. It may be the case that ensuring an adequate housing safety net has a positive impact on the processing of repossession orders, as the availability of decent alternative housing is an important factor considered by the courts when hearing these matters.

Macro-prudential policy tools should continue to be actively deployed

In response to volatile property price cycles, the CBI introduced new macro-prudential mortgage lending regulations in February 2015. While allowing some discretion by the lenders, the regulations limited the loan-to-value ratio to 90% for first-time buyers and to 80% for other home purchasers and restricted the allowable loan-to-income ratio to 3.5. Following the regulations, the incidence of lending with high loan-to-value ratios (i.e. above the regulated thresholds) has declined (CBI, 2016b) and there is evidence of new borrowers having a lower risk of default (Joyce and McCann, 2016). A counterfactual study also suggests that actual new lending and house prices would have been higher in the absence of the new regulations (Cussen et al., 2015). In future, the authorities could consider fine-tuning the prudential requirements at the local level. The prudential measures adopted over the past two years had greater effects in Dublin than outside the capital (Kinghan et al., 2017).

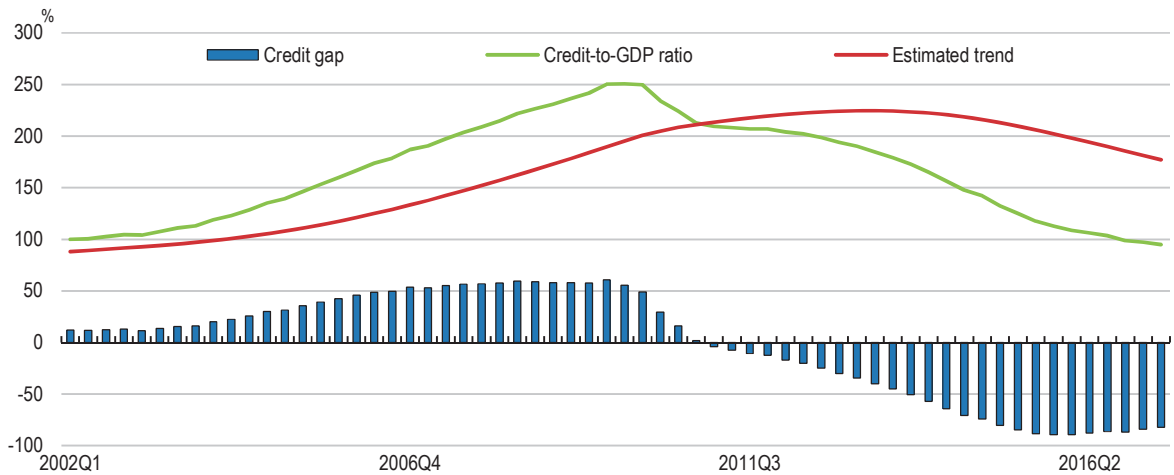
The central bank has committed to an annual review of the mortgage market measures. In November, the 2017 Review of Macro-prudential Mortgage Measures was published. It confirms that the measures continue to operate as intended but contains two changes: namely, a reduction in allowances on lending above the 3.5 times loan-to-income limit and an adjustment to the calculation of the value of collateral for purchase-to-renovate properties

(which is more conservative than the previous calculation). These changes have been introduced to make the regulations more effective in mitigating the risk of unsustainable mortgage lending in the future and took effect on 1 January 2018.

The central bank, as the designated authority for macro-prudential policy, has also introduced the counter-cyclical buffer framework to mitigate and prevent excessive credit growth and system leverage. The counter-cyclical buffer rate has been left unchanged at 0%. This is appropriate for now, given that early warning indicators relating to financial sector stress are benign (Figure 8; Figure 13). However, the rate should be raised appropriately when needed. In such a case, the authorities should verify if risk-weights to mortgage lending estimated by banks are appropriate for the measure to contain excessive credit growth (Jin et al., 2014).

Figure 13. Tighter macro-prudential policy is not warranted at this stage

Credit-to-GDP ratio and gap – National specific approach



Note: While applying the standardised methodology, the Irish national specific approach uses an alternative measure of credit and economic activity: it uses GNI* (see Box 1) instead of GDP and NFC credit from Irish resident credit institutions rather than the aggregate NFC credit. The estimated trend line is calculated using a Hodrick-Prescott filter. The credit gap is defined as the deviation of the credit-to-GDP ratio from the long-run trend.

Source: Central Statistics Office, BIS and CBI calculations.

StatLink http://dx.doi.org/10.1787/888933683383

Table 3. Past recommendations related to improving financial stability

Recommendation	Action taken since the July 2015 Survey
Accelerate through the court system the resolution of non-performing loans that require repossessions	Changes to court rules were introduced on 17 August 2015 to streamline the management of repossession cases by requiring key proofs to be lodged in writing. Following the changes, a Civil Bill for Possession must be accompanied by a sworn affidavit which provides information on the property concerned, occupation of the property, the security held by the lender, details of the loan agreement, the arrears owed and evidence that the lender has abided by the relevant central bank regulations.
Continue to improve the responsiveness of housing supply including in the rental market and avoid home buyer subsidies.	Rebuilding Ireland – Action Plan for Housing and Homelessness (July 2016) includes over 110 actions with an overarching objective to double the annual level of residential construction to 25 000 homes and deliver 47 000 units of social housing in the period to 2021.

Maintaining fiscal sustainability

Ireland's fiscal position has improved over the past decade: abstracting from one-off influences, the fiscal deficit declined from 11½ per cent of GDP in 2009 to around 1% by 2016 (Irish Fiscal Advisory Council, 2017), with the adjustment being mostly structural.

Public finances have recently benefitted from a sharp increase in corporate tax receipts. In 2016, the corporate tax yield was close to 80% higher than the average collected over the four years to 2014. Corporate taxes have been by far the most volatile of Ireland's tax heads over the past two decades (Casey and Hannon, 2016), but the recent increase was especially large. It appears to have been partly attributable to the economic recovery, given that most sectors exhibited rising tax payments. However, the financial and ICT sectors accounted for the bulk of the increase. There was also a rise in the concentration of tax receipts across firms, with the share of the top ten taxpayers in total corporate tax revenues rising to just below 40% (Department of Finance, 2018b).

As cautioned in the recent Review of Ireland's Corporation Tax Code, though the increase in corporate tax receipts may be sustainable in the medium term, the inherent volatility in this revenue stream will remain (Coffey, 2017). The rise in the share of corporate tax in total tax revenue over recent years (Table 4) suggests that the exchequer's total tax take will be more subject to volatility going forward. As a consequence, unbudgeted corporate tax receipts should be used to build fiscal buffers. This is especially important at present given the large share of multinational firms in the tax base in an environment of increased international tax competition. Indeed, around 80% of Ireland's total corporate tax receipts are derived from multinational enterprises (Department of Finance, 2018b).

Table 4. Share of total tax revenues by tax head, %

	2011	2017
Income Tax	40.5	39.4
Value Added Tax	28.6	26.2
Corporation Tax	10.3	16.2
Excise Duties	13.7	11.7
Other	6.7	6.5

Source: Department of Finance.

In building fiscal buffers, the government has announced the establishment of a "Rainy Day Fund" to be financed through annual transfers from the government. It is intended that this will be used to help absorb future economic shocks at the same time as ensuring the long-term sustainability of public finances. The annual contributions to the fund have been agreed at 500 million euro per year over the 2019-21 period. Establishing such a fund rather than using contributions to pay down public debt is attractive insofar as it provides access to a liquid pool of cash in the event of a significant disruption to external funding markets.

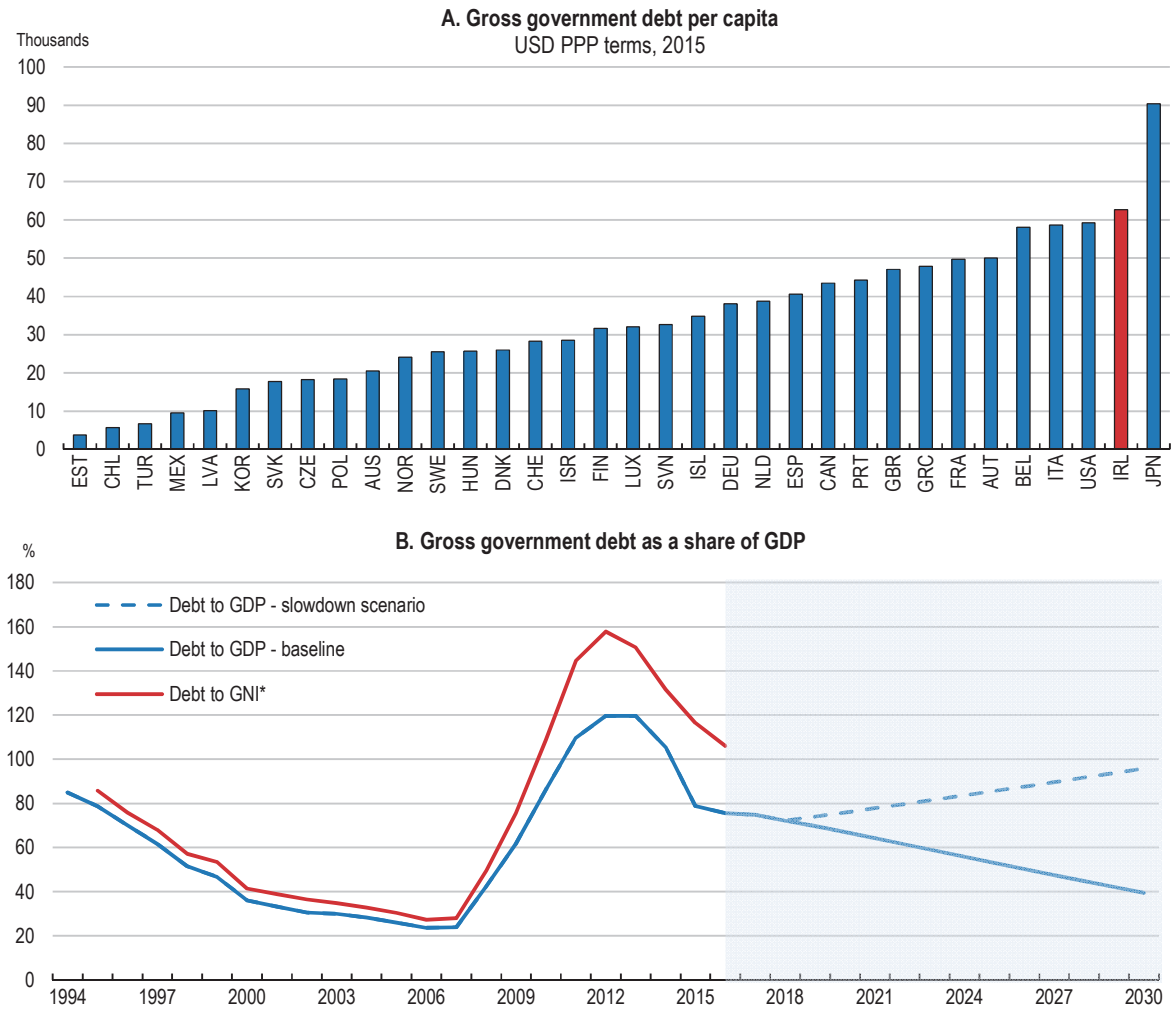
Ireland has played an active role in implementing international tax reforms through the OECD/G20 Base Erosion and Profit Shifting (BEPS) project, with the implementation of the remaining BEPS reforms currently subject to an ongoing consultation process. It is essential that the government remains proactive in the ongoing international efforts to co-ordinate tax standards and address BEPS. This process requires that all countries ensure that tax measures do not encourage commercial arrangements that are purely tax-driven and not accompanied by substantive economic activities.

The exact impact of recent corporate tax changes in the United States on the Irish economy and public finances is unclear: while the US move towards a territorial tax regime could incentivise US corporations that repatriate profits to invest in Europe, there are also new measures designed to encourage companies to relocate their intellectual property from foreign jurisdictions to the US. In addition, the details of any future international agreement relating to the taxation of the digital economy remain highly uncertain, making it difficult to speculate about their potential impacts on the Irish economy.

As a result of the reductions in the fiscal deficit, public debt ratios have begun to trend down. Nevertheless, gross public debt still remains above 100% of GNI* (and around 75% of GDP in 2016) and, in per capita terms, is one of the highest across the OECD countries (Figure 14, Panel A). That said, the maturity profile of public debt is relatively elongated by European standards, limiting rollover risk. The government is aiming to improve the fiscal position further, reducing gross public debt to 55% of GDP as an interim target and 45% once major capital projects have been completed. Achieving this target is prudent given Ireland's high exposure to external shocks and the fact that automatic stabilisers should be allowed to operate if such a shock does eventuate. Nevertheless, targeting debt as a share of GDP is less meaningful in Ireland than in other European countries given the distortions in estimates of nominal GDP that exist (Box 1). As GNI* is less affected by one-off factors that do not reflect sustainable increases in national income, it is a better indicator of the capacity of the government to repay its debt. Consequently, the government should also set medium-term debt targets as a share of GNI*. With the publication of the 2018 Budget, the government highlighted a willingness to use public finance ratios as a share of GNI* for analytical purposes, which is welcome.

Expectations of further fiscal improvements are predicated on continued stable medium term economic growth. However, as discussed, vulnerabilities to the outlook are high. An outcome for Brexit negotiations that results in substantially higher bilateral tariff and non-tariff barriers between Ireland and the UK could have a serious negative impact on the Irish economy (Box 2). A scenario in which economic activity slows by more than expected would result in the public debt ratio rising markedly over the medium term (Figure 14, Panel B). In this context, the government should prepare a contingency plan that identifies productivity-enhancing fiscal initiatives that are temporary in nature and could have a large short-term impact on growth in the face of a negative shock. At the same time, many of the growth-enhancing structural reforms recommended in the thematic chapter of this Economic Survey (Box 3) along with adjustments to specific aspects of fiscal policy would put the economy, and public finances, on a firmer footing (Box 4).

Figure 14. Public debt ratios have improved but remain high



Note: In Panel B, the "Baseline" scenario takes the most recent OECD forecasts for the primary balance, real GDP and inflation from 2017-2019. Thereafter, real GDP growth is held constant at 2.2% per year and inflation at 1.8%. Department of Finance projections for the primary balance are used from 2020-2021 and then the balance is held constant at 2.3% of GDP. The "Slowdown scenario" takes the baseline to 2019 but then assumes a slowdown in real GDP growth and inflation to 1% per year and a primary deficit of 1% of GDP each year from 2020-2030.

Source: Department of Finance, OECD Economic Outlook, OECD Government at a Glance, OECD calculations.

StatLink http://dx.doi.org/10.1787/888933683402

Box 3. Simulations of the potential impact of structural reforms

Simulations based on historical relationships between reforms and economic indicators in OECD countries allow the potential impact of some of the structural reforms proposed in this Economic Survey to be gauged (several of these come from the thematic chapter that follows). These estimates assume swift and full implementation of reforms in three main dimensions: product market regulations, investment policies and labour market policies. In some cases, there may be countervailing policy recommendations (i.e. a land tax that replaces the local business tax) that are not quantified. Furthermore, the simulation results are based on cross-country estimates that do not reflect the unique institutional settings in Ireland which will influence their efficacy. As such, these estimates should be seen as purely illustrative. The policy changes that are assumed (detailed in the note to Table 5) are based on the specific policy recommendation, recent reforms in other countries and Ireland's current policy settings in the particular dimension.

Table 5. Potential impact of structural reforms on GDP per capita after 10 years

Structural policy reform	ΔGDP per capita	Impact on supply side components		
		MFP	K/Y	L/N
	in percent	*in percent*		*in pp*
Product market regulation				
(1) Raise competition in the legal service sector	0.99	0.72	0.15	0.14
(2) Streamline the permits and licence system	0.33	0.24	0.05	0.05
Investment specific policies				
(3) Rationalise the local business tax	0.29		0.61	
(4) Support business R&D further	0.34	0.34		
Labour market policies				
(5) Enhance training programmes for workers	0.09	0.03		0.04
(6) Withdraw benefits more gradually as earnings rise	0.42			0.28
(7) Increase support for childcare services	0.23			0.15
Total	2.7			

Note: The policy changes that are assumed for each measure are as follows: (1) the OECD measure of regulation in professional services is lowered from 3.5 to 3.2 (which would be the value of the indicator if the recommended reforms were undertaken); (2) the OECD Product Market Regulation indicator relating to barriers to entrepreneurship is reduced from 2 to 1.9 (which would be the value of the indicator if the recommended reforms were undertaken); (3) Business tax revenues as a share of GDP are reduced from 0.8% to 0 (consistent with the recommendation in the thematic chapter to introduce a broad-based land tax to replace commercial rates); (4) Business R&D spending as a share of GDP is increased from 1.1% to 1.3% (the OECD average level), (5) Active Labour Market Programme spending per unemployed worker as a share of GDP per capita is increased from 14% to 14.5% (the OECD average level); (6) Family Income Supplement, an in-work benefit for the low-paid, is reduced at the withdrawal rate of around 30%, instead of 60% as is currently the case, consistent with the reforms recommended in OECD (2015), which would have an impact equivalent to a reduction in the representative replacement rate from 76.8% to 75.4%; and (7) Childcare spending as a share of GDP is raised from 0.9% to 1% (the size of reform typically observed in OECD countries).

Source: OECD calculations based on Egert and Gal (2017).

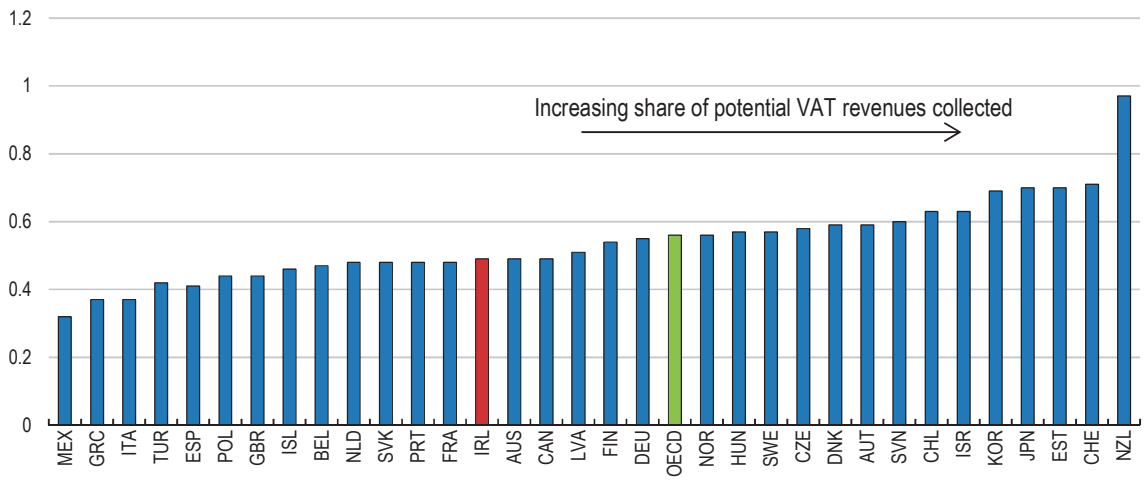
Broadening the tax base in a growth-friendly manner

Some aspects of Ireland's tax system both distort the efficient allocation of resources and narrow the tax base. Reforming such measures would raise fiscal space, leaving the government in a better position to tackle short-term external shocks or undertake the spending needed to tackle the medium-term challenges that lie ahead.

Value added taxes (VAT) contribute a slightly higher share of revenue in Ireland than in most other OECD countries. The level of VAT compliance is also relatively high (European Commission, 2017a). This is beneficial given consumption taxes are less harmful for growth than income and corporate taxes (Johansson et al., 2008). Nevertheless, Ireland's VAT system has five different rates that can be applied depending on the item. Indeed, more revenue is lost from differential VAT rate treatment than in most other EU countries (European Commission, 2017a), with the majority of potential VAT revenues remaining uncollected (Figure 15; OECD, 2016b).

Figure 15. The majority of potential VAT revenues remain uncollected

VAT Revenue Ratio



Note: The VAT Revenue Ratio is the ratio between the actual value-added tax revenue collected and the revenue that would theoretically be raised if VAT was applied at the standard rate to all final consumption.

Source: OECD, 2016b.

StatLink http://dx.doi.org/10.1787/888933683421

While reduced VAT rates on some household products may be an attempt to make the tax more progressive, lower rates for items such as purchases at restaurants, hotels and cinemas likely work in the opposite direction. Furthermore, preferential VAT rates are very ineffective at targeting support to poor households compared with means tested benefits (OECD/Korea Institute of Public Finance, 2014). With this in mind, exemptions should be gradually eliminated to converge towards a comparatively uniform VAT rate, such as that implemented in New Zealand. A first step could be to streamline the VAT rate structure, moving from five different VAT rates to three. This could be done in a way that raises significant government revenue (Department of Finance, 2017c; Table 6). Nevertheless, such a reform may need to be accompanied by welfare spending that ensures vulnerable households are not negatively impacted.

The revenue base is also narrowed by other preferential tax rates which have little economic, social or environmental rationale. For instance, a lower rate of excise is paid on diesel fuel for road use compared with petrol. This excise gap has broadened since the financial crisis, contributing to a notable increase in the number of kilometres driven in diesel cars (Department of Finance, 2017d). Given air pollutant emissions are higher for diesel than petrol vehicles (European Commission, 2017b), this preferential treatment also has negative environmental and health consequences. While raising the excise rate on diesel to that levied on petrol is justified on environmental grounds, it would also raise an additional EUR 300 million per year for the exchequer (Department of Finance, 2017d).

There is also scope to increase revenues from property taxation by more regularly updating market values. Such taxes are one of the least distortive in terms of reducing long-run GDP per capita (Johansson et al., 2008). Ireland introduced a local property tax in 2013, but the share of property tax in total taxation remains around half that of countries such as the UK and Canada. The local property tax is levied on a self-assessment of the market value of a property. However, for most properties, taxes are currently being paid on the 2013 value, with a planned valuation update having been postponed from 2016 to 2019. This has meant households in locations where house prices have grown particularly fast face a sharp cliff in their property tax bill in 2019. A potential one-off measure to cushion the impact on the finances of such households is a gradual adjustment (i.e. over multiple years) of the tax base to the 2019 market value. This situation should be avoided in future by introducing a more regular reassessment of property values for the purposes of levying the tax. Such an adjustment to the system should be explored as part of the government review of the local property tax that will be undertaken during 2018. In this process, the authorities should also consider potential adverse impacts of a revaluation on lower-income households and whether current policy settings would be sufficient to protect them from slipping into poverty. Exemptions from the local property tax currently exist only for some forms of social housing and individuals affected by illness, although property tax liabilities can be deferred by low-income individuals under certain circumstances.

The authorities should also continue to phase out mortgage interest tax relief, the presence of which has likely done little to improve housing affordability given constraints to housing supply (discussed further below). The government intends to taper out the relief by 2020. This timeline should be adhered to with no further extensions granted. The elimination of mortgage interest tax relief should contribute just under EUR 200 million per year to government revenue (Box 4).

Box 4. Quantifying fiscal recommendations

The following estimates roughly quantify the fiscal impact of selected recommendations. It should be noted that some recommendations (such as more regular updates of property values for the purpose of calculating the local property tax) are not quantifiable given the available information and the complexity of the tax design. The estimated fiscal effects abstract from short-term behavioural responses that could be induced from the given policy change (in line with past OECD work modelling long-term scenarios; Johansson, et al. 2013).

Table 6. Illustrative fiscal impact of recommended reforms

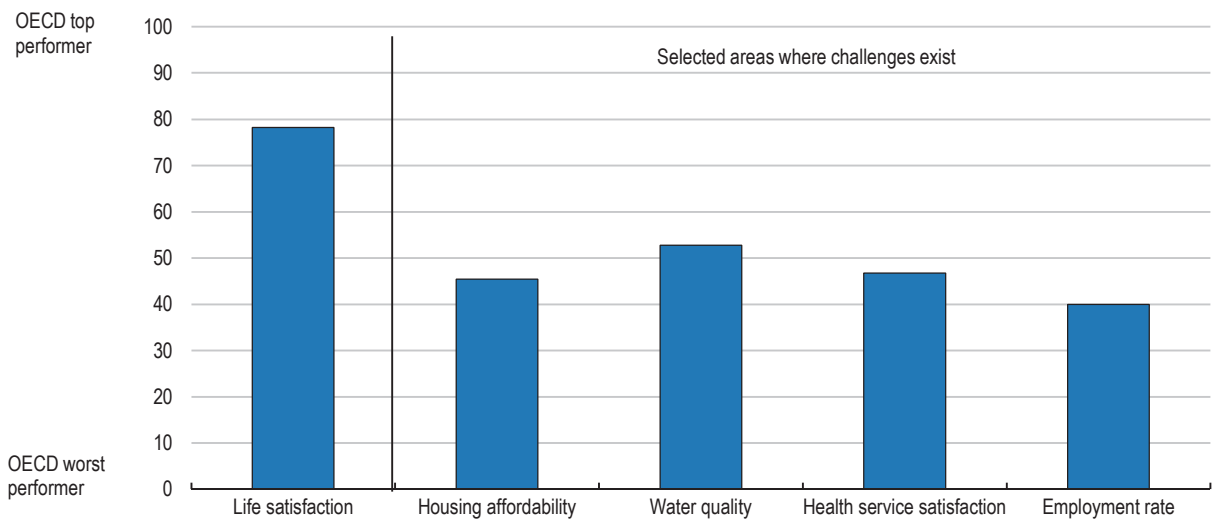
Policy	Measure	Annual fiscal balance effect, % of GDP
	Additional expenditures	
Additional health spending	Universal access to publicly funded health and social services along with additional health investment (as outlined in Committee on the Future of Healthcare, 2017)	-0.4
Enhancing training programmes	Active labour market programme spending per unemployed worker as a share of GDP per capita is increased from 14% to 14.5%.	-0.0
Withdraw benefits more gradually as earnings rise	Family Income Supplement, an in-work benefit for the low-paid, is reduced at a withdrawal rate of around 30%, instead of 60% (as is currently the case).	-0.4
Increase support for childcare services	Raise childcare spending as a share of GDP from 0.9% to 1%	-0.1
	Offsetting measures	
Budget balance effect associated with higher GDP induced by structural reforms highlighted in Box 3		
Increased budget balance induced by stronger GDP	The structural reforms highlighted in Box 3 are highlighted to raise GDP by 2.7% and employment ratios by 0.66 percentage points, respectively. The change in employment ratios would translate into a 0.3 percentage point improvement in the budget balance in the long-run (a 1% change in employment ratios is estimated to improve the primary balance by around 0.5 points for Ireland, OECD, 2010). Productivity improvements are assumed to be fiscally neutral in the long run according to the past OECD work modelling long-term scenarios (Johansson, et al., 2013).	0.3
	Additional revenues	
Reduce the extent of VAT rate differentiation	Streamline VAT rates to be either 5%, 15% or 25% (using fiscal estimates from Department of Finance, 2017c)	0.8
Raise excise on diesel fuel	The excise on diesel fuel for road use is increased to be in line with that of petrol (using the fiscal estimates from Department of Finance, 2017d).	0.1
Phase out mortgage interest tax relief	Completely eliminate mortgage interest tax relief (using the fiscal estimates from Department of Finance, 2017e)	0.1
Introduce tax on vacant properties	Assumes a tax on vacant dwellings of 2% in the cities of Dublin, Cork, Galway, Limerick and Waterford (obtained from the 2016 Census and excludes holiday homes), assuming that such properties are valued at 20% below the market average in each area.	0.1

Addressing medium-term challenges for wellbeing

The Irish population enjoys a high level of wellbeing, reporting levels of life satisfaction that are close to the top of the OECD (Figure 16). Compared to individuals in other economies hard hit by the financial crisis, those in Ireland feel that they are much better off. Looking forward, further raising living standards in Ireland will depend on the ability to reignite productivity growth in local firms and this is extensively discussed in the thematic chapter of this Economic Survey. At the same time, there are several dimensions of wellbeing that are influenced by government policy and where there is significant scope for improvement. At present, challenges exist in the areas of housing affordability, the environment, the health system and in getting people into work. In many cases, more vulnerable households are the ones that are adversely affected by deficiencies in these areas. As such, well-designed reforms that prioritise these areas can be highly beneficial for inclusiveness. While there is still scope for spending efficiency gains in particular policy areas such as public infrastructure and health, government spending will also need to be boosted in some instances. In this context, there is a need to recognise the trade-offs in fiscal spending that exist and raising revenues through the tax reforms just discussed.

Figure 16. Wellbeing is high, but some aspects can be improved

Selected wellbeing indicators, 100 = top OECD country and 0 = bottom OECD country



Note: The figure represents the relative position of Ireland with respect to OECD's best and worst performer in each of the areas. For example, if the index is below 50, Ireland scores closer to the worst performing OECD country than the best performing OECD country on that dimension.

Source: OECD Better Life Index, OECD Government at a Glance.

StatLink http://dx.doi.org/10.1787/888933683440

Promoting increased housing supply

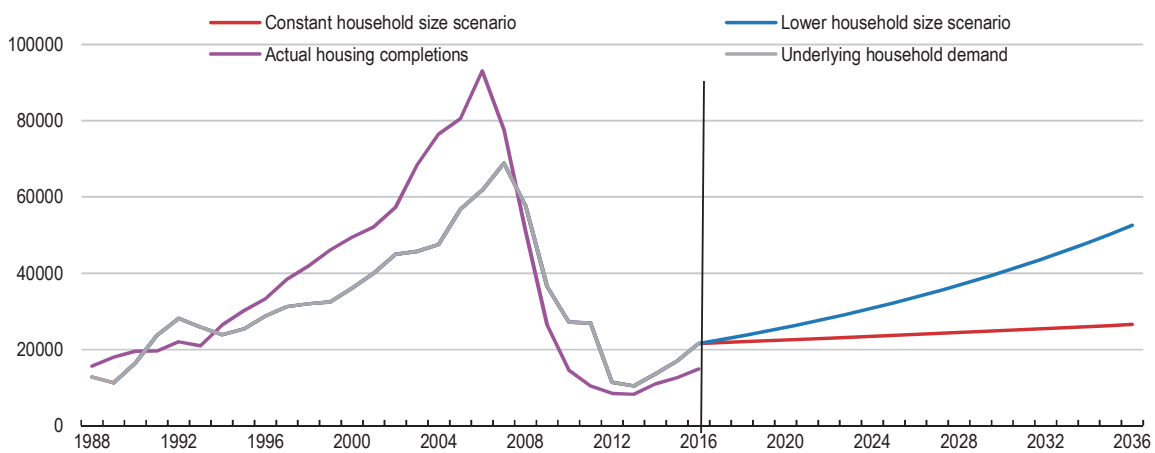
Housing supply contracted sharply from late 2007: the supply of new dwellings fell by over 90% between 2006 and 2013. The contraction in housing supply was sharper than that of underlying demand through these years (see Appendix 1), due to excess supply in the years beforehand and a reduction in the availability of finance for property developers once the crisis took hold.

The recovery in housing supply has been tepid in recent years. Underlying housing demand has outpaced actual supply (Figure 17), manifesting itself in stronger growth in house prices and rents (as already discussed). Such increases have been rapid in Dublin compared with the rest of the country. This has elevated housing affordability concerns and contributed to the number of homeless people in Ireland doubling between the start of 2015 and mid-2017. At the same time, rising housing costs for professionals may have dissuaded further foreign direct investment and return migration of Irish nationals living abroad (European Commission, 2017b).

Projecting underlying housing demand highlights the need for an increase in dwellings over the coming decades. Estimates are sensitive to the assumption regarding average household size (see Appendix for details). However, even if it is assumed that household sizes halt their trend decline (some evidence of this was observed in the 2016 Census), new housing demand will exceed current annual housing supply in the future (Figure 17). If average household sizes continue to decline along the trend observed between 1996 and 2016, over 50 000 new dwellings per year will be needed by 2036. In 2017, only around 19 000 new dwellings were added.

Figure 17. The current level of housing supply is insufficient to meet future demand

Estimated underlying housing demand and actual completions, number of dwellings



Note: See Appendix 1 for a detailed discussion of these estimates. Previous work has highlighted that much of the increase in housing completions prior to the crisis were in areas with limited housing demand (Kitchin et al., 2012), meaning that the apparent oversupply of housing in those years has little relevance for the current balance in the housing market.

Source: Central Statistics Office, OECD estimates.

StatLink http://dx.doi.org/10.1787/888933683459

The government has enacted reforms in recent years to improve housing affordability. Housing Assistance Payment limits have been increased and the government has also introduced a "help-to-buy" scheme. The latter measure provides first-time buyers a refund of income tax and deposit interest retention tax paid (over the previous four years) of as much as 5% of the dwelling purchase price. There have also been measures put in place to cap the growth in housing rents. For instance, landlords can now only review rents once every two years (previously annually) and limits have been placed on the magnitude of rent increases (4% per annum) for existing rental properties in parts of the country where rents are highest and rising.

While all of these measures may improve affordability in the short-term, they will do little for affordability over a longer horizon if they feed into rising dwelling prices or dissuade investment in rental housing.

For a longer-term solution, policymakers must focus on measures that encourage greater housing supply. Some initiatives already implemented include the Local Infrastructure Housing Activation Fund, designed to provide the local public infrastructure needed to facilitate housing development (such as access roads), and the introduction of fast-track planning measures for large-scale housing developments. In the 2018 Budget, a tax deduction of up to EUR 5 000 for pre-letting expenses for previously vacant properties that were brought onto the rental market was announced. As it is unclear how much extra supply of rental housing this measure will induce, the government should also consider introducing a higher recurrent property tax rate on properties that are left vacant in city areas.

Housing construction costs are significantly higher in Ireland than in other European countries (Lyons, 2017), with stringent regulations on home building likely to be one contributing factor. National Building Control Amendment Regulations, introduced in March 2014, required self-certification of the safety and quality of dwellings by a registered architect. This contrasted with the regulatory approach undertaken in other countries, such as the UK and US, where local authorities are responsible for inspections and building certification. Evidence that the self-certification requirements inflated the cost of housing developments led to a ministerial review and the eventual relaxation of the regulations for one-off houses and extensions (Reynolds, 2015). The government should also eliminate the self-certification process for multi-dwelling projects. However, this will need to be accompanied by some public investment in local authorities to enable them to undertake more inspections and consistently enforce regulations.

There have also been new regulations by local councils which may have stifled the scale of new home building. For example, Dublin City Council introduced more stringent dwelling standards in 2008. At present, the allowed minimum dwelling size in Dublin is one of the highest in Europe (currently at 45m² for a one bedroom apartment) and there is a ban on north-facing apartments. The height of new developments is also limited to seven floors in most districts. These regulations increase housing costs and serve to reduce the population density in the capital city (which is already a low density city compared to other European capitals such as London, Berlin and Paris). Furthermore, they hamper inclusiveness by reducing the stock of inexpensive housing available on the private market. The national government has recently issued updated draft planning guidance for apartment design that takes some steps in encouraging greater housing density. For example, the allowable number of units per floor has been increased and requirements relating to the number of car spaces per development have been relaxed in areas with good access to public transport.

In promoting housing development in Ireland's urban centres, efforts should be intensified to identify underutilised land in prime locations. In Dublin, there are multi-acre sites in valuable locations that house army barracks, bus depots and industrial estates that are vacant or no longer used at full capacity (Lyons, 2016). Some of these sites could be rezoned by local councils for mixed use, including residential. Coupled with this, there may be scope for a land tax to be introduced in order to promote more efficient land use. While Ireland currently has various taxes on property, such as commercial rates, a local property tax, a vacant site levy and stamp duty (all levied on the market property value), there is no pure land tax levied on site value. Aside from encouraging better land use, a pure land tax has hardly any distortionary effect on the investment decisions of households and businesses (Blöchliger, 2015). Indeed, some existing levies such as commercial rates that may distort the pattern of firm growth

(discussed further in the thematic chapter) could be replaced by a land tax at a uniform rate. This could be done in a revenue neutral way, but would require new methods that allow land valuations to be separated from the value of improvements (Blöchliger, 2015). Other European countries, such as Denmark and Estonia, currently levy a land tax on site value.

Improving environmental sustainability

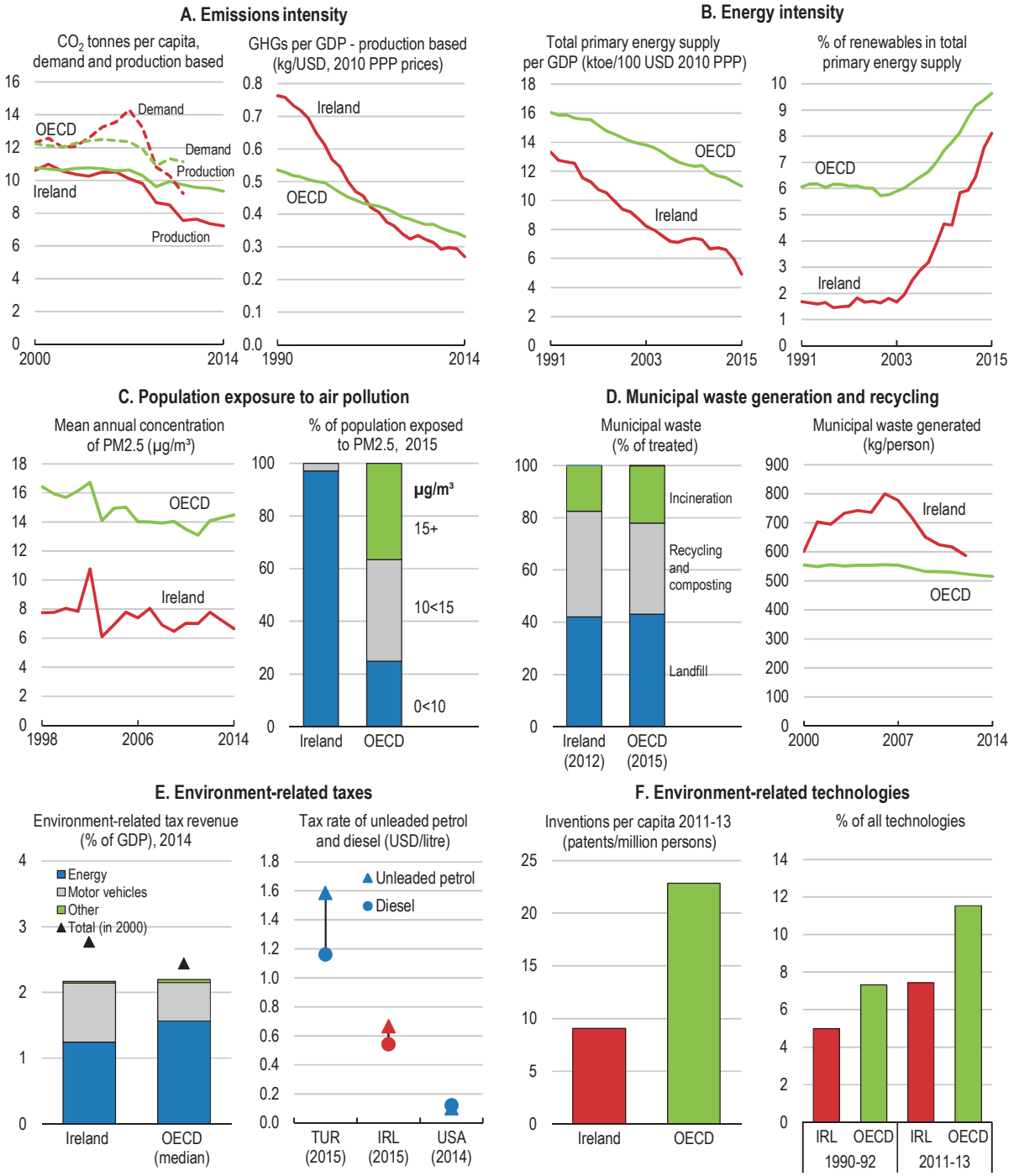
Air quality in Ireland is among the highest in the OECD, as Ireland has little polluting industry, few large conurbations, and dominant winds that come from the Atlantic Ocean (Figure 18, Panel C). Ireland's emission of carbon dioxide (CO2) per capita are below the OECD average and have been declining for some years (Figure 18, Panel A), first as electricity generation moved towards gas-fired power stations and more recently as use of renewables has increased. Nevertheless, there is scope to raise the share of energy that is sourced from renewables. Under the EU Renewable Energy Directive, Ireland is aiming to raise the share of renewable energy in total energy consumption from 8.6% in 2014 to 16% in 2020.

Household waste generation has been declining but remains higher, per capita, than the OECD average (Figure 18, Panel D). Increasing amounts are being recycled, but more waste is sent to landfill than in most EU countries (Central Statistics Office, 2016). The amount of waste sent to landfill increased between 2015 and 2016, requiring the government to make additional landfill space available. Continuing to transition away from landfill should be an ongoing focus of policymakers.

Ireland’s water infrastructure is a key environmental investment priority. Wastewater treatment facilities in many locations are incapable of meeting EU standards, negatively impacting upon the quality of waterways and the health of the population (Expert Commission on Domestic Public Water Services, 2016; European Commission, 2017c). It has been estimated that almost half of treated water is lost through leakage in the network, around double the share lost through leakage in the UK (Irish Water, 2015). Furthermore, boil water notices for households continue to be invoked due to contamination in some regions. According to the Environmental Protection Authority, as at mid-2017, the water supply serving around 15% of the Irish population was immediately at risk and required remedial action. It is estimated that investment of close to 14 billion euro will be required by Irish Water between 2018 and the mid-2030s to bring the infrastructure up to an acceptable standard. With the abolition of household water charges in early 2017, further investment will largely derive from general taxation (along with some fees from charges to non-domestic customers). The government should keep reviewing the regime for domestic water charging in order to ensure funding certainty to Irish Water over the medium-term.

In making further investments in environmental infrastructure, measures that improve public spending efficiency – which is below the EU average (IMF, 2017) – need to be identified. For instance, there should be better efforts to systematically collect information on the financial and non-financial performance of existing assets. A lack of sufficient data has been one reason behind suboptimal capital investment decision-making in the water sector (Irish Water, 2015), but asset data has been similarly absent when making decisions about other types of infrastructure. The government has prepared a medium-term Public Capital Investment Plan, which is coordinated and aligned with the National Planning Framework. In future infrastructure planning, project evaluation and the assessment of maintenance costs will greatly benefit from better information about the performance of existing infrastructure assets. There may also be scope for improvements to the institutional framework to ensure the capital projects undertaken have the highest societal returns. For example, prior to project development, a mandatory process of consulting with future users should be put in place.

Figure 18. Green growth indicators are mixed



Source: OECD (2017), Green Growth Indicators (database).

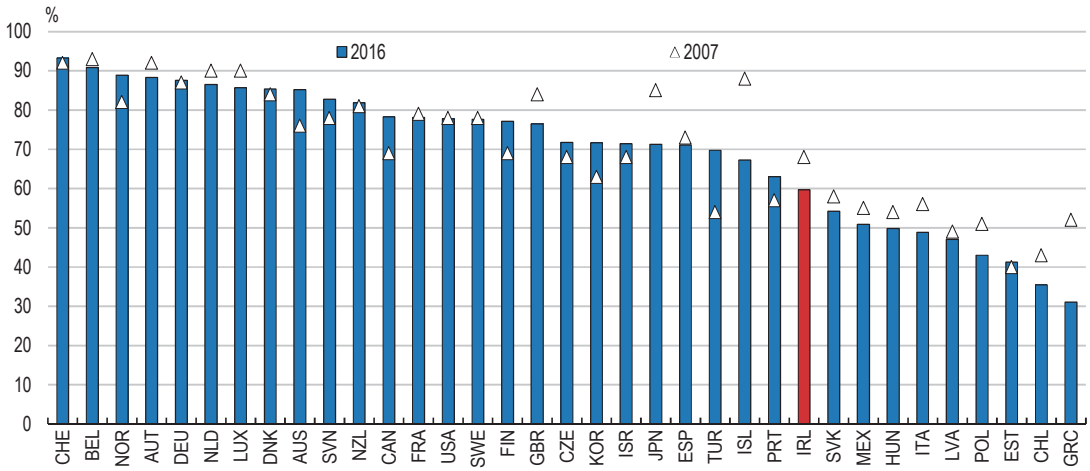
StatLink http://dx.doi.org/10.1787/888933683478

Expanding the provision of quality healthcare

A high performing health system is also integral to supporting labour force participation and the overall wellbeing of the Irish population. Demographic projections suggest the dependency ratio will rise in Ireland, with the number of people aged over 50 projected to increase by 600 thousand (equivalent to 13% of the 2016 population) between 2016 and 2031. However, the health system already struggles to meet the needs of the population. Citizen satisfaction with healthcare was lower than in most OECD countries in 2016 (Figure 19) and has fallen since 2007. The reduction in satisfaction coincides with falling public health expenditure through the crisis (Nolan et al., 2015). Furthermore, there are inequalities in the health system, with the gap in health status between high and low income individuals greater than in the average OECD country (OECD and European Observatory on Health Systems and Policies, 2017).

Figure 19. Many Irish people are unsatisfied with the health system

Proportion of people satisfied with the availability of quality healthcare



Source: OECD Government at a Glance 2017.

StatLink http://dx.doi.org/10.1787/888933683497

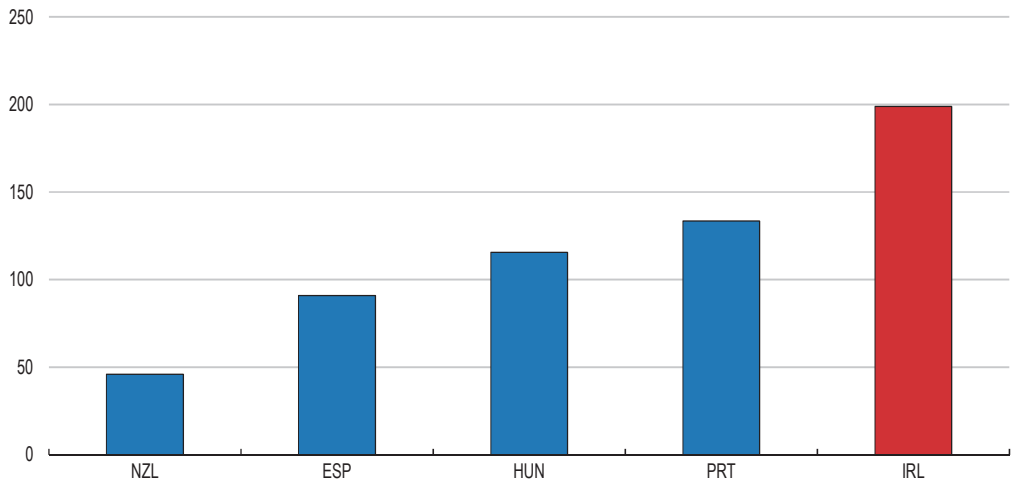
Unlike most OECD countries, Ireland does not have universal coverage for primary healthcare. Low income households are eligible for a Medical Card which enables them to access general practitioner care and medicines free at the point of use (subject to a very small prescription charge). Visits to general practitioners are also free for children under the age of six and adults over 70. While roughly half the population have private health insurance, health insurance premia are high (Pacific Prime, 2016) and co-payments are applied on a broad range of services, including primary care (OECD and European Observatory on Health Systems and Policies, 2017). Consequently, health costs can be prohibitively high for a group of the population with earnings that are below average but who are ineligible for free services.

In addition to high costs, access to healthcare is impeded by a congested hospital system that results in very high waiting times (OECD, 2016a; Figure 20). Those without insurance may find it particularly difficult to get adequate care, given that private health insurance patients get faster access to care within the public system in some cases (Committee on the Future of Healthcare, 2017). Furthermore, medical consultants in public hospitals may focus disproportionately on those with insurance as they are paid on a fee per service basis for

treating such patients (rather than on a salaried basis for public patients; Department of Health, 2014). This two-tiered system of care is a factor behind the high inequalities in health status.

Figure 20. There are lengthy waiting times for medical procedures

Days waiting time for patients registered for a procedure, 2016 or latest available



Note: The figure shows the average waiting time across a variety of procedures; cataract surgery, coronary bypass, prostatectomy, hysterectomy, hip replacement and knee replacement. Data are for 2015 for New Zealand and 2016 for all other countries.

Source: OECD Health Statistics 2017.

StatLink http://dx.doi.org/10.1787/888933683516

In recognition of these challenges, a cross-party committee was established with the aim of outlining a plan to provide broad access to quality health services within a single-tier health system. In May 2017, the committee delivered a final report, which had several recommendations that should be strongly considered by the government. These included the provision of a new health card ("Carta Slainte") to all Irish people that would give access to publicly funded health and social services. To also meet burgeoning demand, there should be a rise in investment into health infrastructure and staffing. Taking into account inflation and changing demographics, implementing the plan would require an increase in funding of at least 7% each year for 5 years, as well as an additional 3 billion euro in transitional funding. The report envisioned that this would be met through general taxation, with direct payments by households contributing a lower share of health costs.

Over the past few years, activity-based financing in hospitals has been gradually rolled out to replace the bulk grant system that was synonymous with health cost overruns (OECD, 2015; Table 7). However, there is scope for further improvements in health spending efficiency. The structure of government health payments should increasingly incentivise patients to access care outside of hospitals. Indeed, the government has recently established a programme office focused on driving reforms that reorient the model of care towards primary and community care settings. In this context, day-case surgery (for conditions where this is appropriate) and the treatment of some diseases, such as asthma, should be encouraged in the outpatient sector. This will reduce costs and may need to be facilitated through increasing the share of government health spending on primary care. If medical consultants continue to be permitted to service both private and public patients, there should also be a move away from fee-for-

service payments to remuneration that is neutral to the volume of care or the mix of public and private patients. That said, such a reform needs to be designed in a way that does not jeopardise the retention of medical consultants given expanding future healthcare needs and the fact that Irish doctors commonly emigrate (OECD and European Observatory on Health Systems and Policies, 2017).

Table 7. Past recommendation related to health spending

Recommendation	Action taken since the July 2015 Survey
Improve health spending efficiency including by fully implementing "money follows the patient" in health spending and publishing improved indicators of financial and operational performances of hospitals.	Since January 2016, funding for inpatient and day case activity in the 38 largest public hospitals has been on an activity based funding (formerly "money follows the patient") basis, and was extended to four hospitals in 2017, bringing the total to 42 of the 48 public hospitals. An Acute Hospital Expenditure Review was compiled and published in July 2017. This examined the baseline expenditure in the public acute hospital sector over the period from 2011, identifies trends and drivers in hospital expenditure and considers the levels of activity undertaken and whether there have been improvements in productivity over time.

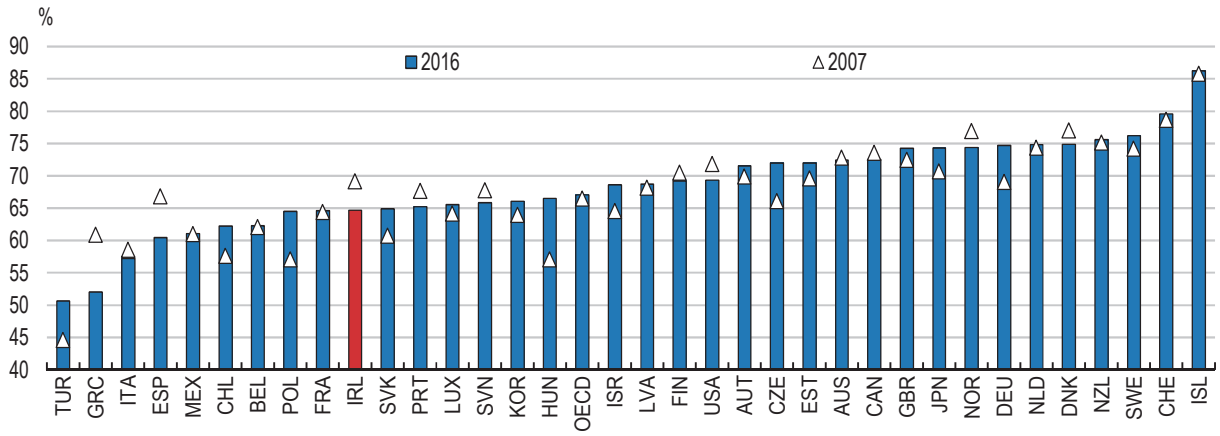
Raising labour market participation

Wellbeing can also be enhanced by better integrating some groups into the labour market. The share of Ireland's working age population that is in employment is low compared with other OECD countries (Figure 21). Employment rates are especially low among the low-educated, with the problem being particularly pronounced for the young (Figure 21, Panel B). The differential in the youth employment rate between the low-educated and highly-educated is higher than in any other EU labour market. Female labour force participation is also relatively low, especially for those in the 40-49 age cohort, and less-educated females are more likely to be outside the labour force than in other OECD countries.

Income inequality and poverty in market income are high in Ireland (Figure 22). However, high market income inequality and poverty are greatly reduced by the well-functioning social welfare system. The reduction in market income inequality and poverty through social benefits is the largest across OECD countries (Figure 22).

Figure 21. Labour utilisation remains low and differs across groups

A. Employment as a % of working age population (15-64)



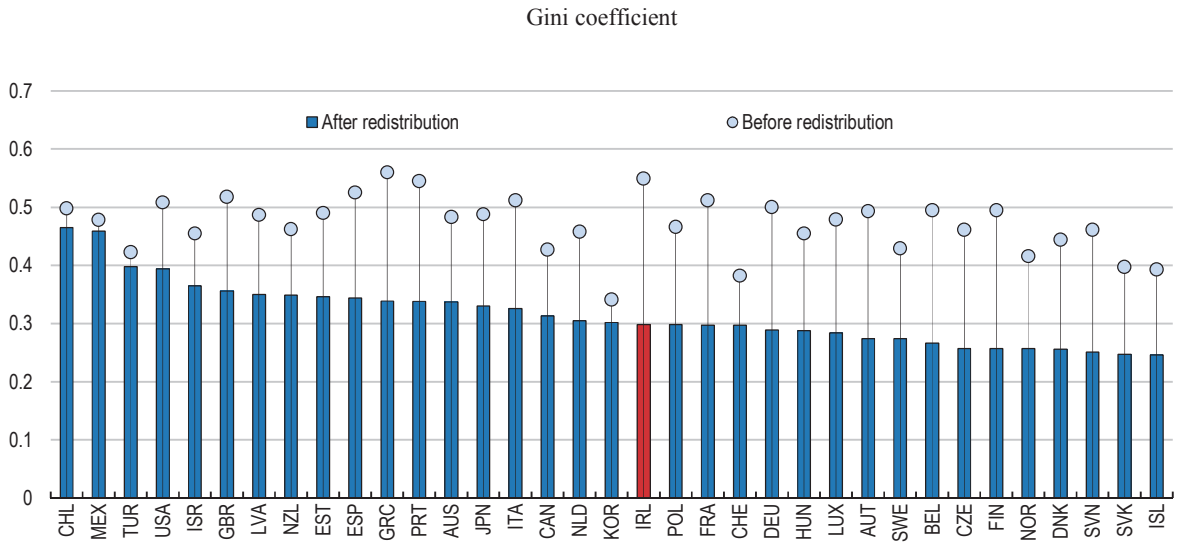
B. Employment/population ratios by age, gender and educational attainment

	Ireland		EU	
	2007	**2016**	**2007**	**2016**
Employment/population ratio	69.2	64.8	65.2	66.6
Youth (15-24)	51	32.1	37.2	33.7
Prime age (25-54)	78.6	75.3	79	78.7
Older population (55-64)	53.9	57.2	44.5	55.2
Men	77.5	70.2	72.4	71.8
Women	60.6	59.5	58.1	61.3
Lower secondary or less	49.4	36.1	48.4	44.5
Upper secondary and post-secondary non-tertiary	74.2	66.4	70	69.9
Tertiary	85.7	81.9	83.7	83.4
Youth:				
Lower secondary or less	23	8.8	25	18.3
Upper secondary and post-secondary non-tertiary	66.1	46.8	48.7	45
Tertiary	79.9	70.3	61.7	58.9
Women:				
Lower secondary or less	34.8	24.8	39.1	36.5
Upper secondary and post-secondary non-tertiary	64.2	58.7	63.4	64.1
Tertiary	82.0	78.4	80.4	80.1

Source: OECD (2017), OECD Employment Outlook (database). Eurostat Labour Force Survey (database).

StatLink http://dx.doi.org/10.1787/888933683535

Figure 22. High market income inequality is reduced by the tax and transfer system



Note: Data refer to 2013 for Chile, to 2012 for Japan. The Gini coefficient is calculated for household disposable income after taxes and transfers, adjusted for differences in household size and it has a range from zero (when everybody has identical incomes) to one (when all income goes to only one person). Increasing values of the Gini coefficient thus indicate higher inequality in the distribution of income.

Source: OECD Income Distribution and Poverty Database.

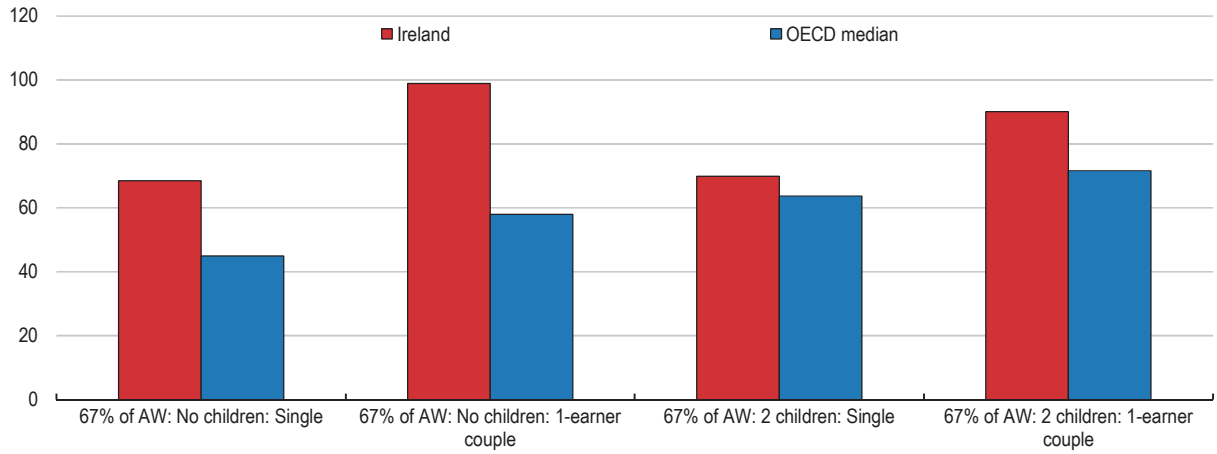
StatLink http://dx.doi.org/10.1787/888933683554

Some aspects of the social welfare system may disincentivise labour market participation for unemployed persons with a spouse and children. In some cases, the loss of unemployment benefits results in very high participation tax rates. This is because Ireland's replacement rates after five years in unemployment are among the highest in the OECD (Figure 23). Since unemployment benefits are paid at flat rates, the disincentive to take up a job may be particularly high for low-paid workers. Housing benefits also raise participation tax rates if they are conditional on being jobless. In contrast, the Housing Assistance Payment (HAP) provides an integrated system of housing supports with the benefit of allowing eligible HAP tenants to work full-time and still keep their housing support. This benefit applies to those with a Housing Needs Assessment as determined by the relevant Local Authority.

Countervailing policy measures to reduce participation tax rates have been introduced. One such measure is the Family Income Supplement (FIS), which is a payment equivalent to 60% of the difference between a family's weekly income and a specified income limit that depends on family size. The FIS lowers the participation tax rate for those earning from 50% to 100% of the average wage (EUR 32 thousand per annum). However, the policy results in a marginal effective tax rate of 60% on additional income of recipients. As recommended in the 2015 OECD Economic Survey of Ireland, the government should reduce FIS payments more gradually as income rises (OECD, 2015). This would better reward low income households that move up the pay scale. In this vein, the government has reduced the Universal Social Charge rate (an income levy funding the social security system) for low-income workers over the past few years, albeit incrementally.

Figure 23. Net replacement ratios are relatively high

Net replacement ratios for long-term unemployed by household structure, 2015



Note: Net replacement rates show after-tax benefits as a proportion of the previous earnings. These benefits include social assistance, family and housing benefits in the 60th month after losing a job. 67% of AW refers to previous earnings equivalent to 67% of average wage. For married couples the percentage of average wage relates to the previous earnings of the "unemployed" spouse only; the second spouse is assumed to be "inactive" with no earnings and no recent employment history.

Source: OECD Tax-Benefit Models.

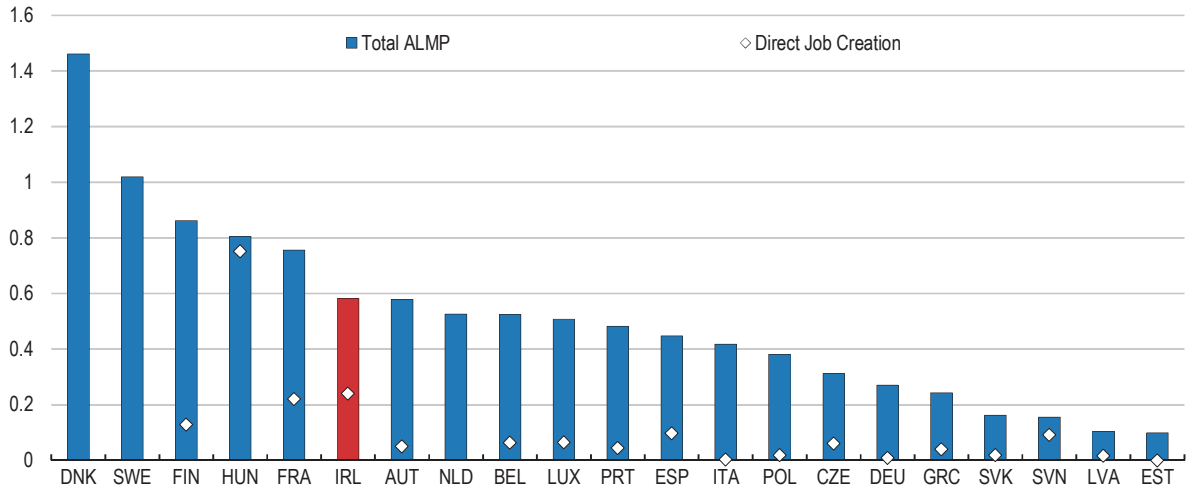
StatLink http://dx.doi.org/10.1787/888933683573

More active engagement with the labour market may also be promoted through well-enforced job search requirements attached to social benefits. The conditionality of benefits is currently strict in some sense as regulations stipulate that unemployment benefit recipients must accept all job offers that they are capable of performing regardless of previous salary or occupation. However, the definition of a "suitable job offer" is too rigorous to be operational in practice. As recommended in the 2015 OECD Economic Survey of Ireland, the authorities should consider defining it more clearly in terms of the boundary of occupational mobility and previous salaries of the jobseeker.

In Ireland, total active labour market programme (ALMP) spending per unemployed is close to the OECD average, but some spending is inefficient. Within ALMPs, direct job creation accounts for a high share relative to most EU countries (Figure 24). The effects of direct job creation are immediate, but the programmes are usually limited in time and subsequent employment prospects can be modest (Card et al., 2015). Direct job creation should be strictly targeted to those who are at high risk of social exclusion (Browne, 2017). ALMPs that provide job-search assistance are often effective at enabling the unemployed to return to work, while those that promote skill development may be particularly beneficial for long run employment prospects (Department of Public Expenditure and Reform, 2013). Consideration should be given to shifting the spending mix of ALMPs more towards training programmes.

Figure 24. The active labour market policy spending mix can be improved

Active labour market policy spending as a % of GDP, 2015



Note: For Denmark, Sweden, the Netherlands, data on direct job creation are not available.

Source: OECD/EC Labour Market Programme Database, Labour market programmes.

StatLink http://dx.doi.org/10.1787/888933683592

Some recent skill-development programmes in Ireland, such as "Springboard+" and "Momentum", have been particularly effective at improving employment prospects. Both of the programmes take account of identified skill demands. "Springboard+" upskills or reskills the highly-educated (university graduates or equivalent) and the post-programme employment rate is high (Department of Education, 2016).

In contrast, "Momentum" provides education and training to assist long-term unemployed people, including the low-skilled. It is a package of training, work placement and confidence-building components. Of those that completed the programme, 24% and 6% were in full-time and part-time employment two months following completion (Exodea consulting, 2014), which is a remarkable outcome compared with similar programmes for the unemployed in many other countries (Card et al., 2015). This programme was suitable for those with previous employment records and good fundamental skills. With the pool of long-term unemployed people suitable for the programme having shrunk significantly, it ended in early 2017.

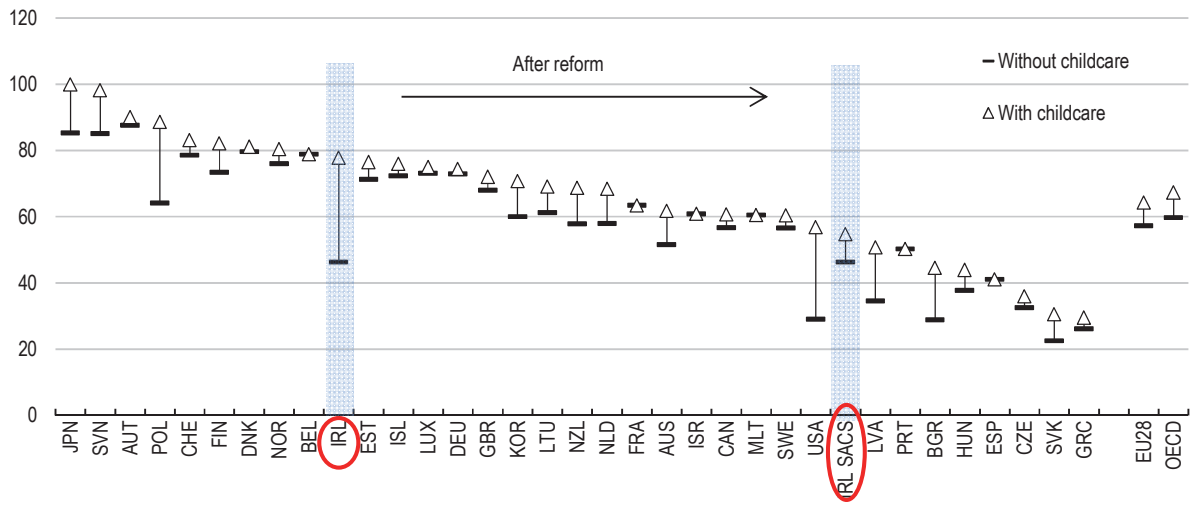
Given that Ireland still has a relatively high share of long-term unemployed, providing effective programmes to help them return to work is important for raising aggregate employment and the wellbeing of some marginalised workers. Programmes for such workers should focus on providing them with fundamental skills. Indeed, SOLAS – the agency in charge of overseeing the delivery of Further Education and Training – has been providing such programmes. In this context, the agency is developing the Programme and Learner Support System, which will collect data on the beneficiaries in order to monitor how they progress into higher education or employment. The authorities should fully-roll out this information system and extend the programmes which are found to be most efficient.

Ireland's low labour-market participation rate for women stems from a high implicit tax rate to work. This reflects comparatively steep withdrawal of means-tested benefits for families with children and high childcare costs (Browne, 2017). In recognition of this, the government is introducing the Single Affordable Childcare Scheme (Table 8). This will provide a subsidy for

childcare to those that are working, involved in education and training or community work activities and will be gradually withdrawn at higher incomes. The subsidy will be available for 40 hours per week of childcare if both parents are in work, education and training or community work activities or 15 hours per week otherwise. This design feature increases the incentives for parents to enter employment or education. Consequently, the reform will increase the incentive for women to return to work, especially for low-earning lone parents (Figure 25). Nevertheless, the participation tax rate will remain relatively high for low-skilled women that are in a couple, partly reflecting weak wage-earning potential and the fact that the Family Income Supplement is withdrawn at steep rates when the second member of a couple moves into work (Browne, 2017).

Figure 25. Childcare subsidies will reduce the participation tax rate

Participation tax rates for low-earning lone parent



Note: Participation tax rates are for a lone parent working full-time at the 25th percentile of the female full-time earnings distribution with two children aged 6 and 3. The 3 year-old attends pre-school full time. "SACS" refers to the Single Affordable Childcare Scheme.

Source: Browne (2017).

StatLink http://dx.doi.org/10.1787/888933683611

Table 8. Past recommendation related to improving access and affordability of childcare

Recommendation	Action taken since the July 2015 Survey
Improve access and affordability of quality childcare, particularly for low income families.	Spending on childcare has increased by 80% since 2015 with a further 7% planned for 2018. A new universal childcare subsidy for children under three is being introduced and free pre-school provision for children from age three has increased from 38 weeks in 2015 to 61 weeks on average in 2016 and will now extend to 76 weeks from September 2018. There have also been significant increases, of up to 50%, in targeted childcare subsidies for low income families.

Bibliography

Arriola, C. et al. (2017), "What could a hard Brexit mean for the Irish economy?", *EDRC Technical Background Paper*, ECO/EDR(2018)2/ANN3.

Barrett, A. et al. (2015), "Scoping the possible economic implications of Brexit on Ireland", *ESRI Research Series,* No. 48.

Bergin, A. et al. (2017), "Modelling the medium- to long-term potential macroeconomic impact of Brexit on Ireland", *The Economic and Social Review*, Vol. 48, No. 3.

Blöchliger, H. (2015), "Reforming the tax on immovable property: taking care of the unloved", *OECD Economics Department Working Papers*, No. 1205, OECD Publishing, Paris.

Browne, J. (2017), Faces of Joblessness in Ireland: Main Results and Policy Inventory, OECD Directorate for Employment, Labour and Social Affairs, OECD Publishing, Paris.

Byrne, S., and M. O'Brien (2015), "The Changing Nature of Irish Exports: Context, Causes and Consequences", *Quarterly Bulletin Articles*, Central Bank of Ireland, April.

Card, D., J. Kluve, and A. Weber (2015), "What Works? A Meta-Analysis of Recent Active Labor Market Program Evaluations", *NBER Working Paper*, No. 21431.

Casey, E. and A. Hannon (2016), "Challenges forecasting Irish corporation tax", *Analytical Note No. 10*, Irish Fiscal Advisory Council. September 2016.

CBI (2016a), Report on Mortgage Arrears, Central Bank of Ireland.

CBI (2016b), Household Credit Market Report 2016H2, Central Bank of Ireland.

CCPC (2017), Options for Ireland's Mortgage Market, June 2017, Competition and Consumer Protection Commission.

Central Statistics Office (2016), *Environmental Indicators Ireland 2016*.

Coffey, S (2017), "Review of Ireland's Corporation Tax Code", Presented to the Minister for Finance and Public Expenditure and Reform, June, 2017.

Committee on the Future of Healthcare (2017), Sláintecare Report, Houses of the Oireachtas, May 2017.

Cussen, M. et al. (2015), "Assessing the Impact of Macroprudential Measures", Central Bank of Ireland, Economic Letter No. 3.

Department of Education (2016), Developing Talent, Changing Lives: an Evaluation of Springboard+, 2011-16.

Department of Finance (2018a), "Patterns of firm-level productivity in Ireland", forthcoming.

Department of Finance (2018b), Annual Taxation Report, January.

Department of Finance (2017a), SME Credit Demand Survey: October 2016 – March 2017, Commissioned Research by the Department of Finance.

Department of Finance (2017b), "UK EU exit: trade exposure of sectors of the Irish economy in a European context", September.

Department of Finance (2017c), "Selected VAT Issues", Tax Strategy Group, No. 6.

Department of Finance (2017d), "Energy and environmental taxes", Tax Strategy Group, No. 8.

Department of Finance (2017e), "Tax policy changes", Budget 2018.

Department of Finance (2016), "UK EU exit – an exposure analysis of sectors of the Irish economy", Ireland Department of Finance, October 2016.

Department of Health (2014), "The path to universal healthcare", White Paper on Universal Health Insurance, April 2014.

Department of Public Expenditure and Reform (2013), Review of Expenditure: Labour Market Activation and Training.

Department of Social Protection (2017), JobPath Performance Data: Jobseekers Referred to JobPath, July-September 2015. January 2017.

Duffy, D. et al. (2016), "Demographic change, long-run housing demand and the related challenges for the Irish banking sector", in Ireland's Economic Outlook: perspectives and policy challenges, Economic and Social Research Institute, December 2016.

ECB (2016), Stocktake of National Supervisory Practices and Legal Frameworks Related to NPLs, European Central Bank.

Egert, B. and P. Gal (2017), "The quantification of structural reforms in OECD countries: a new framework", *OECD Economics Department Working Papers*, No. 1354.

European Commission (2017a), Study and Reports on the VAT Gap in the EU-28 Member States, August 2017.

European Commission (2017b), "Country Report Ireland: including an in-depth review on the prevention and correction of macroeconomic imbalances", Commission Staff Working Document, Brussels, February 2017.

European Commission (2017c), "The EU Environmental Implementation Review – Ireland", Commission Staff Working Document, Brussels, February 2017.

Expert Commission on Domestic Public Water Services (2016), "Report on the funding of domestic public water services in Ireland", November 2016.

Expert Group on Repossessions (2013), Report of the Expert Group on Repossessions. Department of Justice and Equality, December 2013.

Exodea Consulting (2014), Programme Evaluation: Momentum Programme for Projects under the Labour Market Education and Training Fund.

Fitzgerald, J. (2015), "Problems Interpreting the National Accounts in a Globalised Economy — Ireland", QEC Special Article, Economic and Social Research Institute.

Fitzgerald, J. (2005), "The Irish housing stock: growth in number of vacant dwellings", Quarterly Economic Commentary: *Special Articles, Economic and Social Research Institute*, Vol. 2005.

IBEC (2016), "IBEC priorities for Budget 2017: compete to succeed", Irish Business and Employers Confederation.

IMF (2017), "Ireland Public Investment Management Assessment", Technical Assistance Report, September 2017.

Irish Fiscal Advisory Council (2017), Pre-Budget 2018 Statement, September 2017.

Irish Water (2015), Irish Water Business Plan: Transforming Water Services in Ireland to 2021, October 2015.

Jin, Y., P. Lenain and P. O'Brien (2014), "Macroprudential policy tools in Norway: strengthening financial system resilience", *OECD Economics Department Working Papers*, No. 1126, OECD Publishing. , Paris.

Johansson, Å., et al. (2013), "Long term growth scenarios", *OECD Economics Department Working Papers*, No. 1000, OECD Publishing, Paris.

Johansson, Å., et al. (2008), "Taxation and economic growth", *OECD Economics Department Working Papers*, No. 620, OECD Publishing, Paris.

Joyce, J., and F. McCann (2016), "Model-based estimates of the resilience of mortgages at origination", Central Bank of Ireland, Economic Letter No. 9.

Kierzenkowski, R. et al. (2016), "The Economic Consequences of Brexit: A Taxing Decision", O*ECD Economic Policy Paper*, No. 16, OECD Publishing, Paris.

Kitchin, R. et al. (2012), "Placing neoliberalism: the rise and fall of Ireland's Celtic Tiger", *Environment and Planning A*, Vol. 44.

Kinghan, C. et al. (2017), "Macroprudential Measures and Irish Mortgage Lending: An Overview of Lending in 2016", *Economic Letter Series*, Vol. 2017, No. 6, Central Bank of Ireland.

Lyons, R (2017), "Housing market: supply, pricing and servicing issues", in The Economy of Ireland – Policy and Performance, Palgrave MacMillan, London, 2017.

Lyons, R (2016), "A right to a home for all: towards a housing strategy for Ireland, 2016-20", Submission to The Oireachtas Committee on Housing and Homelessness, 3 May 2016.

Nolan, A. et al. (2015), "The impact of the financial crisis on the health system and health in Ireland", World Health Organization, January 2015.

OECD (2016a), "Health policy in Ireland", OECD Health Policy Overview, February 2016.

OECD (2016b), Consumption Tax Trends 2016: VAT/GST and excise rates, trends and policy issues, OECD Publishing, Paris.

OECD (2015), OECD Economic Surveys: Ireland 2015, OECD Publishing, Paris.

OECD and European Observatory on Health Systems and Policies (2017), "State of Health in the EU: Ireland", Country Health Profile 2017.

OECD and Korea Institute of Public Finance (2014), The Distributional Effects of Consumption Taxes in OECD Countries, *OECD Tax Policy Studies*, No. 22, OECD Publishing.

Pacific Prime (2016), Cost of International Health Insurance Report.

Reynolds, M. (2015), 'Is red tape killing our housing sector? Building control regulation costs for multi-unit housing', Dublin Economics Workshop Annual Conference 2015

Annex - Progress in structural reform

This Annex reviews actions taken on recommendations from the previous Survey that are not covered in tables within the main body of the Key Policy Insights chapter above. Recommendations that are new in this Survey are listed in the Key Recommendations box and at the end of the thematic chapter.

Fiscal sustainability

Recommendations in the previous Survey	Action taken since July 2015
Improve the structural fiscal balance by greater than 0.5% of GDP per annum until it reaches balance. Allow the automatic stabilisers to work around this path.	Ireland has made a structural improvement of at least 0.5% of GDP since 2015 and is projected to achieve the Medium Term Budgetary Objective of a balanced budget in structural terms in 2018 (defined as a structural deficit of 0.5% of GDP).
Broaden and protect the tax base by shifting the burden of taxation to immovable assets, reducing allowances for capital income and continue aligning the corporate income tax system, including its transfer pricing rules, with recommendations from the OECD/G20 BEPS project.	The OECD BEPS reports were adopted in October 2015 and Ireland was among the first countries to implement measures on country-by-country reporting and on patent boxes. Ireland has also signed up to the EU Anti-Tax Avoidance Directive and a public consultation is currently underway on the implementation of remaining BEPS measures following the publication of the Review of Ireland's Corporation Tax Code in 2017.

Inclusive growth

Recommendations in the previous Survey	Action taken since July 2015
Step up efforts to develop and implement a more agile, relevant, and gender inclusive apprenticeship system. Ensure that students receive information on education options after schooling, notably vocational and technical options.	Ireland has a major expansion and reform of its apprenticeship system underway. Through public calls for proposals, 11 apprenticeships in a range of new enterprise sector and a range of durations and levels of the European Qualifications Framework (EQF) have been established – targets are set out in our Action Plan to Expand Apprenticeship and Traineeship 2016-2020. A review of career guidance will begin shortly, which will include examining how information on the full range of post-school options is delivered. A review of routes to apprenticeship, including female participation, is also underway.
Provide additional support to disadvantaged schools, for example by attracting better teachers and providing additional tutoring to students	In 2015 Ireland conducted a full review of its educational disadvantage programme which led to the launch of the Delivering Equality Of Opportunity In Schools (DEIS) Plan 2017. This plan is the Government's main policy initiative to tackle educational disadvantage at school level. It has over 100 actions focused on achieving 5 key goals including a better system of identifying those in need of additional educational support; improving learning outcomes for those in disadvantaged areas; improving the capacity of leaders and teachers in disadvantaged schools; supporting inter-agency collaboration, and supporting schools through improved research, evaluation and feedback. 79 additional schools were included in the programme in 2017 expanding the number of schools receiving additional support to 902 overall.
Upskill long-term unemployed by improving both the quantity and quality of training via public employment services or via private providers	One of the key objectives of the National Skills Strategy 2025, launched in 2016, is to focus on active inclusion to support participation in education and training and the labour market. Targets have been set and achieved for long-term unemployed on Further Education and Training (FET) programmes. However, with a significant reduction in the number of unemployed people over the past few years, demand for provision has reduced. Investment has been re-prioritised to support provision for people in employment, with increased investment in the apprenticeship programme and the "Skillnets" programme.
Fully enforce the obligations of the unemployed and improve the enforcement framework by defining more objectively the suitable job offer that the benefit recipient has to accept in terms of wages and contract types.	No action taken
To reduce welfare traps, more gradually reduce housing assistance payments and family income supplement as income increases.	Poverty traps within the Family Income Supplement have been reduced and its effectiveness has improved over time through a combination of a fall in the withdrawal rate, a switch in the assessment from gross to net earnings, reductions in the minimum hours requirement and increases in the earnings thresholds. In Budget 2018 the income thresholds for families with one, two and three children were increased.

Recommendations in the previous *Survey*	Action taken since July 2015
Continue to improve the evaluation of training and activation programmes. Scale-up those that are effective in helping people to return to the open labour market. Shut-down the ones that are not.	A review of the Back to Work Enterprise Allowance (BTWEA) was published in February 2017. New operational guidelines relating to BTWEA were introduced during 2017 incorporating the findings of the BTWEA Review. A Focused Policy Assessment (FPA) of the JobsPlus Scheme was completed during 2017. Following on from the findings of the FPA, changes targeting older Jobseekers are being introduced from 1st January 2018. In particular, jobseekers aged over 50 years will qualify for the higher grant rate (EUR 10 000) when 12 months or longer on the Live Register and the qualifying period for receipt of the higher grant for jobseekers under 50 years has been increased from 24 to 36 months. A counterfactual evaluation of the JobsPlus Scheme is underway. An internal review of the AFSP has commenced and new operational guidelines will be introduced following the completion of the internal review. To ensure that FET provision is planned and provided on the basis of social and economic impact, a series of independent evaluations of the full-tie and employment focused FET programmes are scheduled to take place over the life of the FET Strategy 2014-19. Every two years SOLAS commissions an independent assessment/survey of its training programme. This is to establish what happens following training participation and to gather an accurate assessment of the number of job placements arising from these programmes, the type and relevance of employment to the training course, engagement in further studying and upskilling, as well as incidence of unemployment. The surveys will be extended to include further education as well as training the next time the survey is undertaken.
Evaluate the effects of tightened conditionality in place since 2012 on the recipient's commitments to active job search and re-employment prospects.	An econometric evaluation by the Economic and Social Research Institute of the impact of reforms to the employment and income support system has been commissioned. A report should be available early in 2018.
To increase the incentive to work for the low-paid, smooth the increase in marginal effective tax rates by introducing a third income tax bracket and more gradually increasing universal social charge and pay-related social insurance rates.	The three lower rates of the universal social charge have been reduced, targeting increases to after-tax income at low to middle income earners. From January 2016, a new pay-related social insurance (PRSI) credit was introduced which positively impacts low-paid workers by reducing the amount of their PRSI charge.
Consider further reducing tax allowances for capital income from lump sum pension payments.	The Government intends to publish and commence the implementation of a 5 year pension reform plan in the near future. The taxation aspects of supplementary pension arrangements will be examined as part of this process.
Increase the local property tax rate and simultaneously introduce a low-income waiver to protect poorer households.	A review of the Local Property Tax (LPT) was conducted during 2015 to consider and make recommendations on its operation, in particular any impacts on LPT liabilities due to property price developments. The central recommendation of the review report was for a revised system whereby a minimum level of LPT revenues in each local authority area would be determined by Government. This in turn would allow for the estimation of LPT rates for each local authority area. Local authorities could adjust this rate upwards by a factor of up to 15%. A further review of the LPT will be undertaken during 2018.
Eliminate reduced VAT rates for restaurant meals and accommodation.	No action taken. However, the Minister has committed to carrying out a detailed economic analysis of the 9% reduced VAT rate in the first half of 2018.
Monitor regularly the effects of the minimum wage on employment patterns and adjust where necessary to ensure the low-skilled are not priced out of the labour market.	The Low Pay Commission was established by statute in July 2015. The principal remit of the Commission is to make a recommendation each year on the appropriate rate of the National Minimum Wage (NMW). The Commission takes an evidence-based approach, and the legislation sets down specific criteria which must be considered, including changes and impacts on employment and unemployment. The Commission has made three recommendations on the NMW since its establishment, all of which have been accepted by Government.

Recommendations in the previous *Survey*	Action taken since July 2015
Adopt institutional investor's codes to ensure alignment of incentives and to take an active long-term interest in the company.	The European Union has adopted a revised Shareholders Rights Directive. (Directive 2017/828 /EU of the European Parliament and of the Council of 17 May 2017 amending Directive 2007/36/EC as regards the encouragement of long-term shareholder engagement). The Directive must be transposed into national law by 10 June 2019. The financial crisis revealed that shareholders in many cases supported managers' excessive short term risk taking. The revised Directive is intended to redress this situation and contribute to the sustainability of companies, which will result in growth and job creation. The revised Directive establishes specific requirements in order to encourage shareholder long-term engagement and increase transparency. These requirements apply to: remuneration of directors; identification of shareholders; facilitation of the exercise of shareholders' rights; transmission of information; transparency of institutional investors, asset managers and proxy advisors; and related party transactions. The Department of Business, Enterprise and Innovation has launched a public consultation, on the implementation of the Directive, on its website.
Together with social partners foster a strong business sector focus on building human capital through job training and career management.	A network of nine Regional Skills Fora has been created as a mechanism for employers and the further and higher education and training system to work together in responding to the skills needs of their regions. Key objectives are to help employers better understand and access the full range of services available across the education and training system, to have more informed dialogue with employers to inform programme planning and to improve links between education and training providers in planning and delivering programmes, reduce duplication and inform national funding decisions.

Productivity

Recommendations in the previous Survey	Action taken since July 2015
Rebalance innovation support towards direct grants.	Innovation 2020, Ireland's cross Government Strategy for Research and Development, Science and Technology, was launched in December 2015. Contained within the strategy are a number of actions aimed towards increasing public investment in programmes to support enterprise R&D. Enterprise Ireland (EI) is broadening the scope of its direct in-company research, development and innovation (RDI) support for new sectors such as horticulture; business and services innovation and innovation-led pre-commercial procurement.
Make better use of international students as a channel for high-skill immigration by increasing post-graduation job search periods and exempting graduates from employment permit fees in highly demanded areas where there are significant skills shortages.	The Third Level Graduate Programme administered by the Department of Justice and Equality has been recently adjusted to allow Irish educated non-EEA graduates a longer period post-graduation to secure suitable employment in the State. The employment permits system already makes concessions for graduates to ease their entry into the Irish labour force (e.g. a lower remuneration threshold on offers of employment for certain categories of graduates from outside the European Economic Area). A further comprehensive evaluation of the employment permit fees structure will be conducted in 2018 and will consider a broad range of factors.
Develop a stronger whole-of-government productivity agenda. Consider expanding the remit of the National Competitiveness Council into a more productivity-focused body.	The Government's Enterprise 2025 strategy, published in 2016, sets out a range of cross sectoral initiatives across Government designed to support enterprise sector productivity. A key objective of the strategy is to deliver 2%-2.5% productivity growth over the medium term. The Department of Finance has established a dedicated productivity unit. In 2017, the National Competitiveness Council published a report Benchmarking Ireland's Productivity Performance relative to other countries and the performance of individual sectors within Ireland. Ireland joined the OECD Global Forum on Productivity in 2016. The Secretariat to the National Competitiveness Council and the Department of Finance Productivity Unit participate in the work of the Forum. Subject to Government approval, the National Competitiveness Council will in 2018 undertake the role of National Competitiveness and Productivity Board in line with the European Commission's recommendation on the establishment of National Competitiveness Boards within the Euro Area.

Environmental sustainability

Recommendations in the previous *Survey*	Action taken since July 2015
Increase investment to improve water quality and reduce leakages.	In 2015, Irish Water published its business plan to 2021 which includes a EUR 5.5 billion capital investment programme both to continue improvements in compliance with drinking water supply and wastewater discharge regulations and to expand capacity to meet economic growth needs.
Increase support to improve the energy efficiency of housing, especially for low-income households.	Annual funding for residential energy efficiency programmes has increased from EUR 46m in 2015 to an allocation of EUR 84m in 2018 for the Better Energy programmes, the Warmth and Wellbeing pilot and the Deep Retrofit pilot. The Better Energy Warmer Homes scheme delivers energy efficiency measures free of charge to low-income households. The Warmth and Wellbeing pilot introduced in 2016 provides deep energy efficiency interventions to people living with chronic respiratory conditions who are in or at risk of energy poverty. Introduced in 2017, the Deep Retrofit pilot aims to determine how best deeper energy retrofits can be achieved in the residential sector. 21 679 homes were grant aided in 2015 and 24 093 in 2016. 25 300 are expected by end of 2017. It is expected that 28 500 will be aided in 2018, including 9 000 low-income households.

Getting the most out of migration

Recommendations in the previous *Survey*	Action taken since July 2015
Consider scrapping the Special Assignee Relief Programme, granting tax rebates to multinational executives. Instead, provide tax deductions for relocation expenses incurred when workers move to Ireland.	No action taken
Step up targeted language training to adult migrants.	The Education and Training Boards nationally provide ESOL (English for Speakers of Other Languages) training for migrant and new community members in Ireland. This programme is available for unemployed migrants and asylum seekers and priority is given to those in need of basic English language skills to a level of functional competency. Under Further Education and Training (FET), provision is made within the ESOL (2017 provision planned for 14 000+ places) and as part of the Refugee Resettlement programme (2017 provision planned for 1 000+ places). In 2016, there was an increase of around 100 places in the ESOL learning programme compared with the previous year.
To guarantee clear-cut access to social assistance by immigrants, establish a clearer definition of "habitual residence" and avoid ambiguous criteria such as "burden on the state".	Action 21 of the National Migrant Integration Plan (launched in 2017) commits the Department of Social Protection (DSP) to continue ensuring the habitual residence condition (HRC) legislation is applied correctly and consistently. Specific measures include: • Providing and regularly updating guidelines for decision makers within DSP; • Publishing these guidelines on the website; • Provision of training in HRC for relevant decision makers;
Establish bilateral social security agreements with non-EU countries from which Ireland has received significant immigration.	No action taken
Provide students with foreign language backgrounds English language support.	At both primary and post-primary levels, additional language support is provided to schools for students who do not speak English as their first language. English as an Additional Language (EAL) resources are designed to allow individual students to participate in mainstream education on a par with their peers.
Improve information available in official statistics concerning immigrant's country of origin and ethnicity.	Action 8 of the National Migrant Integration Plan (launched in 2017) commits to establishing a working group to identify and address data gaps.
Step up efforts to check the compliance with existing quality standards for rental accommodation.	Updated and improved guidelines for Local Authority inspection and enforcement of rental accommodation have been published.
Simplify rental contract legislation.	No action taken
Increase the use of IT in employment permits processes and of simplified trust-based schemes. Pass the savings on to lower permit fees.	A number of initiatives have been taken to introduce efficiencies into the processing system. These include the introduction of the Trusted Partner Initiative in May 2015, the removal of pre-check and introduction of processing streamlining initiatives in October 2015, the introduction of the Online Status Enquiry Facility in February 2016 and the introduction of the Employment Permit Online System (EPOS) in September 2016.
Ensure that salary thresholds do not act as a barrier for recent graduates. Establish differentiated thresholds for recent graduates in case they do.	The employment permits system makes concessions for graduates to ease their entry into the Irish labour force e.g. reduced remuneration threshold. A further comprehensive evaluation of employment permit fees structure will be conducted in 2018.

Recommendations in the previous *Survey*	Action taken since July 2015
Expand the availability of non-denominational school options and of international baccalaureate programs.	New plans were announced by the government in 2017 aimed at providing more multi-denominational and non-denominational schools across the country. The government is aiming to reach 400 non-denominational and multi-denominational schools by 2030. Transfers of existing schools from religious patronage will be required to hit this target.
Encourage and facilitate that SMEs make use of trusted-based schemes.	No action taken
Increase efforts to gather information on Irish emigrants on a more consistent manner.	In 2017 the Department of Foreign Affairs and Trade has progressed significant work to assist returning Irish emigrants and facilitate a smooth return to Ireland. This included an information gathering exercise to identify the issues of most importance to our emigrants. In addition, progress has been made in relation to voting rights in presidential elections for citizens outside the State. The Government has decided that a referendum will be held on extending voting rights to Irish citizens outside the State for Presidential elections.
Use the National Framework Qualifications for the recognition of professional qualifications gained abroad.	The National Academic Recognition Information Centre (NARIC) Ireland issues advice on foreign qualifications with reference to the National Framework of Qualifications (NFQ). The NFQ level and comparable award type is provided where possible. NARIC advice is used by authorities to inform the recognition of professional qualifications gained abroad. Since 2015 there has been ongoing promotion of the NARIC service to qualification recognition bodies.

Appendix – Estimating underlying housing demand

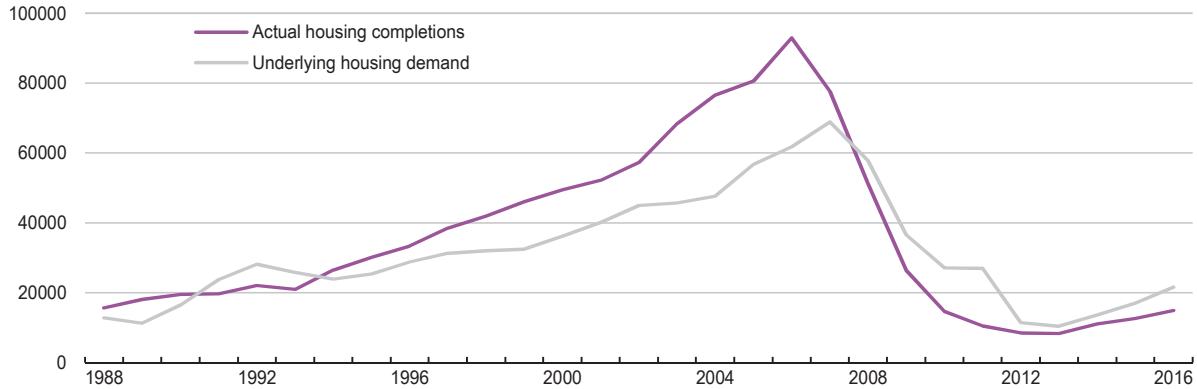
Comparing estimates of underlying housing demand with actual housing supply is important for understanding developments in housing affordability and identifying potential economic imbalances. For example, past work has suggested that overbuilding in the residential construction sector in the years before 2008 was a significant factor behind the scale of the subsequent recession in Ireland (Whelan, 2013).

A simple estimate of underlying housing demand can be calculated from historical data relating to population size and the average number of persons per household, along with an assumed depreciation rate for the existing housing stock. For the latter, the annual depreciation rate of the housing stock between 1991 and 2002 estimated by Fitzgerald (2005) is taken. It should be noted that such an estimate does not take into account several important factors which are likely to influence future housing demand including the changing demographic profile of the population or changes to household income.

The estimate suggests that housing demand in Ireland rose steadily up until 2007 before a sharp slowdown in population growth, associated with declining net migration at the onset of the crisis, caused housing demand to fall substantially (Figure A.1). The estimate suggests that demand fell from around 70 000 to just over 10 000 dwellings per year between 2007 and 2013, before rising to around 22 000 dwellings in 2016. The recent increase in demand has reflected both stronger population growth and a slight increase in average household size. The latter was uncovered in the 2016 Census and marked a halt in the previous trend decline in the number of people per household. Comparing the estimate of underlying demand with actual housing completions data published by the Central Statistics Office suggests that annual housing supply outstripped demand in the years leading up to the financial crisis, but demand has exceeded supply in the years since 2008. Furthermore, the estimate of housing supply may be overestimated. This is because some housing completions may be double-counted, as these data are based on electricity connections (and there is the potential for reconnections to existing houses).

Figure A.1. Housing supply is currently lower than underlying demand

Estimated underlying housing demand and actual completions, number of dwellings



Note: Previous work has highlighted that much of the increase in housing completions prior to the crisis were in areas with limited housing demand (Kitchin et al., 2012), meaning that the apparent oversupply of housing in those years has little relevance for the current balance in the housing market.

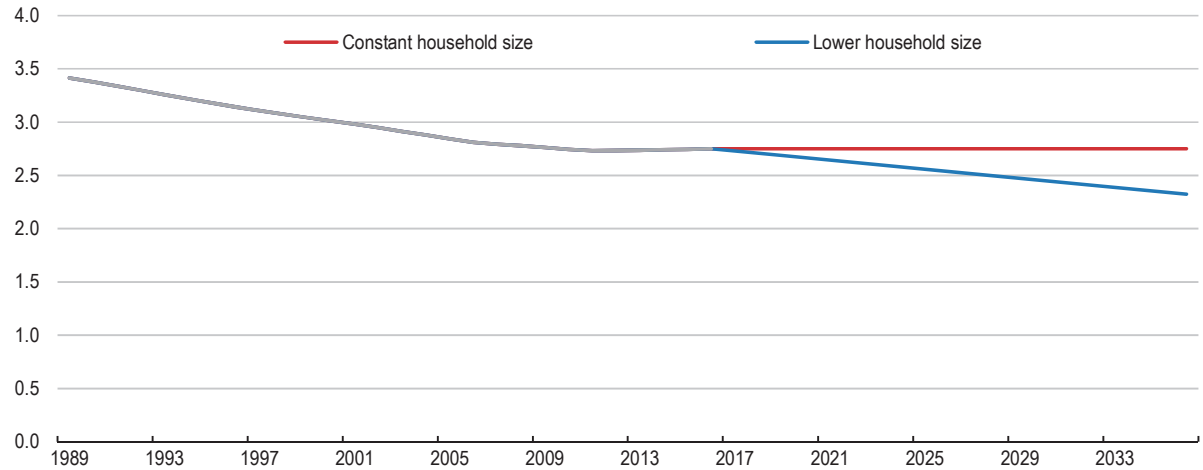
Source: Central Statistics Office, OECD estimates.

StatLink http://dx.doi.org/10.1787/888933683630

Future underlying housing demand can be projected based on population projections published by Ireland's Central Statistics Office and an assumption about future trends in Irish household sizes. While similar exercises have assumed a continued decline in the average household size in Ireland over the coming years (Duffy et al., 2016), the recent stalling of this trend means that contrary assumptions should also now be considered. Two scenarios based on different household formation assumptions are specified for this analysis: i) average household size stays constant at the 2016 level of 2.75 persons per household, and ii) average household size continues to decline along the trend observed between 1996 and 2016 (Figure A.2).

Figure A.2. Future household formation rates are uncertain

Average persons per household



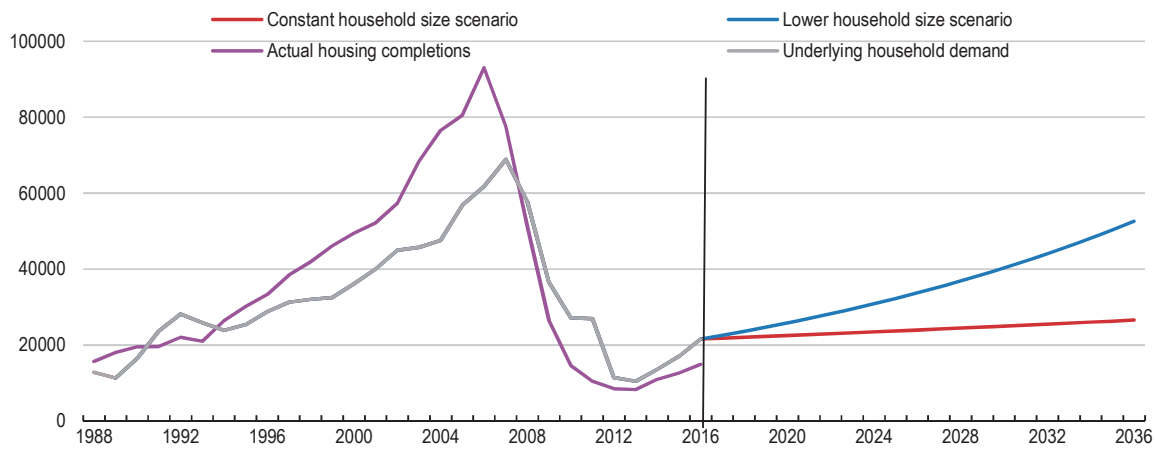
Source: Central Statistics Office, OECD estimates.

StatLink http://dx.doi.org/10.1787/888933683649

The projections of underlying housing demand are highly sensitive to the assumption regarding average household size (Figure A.3). Nevertheless, even if it is assumed that household sizes remain constant, there is a need for an increase in actual housing supply. By 2036, it is estimated that the Irish population will demand between 27 000 and 53 000 new dwellings per year. In 2017, around 19 000 new dwellings were added. Finally, it is also important to note that the spatial distribution of additional dwellings is important in terms of addressing affordability concerns by ensuring that they are in those areas where demand is highest.

Figure A.3. The current level of housing supply is insufficient to meet future demand

Estimated underlying housing demand and actual completions, number of dwellings



Source: Central Statistics Office, OECD estimates.

StatLink http://dx.doi.org/10.1787/888933683459

Thematic chapter

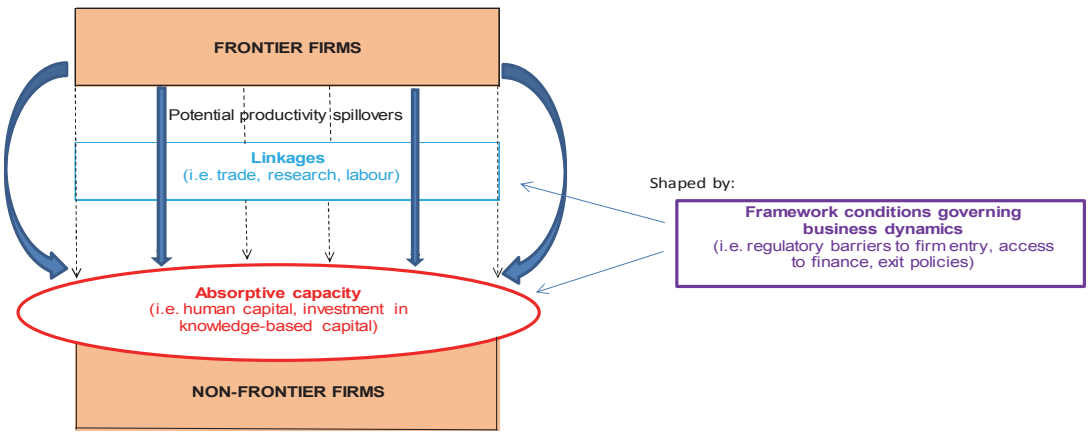
Reforms for sustainable productivity growth

The Irish economy has experienced a decline in productivity growth over the past decade. This has mostly reflected the poor performance of local firms, with the large productivity gap between foreign-owned and local enterprises having widened. Given the mobility of foreign-owned firms, achieving sustainable productivity growth requires addressing productivity stagnation in the local business sector. Government policy should ensure high-potential businesses can enter markets and expand unimpeded, and that the most productive firms thrive in the market. To achieve this, some aspects of the regulatory environment for businesses need to be reformed and the quality of Irish infrastructure improved. Access to finance for high-performing firms must be broadened as well, through restoring credit supply in the banking sector, developing equity finance and improving public financial support. It needs to be assured that government policy is also calibrated to encourage productivity-enhancing knowledge spillovers from frontier firms. Trade linkages and research collaboration between foreign-owned and local firms can be better promoted. However, the ability for local firms to absorb new knowledge relies on their investment in knowledge based capital and managerial skills. These can be promoted by greater direct government funding of business R&D, supporting labour mobility across firms, and worker participation in lifelong learning activities.

The Irish economy has been among the most successful across the OECD, with living standards rapidly catching up to those of the highest income countries. The cornerstone of its growth model has been to attract highly-productive multinational enterprises. The growth model, however, faces a challenge, as productivity has stagnated among Irish local firms and there has been a widening divergence in productivity performance between multinational enterprises and local firms since the mid-2000s. The presence of multinational enterprises presents an opportunity but also a challenge. Currently, the diffusion of knowledge and technology to local firms is weak and in some instances local firms are crowded-out by multinational enterprises. International competition to attract multinational enterprises is also strong, suggesting that the long-term sustainability of the economy could be dependent on the performance of local businesses.

For more rapid and sustainable productivity growth, government policy should aim to enhance knowledge spillovers from frontier firms to the rest of the economy (Figure 1.1). Such spillovers are the single most important driver of productivity growth in the long run (Johansson et al., 2013). First and foremost, spillovers are conditional on a country's policy settings (Johansson et al., 2013) and shaped by business dynamism and the efficiency of resource allocation (OECD, 2015a). More directly, spillovers are maximised by tighter linkages in terms of trade, research (with both frontier firms and universities) and labour between frontier and laggard – which are usually local – firms. Nevertheless, the productivity gains of such linkages can only be realised if the latter have the capacity to absorb the new ideas and technologies utilised by frontier enterprises. To build such capacity, investment in knowledge-based capital and human capital by local firms is key (OECD, 2015a). Reforming policy settings in these areas would give the Irish economy a better opportunity of leveraging the performance of multinational enterprises, thereby raising living standards further.

Figure 1.1. A stylised depiction of the factors impacting the magnitude of productivity spillovers



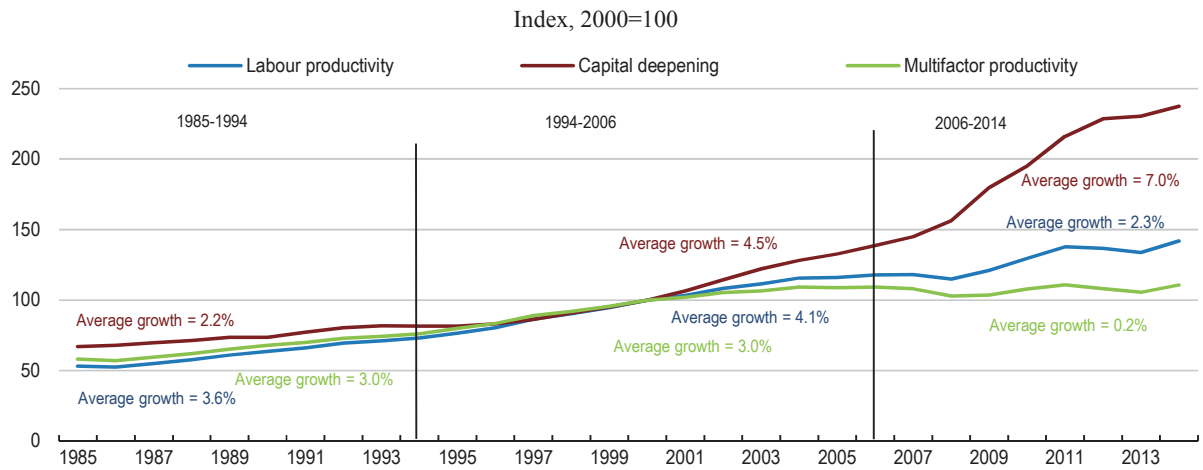
Productivity among local firms has stagnated

Productivity trends in Ireland

Aggregate productivity in Ireland has slowed over the past 15 years. Labour productivity rose by above 4% in annual average terms between 1994 and 2006, which slowed to below 2½ per cent between 2006 and 2014 (Figure 1.2). This is due to the marked decline

in multifactor productivity (MFP) growth, which more than offset the contribution from the substantial rise in capital deepening over the post-2006 period. Although MFP has been continuing to rise, the decline in its growth rate highlights slower efficiency improvements in production processes.

Figure 1.2. Trend productivity growth has slowed



Note: Labour productivity is calculated as GDP per hour worked. Labour productivity growth can be broken down into the contribution from multifactor productivity growth and capital deepening, with the latter weighted by its income share. Growth in capital deepening is measured as the growth in the aggregate flow of capital services minus the growth in aggregate hours worked. Multifactor productivity growth is measured as the difference between the change in GDP and the change in measured inputs (capital and labour), where the inputs are weighted by their respective cost shares.

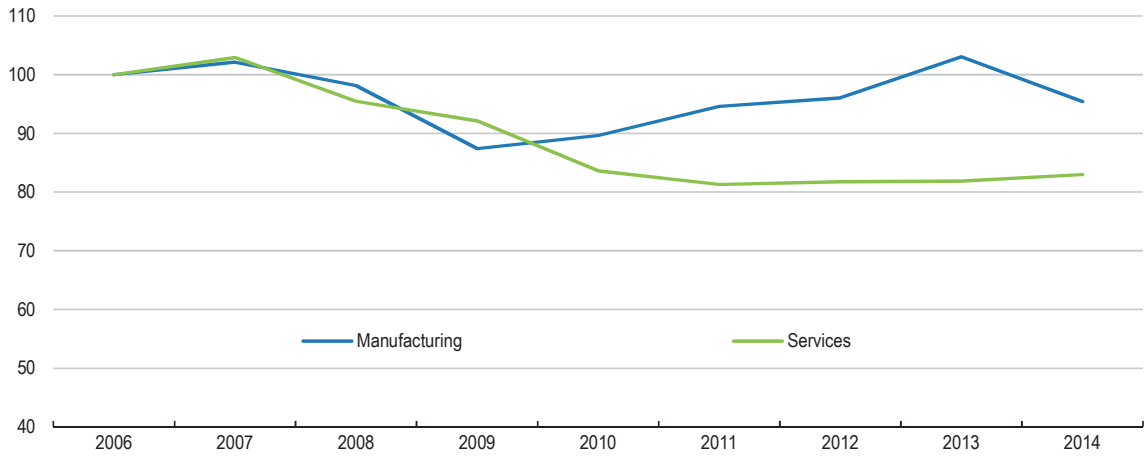
Source: OECD Productivity Database.

StatLink http://dx.doi.org/10.1787/888933683668

Looking beneath the aggregate trends, new firm-level analysis highlights that the majority of businesses have actually experienced falling productivity in the period since 2006 (Figure 1.3; Department of Finance, 2018). This has been especially apparent in the services sector. The rise in aggregate productivity (highlighted in Figure 1.2) has relied on the performance of a group of very large successful firms and is consistent with rising dispersion in productivity between Ireland's foreign-owned and local firms in most industries (Figure 1.4). The disparity in productivity levels between these two types of firms has tended to translate into gaps in wages (Figure 1.5), stoking Ireland's very high level of market income inequality.

Figure 1.3. Most businesses have experienced a decline in productivity

Median firm productivity (Index 2006 = 100)

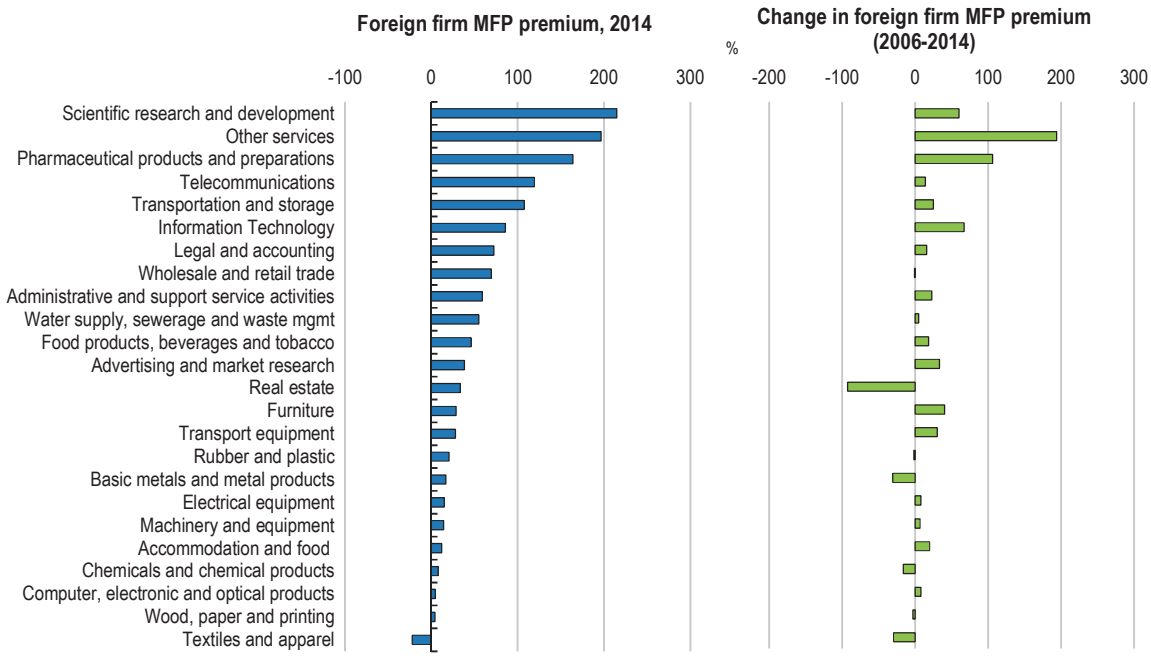


Note: The figure above shows multifactor productivity (using the Solow method) of the median firm in the productivity distribution at each point in time. These results are consistent with labour productivity estimates based on both micro and macro data.

Source: Department of Finance (2018).

StatLink http://dx.doi.org/10.1787/888933683193

Figure 1.4. Foreign-owned firms tend to be more productive



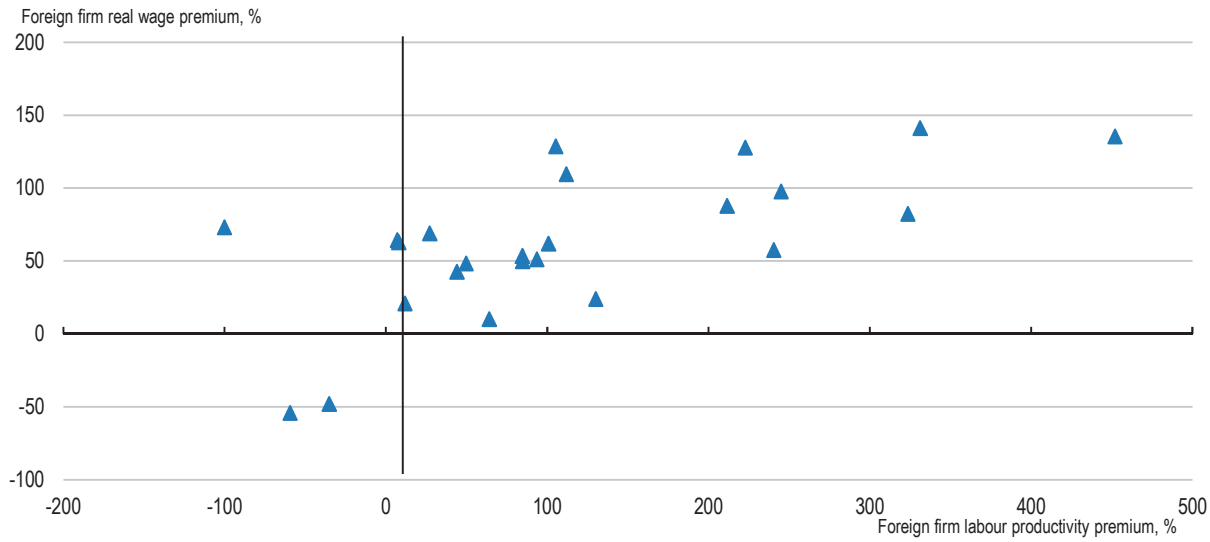
Note: The "Foreign firm MFP premium" is the percentage point difference between the multifactor productivity level (using the Solow method) of foreign firms and that of local firms in the given industry. Reflecting data availability, the change in foreign firm MFP premium is calculated between 2008 and 2014 for the telecommunications industry and 2010 and 2014 for the water supply, sewerage and waste management industry.

Source: OECD MultiProd.

StatLink http://dx.doi.org/10.1787/888933684561

Figure 1.5. Wages are substantially higher in foreign firms

Foreign firm premium over local firms for wages and labour productivity, by industry, 2014



Source: OECD MultiProd.

StatLink http://dx.doi.org/10.1787/888933683687

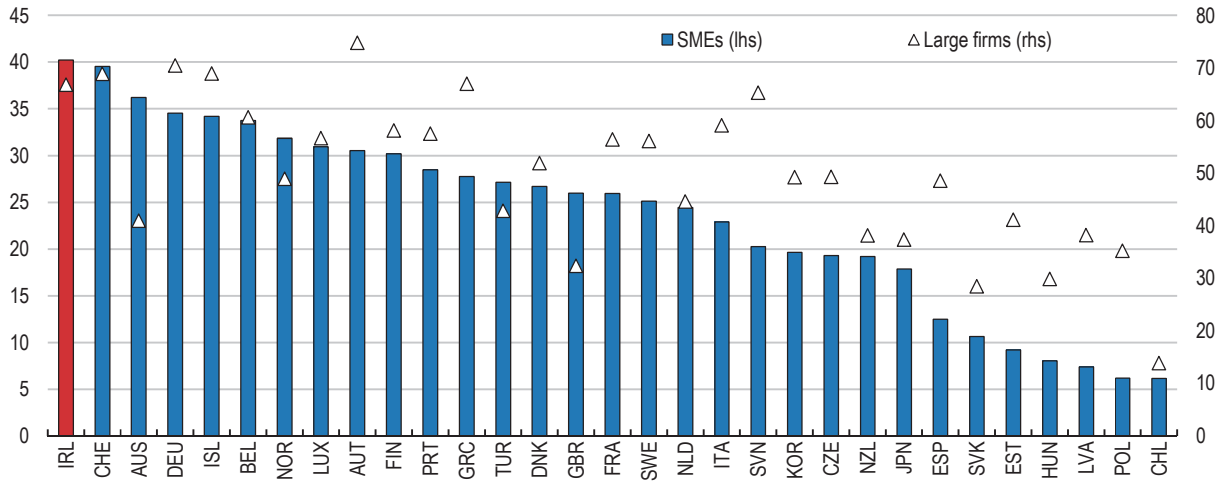
Forces at the firm level

The Irish economy has strong productivity potential, as some parts already exhibit high levels of innovation and entrepreneurial activity. For example, against the backdrop of high-performing multinational enterprises in the ICT sector, Ireland has the highest share of ICT-related domestic value added in the OECD (accounting for 14% of GDP; OECD, 2017a). The country also has a relatively high share of patents in high-tech industries, namely communication and medical devices (OECD, 2015b). The share of firms adopting innovation strategies is also elevated, including among small businesses (Figure 1.6). However, as evidenced by the productivity trends just highlighted, these strengths have not translated into ongoing improvements in macroeconomic performance.

An aggregate productivity slowdown among OECD economies over the past decade has been linked to declining business dynamism and rising misallocation of resources (OECD, 2016a). Business dynamism, typically proxied by firm start-up and exit rates, enhances market discipline and promotes better allocation of resources. In turn, the efficiency of resource allocation boosts business dynamism, allowing high potential businesses to enter markets and grow easily (OECD, 2015a). Both the extent of business dynamism and the efficiency of resource allocation condition knowledge spillovers from frontier firms (Figure 1.1).

Figure 1.6. The share of SMEs adopting innovation strategies is high

Firms undertaking an innovation strategy as a % of all firms in each size category



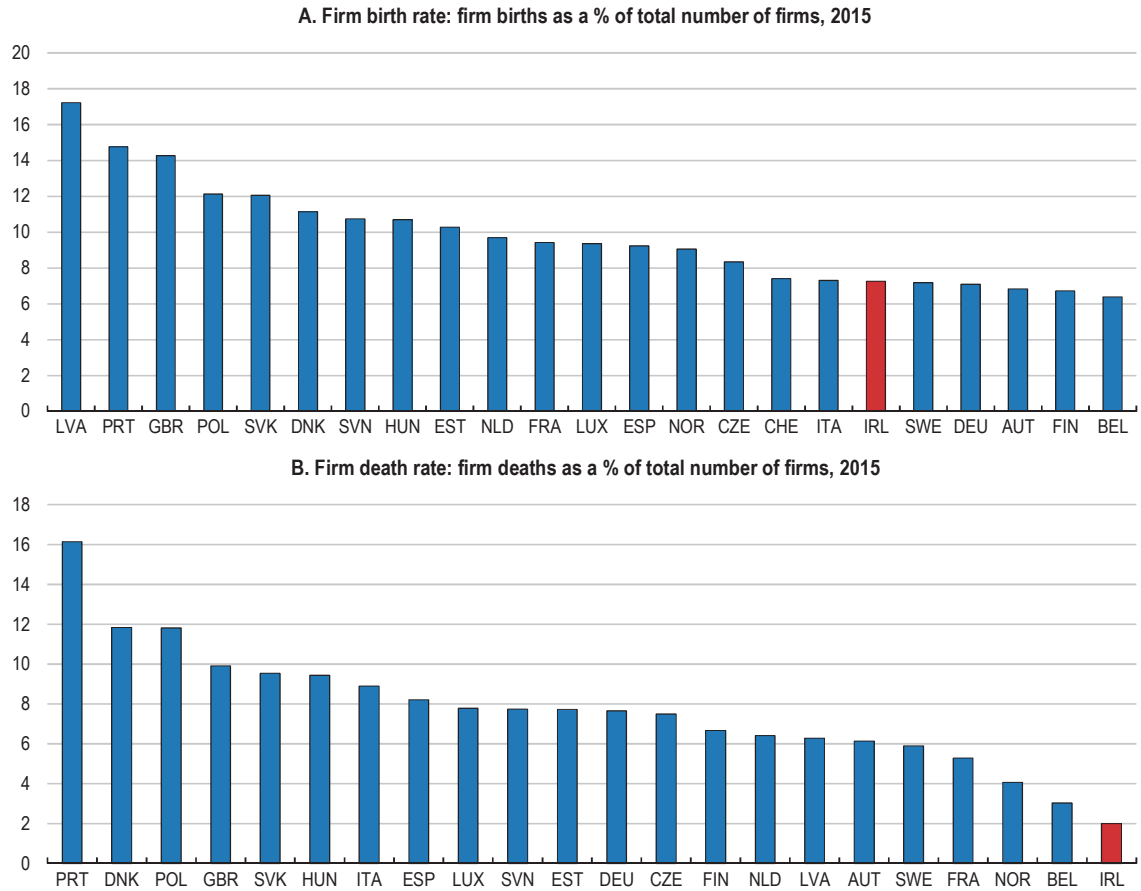
Note: The chart is based on national innovation surveys on "product or process" and "marketing or organisational" innovation strategies. The chart shows the share of firms adopting both types of innovation strategy.

Source: OECD STI Scoreboard 2017 (database).

StatLink http://dx.doi.org/10.1787/888933683706

In Ireland, the firm entry rate is low but the firm exit rate is even lower (Figure 1.7). Firm entry is important since young firms have a comparative advantage in radical innovations and they encourage incumbents to innovate through competitive pressures, which raises aggregate productivity. Despite low rates of firm entry, the survival rate is high in Ireland, thus firms are old on average. A high survival rate could be an indication that the selection of firms at entry is efficient. However, if a high survival rate is due to inefficiencies at the exit margin, it suggests that the market selection mechanism is weak (OECD, 2015a).

Figure 1.7. Both the firm entry rate and exit rate are low in Ireland



Note: In Panel A: 2014 for Denmark, Portugal, Switzerland and the United Kingdom. In Panel B: 2014 for Denmark and Poland; 2013 for Portugal and the United Kingdom.

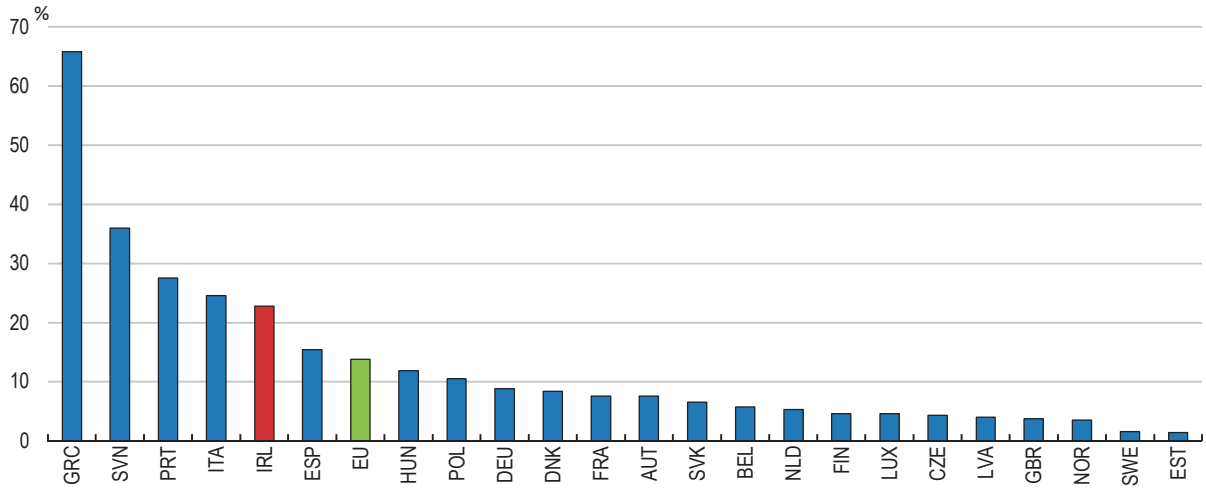
Source: Eurostat (2017), Business Demography (database).

StatLink http://dx.doi.org/10.1787/888933683725

Weak market selection can lead to unproductive firms lingering in the market, weighing on the performance of the economy. Non-viable firms – those kept alive by forbearance loans but otherwise insolvent – trap scarce resources and hinder the growth prospects of young and innovative firms (Caballero et al., 2008). Such non-viable firms have reduced the investment and employment growth of healthy firms in many OECD countries over the past decade (Adalet McGowan et al., 2017a). In Ireland, default rates among Irish SMEs have been higher than their counterparts in many other EU countries over the past years (Figure 1.8). Most defaulted loans have experienced a breach of loan terms and forbearance has frequently been granted (Bank of Ireland, 2017). The prevalence of non-viable firms weakens the efficiency of resource allocation. This is because such firms trap resources that could otherwise be allocated to enable highly-productive businesses to expand.

Figure 1.8. Default rates are high for Irish SMEs

SME default rate by country, 2017Q2



Source: European Banking Authority (EBA), "Risk Assessment Report of the European Banking System, November 2017".

StatLink http://dx.doi.org/10.1787/888933683744

At first glance, the efficiency of resource allocation in Ireland appears to be very high (Box 1.1). However, this result owes largely to highly productive multinational enterprises (MNEs) that can raise a huge amount of resources from different channels, including from abroad. Once the MNE dominated sectors have been excluded, the efficiency of resource allocation in the Irish economy is greatly reduced and lags that of other OECD countries (Figure 1.9). Distinguishing between the results including or excluding MNEs is particularly important for Ireland since the MNE dominated sectors account for around 40% of total production in the economy, much higher than in most other countries. The contribution of resource reallocation to productivity growth has also weakened, while that of firm entry and exit has been negligible (reflecting the very limited firm entry and exit rates) over the past decade (Figure 1.10).

Box 1.1. Productivity analysis using OECD MultiProd

The OECD MultiProd project provides a comprehensive picture of productivity patterns across countries over the last two decades. The MultiProd project is part of a larger effort within the OECD Directorate for Science, Technology and Innovation to exploit existing official firm-level data (official surveys and administrative sources) in a harmonised framework to provide micro-aggregated statistics and analysis that are comparable across countries (see Berlingieri et al., 2017 for more details).

The MultiProd project collects statistics of 18 countries which have been successfully incorporated in the MultiProd database for the 1994-2012 period. A joint project between the OECD and the Department of Finance of Ireland was undertaken in parallel with this Economic Survey to include Ireland in the dataset.

The project provides a series of productivity metrics (Department of Finance, 2018). It focuses on, in particular, measures relating to industry concentration, productivity dispersion across firms, and the efficiency of resource allocation.

Efficiency of resource allocation

The Olley-Pakes decomposition used in MultiProd decomposes aggregate productivity into the contribution of two terms, an unweighted productivity term representing average firm level productivity, and a covariance term that links productivity to firm size (defined by employment shares). The latter term (known as the OP gap) is a measure of allocative efficiency, since it increases if more productive firms capture a larger share of resources in the sector:

$$P_t = \frac{1}{N_t}\sum_i P_{i,t} + \sum_i (\theta_{i,t} - \bar{\theta}_t)(P_{i,t} - \bar{P}_t)$$

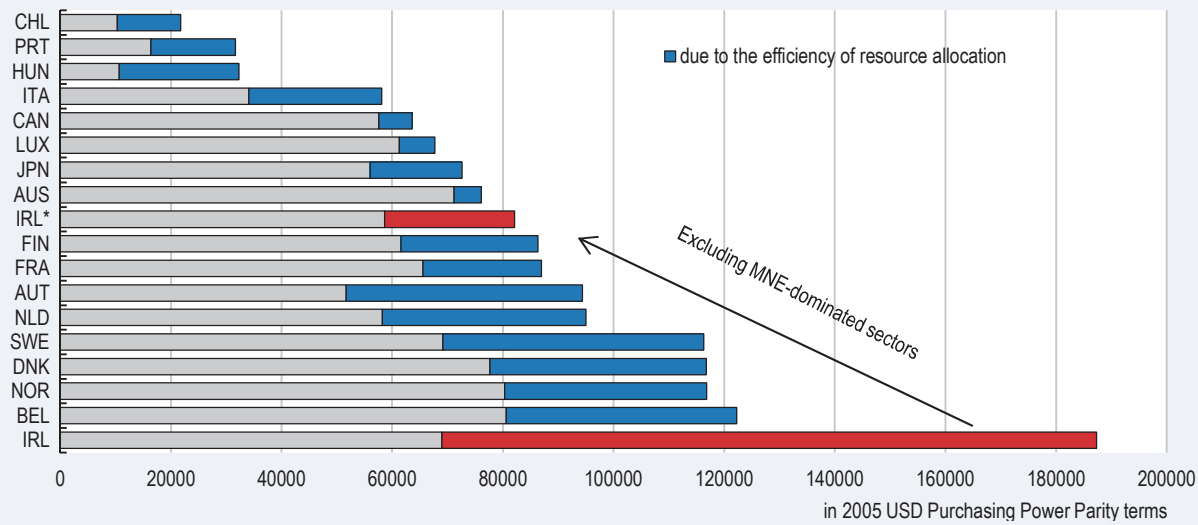
P_t is sectoral level productivity at time t, N represents the number of firms in a sector, $\theta_{i,t}$ is the share of firm i at time t, $P_{i,t}$ is the productivity of firm i at time t, and $\bar{\theta}_t$ and $\bar{P}_t$ are sectoral averages.

Figure 1.9 shows, in the Irish manufacturing sector, more than half of aggregate labour productivity is accounted for by the allocative efficiency term (OP gap) over the whole 2006-2014 period. The remaining part of aggregate productivity in manufacturing is accounted for by within-firm productivity. On the whole, Ireland's OP gap indicates a high degree of allocative efficiency.

Figure 1.9 also shows the OP gap for manufacturing when foreign-owned multinational enterprise (MNE) dominated sectors are excluded ("IRL*"). Relative to the full manufacturing sample, the exclusion of foreign-owned MNE dominated sectors results in a much lower OP gap. These results suggest that a substantial part of aggregate labour productivity in the manufacturing sector is due to the presence of large multinational firms that have high productivity.

Figure 1.9. The efficiency of resource allocation is weaker for local firms

Labour productivity of firms in the manufacturing sector



Note: "IRL" covers all firms including multinational enterprises (MNEs); "IRL*" excludes those in the MNEs dominated sectors.

Source: Department of Finance (2018) based on the MultiProd dataset.

StatLink http://dx.doi.org/10.1787/888933683763

Changes in the efficiency of resource allocation

A dynamic version of the OP gap, as developed by Melitz and Polanec (2015), is presented below, for the manufacturing sector. This approach decomposes the contributions to the growth in labour productivity into four elements:

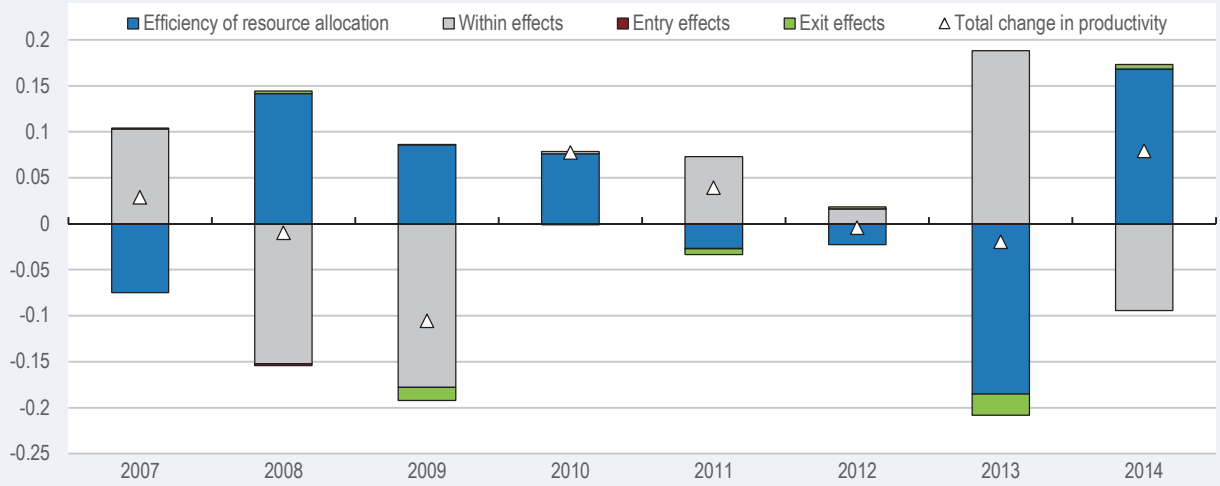
$$\Delta p_t = \frac{1}{N^C}\sum_{i\in C}(p_{it} - p_{it-1}) + \Delta \operatorname*{cov}_{i\in C}(\theta_{it}, p_{it}) + \left(\sum_{i\in E}\theta_{it}\right)\cdot(p_t^E - p_t^C) + \left(\sum_{i\in X}\theta_{it-1}\right)\cdot(p_{t-1}^C - p_{t-1}^X)$$

where p_t is sectoral level productivity, and p_t^E, p_t^C, p_{t-1}^X are the weighted productivity averages of, respectively, entrants, incumbents and exitors computed in the relevant time period. The first term is the change in the unweighted productivity average of incumbents, representing within firm growth in productivity; the second term is the change in the efficiency of resource allocation (i.e. the change in the OP covariance term) computed for incumbents; the third term is the contribution of the productivity of new firms relative to average productivity and; the fourth term is the contribution of the productivity of exiting firms relative to average productivity of the previous period.

Overall the annual changes in labour productivity growth in manufacturing were driven by within-firm productivity changes by incumbents and reallocation over the period 2006-2014. The contribution of firm entry and exit (on an annual basis) to labour productivity growth has been negligible and sometimes negative.

Figure 1.10. A decline in the efficiency of resource allocation has pulled down aggregate productivity

Annual growth rate of productivity and the contribution of its components, Manufacturing sector, change in log points



Source: Department of Finance (2018) based on the OECD MultiProd dataset.

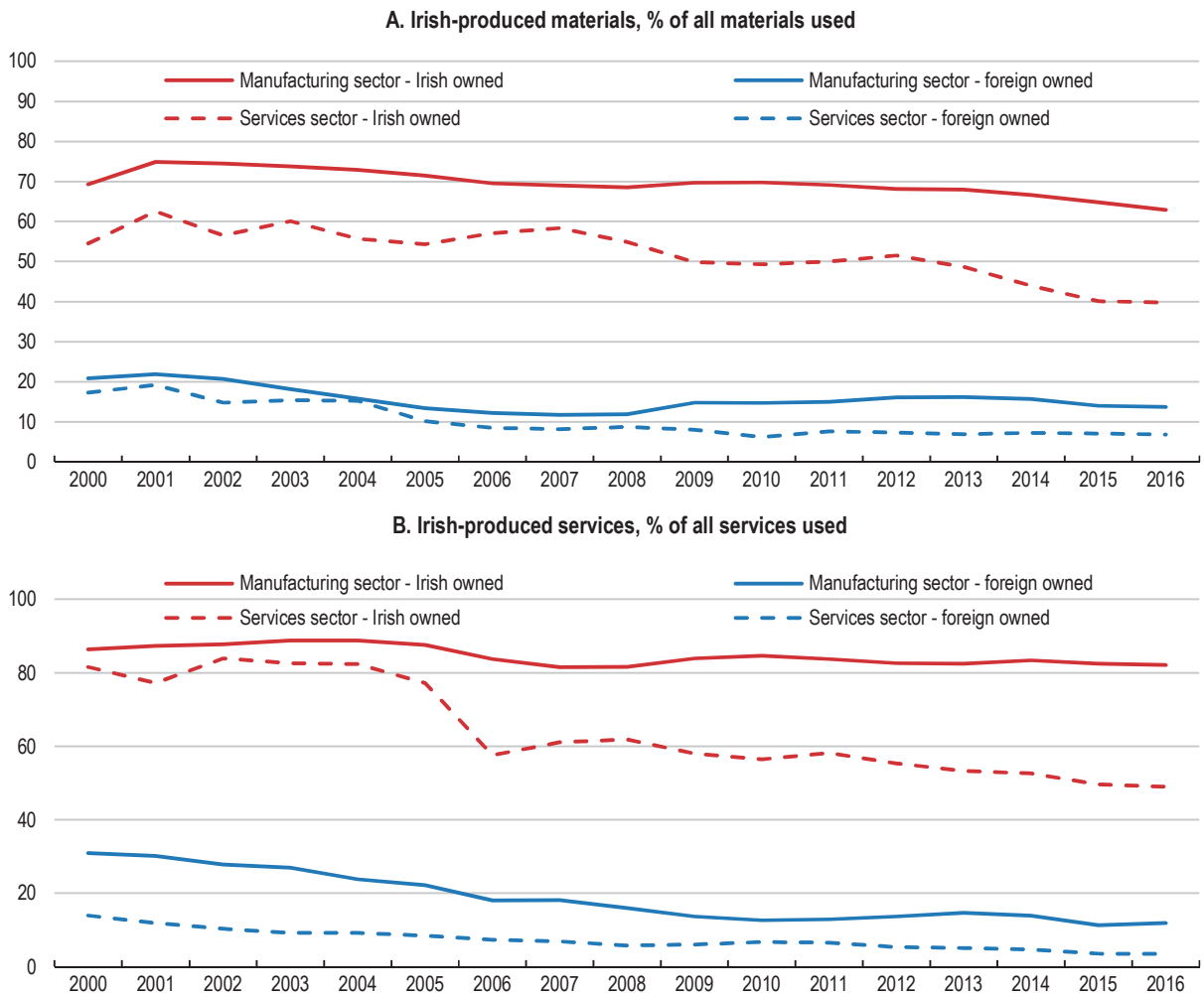
StatLink http://dx.doi.org/10.1787/888933683782

Linkages between foreign- and locally-owned firms

Impediments to firm growth may lower the incentive or ability for local firms to create linkages with highly productive foreign-owned enterprises. In turn, weak linkages lower the potential for productivity spillovers. Trade linkages, expressed as the intensity of supply chains between foreign- and locally-owned firms, are weak. Local firms can be incorporated into the supply chains of foreign-owned firms by either providing intermediate inputs in their production processes (i.e. a "backward linkage") or using the inputs of foreign-owned firms as inputs to their operations (i.e. a "forward linkage").

Foreign-owned firms are far less likely than Irish-owned firms to source production inputs locally (Figure 1.11). In some cases this may reflect foreign-owned subsidiaries not having full autonomy over procurement decisions, but the differences in sourcing behaviour are vast: around 65% of the material inputs of surveyed Irish-owned manufacturers were locally sourced in 2015 compared with 14% for foreign-owned manufacturers. Focusing on services inputs, over 80% of those used by surveyed Irish-owned manufacturers were sourced from Irish companies in 2015 compared to 12% by foreign-owned manufacturers.

Figure 1.11. Foreign-owned firms are much less likely to source production inputs from Ireland



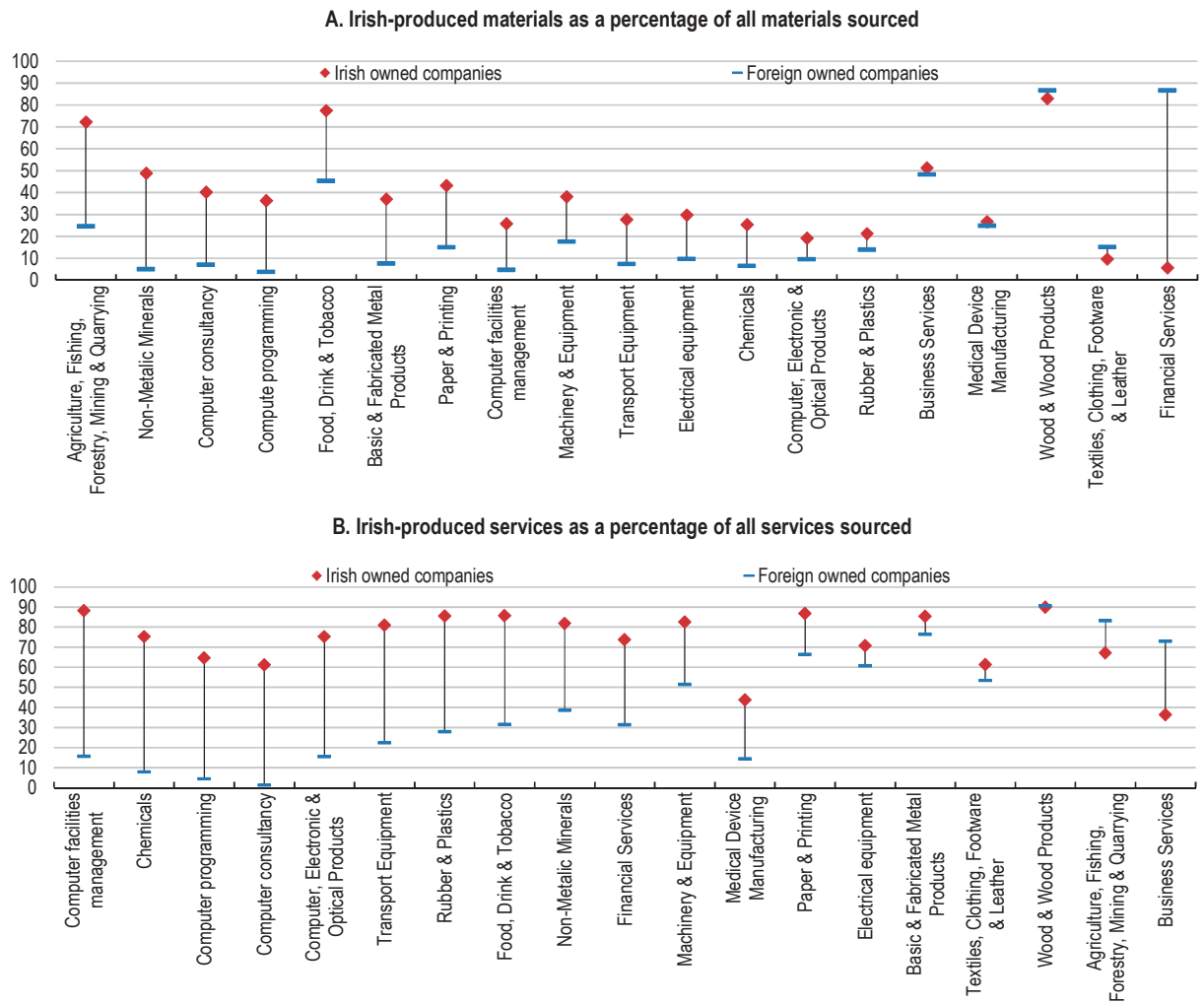
Note: Data are based on a survey of around 4200 companies that are clients of either Enterprise Ireland, IDA Ireland or Údarás na Gaeltachta that have at least ten employees.

Source: Department of Business, Enterprise and Innovation.

StatLink http://dx.doi.org/10.1787/888933683801

There are disparities across more narrowly-defined industries in the extent to which differences exist in the sourcing behaviour of Irish-owned and foreign firms. There is a large gap in the degree of local sourcing in large manufacturing industries such as food, drink and tobacco (Figure 1.12). Similarly, in many key industries in the services sector, the extent of inputs sourced domestically is much lower for foreign-owned firms. This is particularly the case in some high-tech industries such as computer consultancy and computer programming.

Figure 1.12. Disparities in the sourcing behaviour of foreign and local firms differ by sector



Source: Department of Business, Enterprise and Innovation.

StatLink http://dx.doi.org/10.1787/888933683820

Not only are trade linkages weak, but productivity spillovers from foreign-owned to local firms are modest. New analysis using Irish firm level data finds some evidence of positive productivity spillovers from the presence of foreign-owned firms in the services sector, but minimal (and sometimes negative) spillovers in the manufacturing sector (Box 1.2; Di Ubaldo, Lawless and Siedschlag, 2018). Furthermore, on average, trade linkages between foreign and locally-owned firms appear to have negligible positive productivity effects on the latter. Nonetheless, such linkages do appear to produce productivity spillovers for services firms with high absorptive capacity (captured by R&D investment).

Box 1.2. Estimating productivity spillovers from firm-level data

Ireland has been highly successful at attracting foreign direct investment, with foreign-owned firms accounting for close to half the country's gross value added over recent years. One of the rationales for attracting such investment is the positive spillovers that foreign-owned firms may confer to local businesses. Abstracting from the impact of heightened competition from the entry of foreign firms (the productivity effect of which is theoretically unclear), a key channel through which such spillovers proliferate is the diffusion of new knowledge. As foreign firms are at a disadvantage to local businesses due to distance from their parent and limited knowledge of the local market, their ability to compete must be due to possessing firm-specific assets such as superior production technology, know-how or management strategy (Görg, 2007). Such assets often have public good characteristics as they can be used in the production processes of other entities at no additional cost.

To explore the extent to which productivity spillovers are apparent in Ireland, Di Ubaldo, Lawless and Siedschlag (2018) incorporate the firm-level multifactor productivity estimates from the OECD MultiProd project (detailed in Department of Finance, 2018) into an econometric model.

The analysis confirms that foreign-owned firms are more productive than Irish-owned firms on average, meaning that there is potential for positive productivity spillovers. To highlight this, a regression model is estimated which explains multifactor productivity at the firm level by ownership status (i.e. foreign vs local-owned) while controlling for firm size, industry and region-specific time invariant factors as well as common factors that vary over time across all firms. The results suggest that a foreign ownership firm premium in Ireland exists (Table 1.1). This is the case across both the manufacturing and services sectors and for foreign affiliates owned by firms based in both the European Union and non-European Union countries. The estimates indicate that the foreign ownership premium is around 26% on average for firms from EU countries and 39% for those from outside the EU.

Table 1.1. Estimating the foreign ownership productivity premium

	Log(Multifactor productivity)		
Variable name	All	Manufacturing	Services
Foreign-owned firm (EU origin)	0.23***	0.09***	0.26***
Foreign-owned firm (non-EU origin)	0.33***	0.17***	0.39***
Small size	0.00	-0.03***	0.03***
Medium size	0.02***	-0.02*	0.06***
Large size	0.01	0.03*	0.03**
Constant	2.17***	2.22***	3.46***
Observations	70663	13668	51843

Note: *** represents statistical significance at the 1% level, ** at the 5% level and * at the 10% level. All regressions include industry, region and time fixed effects. The reference category for firm size is micro firms (firms having less than 10 employees).

The extent of productivity spillovers is then investigated by estimating if the MFP of local firms is impacted by the presence of and interactions with foreign-owned businesses. Such spillovers may come about through competition and learning effects from a strong presence of foreign-owned firms in the same sector of activity or vertical supply chain relationships (for further discussion, see Di Ubaldo, Lawless and Siedschlag, 2018). Each of these potential channels is specified in the empirical framework and tested through firm-level regressions on an unbalanced panel across the 2008-2014 period.

The estimation results highlight positive productivity spillovers in the services sector, but minimal (and sometimes negative) spillovers to locally-owned manufacturing firms (Table 2). The differential impact between sectors may be because productivity-improving processes or technologies are more observable to other industry participants in the services sector without direct technology transfer needing to occur (Di Ubaldo, Lawless and Siedschlag, 2018).

The estimation results also highlight the importance of absorptive capacity of local firms in maximizing productivity spillovers from foreign-owned businesses. On average, the productivity impact of having forward (foreign-owned firms supplying local firms) or backward (local firms supplying foreign-owned firms) trade linkages with industries that have a high share of foreign-owned firms is not discernable. However, there is evidence that indigenous services firms that invest in R&D are better able to internalise productivity spillovers. Column (6) of Table 1.2 highlights that this is the case when indigenous firms in upstream sectors supply to foreign-owned businesses in downstream sectors.

Table 1.2. Estimating productivity spillovers

	Log(Multifactor productivity – local firms)					
Variable name	Manufacturing			Services		
	(1)	(2)	(3)	(4)	(5)	(6)
Intra-industry	-0.1*	-0.03	0.01	0.3***	0.2**	0.2**
Intra-industry*R&D			0.4			0.08**
Intra-region	-0.1	-0.1	-0.1	0.03	0.03	0.03
Intra-region*R&D			0.0			-0.06*
Forward linkage		-2.2	-2.0		0.2	0.1
Forward linkage*R&D			7.9			0.1
Backward linkage		-.3	0.3		-0.8	-0.8
Backward linkage*R&D			-1.2			0.2***
Constant	2.0***	2.0***	2.0***	-0.5	-0.3	-0.4
Observations	6719	6560	6560	14580	14530	14530

Note: *** represents statistical significance at the 1% level, ** at the 5% level and * at the 10% level. All regressions include industry, region and time fixed effects, as well as variables for industry growth, export and import status (introduced as a dummy variable that equals one if the firm exports/imports), industry concentration (proxied by the Herfindahl-Hirschman index), firm age, average wage at the firm (in log values), the R&D investment intensity of the firm (R&D investment per employee in log values) and dummy variables corresponding with firm size (i.e. "small", "medium" and "large" as appearing in Table 1.1). The estimated coefficients on these variables can be found in Di Ubaldo, Lawless and Siedschlag (2018) or from those authors upon request. Forward linkages are measured using information from Ireland's input-output tables while the measure of backward linkages uses information from the home country of the parent company of foreign affiliates to account for the specific input sourcing behaviour of multinationals.

To summarise the identified trends, Irish productivity growth has stagnated over the past decade, with the performance of local firms especially weak. This partly reflects a decline in the efficiency of resource allocation associated with weak business dynamism: while

allocative efficiency is relatively high overall, it has had a declining impact on productivity growth over the period, with firm entry and exit having had very little impact on the productivity performance of the Irish economy. There is also evidence that the efficiency of resource allocation is notably weaker in those parts of the economy dominated by local firms. Given Ireland's high share of multinational enterprises, there is potential for virtuous productivity spillovers from high-productivity foreign firms to local businesses. Nevertheless, supply chain linkages are limited and there is little evidence of knowledge spillovers between foreign and local firms in most instances. Against this backdrop, those aspects of government policy that impact upon firm entry and exit, the growth of high potential firms and the interactions between foreign businesses and local firms need to be examined.

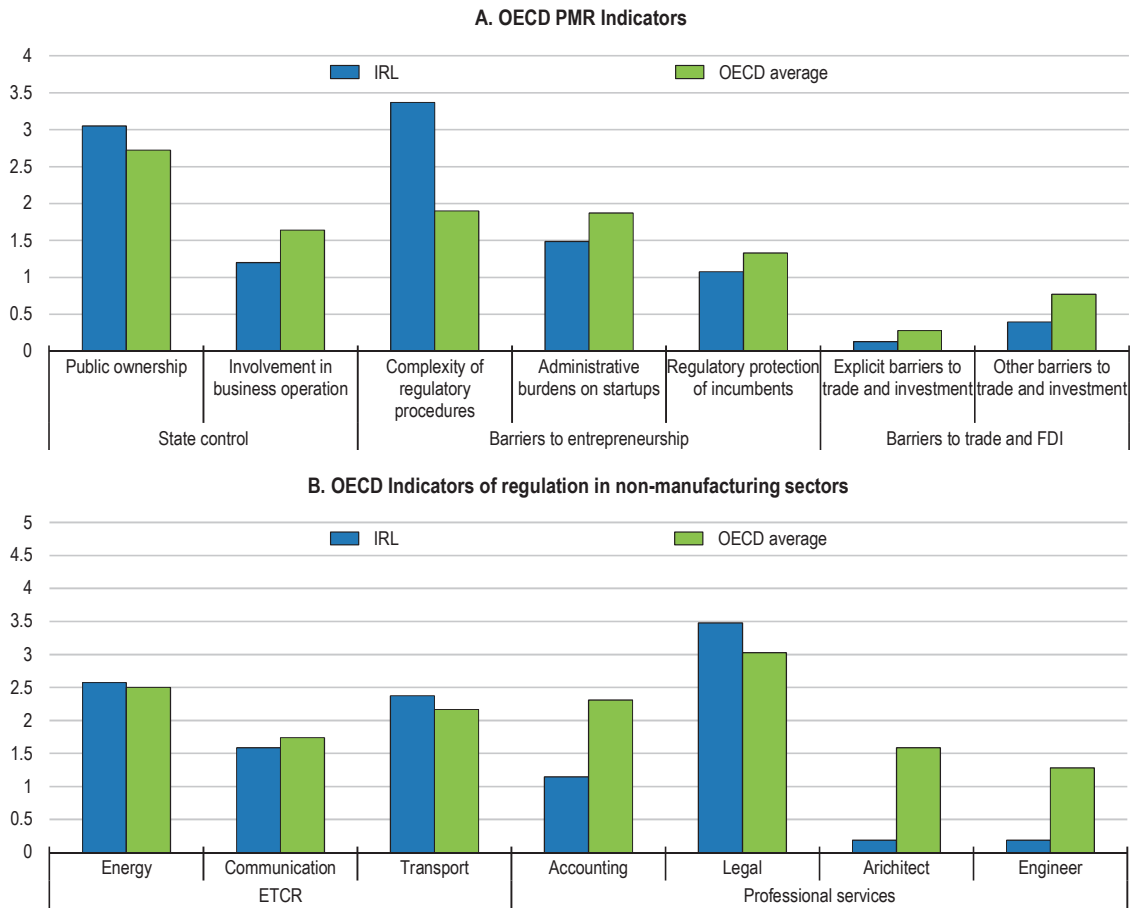
Enhancing business dynamism

Reducing regulatory barriers for businesses

Well-functioning product markets ensure that high-potential businesses can enter markets and expand unimpeded. Reducing anti-competitive regulations facilitates more entry of young firms which tend to have a comparative advantage in commercialising and adopting new technologies (OECD, 2015a). It also strengthens market discipline, as new entrants create competitive pressures for incumbents to adopt innovations and reduce business costs. Reforms to reduce anti-competitive regulations enhance the market selection mechanism and the efficiency of resource allocation, boosting aggregate productivity (OECD, 2015a).

Ireland is a country where doing business is easy on average, ranking 17th in the world according to the World Bank's Doing Business indicators. This owes largely to its low corporate tax rate and the fact that there are few barriers to entry for foreign firms, making the economy very open one for trade and foreign direct investment (FDI; Figure 1.13). However, regulatory obstacles inhibit the start-up and growth of small local businesses, reflected in the OECD Product Market Regulation (PMR) indicators for barriers to entrepreneurship (Figure 1.13). Such obstacles are particularly concentrated in the utility and legal services sectors.

Figure 1.13. Regulatory barriers are low overall but some barriers to entrepreneurship exist



Note: The OECD Indicators of Product Market Regulation are a comprehensive and internationally-comparable set of indicators that measure the degree to which policies promote or inhibit competition. The indicator ranges from zero (least stringent) to six (most stringent).

Source: OECD Product Market Regulations Statistics (database).

StatLink http://dx.doi.org/10.1787/888933683839

Entry regulations

Relatively high barriers to entrepreneurship come largely in the form of the complexity of Ireland's licence and permits system (Figure 1.13). This is mainly because of the currently limited scope of points of single contact ("one-stop shops") providing an interface between different spheres of competence. Although points of single contact for getting information on notifications and licences do exist, they were not available at the local level or via the Internet until recently. Furthermore, no point of single contact existed for issuing or accepting all licences required for opening a business.

Ireland introduced the Integrated Licence Application Service (ILAS) in early 2016. The service is on-line and expected to provide a single point of contact for all businesses to apply for, renew and pay for licences. Although it is not yet fully operational, 5 000 business users have already registered on the service, which connects seven licensing authorities across ten licence types. The government should fully roll out the ILAS,

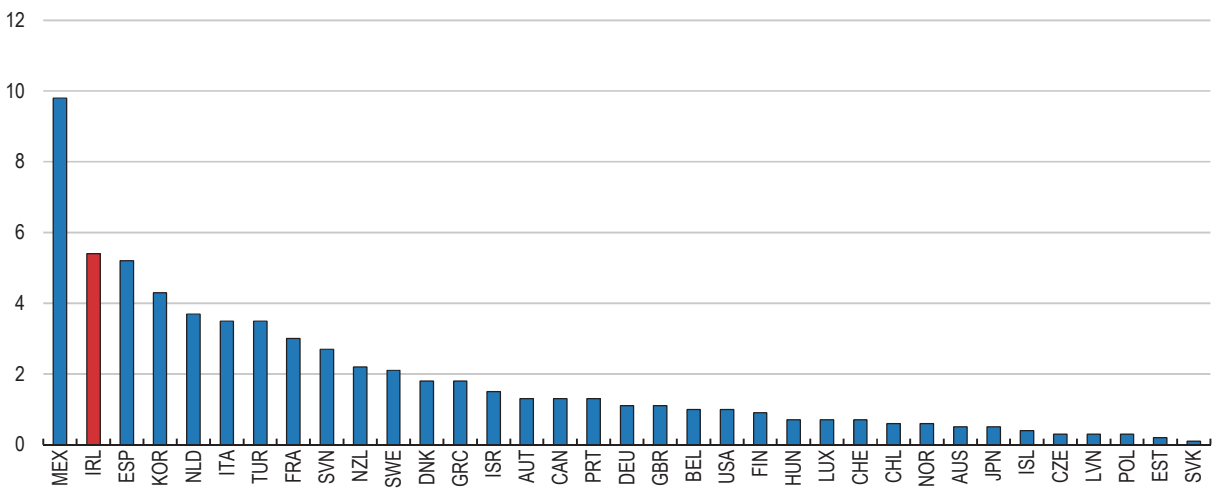
extending the system to include as many licensing authorities as possible, which will greatly reduce the administrative burden on small businesses.

Other administrative burdens, notably those related to commercial property, also weigh on entrepreneurship. It costs approximately 3.5 times the OECD average to obtain a planning permit from the local authorities (Figure 1.14). Stamp duty for the registration of property, which is paid to the national tax authority, is also costly, amounting to around 2% of the value of the property. These initial costs (planning charges and property registration) should be reduced, as they raise the barriers to entrepreneurship and distort investment decisions, as discussed in previous Economic Surveys.

Not only initial costs, but also recurrent costs related to commercial property are high. Firms pay "commercial rates", which are levied by local authorities and are based on the value of the property a firm – which is not necessarily the property owner – occupies. The valuation of properties is determined by the Commissioner of Valuation Rates. The "annual rate on valuation" is decided by local authorities. In the case of Dublin City Council, it amounted to 26% of the value of a property in early 2017. Such a system especially penalises innovative young firms as they are often in a loss-making position in their early years. Commercial rates should be abolished (as well as potentially the local property tax) and replaced by a broad-based land tax which covers at least commercial and residential property (see Key Policy Insights section). This would be less distortionary to production activity, especially for entrepreneurial firms, and could be designed in a way that preserves overall government tax receipts.

Figure 1.14. The cost of construction permits is high in Ireland

Cost (% of structure value), 2016



Note: World Bank Doing Business records all procedures required for a business in the construction industry to build a warehouse of a given size. The procedures include, among others, obtaining and submitting all relevant project-specific documents (for example, building plans, site maps and certificates of urbanism) to the authorities. Cost is recorded as a percentage of the warehouse value (assumed to be 50 times income per capita).

Source: World Bank Doing Business (2017).

StatLink http://dx.doi.org/10.1787/888933683858

Conduct regulations

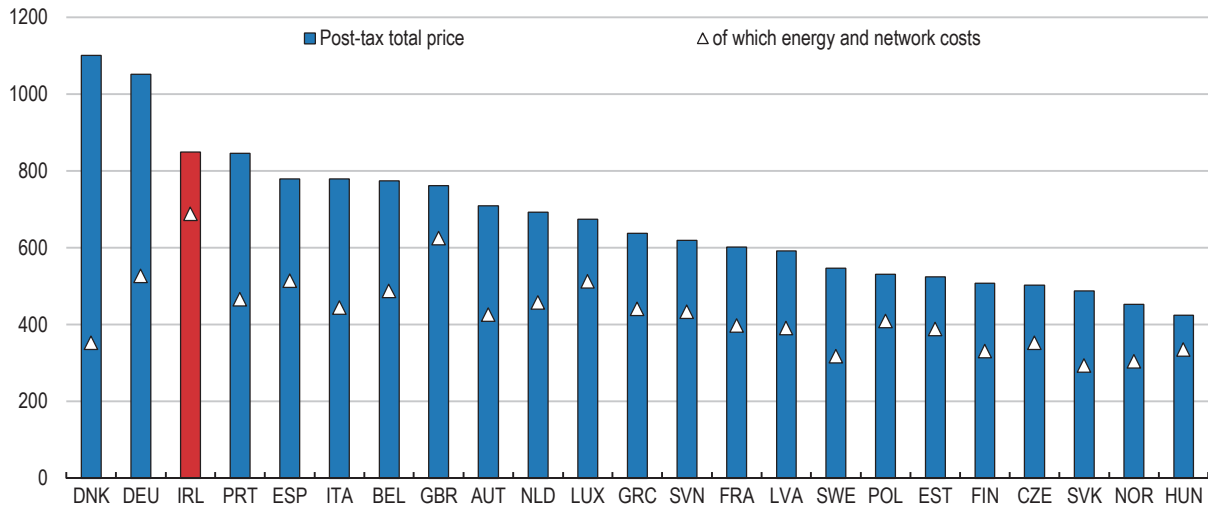
Regulations in the services sector often have "knock-on effects" to other sectors, through trade linkages in the economy (Conway and Nicoletti, 2006). Tackling inefficient regulations in the services sector can reduce the price of intermediate inputs and/or raise the quality of products. It also allows businesses to gain greater benefits from participating in global value chains (GVCs) to the extent that they rely on domestic services (OECD, 2015a). OECD indicators of regulation in non-manufacturing sectors identify excessively stringent regulations in energy and legal services (Figure 1.13, Panel B). The Irish authorities also identify high costs in these sectors (NCC, 2017).

Electricity

Ireland's electricity prices are high, with energy and network costs above many other EU countries (Figure 1.15). The energy component accounts for a large share of total electricity prices consisting of the expense of purchasing electricity on the wholesale market and the cost of electricity supply to consumers. The cost of purchasing electricity is largely determined by external conditions because of Ireland's dependence on foreign energy sources. However, high energy costs can be explained by either price regulation or the lack of unbundling (ACER, 2016), and Ireland's lack of unbundling can at least partly explain its overall high electricity prices.

Figure 1.15. Electricity costs are high in Ireland

Final price for the consumption of 3 500 kWh per household annually in the capital city



Note: The post-tax total price is broken down into: the energy component which consists of the cost of purchasing electricity on the wholesale market and the cost of retailers for supplying electricity to household consumers; the cost of network distribution; the cost of network transmission; energy taxes and charges; other taxes and charges; VAT; and the charges relating to support schemes for renewable energy sources.

Source: Agency for the Cooperation of Energy Regulators (2016).

StatLink http://dx.doi.org/10.1787/888933683877

The Irish energy sector is still characterised by relatively strong public ownership and vertical integration (Figure 1.13). In the electricity sector, the state owns virtually 100% of shares in the Electricity Supply Board (ESB), the only firm in the sector until the late

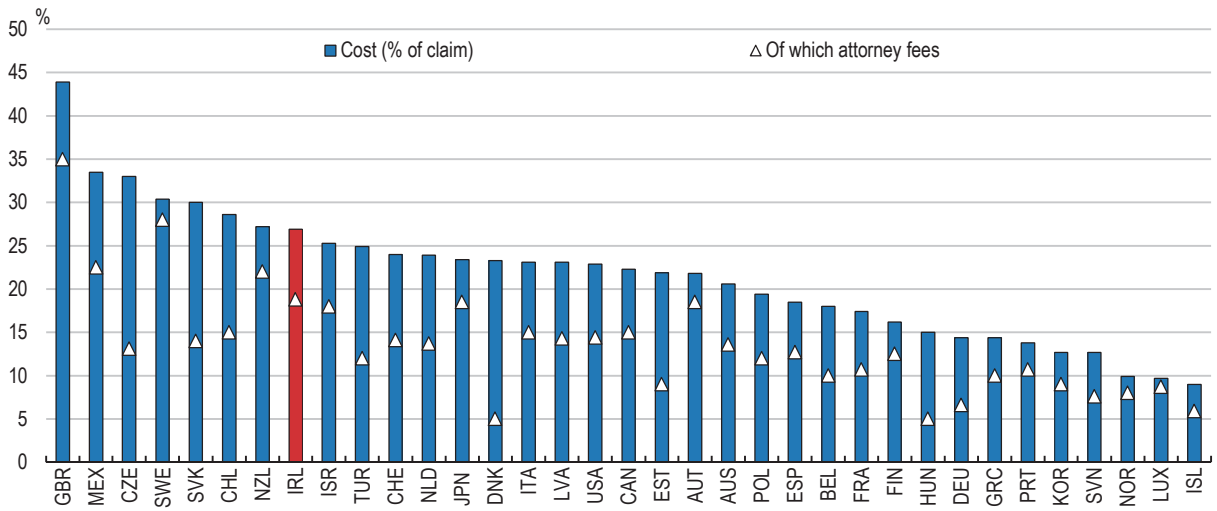
1990s. The ESB group owns the transmission and distribution networks (ESB Networks Limited, a legally separate body) and operates distribution (ESB). Eirgrid, which was established in 2006 and is also state-owned, operates transmission (the "independent system operator" model). ESB Networks Limited, which owns the transmission and distribution networks, does not have any significant assets or personnel, as these both lie within ESB Network, a ring-fenced business unit of the ESB group. The generation and supply segments are now open to competition, but ESB remains a major player in both segments, accounting for a market share of 47% and 51%, respectively.

In its decision to certify Eirgrid as the transmission operator, the European Commission made some proposals to make more effective and efficient transmission operations and governance arrangements (European Commission, 2013). The Commission found that the current arrangement, comprising ESB Networks (ESB's business unit) and ESB Networks Limited (a separate legal entity), blurs the lines between transmission activities on the one hand and generation and supply activities on the other. The Commission made a number of proposals, including separating the ownership regime between Eirgrid and ESB, or ensuring that ESB's transmission roles are in a single, separate entity. The authorities are currently assessing these proposals within the context of various other programmes.

Legal Services

Among professional services, regulations on legal services are particularly high (Figure 1.13), leading to high costs in the sector (Figure 1.16). This stringency is due to regulations restricting the form of legal business to sole proprietorship and prohibiting inter-professional co-operation in most cases. The professional fees charged by lawyers vary largely for common services such as conveyancing transaction, and a lack of price transparency for legal services prevails (CCPC, 2012).

Figure 1.16. The costs in the legal services sector are high in Ireland



Note: In the case of MEX, JPN, USA, it refers to Mexico City, Tokyo, and New York City respectively.
Source: World Bank Doing Business (2017).

StatLink http://dx.doi.org/10.1787/888933683896

To reform the regulations in the sector, the Legal Services Regulations Act was adopted in late 2015. The Act established the Legal Services Regulatory Authority (LSRA), an independent but publicly accountable body. The LSRA will be responsible for overseeing both solicitors and barristers and processing complaints that have, so far, been dealt with by self-regulated professional bodies. The Act also sets up the Office of the Legal Costs Adjudicator to provide an independent and impartial assessment of legal costs, seeking to achieve a balance between the costs involved and the services rendered. Both institutions are expected to be fully operational in 2018. These changes will raise the transparency of legal costs and customers' bargaining power.

The LSRA will also pursue, mostly subject to consultation, the competition-enhancing and cost-reducing provisions prescribed in the Act. The provisions envisage the introduction of legal partnerships (either solicitor-barrister or barrister-barrister partnerships) and of limited liability partnerships (LLP), the creation of multi-disciplinary practices (but limited to those between comparable professions), and the possibility of direct access to barristers for customers. These provisions will be possible only under the new regulations which the LSRA will issue. If introduced, these provisions should lower the costs of legal services through enhancing competition in the sector.

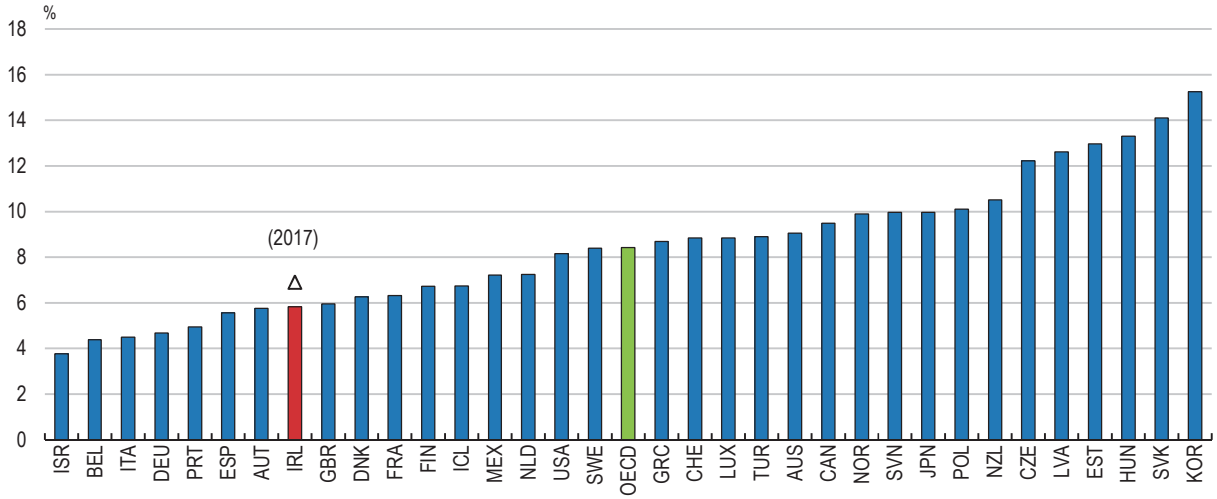
Creating a high-performing stock of physical infrastructure

High-quality transport infrastructure is also essential for the efficiency of supply chains, impacting the ability of local firms to embed themselves into global value chains and grow their business. Nevertheless, those business executives surveyed as part of the World Economic Forum Executive Opinion Survey in 2016 judged the quality of Ireland's transport infrastructure to be poor compared with other OECD countries. This judgment was echoed by logistics professionals questioned for the World Bank Logistics Performance Indicator. The government has identified transport around urban centres as posing particular constraints, which are likely to become more pronounced given expected future demand trends (Department of Public Expenditure and Reform, 2017a). Dublin and Cork are already two of the most congested cities of their size class in the world, according to the Tom Tom Traffic Index, and both are expected to experience particularly strong population growth over the coming decade (CSO, 2013).

Cuts to public capital investment accounted for a disproportionate share of fiscal consolidation through the crisis, with transport infrastructure spending particularly hard hit (Kennedy, 2016). Between 2008 and 2015, government investment as a share of total government expenditures fell from 12.7% to 5.8%. By that time, the investment share of government spending was below the OECD average (Figure 1.17). The government plans to substantially increase public capital investment and the investment share of public spending has already begun to creep up. Between 2016 and 2021, capital expenditure is expected to rise by approximately 85% (Department of Public Expenditure and Reform, 2017b), with many new transport projects and upgrades planned. Furthermore, a new National Development Plan for the period 2018-2027 is being developed, that will closely align with the National Planning Framework that is also being drafted. The latter will outline a set of compatible development priorities for the country to 2040 and provide an overarching strategy for government activities across a range of policy areas including transport, housing, jobs, education, communications and the environment.

Figure 1.17. The investment share of government spending is low

Government investment as a share of total government expenditures, 2015



Note: 2015 is the latest data available for all countries.

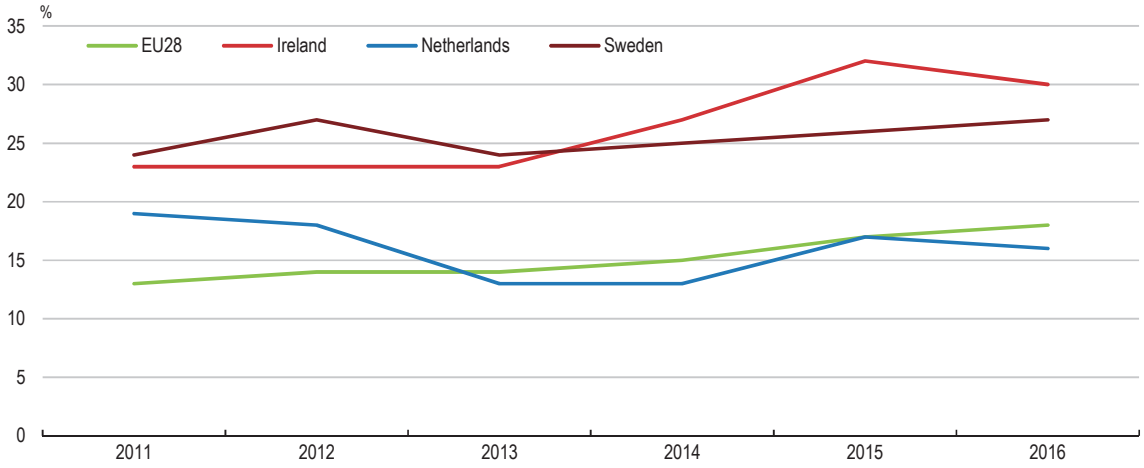
Source: OECD (2017), Government at Glance (database).

StatLink http://dx.doi.org/10.1787/888933683915

A business environment that enables firms to embrace digitalisation can also enhance their ability to reach new markets and implement new production processes. Recent work highlights that online sales have played an important role in the facilitation of export participation by Irish services firms (Lawless and Studnicka, 2017), with many Irish firms selling products online (Figure 1.18). While the proportion of enterprises with high speed broadband access (i.e. download speed above 30 mb/s) remains below that of some countries such as Sweden and the Netherlands, the increase in coverage between 2014 and 2016 was the second highest of any EU country. This partly reflects high speed broadband delivery being a strategic priority under the Programme for Government. The National Broadband Plan, published in 2012, envisaged that all premises in Ireland would have access to high speed broadband by 2020 (coverage was 65% as at September 2017). While full coverage is now not expected to be achieved until 2023, over 90% of premises should have access by 2020.

Figure 1.18. Many Irish firms sell online

Proportion of enterprises selling online (at least 1% of their turnover).



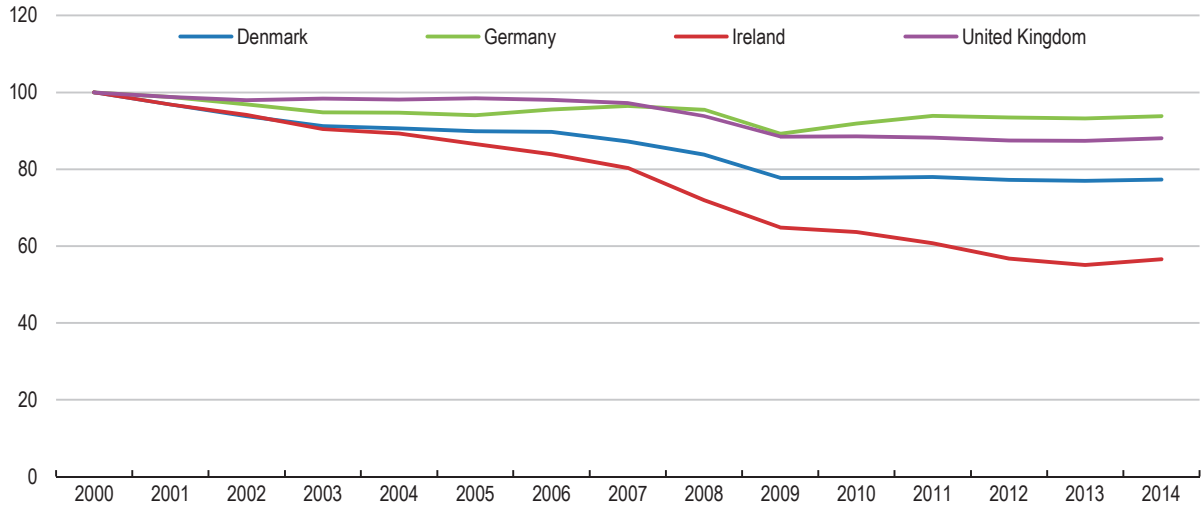
Source: Eurostat (2017), ICT Usage in Enterprises (database).

StatLink http://dx.doi.org/10.1787/888933683934

In the context of the large planned increase in public capital investment, choosing public infrastructure projects with the highest economic and social returns is critical. Since 2000, aggregate capital productivity has declined more sharply in Ireland than in any other OECD country for which comparable data exist (a subset of these are shown in Figure 1.19). This trend was observed prior to the financial crisis and has persisted since. Furthermore, recent work by the International Monetary Fund has estimated Ireland's public infrastructure spending efficiency at below the EU average (IMF, 2017).

Figure 1.19. Capital productivity has declined sharply in Ireland

Index 2000=100



Note: Capital productivity is measured as the ratio between the volume of GDP and the volume of capital input, defined as the flow of productive services that capital delivers in production (i.e. capital services). The latest available data point for Ireland is for 2014.
Source: OECD (2017) Compendium of Productivity Indicators (database).

StatLink http://dx.doi.org/10.1787/888933683953

There are particular aspects of the selection, design and evaluation of public infrastructure projects in Ireland which may be limiting the performance of such capital. Prior to project development, there is no mandatory process of consulting with future users. Such provisions are in place in the UK and in most Scandinavian countries and provide an opportunity for user feedback that can be incorporated into infrastructure design (OECD, 2017b). The public consultation in Ireland for the mid-term review of the government's Infrastructure and Capital Investment Plan 2016-21 was an example where such feedback has been encouraged, though it should be made compulsory in all future public investment projects.

There should also be better efforts to systematically collect information on the financial and non-financial performance of existing infrastructure. This can inform policymakers about the best delivery model for future projects and emerging capacity constraints. Furthermore, data can be used to create indicators for benchmarking infrastructure performance across time and sectors and, where possible, relative to other countries. New Zealand is one country that has invested in the evidence base for evaluating infrastructure assets. Following the 2011 National Infrastructure Plan, the government developed performance indicators for each sector on the stock, state and performance of central and local government infrastructure assets as well as those managed by the private sector. Once armed with better performance data, the establishment of an independent body that draws on that information to prioritise infrastructure projects should be considered. Nevertheless, the efficacy of such an institution relies on it being transparent and its findings not being influenced by vested interests.

In endeavouring to improve the quality of Irish infrastructure, the process for planning and delivering projects should also be reviewed. In recent years, the delay between the conception and completion of some public infrastructure projects has been inordinately long (IBEC, 2015a). This may reflect the fact that the responsibility for planning, delivering and maintaining infrastructure is highly fragmented across public sector entities (NCC, 2016). It should be ensured that there is a clear rationale for project responsibilities being divided across institutions and levels of government. In such a case, the Department of Housing, Planning and Local Government should undertake regular reviews to promote cooperation and ensure there are not contradictory approaches being undertaken by the entities involved.

Insolvency regimes are crucial in influencing business dynamics

Effective exit policies strengthen market selection by increasing the economy's ability to wind down non-viable firms and by facilitating the restructuring of viable ones. They can also improve within-firm productivity growth among firms undergoing restructuring. Finally, such policies enhance the scope and speed at which resources sunk in failing firms are reallocated to more productive uses (Adalet McGowan and Andrews, 2016). Exit policy also matters for firm entry, since high exit costs disproportionately affect firms with riskier business strategies which entail a high probability of failure (Bartelsman et al., 2008). Recent OECD evidence shows that strengthening the insolvency regime is complementary to regulatory reforms for firm entry (Andrews et al., 2018).

While a number of policy domains are related to firm exit, insolvency regimes are crucial for the private market to facilitate the exit of non-viable firms in an orderly manner. According to Adalet McGowan and Andrews (2016), this is due to the existence of market imperfections including: information asymmetries, as debtor and creditors assign

different values on the firm (Smith and Stroemberg, 2005); incomplete contracts, as it is difficult to write a complete contract ensuring an optimal outcome in advance (Hart, 2000); and coordination problems, as the interest of individual creditors can conflict with those of the creditors as a collective (Marinc and Vlahu, 2012).

In Ireland, corporate insolvency results in one of three main procedures: liquidation (winding up the business); receivership (enforcement of collateral against a loan); or examinership (restructuring). The number of insolvency cases is limited as there were 1 754 liquidations, accounting for only 12% of the total number of firms which were dissolved in 2016. The vast majority of liquidations are voluntary, while court-ordered liquidations accounted for just 61 cases. In 2016, 340 receiverships were initiated in 2016, while 20 companies went into examinership (CRO, 2017).

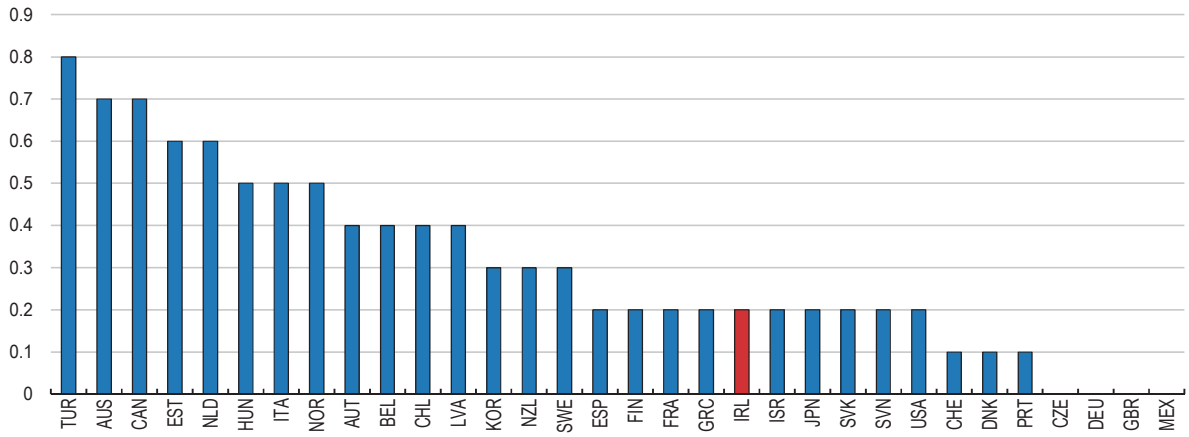
Corporate insolvency regime for restructuring

The Irish corporate insolvency regime is considered to be highly efficient (World Bank, 2017). The recovery rate (i.e. how much secured creditors recover from an insolvent firm at the end of insolvency proceedings) is very high, at 87.7% (versus the OECD average of 73.0%). The average duration of insolvency proceedings is short (0.4 years versus 1.7 years), though costs of insolvency proceedings are close to the OECD average (9% of the debtor's assets versus 9.1%), mostly due to the cost of legal services. The framework of the Irish corporate insolvency regime is also considered to be strong (Adalet McGowan et al., 2017b; Figure 1.20), in particular with regard to corporate restructuring. The strength in the corporate insolvency framework (Figure 1.20) results from a number of positive practices in Ireland.

- Insolvency proceedings start early, thus avoiding delays that reduce the possibility of successfully restructuring viable firms and lower the liquidation value of failing firms.
- After the restructuring proceedings, the debtor is allowed to obtain new credit.
- The debtor is allowed to continue operations during restructuring proceedings, thus increasing the chance of a successful outcome, particularly as incumbent managers are allowed to stay in charge for a limited period.
- Restructuring plans need only a requisite majority of creditors for approval, instead of requiring a unanimous vote, thus facilitating the timely restructuring of firms.

Figure 1.20. The insolvency regime for corporate restructuring is efficient

OECD insolvency indicator: Corporate restructuring, 2016



Note: The indicator is constructed based on the OECD questionnaire on insolvency regimes. It ranges from zero (least stringent) to one (most stringent). "Corporate restructuring" takes into the following aspects: creditors' ability to initiate restructuring; availability and length of stay on assets in restructuring; treatment of management during restructuring; possibility and priority of new financing; and possibility to "cram-down" on dissenting creditors.

Source: Adapted by the Secretariat based on Adalet McGowan et al. (2017).

StatLink http://dx.doi.org/10.1787/888933683972

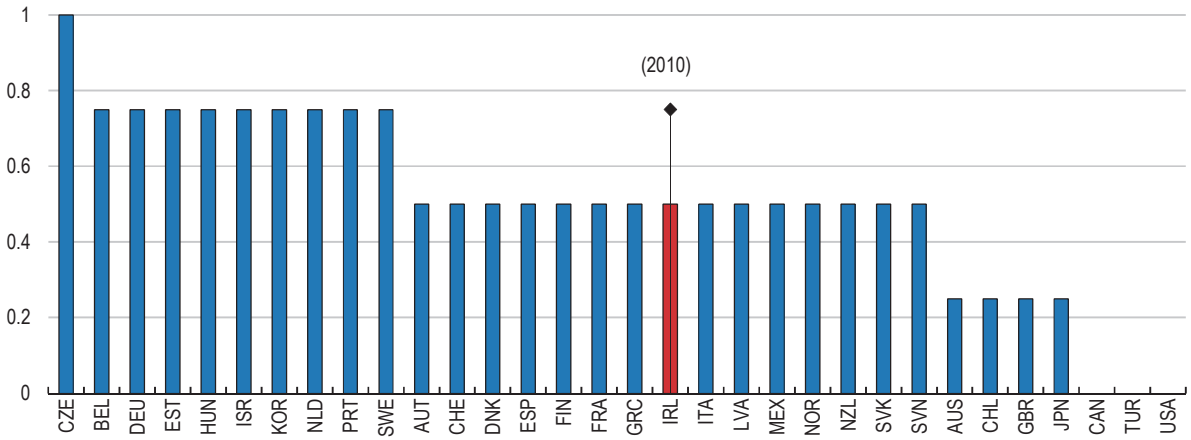
Bankruptcy law

Bankruptcy law often has greater importance than corporate insolvency regimes for influencing the exit (and hence entry) of entrepreneurs and small businesses (Armour and Cumming, 2008). Entrepreneurs often use personal finances prior to incorporating and obtaining limited liability protection (Berkowitz and White, 2004; Cumming, 2012) and lenders often require them to make personal guarantees. In Ireland, such guarantees are common practice, with some 40% of SMEs using them (CSO, 2014). This likely impedes firm exit, as an owner of a failing firm that has given personal guarantees becomes liable if the firm's assets cannot fund all liabilities. In Ireland, if the owner cannot pay out the liabilities or avail of alternative debt resolution under personal insolvency law (discussed below), then they risk becoming bankrupt.

For many years, Ireland's bankruptcy law was very stringent for debtors, and all parties avoided pursuing or declaring bankruptcy at any cost, to the extent that the number of personal bankruptcy cases was virtually zero in the 2000s. Two recent reforms, which reduced the penalties for the bankrupt (Figure 1.21), resulted in an increase in the number of bankruptcies adjudicated (from 58 in 2013 to 526 in 2016). This suggests that the reforms made bankruptcy a viable solution, although the number of bankruptcy cases remains unusually low with respect to the number of highly indebted persons.

Figure 1.21. Reforms to bankruptcy law have reduced penalties for failed entrepreneurs

OECD insolvency indicator: Treatment of failed entrepreneurs, 2016



Note: The indicator is constructed based on the OECD questionnaire on insolvency regimes. It ranges from zero (least stringent) to one (most stringent). "Treatment of failed entrepreneurs" takes into the following aspects: time to discharge; and bankruptcy exemptions.

Source: Adapted by the Secretariat based on Adalet McGowan et al. (2017).

StatLink http://dx.doi.org/10.1787/888933683991

The availability of discharge (exemption of future earnings from obligations to repay pre-bankruptcy debts) reduces the burden of the debtor and thus facilitates smoother firm exit. The recent reforms just discussed reduced the time to discharge (i.e. when the exemption from pre-bankruptcy debt repayment becomes available) from twelve years to three in 2012 and from three years to one in 2015 (although it can be extended for non-cooperative debtors up to a maximum eight years from the date of bankruptcy adjudication or up to a maximum of 15 years in very serious cases). If there is an Income Payment Agreement or an Income Payment Order in place, the bankrupt person will still have to comply with it until it expires, which can last up to 3 years. However, such orders are made only where the bankrupt's income or assets so permit and subject to the courts having regard to the reasonable living expenses of the bankrupt and their dependents. In some other countries, discharge is not allowed or, even when it is allowed, the time to discharge is long.

The exemptions of assets of the bankrupt that are not directly linked to the business also affect firm exit. In Irish bankruptcy law, the exemptions of pre-bankrupt assets from the bankrupt estate (or the legally protected assets) are very strictly limited. All of the debtor's assets, with the exception of necessities up to a value of EUR 6 000 (equivalent to a fifth of average annual earnings), are transferred to the Official Assignee who will sell them; the proceedings are distributed among the creditors. The assets include the debtor's dwelling, under the prior permission of the court. This contrasts, for instance, with the exemptions available under US Federal Law, which sets up minimum standards across states, allowing the exemptions up to USD 22 975 for homestead, USD 11 525 for total household goods and USD 3 450 for motor vehicle, etc.

In practice, however, the bankrupt's home is rarely sold by the Official Assignee, because the court must take into account the reasonable living expenses of the bankrupt and his or

her dependents' in making any bankruptcy payment order. Moreover, reforms to the bankruptcy law in 2015 specified that if neither the secured creditor nor the Official Assignee sought to repossess a dwelling within three years of the date of bankruptcy adjudication, the ownership of the dwelling by the debtor can be reinstated. Overall, the bankrupt is often granted more exemptions than what is defined in the bankruptcy law, but the courts define what are 'reasonable' living expenses (having regard to the Reasonable Living Expenses Guidelines issued annually by the Insolvency Service of Ireland) on a case by case basis, and in this sense uncertainty remains. In parallel, collateral enforcement by creditors rarely occurs in practice (even though a secured creditor's contractual rights are not impaired by the debtor becoming bankrupt) due to the slow repossession proceedings (see Key Policy Insights section). Thus, in some cases at least, both the debtor and creditors can be better off by engaging actively in debt resolutions outside the bankruptcy procedure.

Alternative debt resolution mechanisms

The Personal Insolvency Act of 2012 introduced three new debt resolution mechanisms to help highly-indebted people reach agreements with their creditors. These mechanisms offer different solutions to people depending on their situations (Table 1.3). Among them, the Personal Insolvency Arrangement provides for the agreed settlement of both secured and unsecured debt on a voluntary basis (Table 1.3). The debtor must be able to make some repayments to their creditors in return for a discount of their debts. When the agreed period specified in each Personal Insolvency Arrangement ends, and if the debtor has fulfilled the agreement, they will be discharged from the unsecured debts. However, the secured debt will only be discharged to the extent specified in the Personal Insolvency Arrangement.

The three personal insolvency schemes have been increasingly used since their inception. Across the three schemes, 3 038 arrangements have been approved out of 6 800 applications since 2013 (ISI, 2017). The rejection of over half of applications by creditors reflects poor prospects of repayment by debtors, but is also related to the difficulties in co-ordination among creditors. Since late 2015, the debtor can appeal to the court for a review when creditors reject a PIA proposal which includes debt secured on the debtor's main residence. The court may impose the rejected PIA proposal on creditors, subject to a number of criteria. Data on this new review process will be published in due course, and it may be useful in assessing how to further promote the alternative debt resolution mechanisms. Then, the authorities should consider making these debt resolution mechanisms more practical, for instance, requiring the approval of the simple majority of creditors, instead of 65% of them, and removing some other additional requirements (Table 1.3).

Facilitating the exit of non-viable firms may initially entail a rise in the number of displaced workers. Nevertheless, this should be considered in a broader context: In Ireland, around 1.1 million transitions occurred in the labour market in 2015 (SOLAS, 2016). A significant share of the transitions were accounted for by job churn, while the amount of inflow from employment to unemployment was 88 000. The number of those who were displaced and became unemployed due to business closure traditionally accounts for less than 10% of this inflow into unemployment. To cushion the impact on such workers, effective jobseeker assistance programmes are key. Regarding displaced

Table 1.3. Four alternative resolution mechanisms for personal insolvency in Ireland

Arrangement	Type of debt covered	Value	Duration	Apply through	Contents
Bankruptcy	Unsecured and secured	Over EUR 20 000	1 year	High Court (voluntary declaration or else creditors can petition)	The bankrupt is automatically discharged from bankruptcy 1 year after the order of adjudication. The bankrupt's name will remain on the register, as a discharged bankrupt. If there is an Income Payment Agreement or an Income Payment Order in place, s/he will still have to comply with it until it expires. These arrangements can last up to 3 years.
Debt Relief Notice (DRN)	Unsecured (and secured in certain cases)	Up to EUR 35 000	3 years	Approved Intermediary (AI)	DRN provides debt relief for people with no disposable income or assets and no prospect of being able to pay off the debt. DRN writes off debt up to EUR 35 000. During this 3-year period the creditors will not be able to pursue the debtor for payment, but if the debtor's circumstances improve, s/he may have to pay part of debts.
Debt Settlement Arrangement (DSA)	Unsecured	No limit	5 years (+1)	Personal Insolvency Practitioner (PIP)	DSA provides for the agreed settlement of unsecured debt. The debtor must be able to make some repayments to the creditors in return for a discount of debts. It is a voluntary arrangement and it requires the support of creditors representing at least 65% of the total debt. If the DSA ends successfully, the debtor will be discharged from the unsecured debts.
Personal Insolvency Arrangement (PIA)	Unsecured and secured	No limit on unsecured, Up to EUR 3m secured (though cap can increase if agreed)	6 years (+1)	Personal Insolvency Practitioner (PIP)	PIA provides for the agreed settlement of secured or unsecured debt. The debtor must be able to make some repayments to the creditors in return for a discount of debts. It is a voluntary arrangement and it requires the support of creditors representing at least 65% of the total debt. In addition, over 50% of secured creditors and 50% of unsecured creditors must vote in favour. If the PIA ends successfully, the debtor will be discharged fully from the unsecured debt and s/he will be also discharged from the secured debt to the extent specified in the PIA.

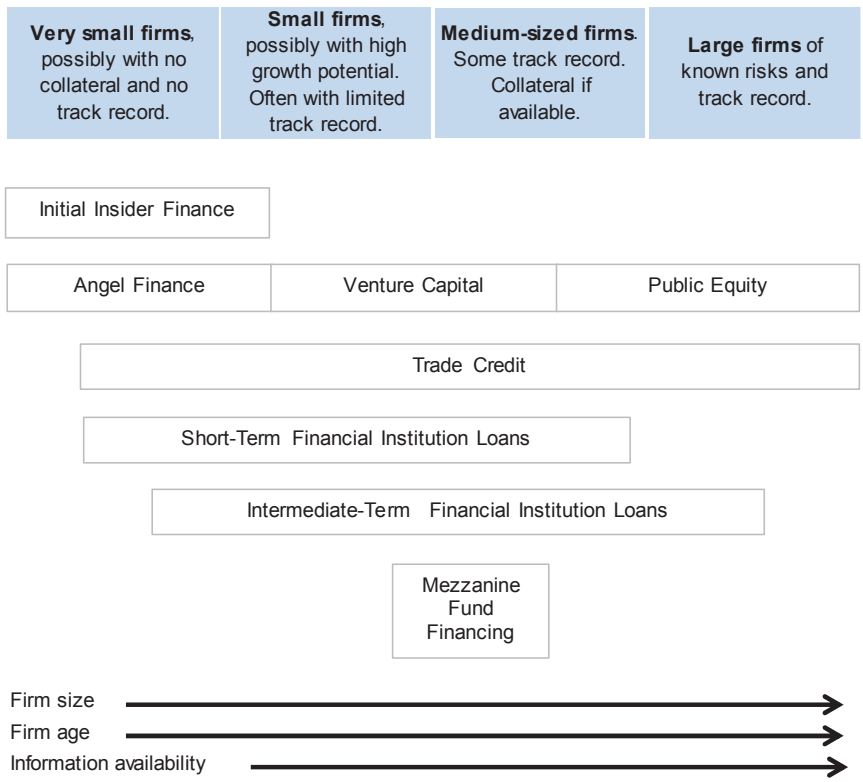
Source: based on citizensinformation.ie

workers due to firm exit, OECD evidence shows that active labour market programmes are found to be more effective among such displaced workers following firm exit, compared with other categories of jobseekers (Andrews and Saia, 2016).

Enhancing the allocation of finance

Well-functioning capital markets ensure the efficient allocation of capital. They facilitate the entry and expansion of high-potential businesses, boosting business dynamism. Access to finance for high-growth Irish firms also supports capital investments that better enable technology transfer or their ability to operate at a scale which makes supply relationships with MNEs feasible. On the credit demand side, the importance of different types of finance varies depending on firms' risk/return profile and stage of business development (OECD, 2015c; Figure 1.22).

Figure 1.22. The importance of different types of finance varies across firms



Source: Berger and Udell (1998), adapted by the Secretariat.

Bank finance, traditionally the main source of external funding among Irish SMEs, has weakened since the crisis. The share of firms relying on bank finance declined by 50% between 2005 and 2012 and, within bank finance, the share of working capital facilities rose compared with bank loans (Lawless et al., 2013). Bank loans are overall less frequently used in Ireland than in other euro area countries (Table 1.4). The decline in bank finance has been substituted by other funding sources, such as internal funding and trade credit (Casey and O'Toole, 2014). Although other types of debt finance are overall more frequently used in Ireland than in other euro area countries (Table 1.4), funding through the stock exchange remains comparatively underdeveloped (see below).

Table 1.4. Financing sources used in Ireland more than in other euro area countries

	Young firms (< 5 yrs)	Developing firms (5 - 10 yrs)	Mature firms (> 10 yrs)
Micro enterprises			
Retained earnings		X	X
Bank working capital facilities	X	X	X
Bank loans		X	
Issued debt		X	X
Trade credit	X	X	X
Other loans		X	X
L/F/HP			
Mezzanine			
Small-sized firms			
Retained earnings	X	X	X
Bank working capital facilities	X	X	X
Bank loans		X	
Issued debt	X	X	X
Trade credit	X	X	X
Other loans	X	X	X
L/F/HP		X	
Mezzanine			
Medium-sized firms			
Retained earnings	X	X	X
Bank working capital facilities		X	X
Bank loans			
Issued debt		X	X
Trade credit	X	X	X
Other loans	X	X	X
L/F/HP			
Mezzanine		X	

Note: X shows the financing is used more than in other euro area countries.

Source: Adapted by the OECD based on Lawless et al. (2014).

Restoring the normal functioning of the banking sector

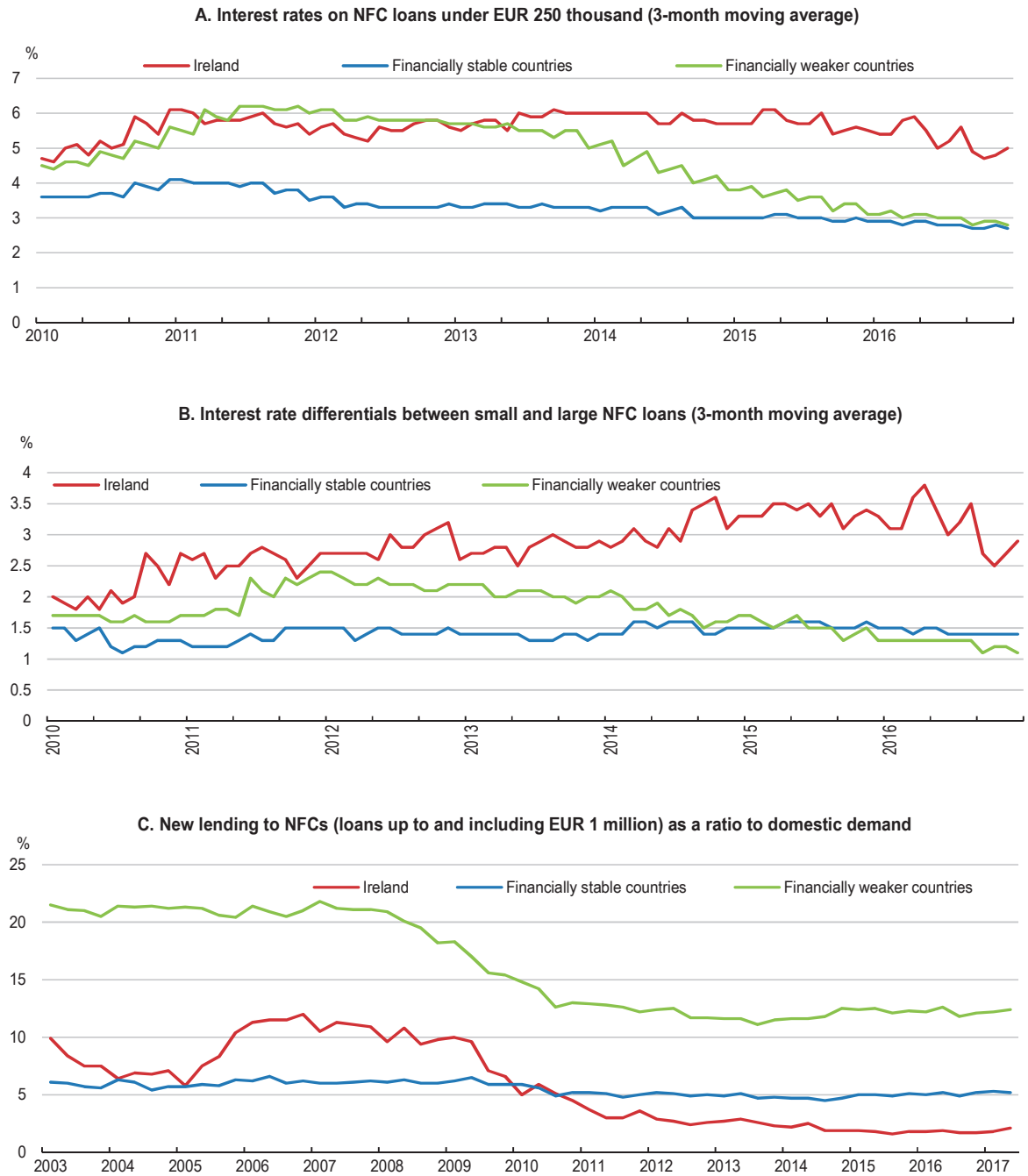
Impairment in the banking system

The SME default rate has remained high compared with many other European countries over the past years (Figure 1.8). Some SMEs are highly indebted, which effectively raises solvency and default risks (McCann, 2014). At firm level, the financial position of SMEs varies significantly, as about one-third of SMEs do not hold debt, while 5% of them are heavily indebted as their debt-to-turnover ratio exceeds one (CBI, 2017). The share of such firms is particularly high in the hotels and restaurants sector, where property-related loans for business purposes were excessively extended. Around 75% of SMEs with property-related debt find it an obstacle to business performance (CSO, 2014).

Reflecting the high SME default rate, borrowing conditions have remained very tight for small businesses since the onset of the crisis. Bank lending interest rates in the SME sector remain among the highest across euro-area countries (Figure 1.23, Panel A). Such market conditions tend to reflect high default rates, limited competition between lenders and high bank funding pressures (Carroll and McCann, 2016). Simultaneously, the interest rate differential between large firms and SMEs has also been significant (Figure 1.23, Panel B), a circumstance found where banks have greater market power and

greater balance sheet weakness (Holton and McCann, 2016). As a result, total new lending remains very limited (Figure 1.23, Panel C), suggesting that potential lending to high-growth firms is likely to have been undermined.

Figure 1.23. Financing conditions for SMEs remain tight



Note: Financially stable countries group comprises Austria, Germany, Finland, the Netherlands and France (Belgium is also included in Panel C), and Financially weaker countries group comprises Portugal, Italy, and Spain.

Source: Central bank of Ireland.

StatLink http://dx.doi.org/10.1787/888933684010

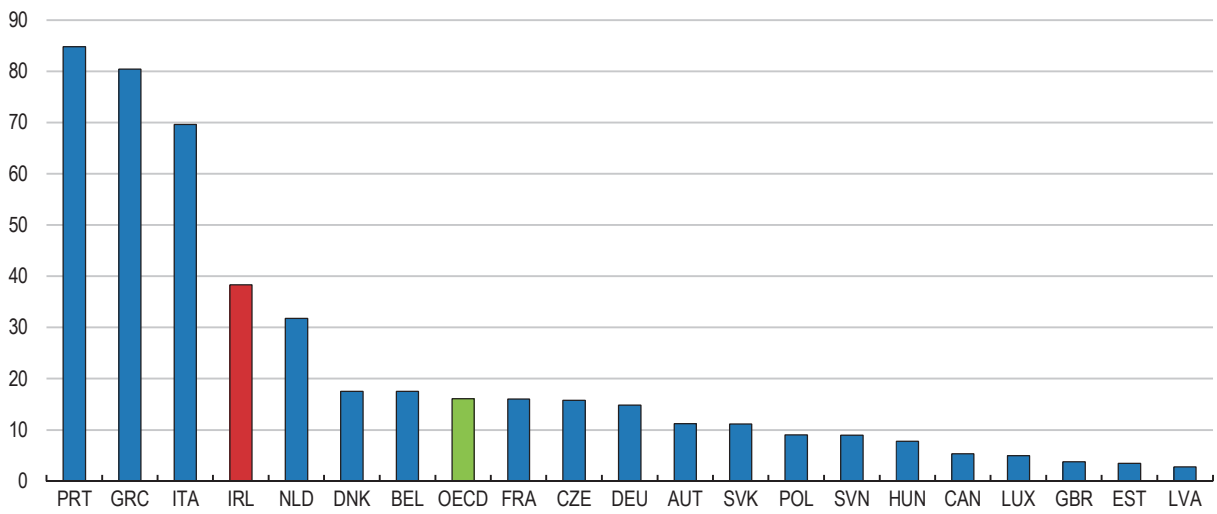
Forbearance lending

While the SME default rate is high, forbearance measures (i.e. granting a temporary or permanent concession or agreed change to loan terms) to distressed firms have frequently been extended. Some forborne loans do return to performance, but the value of this is largely offset by that of new or extended forbearance lending (Bank of Ireland, 2017; AIB, 2017). Forbearance lending in the SME sector most often takes the form of term extension (Bank of Ireland, 2017; AIB, 2017); this is effective for viable firms facing short-term liquidity problems but is not a durable solution for non-viable firms. Such forbearance can reduce the access to finance for young high performing companies and slow the exit of poor performing ones, lowering the efficiency of resource allocation.

The extent of NPL write-offs has been limited, compared with the amount of non-recoverable loans. This may be because banks' provisions against defaulted loans are not sufficient, at least by international standards (Figure 1.24). If they write them off, the enforcement of collateral would limit subsequent losses. However, repossession is very difficult when the collateralised assets include the business owner's primary dwelling house, on which the business owner provided personal guarantees in the loan contract. As it stand, Ireland's repossession process on primary dwelling house is lengthy with uncertain results. Thus, creditors' claim on assets is very restricted in practical terms, which in turn adversely affects bank credit supply. In this respect, it is essential to improve judicial efficiency in repossession proceedings and the authorities should consider granting creditors a possession order for a future date to speed up repossession proceedings (see Key Policy Insights section).

Figure 1.24. The ratio of NPLs net of provisions to capital is high

Percentage, Q2 2017



Note: Q1 for the United Kingdom. The OECD aggregate is an unweighted average of the latest data available for 34 OECD countries.

Source: IMF (2017), Financial Soundness Indicators (database), International Monetary Fund, November.

StatLink http://dx.doi.org/10.1787/888933684029

Strengthening the insolvency regime would also speed up the resolution of NPLs. The health of the banking sector is closely associated with a reduction in the prevalence of

non-viable firms, and this is facilitated by making the insolvency regime effective (Andrews and Petroulakis, 2017). As non-viable firms exit the market, which requires an effective insolvency regime, forbearance loans will decline and the banking sector will regain its health. This will strengthen the efficiency of the allocation of capital, enabling highly productive firms to attract more of it.

As for new loans, banks should reduce the use of personal guarantees of the business owner to cut off the link between business failure and personal bankruptcy. The most common conditions for new loans remain the commitment of business owners to their personal guarantees (CSO, 2014). Such collateral requirements help banks to screen out risky businesses, but once the firm defaults, banks get into trouble as repossession of collateral is not easy in practical terms. In this respect, the authorities should consider introducing guidelines for banks that specify circumstances under which personal guarantees from businesses should not be sought. Instead, banks should adopt a business model focusing on the assessment of the business plan and cash flow. Such a practice would also help differentiate the perceived risk of defaults across businesses.

Developing alternative financing channels

Equity finance is key for firms seeking long-term corporate investment for innovation, value creation and growth. The development of equity finance in Ireland is opportune, not only because it will take some time for the banking sector to regain its normal functioning, but more generally because equity financing is especially relevant for firms with a high risk-return profile, such as new, innovative and high-growth firms. It will also contribute to financial stability, containing an excessive rise in economy-wide leverage ratios (Cournède and Denk, 2015).

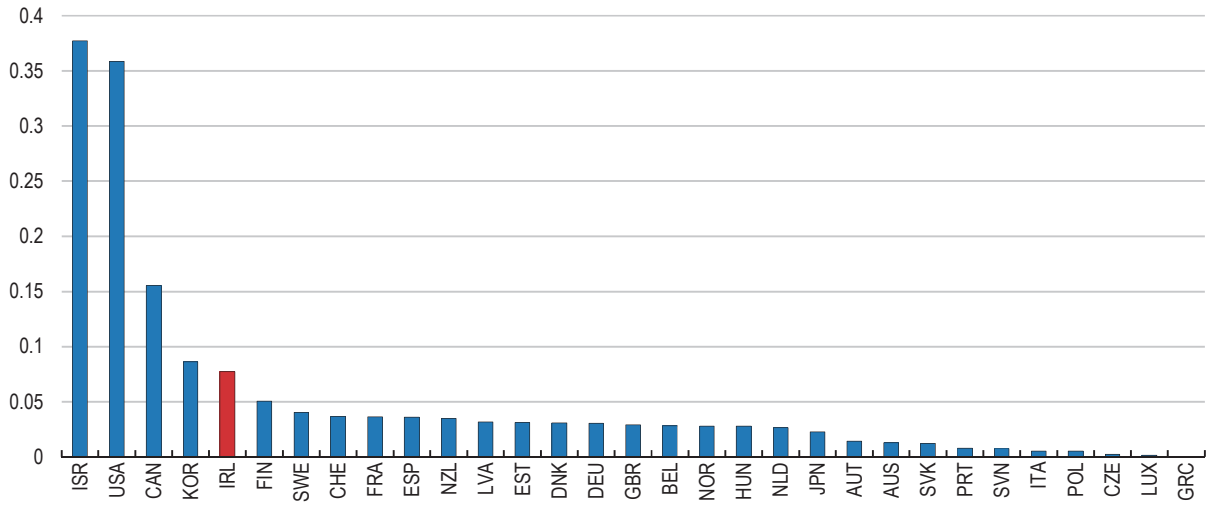
Private equity

Private equity finance can boost the creation and development of innovative firms. Business angels, mainly former entrepreneurs and wealthy individuals, operate in a seed/early-stage investment segment. They commonly target firms with a high potential to generate substantial revenues over the medium to long term. In contrast with business angels, venture capitalists are formally organised funds meeting retail investors' requirements. They intervene at a later stage, after a business idea or product has been successfully test-marketed, to finance full-scale marketing and production. They target a small pool of high-growth-potential firms with the capacity to generate high returns in a relatively short timeframe.

Financing by venture capitalists is more developed in Ireland than in other OECD countries (OECD, 2017c; Figure 1.25) but is limited to a small number of firms, with around 1% of Irish SMEs applying for it over each six-month period in recent years (Department of Finance, 2017). As in other countries, venture capital financing is concentrated in the ICT sector in particular (O'Toole, 2014). It is also disproportionately concentrated on firms in the middle stage of development (Figure 1.26). This leaves scope for public funds to target their support to a wide range of beneficiaries, in particular for those in earlier development stages (see below).

Figure 1.25. Venture capital investment is higher than in most other OECD countries

Venture capital investment as a percentage of GDP, 2016



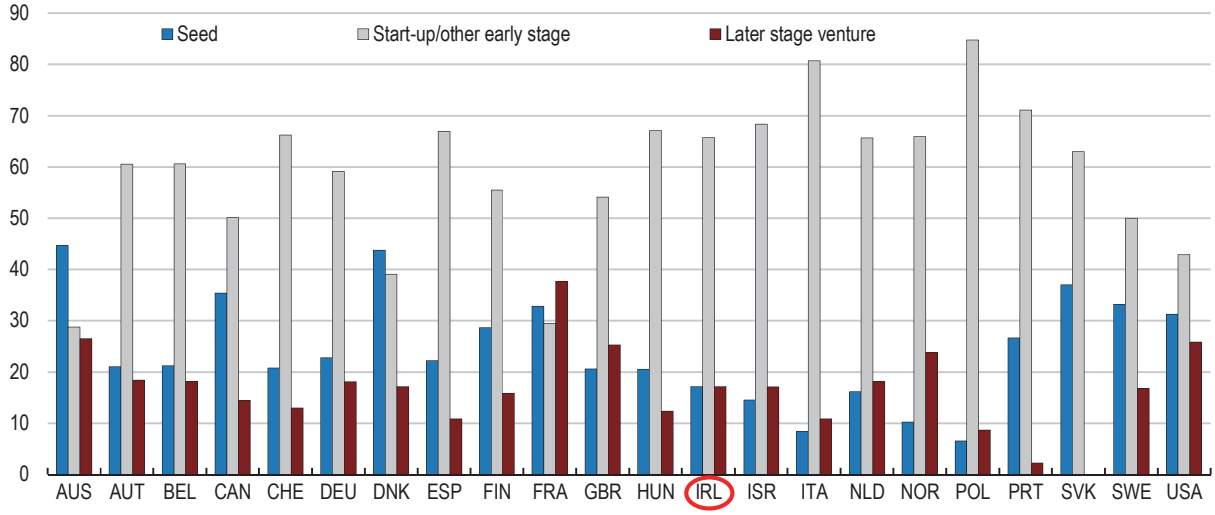
Note: 2014 for Israel and Japan.

Source: OECD Entrepreneurship at a Glance 2017.

StatLink http://dx.doi.org/10.1787/888933684048

Figure 1.26. Venture capital finance is concentrated in the middle-development stage in Ireland

Venture-capital-backed companies by development stage, % of total VC finance, 2016



Note: 2014 for Israel.

Source: OECD Entrepreneurship at a Glance 2017.

StatLink http://dx.doi.org/10.1787/888933684067

Insolvency reforms that accelerate the initiation and resolution of insolvency proceedings is complementary to the core VC business model, which relies on the aggressive

reallocation of resources across the investment portfolio from failing to high-performing ventures (Andrews et al., 2018).

Public equity

For growth-oriented and innovative enterprises, specialised platforms for a public listing can provide important financial resources (OECD, 2015c). For businesses in a late stage of development, the stock exchange serves as both a source of capital and an "exit vehicle" for venture capitalists, which can earn substantial revenues by selling their equity in successful businesses.

Listed firms have to comply with stock-exchange rules, which protect investors' interests and market integrity. This usually involves disclosure by firms through an initial prospectus of basic information about their activities and financial situation, and later though regular reporting. It also requires firms to place a minimum share of their equity in public circulation. Trading takes place under the rules established by the exchange, which is usually regulated by a securities authority. All such requirements may be difficult and costly to meet for many small businesses.

The Enterprise Security Market (ESM), the specialised platform for small businesses in the Irish Stock Exchange, sets less strict listing and disclosure requirements. In contrast with the Main Securities Market (MSM), it does not set requirements for firms listed on it to place a minimum of 25% of shares in public circulation or to publish a prospectus. Similarly, price-sensitive information need only be provided twice yearly in the ESM, whereas its continuous provision is required in the MSM. In terms of preserving investors' interests and market integrity, ESM advisors provide small firms with guidance on their responsibilities under the rules in the exchange.

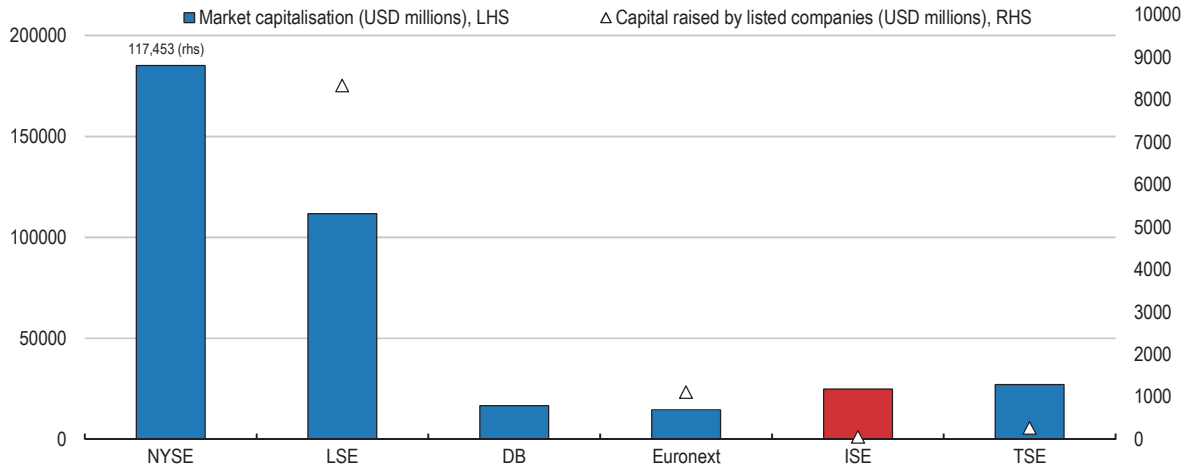
The ESM has made progress since its inception just over a decade ago. The market capitalisation value in the ESM is larger than the Alternext market, Euronext's specialised platform for small businesses, though much lower than the Alternative Investment Market (AIM) in the London Stock Exchange (Figure 1.27). The number of the listed companies in the ESM is limited (25 in 2016) compared with Alternext and AIM (197 and 173, respectively). Compared with similar markets, the amount of new capital raised by ESM listed companies is also limited (Figure 1.27).

The limited number of firms may suggest that public equity finance is costly in Ireland. If this is the case, the authorities should consider alleviating debt bias of firms – interest payments are deductible in corporate taxation while the return on equity is not (de Mooij, 2011). To do so, firms could be allowed to deduct the notional return on equity from their corporate tax bill (Mirrlees et al., 2011), as was introduced in Belgium in the 2000s. However, given Ireland's low rate of corporate taxation, the resulting reduction in the average effective tax levels would be very limited. This is even more so for small but high-growth-potential firms which do not yet pay corporate tax.

The limited amount of capital raised in the ESM may reflect the typical problem of a small stock exchange: that monitoring costs are very high for investors relative to the level of investment and low levels of liquidity. The marginal and average tax rate for interest on bonds and dividends is identical (OECD, 2015d) and a recent policy removed the obligation for investors in the ESM to pay stamp duty. As a further step, the authorities can consider reforming the Employment and Investment Incentive Scheme, a tax relief for investing in firms in early stages, to cover also those transitioning to public

equity, following the example of the Enterprise Investment Scheme (EIS) in the United Kingdom.

Figure 1.27. The alternative stock exchange platform can be developed further



Note: "NYSE": NYSE MKT in New York Stock Exchange; "LSE": the Alternative Investment Market in the London Stock Exchange; "DB": the Entry Standard in the Deutsche Boerse; "Euronext": ALTERNEXT in the Euronext group; "ISE": the Enterprise Securities Market in the Irish Stock Exchange; "TSE": MOTHERS in the Tokyo Stock Exchange. No data available for the capital raised by listed companies for "DB".

Source: OECD calculation based on the World Federation of Exchanges' database and the LSE's annual report.

StatLink http://dx.doi.org/10.1787/888933684086

The United Kingdom's EIS offers tax relief to investors who purchase new shares in small and high-risk trading firms. The relief sets 30% of the cost of the shares up to a maximum investment of GBP 1 million against the individual's income tax liability, which can be deferred over several years. The firms must be an unquoted company at the time the shares are issued. When the company transitions to the AIM, investors do not lose the tax relief if the company satisfies all the conditions such as the number of employees (250 or fewer). Such a tax relief would facilitate both the development of early stage private equity and the transition of successful businesses into the stock exchange.

Improving public financial support

Financing transactions are in general affected by market failures such as information asymmetry, particularly in the case of young innovative businesses (Calvino et al., 2016). Young firms tend to be liquidity constrained as they lack credit history and collateral to secure a loan. The problem becomes more acute if they are involved in innovation processes which have uncertain outcomes. This is particularly the case when they deal with assets whose nature may be intangible and difficult to evaluate, such as patents. All these problems call for public intervention to financially support young and innovative firms.

Ireland has set up a number of public funds to support small businesses since the early 2010s. These funds mainly take the form of fund-of-funds and co-investment funds, both of which seek to leverage private sector investment (Table 1.5).

Table 1.5. Funds that provide access to finance for small businesses in Ireland

Scheme	Type	Year launch	Capacity	Main targets	Outline	Achievements
Ireland Strategic Investment Fund (ISIF)	fund-of-funds	2014	EUR 7.1 billion (taking over the portfolio of the National Pension Fund)	Targeting investment in private sector entities that interface directly with SMEs.	Large volumes of granular debt and equity investments to be made in SMEs.	To date, EUR 355 million has been committed to four SME funds: BlueBay SME Credit Fund; Carlyle Cardinal Ireland SME Equity Fund; Causeway Capital Partners SME Equity Fund; BMS Finance (Ireland) fund.
Innovation Fund Ireland	co-funding	2010	Approximately EUR 250 million (leveraging private funds of at least EUR 250 million)	Early-stage and high-growth companies.	Venture capitals (VC). Attracting leading international venture capital fund managers to Ireland.	Approximately EUR 80 million has been committed to four funds which are actively investing.
Seed & Venture Capital Scheme	co-funding	2013	EUR 175 million (leveraging private funds of EUR 525 million)	High potential start-up and scaling companies.	Private fund managers investing in equity and quasi-equity.	EUR 175 million was fully allocated in 2 separate competitive calls in 2013 and 2015. A number of venture capital funds targeting early stage funding.
Development Capital Scheme	co-funding	2012	EUR 75 million (leveraging private funds of EUR 150 million)	For mid-sized, high-growth, local companies with significant prospects for job and export growth.	Private fund managers investing between EUR 2 to EUR 10 million in equity, quasi equity and/or debt.	The target (total EUR 225 million) has been exceeded and there are now three funds actively investing in the Irish market.
Microenterprise Loan Fund	direct financing	2012	N.A.	Viable micro-enterprises with commercially viable proposals.	Unsecured loan of between EUR 2 000 and EUR 25 000.	From October 2012 to December 2015, the Fund approved loans to 770 micro-enterprises to the value of EUR 11.7 million.
Strategic Banking Corporation of Ireland (SBCI)	Funding private banks	2015	The current funding capacity: EUR 1.05 billion	On-lending model: not lending directly to enterprises. Risk sharing activity.	On-lenders provide loans. These SME loans can be for a term of 2-10 years with upper loan limit of EUR 5 million.	To end June 2017, the SBCI had committed a total of EUR 881 million to its 7 on-lending partners. EUR 855 million of SBCI supported funding was provided to 21 132 Irish SMEs. More than 80% of loans were for investment purposes and the average loan size was approximately EUR 42 000.

Source: Entrepreneurship at a Glance (2017), Ireland country note.

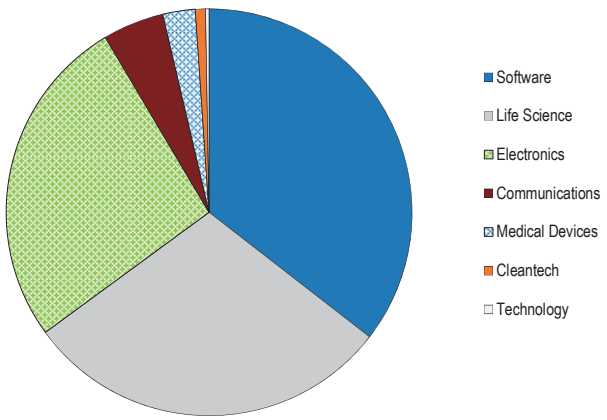
In 2014, the Ireland Strategic Investment Fund (ISIF) took over the EUR 7.1 billion discretionary portfolio of the National Pensions Reserve Fund. The ISIF invests on a commercial basis in a manner designed to support economic activity and employment in Ireland. To ensure the efficient delivery of funding to the SME sector, the ISIF generally targets investment in private-sector funds that deal directly with SMEs. Within this funding scheme, programme terms are flexible if the underlying requirement is met: namely, that the funding is provided on a commercial basis.

Enterprise Ireland, a state agency responsible for the development and growth of Irish enterprises in world markets, manages a number of co-investment funds (Table 5). In this funding scheme, private-sector fund managers make their own commercial investment decisions in the context of an agreed investment strategy. Enterprise Ireland usually commits at maximum 50% of total funding and invests according to the same commercial terms as private funds (on a 'pari passu' basis).

Public support through these funds is concentrated in certain segments in the economy. In the co-funding scheme with private funds, it is less likely for public funds to crowd out private financing. As a consequence, however, public support is concentrated in a limited segment of the economy, such as the ICT sector, where most VCs invest (Figure 1.28), and firms in comparatively later stages of development. For instance, the amount of investment for firms in the earliest stage account for only 6.2% in Enterprise Ireland's Seed and Venture Capital Scheme 2013-18 (Enterprise Ireland, 2017). The authorities should assess if the support from public funds could be made in a more broad-based manner and balanced more toward firms in earlier stages.

Figure 1.28. Funding through the Seed and Venture Capital Scheme is concentrated in certain sectors

Sectoral breakdown of investments cumulative to December 2016, % by value



Source: Enterprise Ireland.

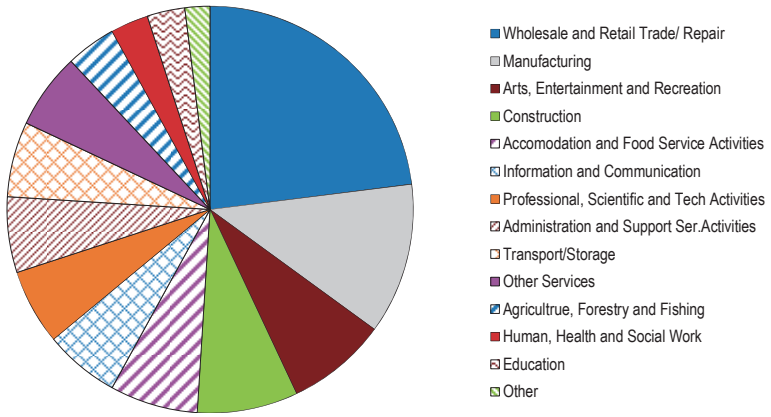
StatLink http://dx.doi.org/10.1787/888933684105

The Microenterprise Loan Fund Scheme deals more directly with firms in early stages, where market failures are most pronounced. The scheme is managed by the Social Finance Foundation, a not-for-profit company, on behalf of the Minister for Enterprise and Innovation. The scheme targets firms in early stages which cannot satisfy conventional bank credit criteria and have been refused credit from a bank. The funding

by this scheme to small businesses is comparatively balanced across sectors (Figure 1.29) and 56% of its approvals were granted to those in business for less than 1½ year (Microfinance Ireland, 2017). However, the scheme is limited in its size, as the total amount of loans approved accounted for EUR 18.2 million cumulatively as of end-2016, accounting for around 10% of the total amount allocated to the Seed and Venture Capital Scheme. The scheme could be extended further, ensuring that funding is strictly conditional on various tests of financial viability.

Figure 1.29. Funding through the Microenterprise Loan Fund Scheme is diversified

Sectoral breakdown of investments cumulative to end 2016, % by value



Source: Microfinance Ireland.

StatLink http://dx.doi.org/10.1787/888933684124

In order to address investment financing constraints, the Strategic Banking Corporation of Ireland (SBCI) was established in late 2014 to deliver effective financial supports to small businesses addressing market failures (SBCI, 2017). The SBCI secured available EU resources including funding from the European Investment Bank. The SBCI has adopted so far the wholesale lender approach – it does not lend directly to borrowers but provides funding to partner finance providers ("on-lenders") at attractive terms. Between 2014 and June 2017, EUR 855 million (0.31% of the 2016 GDP) of SBCI supported loans were provided to 21 132 Irish SMEs.

The SBCI currently has three on-lender banks, namely AIB, Bank of Ireland and Ulster Bank. The on-lending scheme can be effective if private banks face difficulties obtaining funding in financial markets. In such cases, the wholesale lender funds private banks at more attractive terms than they could obtain from the market, with the lower cost passed on to borrowers such as SMEs. The on-lending scheme, however, can induce distortive effects, because the reduction in interest rates due to the on-lender scheme may modify the expectation of interest rates by borrowers, which can be harmful for the development of the market.

One of the SBCI's stated objectives is to promote competition, as the Irish credit market is highly concentrated. The SBCI seeks to engage with new entrants, having established on-lender partnerships with four non-banks. They provide essentially non-bank finance such as invoice financing (providing cash with upfront payments against the value of outstanding invoices) and lease finance. The on-lender scheme is effective in this case,

since new entrants typically face difficulties in funding in the market due to information asymmetries. The SBCI should ensure that the low cost funding is made available only for a limited time to help new lenders overcome barriers to market entry.

The SBCI is diversifying its business model to engage in risk sharing (SBCI, 2017). It has taken over the operation and management of the Credit Guarantee Scheme (CGS), launched in October 2012, on behalf of the Minister of Business, Enterprise and Innovation. The CGS offers guarantees of up to 80% on SME loans, in return for a 2% annual premium to the insurer. It is the participating lenders, namely AIB, Bank of Ireland and Ulster Bank, that decide whether or not to use the scheme based on the creditworthiness of applicant firms. In other words, firms cannot apply directly for the scheme. Up until the end of 2017, 530 CGS loans were provided with a value of EUR 84.4 million (0.03% of the 2016 GDP).

If the aim of the SBCI is to support higher risk SMEs that cannot obtain finance, the CGS is more effective than the on-lender scheme. This is because private banks are unwilling to lend to high risk SMEs even with low funding costs. The CGS has scope to be developed further to address market failures such as the asymmetry of information for young firms which lack credit history and whose risks banks cannot always perceive accurately. In the OECD area, governments are strengthening the focus of SME policy on supporting start-ups, with guarantees increasingly targeting young, innovative firms more explicitly (OECD, 2016b). Such an approach should be followed in Ireland to allow greater focus on young firms, which face the most difficulty in obtaining loans. Initial credit guarantees for start-ups could cover even 100% of the loan. However, when reaching the end of their contract, any renewal of the guarantee should cover a smaller proportion.

The SBCI is diversifying its business model in risk sharing for some specific purposes. This includes the Agriculture Cash Flow Loan Scheme launched in early 2017 and the Brexit Loan Scheme which will be launched in March 2018. In both schemes, the risk is shared between private banks, the SBCI, the State and the European Investment Fund. The SBCI will complete an evaluation of the effectiveness of the Agriculture Cash Flow Loan Scheme for the future development and roll-out of the scheme. The SBCI intends to also conduct such evaluations for all other products, which should be pursued.

Maximising knowledge spillovers to local firms

One of the rationales for attracting FDI is the positive spillovers that foreign-owned firms can confer to local businesses. Forging supply linkages with foreign firms may appeal to local firms as a way to broaden their customer base or as a potential channel for training and financing opportunities. At the same time, foreign firms often value the proximity of local suppliers to their market and their ability to adjust specifications and provide inputs that are aligned with local preferences. A key channel through which such spillovers proliferate is the diffusion of new knowledge. This may be through informal interactions between producers, local firms being able to more closely examine the innovations of others or via the technical requirements embodied in procurement terms. The large and widening productivity gap between foreign-owned and domestic enterprises suggests some impairment in the knowledge diffusion process in Ireland.

The way that locally-owned firms are exposed to foreign businesses is through trade or research collaboration. The extent to which local firms have the incentive and ability to develop these relationships will depend on their prospects for growth if they succeed. In

this regard, the framework policies already discussed are key. Nevertheless, local firms must also possess the absorptive capacity to successfully implement new technologies or processes to which they are exposed (Figure 1.1 further above). Past work has highlighted the importance of factors such as the human capital embedded in local firms (Bloom et al., 2012) and their investment in knowledge based capital (Griffith et al., 2004) for firm's absorptive capacity. Once again, the incentive for firms to invest in these factors depends on the framework conditions governing the business sector. However, policy settings relating to specific areas such as innovation and education also need to be considered by policymakers.

Policies that encourage local firms to be further integrated in supply chains

Trade linkages between the foreign and domestic-owned sector can be strengthened by reducing search costs, uncertainty and a lack of information regarding available suppliers (OECD, 2005). The Irish government has a history of developing linkage programmes between foreign and local firms (Ruane and Ugur, 2002). Since 2012, the government's Global Sourcing Strategy has utilised collaboration between the Irish Development Agency (which is responsible for inward investment promotion) and Enterprise Ireland (responsible for the development and growth of Irish enterprises in work markets) to identify possible supply chain relationships between specific MNEs and local suppliers. Potential collaborators are then introduced during agency-organised trade missions. However, between 2012 and mid-2016, only 21 new contracts were secured as a result of the initiative (Enterprise Ireland, 2016).

While the Global Sourcing Strategy has been somewhat successful so far (Enterprise Ireland, 2016), it must be ensured that it does not favour particular local firms over others. The local suppliers that are identified as part of the initiative are the export-focused businesses that are in contact with Enterprise Ireland. Often, such firms are those most likely to have the product sophistication or scale to enter supply relationships with MNEs. However, complementary initiatives providing information about the local businesses that fall outside the gaze of Enterprise Ireland (e.g. locally traded service companies or micro-enterprises) could further enhance trade linkages.

One way to promote the integration of all capable local firms into the supply chains of MNEs may be through greater involvement by the Local Enterprise Offices (which deal with many firms outside the scope of Enterprise Ireland) in the Global Sourcing Strategy. A database with standardised, updated and certified data relating to both Irish-owned and foreign-owned firms could also be established and disseminated throughout the business community. This could promote the proliferation of both forward and backward supply chain linkages between foreign and domestic-owned firms. An example of such a tool is the information system used as part of the United Nations Industrial Development Organization Subcontracting and Partnership Exchange. This system facilitates supplier and buyer matchmaking and is coupled with benchmarking assessments of suppliers' performance (United Nations Industrial Development Organization, 2017). Nevertheless, sufficient resources need to be devoted to maintaining such a database in order for it to be effective.

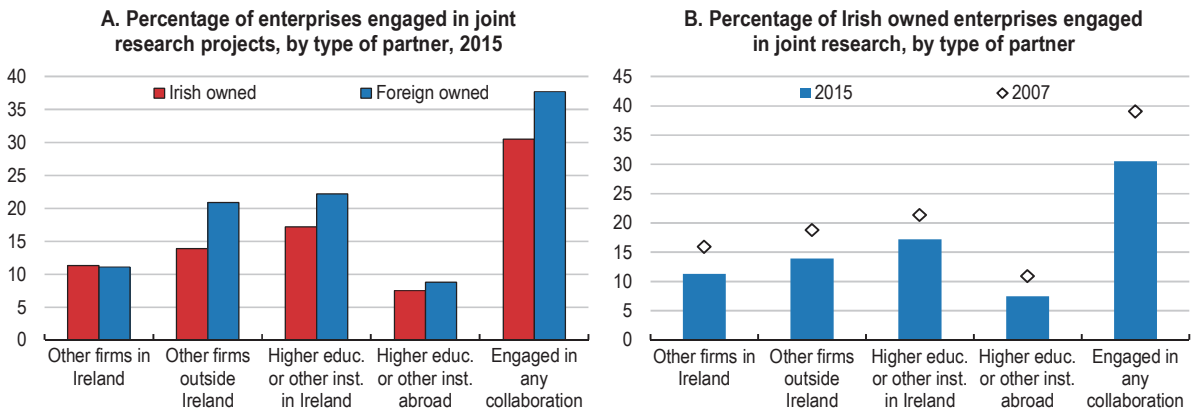
Promoting innovation collaboration

Local firm's exposure to new knowledge can also be improved through greater participation in research collaboration with outside entities. Such co-operation may be especially important for smaller and less productive firms that do not possess a large

stock of advanced machinery or skilled personnel that can readily engage with the technologies and organisational processes at the technological frontier. Despite many local Irish firms possessing innovation strategies, there is significant further scope to increase innovation activities in such firms, particularly in the services sector. Indeed, there is evidence of a strong correlation in Ireland between innovation collaboration activities and firm performance (National Competitiveness Council, 2017).

Around two thirds of Irish firms are not involved in research collaboration. Small Irish firms are especially unlikely to collaborate, and report less collaborative activity than their counterparts across Europe (Eurostat, 2014). Foreign-owned enterprises located in Ireland are more likely to undertake joint research, but a large proportion of this is with firms located abroad (Figure 1.30, Panel A). Furthermore, there is evidence that the appetite of Irish firms to engage in collaboration has diminished over the past decade (Figure 1.30, Panel B).

Figure 1.30. Irish innovators are less likely to collaborate



Source: Central Statistics Office.

StatLink http://dx.doi.org/10.1787/888933684580

The government has recognised the need for further promoting collaboration by firms (Department of Business, Enterprise and Innovation, 2015). This has spurred ongoing efforts by government agencies to promote collaborative activity. One initiative has been the establishment of 15 industry-led research centres by Enterprise Ireland and IDA Ireland (the Technology Centres Programme). These are collaborative research entities established and led by industry that possess qualified researchers who are affiliated with public research institutions (OECD, 2017d). At the same time, Science Foundation Ireland has established 17 research centres that aim to combine fundamental and applied research to find solutions that can ultimately have an economic impact (Box 1.3). These are important initiatives for promoting innovation collaboration, though it should continue to be ensured that there is not duplication or fragmentation of research across the different government programmes.

Box 1.3. Science Foundation Ireland research centres

Science Foundation Ireland has established 17 geographically dispersed research centres that are co-funded with industry partners. A key aim of these centres is to consolidate activities across higher education institutions in order to create a critical mass of internationally leading researchers that can be cost-effectively accessed by businesses. The centres partner with engineers and professionals in industry to answer research questions that are of strategic importance for Ireland. Specific research areas include nanotechnology, bioeconomy, photonics, big data, as well as more traditional domains such as dairy and telecommunications. There are currently over 320 companies involved in the centres through collaborative research agreements.

One such centre is AMBER (Advanced Materials and BioEngineering Research), which was born out of a collaboration between the Science Foundation Ireland Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN), Trinity Centre for Bioengineering, University College Cork and the Royal College of Surgeons in Ireland. The industry partners are diverse, both in terms of sectors and scale, covering the four primary sectors of ICT, medical devices, pharmaceuticals and advanced manufacturing technologies. A primary objective of the AMBER centre is to successfully transfer the new knowledge that it creates to industry through licensing agreements, staff exchange and formal knowledge transfer. An economic impact study of the centre was undertaken in 2016, highlighting significant positive effects when the direct, indirect and induced impacts are considered. Specifically, the study found that the overall impact on the Irish economy was 5 times the funds invested in the centre over the 2007-16 period.

AMBER aims to collaborate with small and medium enterprises as much as possible, with such firms accounting for about half the industry partners. One approach that the administrators of AMBER have found successful for increasing the involvement of such firms has been to gather a group of them together to participate in a "grand challenge" research project in which they all have a common interest. This reduces the investment needed in the project by any individual firm, making it more feasible and attractive for them to participate.

As highlighted by recent OECD work, there is greater scope for promoting research collaboration between research institutions and smaller Irish businesses (OECD, 2017e). The majority of existing collaborative research programmes focus on the involvement of exporting businesses or those already in innovative industries. One of the major impediments to the participation of smaller firms may be a lack of understanding of how to engage in such collaborative activities. Research institutions should thus focus on providing simple short-term collaborative activity offerings (e.g. updating ICT capacity) that can lead to a longer term relationship and more transformational projects for the business.

Greater investment in knowledge based capital

Translating exposure to new knowledge into efficiency gains by local businesses will partly depend on their investment in knowledge based capital. This is because some

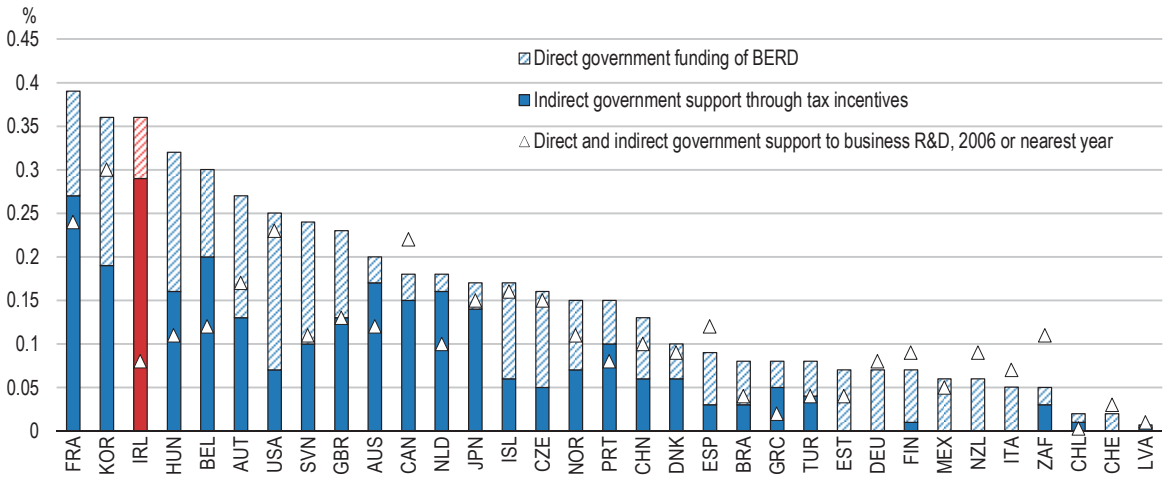
aspects of new technologies are difficult to codify and require practical investigation before they can be properly incorporated into production processes (Griffith et al. 2004). Indeed, new empirical evidence highlights that productivity spillovers to local manufacturing firms in Ireland are positively associated with their investment in research and development (R&D) activities (Box 2; Di Ubaldo, Lawless and Siedschlag, 2018).

Across countries, R&D tends to be partly funded by the government given that the social returns to such activity can exceed the private returns (Arrow, 1962). In Ireland, public support for business R&D rose by 0.3% of GDP between 2006 and 2014 (Figure 1.31). However, the fact that total business R&D expenditure increased by roughly the same magnitude suggests that the additionality of the public spending (i.e. the extent to which it induced additional private R&D spending) was limited. At present, business R&D intensity in Ireland is below the OECD average. Around two thirds of Irish business R&D is also undertaken by foreign firms, with research activity in local industry much more limited. In 2015, researchers accounted for 4% of the workforce of foreign-owned firms, but only 0.7% of Irish-owned firms.

Public support for business R&D in Ireland is heavily skewed towards R&D tax incentives (Figure 1.31), though there are direct public support measures for R&D in higher education institutions that promote collaboration with businesses. R&D tax incentives may be appealing given that they leave firms to decide which R&D activities to fund. However, depending on their design, such policy instruments may favour less dynamic incumbents at the expense of young firms. This is because the implicit subsidy rate of such measures tends to increase with firm profitability and young firms are often in a loss-making position in the early years of an R&D project (OECD, 2015a).

Figure 1.31. Public support to business R&D has increased significantly over recent years

Government support for business R&D, as a percentage of GDP, 2014



Source: OECD R&D Tax Incentives Indicators.

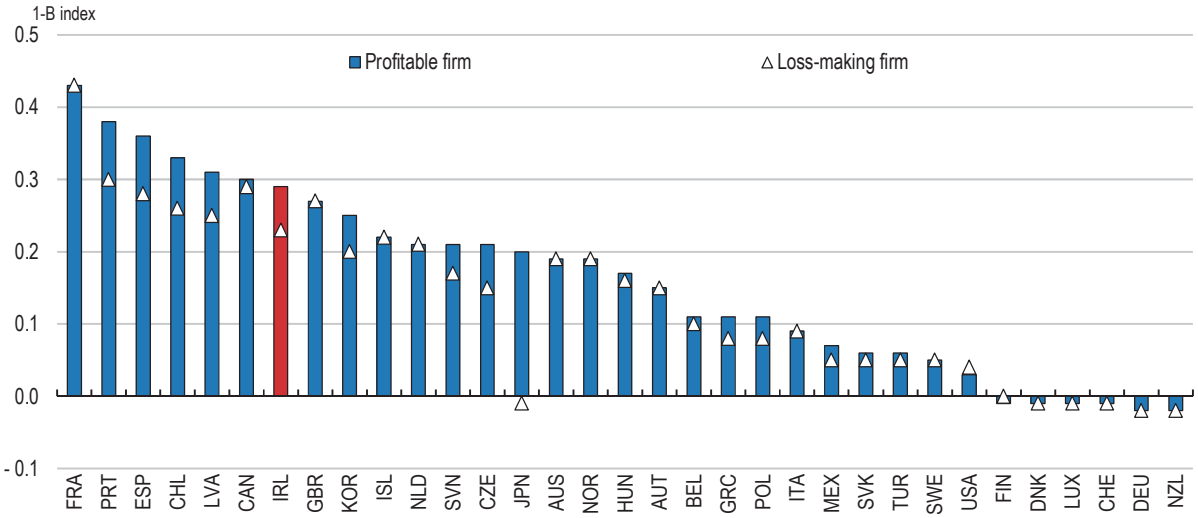
StatLink http://dx.doi.org/10.1787/888933684143

The design of Ireland's R&D tax incentives seeks to minimise any discrimination against small loss-making firms. Specifically, unused tax credits can be carried-forward indefinitely or can be refunded gradually over a three year period following the R&D funds being spent. Even so, the value of future claims for loss-making businesses is lower

than the value of present claims for profitable firms due to time-discounting (Figure 1.32). Furthermore, it may be some time before young firms have sufficient upfront funds to start an R&D project. This may be a factor behind the muted R&D activity of Ireland's small local firms: less than 1% of companies with turnover below EUR 1 million use the tax credit each year, compared with 12.5% of companies with turnover above EUR 1 million (IBEC, 2016).

Figure 1.32. Irish R&D tax incentives are more beneficial for profitable firms

Tax subsidy rates on R&D expenditures for small and medium enterprises, 2017



Note: (1-B-index) increases in the generosity of R&D tax incentives. Specifically, the B-index represents the required rate of pre-tax return to justify $1 of R&D outlay taking account of both R&D tax incentives and the corporate income tax rate.

Source: OECD STI Scoreboard 2017 (database).

StatLink http://dx.doi.org/10.1787/888933684162

The government could consider adjusting the design of the R&D tax incentive to be neutral across profitable and loss-making firms. However, the mix of public support for business R&D should also be rebalanced towards more direct funding measures such as grants, loans and loan guarantees. Such measures may be especially useful for encouraging the growth of young local firms that have limited internal funds but good ideas that need to be developed. Nevertheless, any such rebalancing should be coupled with measures that continue to ensure that the allocation of public funds is transparent, rules-based and subject to ex-post evaluation. The government has commissioned a report to assess existing R&D supports to identify how best to increase innovation activity in the business sector.

Improving managerial capacity and worker skills

The full potential productivity benefits of new technologies can also only be realised if skilled managers exist that can deliver complimentary changes to organisational processes. However, data from the World Management Survey suggest that managerial skills in Ireland are poor compared to other high income countries such as Germany, Sweden and the UK (Table 1.6). Across the sampled firms, the calculated management scores also exhibit greater dispersion in Ireland than in most other countries. This is

consistent with the large disparities in measured productivity between foreign-owned and local firms already discussed, suggesting that the managerial skills of the latter firm may be even lower than the average management score suggests. This reflects shortfalls in Ireland's education system: less than half the local firms surveyed by government agencies are satisfied by the business acumen of graduates against a satisfaction rate around 60% for foreign-owned firms (Higher Education Authority et al., 2015).

Table 1.6. Managerial skills and dispersion across firms

2014

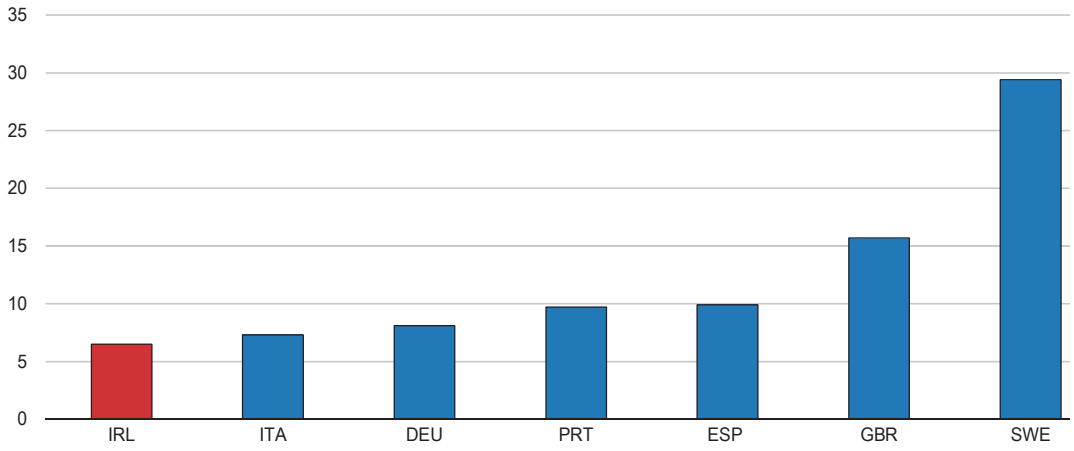
	Average Management Score	Cross-firm **standard deviation** of Management Score
DEU	3.18	0.56
SWE	3.17	0.52
GBR	2.99	0.59
ITA	2.95	0.55
PRT	2.77	0.57
IRL	**2.77**	**0.77**
ESP	2.75	0.62

Note: The World Management Survey is a cross-country, cross-industry dataset built to measure the quality of management practices in establishments across multiple dimensions. The extent to which organisations use short-term targets, provides incentives for high performance and monitor performance data are all captured in the management score derived from the survey. For further details, see Bloom et al., (2014).
Source: World Management Survey.

Poor management skills may reflect the low proportion of those in employment engaged in lifelong learning activities (Figure 1.33). Many Irish-owned companies have reduced the funding being allocated to training programmes for employees over recent decades. Between 2000 and 2015, spending on formal training programmes as a share of payroll by Irish-owned firms declined in most sectors (Figure 1.34).

Figure 1.33. Lifelong learning participation is relatively low

% of the population aged 25 to 64 participating in education and training, 2015

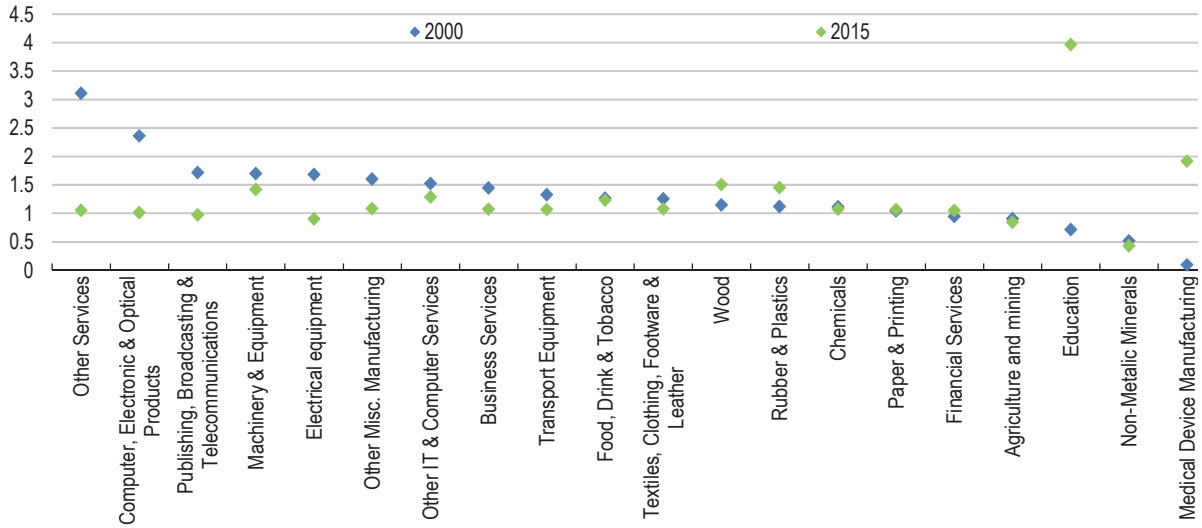


Source: Eurostat (2017) Lifelong learning statistics (database).

StatLink http://dx.doi.org/10.1787/888933684181

Figure 1.34. Irish-owned companies in most sectors have reduced employee training

Funding of formal structured training as a share of payroll in Irish-owned companies, %



Note: Data are based on a survey of around 4200 companies that are clients of either Enterprise Ireland, IDA Ireland or Údarás na Gaeltachta that have at least ten employees.

Source: Department of Business, Enterprise and Innovation.

StatLink http://dx.doi.org/10.1787/888933684200

Employers need to be encouraged to fund more training for employees. A relatively low proportion of training opportunities are provided by employers at present (Expert Group on Future Skills Needs, 2016), a factor behind the low lifelong learning rates of workers. Training programmes that focus on enhancing managerial skills are likely to be particularly beneficial for promoting the effective adoption of new technologies and processes, and hence productivity spillovers. A first step should be to increase the prominence of evaluations, highlighting those programmes with the greatest benefits in terms of firm performance. Encouragingly, the Department of Education and Skills is currently investing resources in data collection and programme evaluation.

The government could also allocate a greater share of funding under the National Training Fund to training for those in employment. This may go towards unwinding the past funding cuts to the Skillnets programmes, which were heavily work-based training courses designed in collaboration with firms (IBEC, 2016). Broadening financial support to students undertaking part-time and postgraduate courses could also encourage lifelong learning (Expert Group on Future Funding for Higher Education, 2015). The costs of boosting training of workers could be shared between the government and employers, with the contribution of the latter collected through an increase in the levy they pay towards the National Training Fund. Furthermore, the impact on firm competiveness would be mild, leaving the tax wedge on employment income in Ireland around 8½ per cent below the OECD average level.

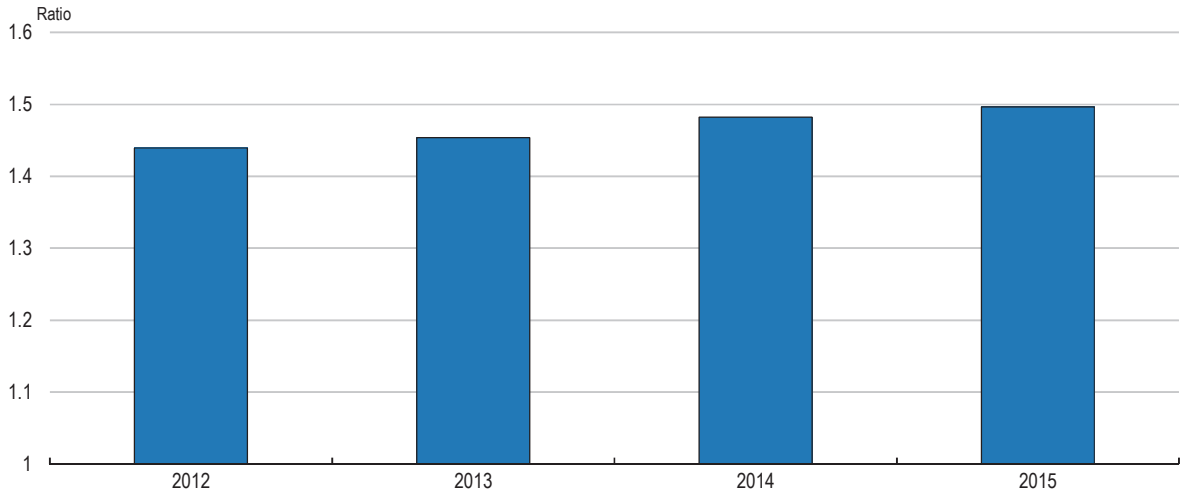
The increase in the demand for skills may also be met through expanding the role of online education. Such a delivery method holds great potential in Ireland, given the roll

out of the National Broadband Plan over the coming years. That said, inadequate digital skills of the population may limit the proliferation of such courses: only 48% of Irish individuals had basic or above basic digital skills in 2017, which was 9 percentage points below the EU average (Eurostat, 2017).

Managerial skills in locally-owned firms could also be enhanced by attracting workers from foreign-owned enterprises. Past empirical analysis has identified the movement of workers from locally-based MNEs to local firms as a channel for strengthening productivity growth in OECD countries (Balsvik, 2011; Martins, 2005). The fact that most FDI in Ireland derives from the US should increase the potential for labour flows between foreign-owned and local firms, given the common language and cultural similarity of the two countries. Nevertheless, a significant impediment for attracting personnel to the local sector is the substantially lower wages paid. In 2015, the average wage in a foreign-owned firm in Ireland was over 50% higher than in a local firm (Figure 1.35).

Figure 1.35. Wages are substantially lower in local firms

Ratio of wages in foreign firms to local firms



Source: Central Statistics Office.

StatLink http://dx.doi.org/10.1787/888933684219

Personnel at senior management level could be attracted from MNEs by being offered company equity or stock options in a local firm. However, stock options have traditionally been an unattractive form of remuneration to employees in Ireland as they have carried income tax and social charge liabilities when they are exercised as well as capital gains tax when they are sold (IBEC, 2015b). In a welcome move, the government introduced a new scheme in the 2018 Budget aimed at lowering the tax burden on stock options in small and medium sized enterprises. Under the programme, share options will only be taxed upon their disposal at the capital gains tax rate. The basis on which firms will be deemed eligible to participate in the programme is not yet clear. The authorities should exercise caution if they plan to make eligibility contingent on firms being below a given size threshold given that such a policy design may disincentivise firm growth (Chen and Mintz, 2011). In addition, the scale of any adverse impacts on income inequality from the new scheme should be evaluated and kept in mind.

In some cases, non-compete agreements embedded in MNE employment contracts restrict employees willing to move to local firms from doing so. In the US, where most MNEs located in Ireland derive from, around 20% of employees have such clauses in their employment contract (Starr et al., 2017). While these measures may increase the incentive for firms to invest in education and other professional development for their workers (Starr, 2017), they may also restrict the potential for knowledge spillovers between firms within a given country (US Department of the Treasury, 2016). As such, the authorities should evaluate the extent to which such provisions may be limiting worker mobility in the Irish context.

Recommendations to encourage sustainable productivity growth

Enhancing business dynamism

Key recommendations:

- Reduce the price of construction permits and registration of property charged by the relevant authorities.
- Replace local business tax with a broad-based land tax.
- Permit the introduction of new forms of legal businesses.
- Systematically collect information on the performance of existing public assets to better enable transparent, evidence-based, prioritisation of future infrastructure projects.

Other recommendations:

- Reduce the administrative burden to obtain permits and licences for start-ups by fully developing the new on-line Integrated Licence Application Service.
- Develop the out-of-court debt resolution mechanisms, making it easier for the debtor and creditor to reach agreements by reducing stringent requirements.

Enhancing the allocation of financing

Key recommendations:

- Introduce guidelines for banks that specify circumstances under which personal guarantees from businesses should not be sought.
- Further develop alternative financing platforms for young businesses.

Other recommendations:

- Consider reforming the Employment and Investment Incentive Scheme, a tax relief for equity investors, to support the transition of innovative firms into the public stock exchange.
- Scale up the Microenterprise Loan Fund Scheme so that public financial support reaches firms in early stages and in a wide range of sectors.
- Focus the Credit Guarantee Scheme on overcoming market failures that young firms typically face rather than supporting mature firms.

Maximising knowledge spillovers

Key recommendations:

- Increase the use of direct public support for business research and development such as grants, loans and loan guarantees.
- Increase the share of funding dedicated to training for those in employment

and financial support to workers undertaking postgraduate courses.

Other recommendations:

- Raise the participation of local firms in the supply chains of foreign-owned enterprises by giving Local Enterprise Offices a more active role in identifying potential supply linkages.
- Evaluate the extent to which non-compete agreements are constraining workers moving to local firms.

Bibliography

ACER (2016), Annual Report on the Results of Monitoring the Internal Electricity and Gas Markets in 2015, November 2016, Agency for the Cooperation of Energy Regulators.

Adalet McGowan, M., and D. Andrews (2016), "Insolvency Regimes and Productivity Growth: A Framework for Analysis", *OECD Economics Department Working Papers*, No. 1309, OECD Publishing, Paris.

Adalet McGowan, M., D. Andrews, and V. Millot (2017a), "The Walking Dead?: Zombie Firms and Productivity Performance in OECD Countries", *OECD Economics Department Working Papers,* No. 1372, OECD Publishing, Paris.

Adalet McGowan, M., D. Andrews, and V. Millot (2017b), "Insolvency Regimes, Zombie Firms and Capital Reallocation", *OECD Economics Department Working Papers*, No. 1399, OECD Publishing, Paris.

AIB (2017), Annual Financial Report 2016 for the Financial Year Ended 31 December 2016, Allied Irish Banks.

Andrews, D., and F. Petroulakis (2017), "Breaking the Shackles: Zombie Firms, Weak Banks and Depressed Restructuring in Europe", *OECD Economics Department Working Papers*, No. 1433, OECD publishing.

Andrews, D., and A. Saia (2016), "Coping with Creative Destruction: Reducing the Costs of Firm Exit", *OECD Economics Department Working Papers*, No. 1353, OECD Publishing, Paris.

Andrews, D. et al. (2018), "Confronting the Zombies: Insolvency and Financial Reform, Corporate Restructuring and Productivity Growth", *OECD Economics Department Working Papers*, forthcoming.

Armour, J., and D. Cumming (2008), "Bankruptcy Law and Entrepreneurship", *American Law Economic Review*, Vol. 10, No. 2.

Arrow, K.J. (1962), "Economic Welfare and the Allocation of Resources to Invention", The Rate and Direction of Inventive Activity, Princeton University Press.

Balsvik, R. (2011), "Is labor mobility a channel for spillovers from multinationals? Evidence from Norwegian manufacturing", The Review of Economics and Statistics, Vol. 93, No. 1.

Bank of Ireland (2017), Annual Report for the Year Ended 31 December 2016, Bank of Ireland.

Bartelsman, E.J., J. Haskel, and R. Martin (2008), "Distance to Which Frontier? Evidence on Productivity Convergence from International Firm-level Data", *CEPR Discussion Papers*, No. 7032.

Berkowitz, J. and M. White (2004), "Bankruptcy and Small Firms' Access to Credit", *RAND Journal of Economics*, Vol. 35.

Berlingieri, G. et al. (2017), "The MultiProd Project: a Comprehensive Overview", *OECD Science, Technology and Industry Working Papers*, No. 2017/04, OECD Publishing, Paris.

Bloom, N. et al. (2014), "The new empirical economics of management", *NBER Working Paper*, No. 20102.

Bloom, N. et al. (2012), "Americans do IT better: US multinationals and the productivity miracle", *American Economic Review*, Vol. 102, No. 1.

Caballero, R., T. Hoshi and A. Kashyap (2008), "Zombie Lending and Depressed Restructuring in Japan", *American Economic Review*, Vol. 98, No. 5.

Calvino, F., C. Criscuolo, and C. Menon (2016), "No Country for Young Firms?: Start-up Dynamics and National Policies", *OECD Science, Technology and Industry Policy Papers*, No. 29, OECD Publishing, Paris.

Carroll, J., and McCann, F. (2016), "Understanding SME Interest Rate Variation across Europe", *Quarterly Bulletin Articles, Central Bank of Ireland*, March: pp. 60-76.

Casey, E., and C. O'Toole (2014), "Bank-lending Constraints and Alternative Financing during the financial Crisis: Evidence from European SMEs", *ESRI Working Paper No. 450*, Economic and Social Research Institute.

CBI (2017), Macro-Financial Review 2017: I, June 2017, Central Bank of Ireland.

CCPC (2012), National Consumer Agency: Solicitors – Fees Charged & Price Availability, February 2012, National Consumer Agency (Competition and Consumer Protection Commission).

Chen, D. and J. Mintz (2011), "Small business taxation: revamping incentives to encourage growth", *The School of Public Policy Research Papers*, Vol. 4, No. 7, University of Calgary.

Conway, P., and G. Nicoletti (2006), "Product market regulation in the non-manufacturing sectors of OECD countries", *OECD Economics Department Working Paper*, No. 530, OECD Publishing, Paris.

Cumming, D. (2012), "Measuring the Effect of Bankruptcy Laws on Entrepreneurship across Countries", *Journal of Entrepreneurial Finance*, Vol. 16.

Cournède, B., and O. Denk (2015), "Finance and Economic Growth in OECD and G20 Countries", *OECD Economics Department Working Papers*, No. 1223, OECD Publishing, Paris.

CRO (2017), Companies Registration Office Report 2016, Companies Registration Office.

CSO (2013), Regional Population Projections 2016-2031, CSO Statistical Release, 12 December 2013, Central Statistics Office.

CSO (2014), Access to Finance, Central Statistics Office.

de Mooij, R. A (2011) "Tax Biases to Debt Finance: Assessing the Problem, Finding Solutions", *IMF Staff Discussion Note*, SDN/11/11, International Monetary Fund.

Department of Business, Enterprise and Innovation (2015), Innovation 2020: Ireland's strategy for research and development, science and technology, December.

Department of Public Expenditure and Reform (2017a), Report of the Mid-Term Review of the Capital Plan: Building on Recovery 2016-2021, August.

Department of Public Expenditure and Reform (2017b), Exchequer Capital Envelopes 2018-21: outcomes of Mid-term Review of The Capital Plan, Central Capital Policy Section.

Department of Finance (2018), "Patterns of firm level productivity in Ireland", forthcoming.

Department of Finance (2017), SME Credit Demand Survey: October 2016 – March 2017.

Di Ubaldo, M., M. Lawless and I. Siedschlag (2018) "Productivity spillovers from multinational activity to indigenous firms in Ireland", *ESRI Working Paper*, forthcoming.

Enterprise Ireland (2016), Enterprise Ireland and IDA Joint Trade Mission in Ireland opens doors for Irish SMEs with Irish based multinationals, Press Release.

Enterprise Ireland (2017), Seed and Venture Capital 2016 Report, Enterprise Ireland.

European Commission (2013), Commission Decision of 12.4.2013 pursuant to Article 3(1) of Regulation (EC) No 714/2009 and Article 10(6) of Directive 2009/72/EC – Ireland – Eirgrid / ESB, European Commission.

Eurostat (2017), Digital Skills of Individuals Dataset, (accessed on 13 February 2018).

Eurostat (2014), Community Innovation Survey Dataset, (accessed 24 May 2017).

Expert Group on Future Funding for Higher Education (2015), "The Role, Scale and Value of Higher Education in Ireland", *Discussion Paper for Stakeholder Consultation*, January 2015.

Expert Group on Future Skill Needs (2016), "Lifelong learning participation among adults in Ireland", EGFSN/SOLAS Skills Snapshot, July 2016.

Görg, H. (2007), "Productivity spillovers from multinational companies", in Perspectives on Irish Productivity, Forfás.

Griffith, R., S. Redding and J. Van Reenen (2004), "Mapping the Two Faces of R&D: Productivity Growth in a Panel of OECD Industries", *The Review of Economics and Statistics*, Vol. 86, No. 4.

Hart, O. (2000), "Different Approaches to Bankruptcy", *NBER Working Paper Series*, No. 7921.

Higher Education Authority et al. (2015), National Employer Survey: Employers' View on Irish Further Education and Training Outcomes, May 2015.

Holton, S., and F. McCann (2016), "Sources of the small firm financing premium: Evidence from euro area banks", *Research Technical Papers 09/RT/16*, Central Bank of Ireland.

IBEC (2016), "IBEC priorities for Budget 2017: compete to succeed", Irish Business and Employers Confederation.

IBEC (2015a), "Does the infrastructure and capital investment framework for 2016-21 go far enough?", *IBEC Policy Brief*, Issue 4, November.

IBEC (2015b), "IBEC submission to the consultation on the taxation of entrepreneurship", A submission to the Department of Finance, July 2015.

IMF (2017), "Ireland Public Investment Management Assessment", T*echnical Assistance Report*, September 2017.

Interdepartmental Committee on Science, Technology and Innovation (2015), Innovation 2020: Ireland's strategy for research and development, science and technology, December 2015.

ISI (2017), ISI Statistics Quarter 4 2016, Insolvency Service of Ireland.

Johansson, Å. et al. (2013), "Long-Term Growth Scenarios", *OECD Economics Department Working Papers,* No. 1000, OECD Publishing.

Kennedy, A. (2016), "Public capital: investment, stocks and depreciation", *Analytical Note No. 9, Irish Fiscal Advisory Council.*

Lawless, M. and Z. Studnicka (2017), "Services exports and exporters of services", ESRI, Department of Jobs, Enterprise and Innovation and Enterprise Ireland, April.

Lawless, M., F. McCann, and C. O'Toole (2013), "The Importance of Banks in SME Financing: Ireland in a European context", Central Bank of Ireland, Economic Letter No. 5.

Lawless, M., C. O'Toole, and D. Lambert (2014), Financing SMEs in Recovery: Evidence for Irish Policy Options, Report prepared for the Department of Finance, the Economic and Social Research Institute.

Marinc, M. and R. Vlahu (2012), The Economics of Bank Bankruptcy Law, Springer-Verlag, Berlin Heidelberg.

Martins, P.S. (2005), "Inter-firm employee mobility, displacement and foreign direct investment spillovers", mimeo.

McCann, F. (2014), "Profiling the Indebtedness of Irish SMEs", Central Bank of Ireland, Economic Letter No. 3.

Melitz, M.J., and S. Polanec (2015), "Dynamic Olley-Pakes Productivity Decomposition with Entry and Exit." *RAND Journal of Economics* 46 (2): 362-375.

Microfinance Ireland (2017), Report on the Microenterprise Loan Fund Scheme as at 31st March 2017, Microfinance Ireland.

Mirrlees, J., A. Stuart, T. Besley, R. Blundell, S. Bond, R. Chote, M. Gammie, P. Johnson, G. Myles, and J. Poterba (2011), Tax by Design, Oxford University Press, Oxford.

NCC (2017), Costs of Doing Business in Ireland 2017, June 2017, National Competitiveness Council.

NCC (2016), Ireland's Competiveness Challenge, December 2016 National Competitiveness Council.

OECD (2017a), Science, Technology and Industry Scoreboard 2017, OECD Publishing, Paris.

OECD (2017b), Getting Infrastructure Right: A framework for better governance, OECD Publishing, Paris.

OECD (2017c), Entrepreneurship at a Glance 2017, OECD Publishing, Paris.

OECD (2017d), OECD Reviews of Innovation Policy: Costa Rica 2017, OECD Publishing, Paris.

OECD (2017e), OECD Skills Studies: Supporting Entrepreneurship and Innovation in Higher Education in Ireland, OECD Publishing, Paris.

OECD (2016a), OECD Economic Outlook 2016, OECD Publishing, Paris.

OECD (2016b), Financing SMEs and Entrepreneurs 2016: An OECD Scoreboard, OECD Publishing, Paris.

OECD (2015a), The Future of Productivity, OECD Publishing, Paris.

OECD (2015b), Science, Technology and Industry Scoreboard 2015, OECD Publishing, Paris.

OECD (2015c), New Approaches to SME and Entrepreneurship Financing: Broadening the Range of Instruments, OECD Publishing, Paris.

OECD (2015d), OECD Economic Surveys: Ireland 2015, OECD Publishing, Paris.

OECD (2005), "Encouraging linkages between small and medium-sized companies and multinational enterprises", An overview of good policy practice by the OECD Investment Committee, 10 November, 2005.

O'Toole, C. M. (2014), "SME Lifecycle and Non-Bank Financing in Europe: What Determines Usage?", Dublin: *Central Bank of Ireland, Draft Research Technical Paper*.

Ruane, F. and A. Ugur (2002), "Foreign direct investment and productivity spillovers in the Irish manufacturing industry: evidence from firm level panel data", *Trinity Economic Papers*, No. 20026. Trinity College, Dublin.

SBCI (2017), Annual Report & Financial Statements 2016, Strategic Banking Corporation of Ireland.

Smith, D. and P. Strömberg (2005), "Maximizing the Value of Distressed Assets: Bankruptcy Law and the Efficient Reorganization of Firms", in L. Laeven and P. Honohan (ed.) Systemic Financial Crises: Containment and Resolution, Cambridge University Press.

SOLAS (2016), National Skills Bulletin 2016, September 2016, Further Education and Training Authority (SOLAS).

Starr, E. et al. (2017), "Noncompetes in the US Labor Force", mimeo.

Starr, E. (2017), "Consider this: training, wages and the enforceability of covenants not to compete", mimeo.

United Nations Industrial Development Organization (2017), The UNIDO Subcontracting and Partnership Exchange Programme, Vienna.

US Department of the Treasury (2016), "Non-compete contracts: economic effects and policy implications", Office of Economic Policy, March 2016.

World Bank (2017), Doing Business 2017: Equal Opportunity for All, Washington, DC.

OECD Economic Surveys

IRELAND

Living standards are high in Ireland, with recent improvements underpinned by the strongest post-crisis output recovery in the OECD. The economy is projected to continue expanding over the next two years, albeit at a more sustainable pace and amid heightened economic uncertainty primarily relating to the future trading relationship with the United Kingdom. Greater uncertainty makes it vital to further improve the fiscal position, which could be partly achieved by broadening the tax base and raising the property tax yield. Vulnerabilities in the financial sector also need to be further addressed by introducing stronger incentives for banks to reduce the high level of non-performing loans that remain on their balance sheets. The future resilience of the Irish economy hinges on unblocking the productivity potential of local enterprises and enhancing productivity spillovers; most Irish firms have experienced declining productivity over the past decade, causing the large productivity gap between foreign-owned and local enterprises to widen. Given strong international competition to attract foreign-owned firms, the economy should not be overly reliant on the performance of such entities. Improving the productivity performance of the local business sector can be achieved by reducing high regulatory barriers to entrepreneurship, further improving Irish infrastructure and raising the absorptive capacity of local businesses. Other significant challenges for wellbeing and inclusiveness exist in the areas of housing, health and getting people into work. To address these challenges, stringent housing regulations that are constraining dwelling supply should be rationalised, universal healthcare coverage provided and some social benefits withdrawn more gradually as labour earnings rise.

SPECIAL FEATURE: RAISING PRODUCTIVITY

Consult this publication on line at ***http://dx.doi.org/10.1787/eco_surveys-irl-2018-en***.

This work is published on the OECD iLibrary, which gathers all OECD books, periodicals and statistical databases. Visit ***www.oecd-ilibrary.org*** for more information.

Volume 2018/7
March 2018

OECD publishing
www.oecd.org/publishing

THE LONDON BOOK FAIR WINNER
INTERNATIONAL EXCELLENCE Awards 2017
IN PARTNERSHIP WITH THE PUBLISHERS ASSOCIATION

ISSN 0376-6438
2018 SUBSCRIPTION
(18 ISSUES)

ISBN 978-92-64-29177-5
10 2018 07 1 P

9 789264 291775