OECD Studies on SMEs and Entrepreneurship

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Please cite this publication as:
OECD (2019), *SME and Entrepreneurship Policy in Ireland*, OECD Studies on SMEs and Entrepreneurship, OECD Publishing, Paris, *https://doi.org/10.1787/e726f46d-en*.

ISBN 978-92-64-57055-9 (print)
ISBN 978-92-64-67190-4 (pdf)

OECD Studies on SMEs and Entrepreneurship
ISSN 2078-0982 (print)
ISSN 2078-0990 (online)

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Foreword

This publication presents an OECD country review of small and medium-sized enterprise (SMEs) and entrepreneurship policy in Ireland. It was prepared at the request of the Department for Business, Enterprise and Innovation (DBEI) in the Irish Government and is part of the series of OECD Country Reviews on SME and Entrepreneurship Policy undertaken by the OECD Centre for Entrepreneurship, SMEs, Regions and Cities. In addition to Ireland, country reviews have covered Canada, Indonesia, Israel, Italy, Kazakhstan, Mexico, Poland, the Russian Federation and Thailand.

The series provides a tool for assessing the design and implementation of SME and entrepreneurship policy, identifying areas for improvement and sharing policy experiences among countries. The reviews are based on a standard methodology, which includes a diagnostic questionnaire completed by national government authorities, a factfinding mission by an OECD team to hold detailed interviews with policy and business stakeholders, and discussion of a draft report at a peer review session in the OECD Working Party on SMEs and Entrepreneurship (WPSMEE). The report of the Ireland review was discussed by the WPSMEE in April 2019 and approved by written procedure in September 2019.

The country reviews typically include one or two thematic chapters on issues of special relevance for the reviewed country, as agreed between the OECD and the country concerned. This review has two thematic chapters, one on SME productivity and the other on business development services.

The report shows that Ireland's SMEs and entrepreneurs operate in a broadly favourable business environment and that Ireland has a solid and comprehensive set of programmes targeted at SMEs and entrepreneurs. In many areas of intervention, Ireland's policy approach could be considered as best practice internationally, such as in regulation, innovation, encouragement for high potential start ups, and opening up public procurement to SMEs. In spite of the solid overall policy framework, some improvements could be made to achieve priorities identified in this report, notably lifting productivity growth in SMEs, increasing the start-up rate, spreading entrepreneurship across all segments of the population, scaling up micro and small enterprises, increasing SME exports, and strengthening local entrepreneurship ecosystems.

The report offers policy recommendations to help achieve these ambitions. The recommendations fall across a number of areas. For example, the policy formulation and delivery framework would benefit from a unified SME and entrepreneurship strategy document. R&D and innovation policies could be made more SME-friendly. More could be done to foster networks among enterprises to deliver policy for innovation and skills. Access to finance and financial literacy need to be strengthened for SMEs and entrepreneurs. Initiatives are needed to stimulate greater numbers of SMEs to become active abroad. Managerial skills and practices in SMEs also need to be upgraded and further attention paid to increasing SME workforce skills.

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Acknowledgements

This review was undertaken by the OECD Centre for Entrepreneurship, SMEs, Regions and Cities (CFE) led by Lamia Kamal-Chaoui, Director, in co-operation with the Department of Business, Enterprise and Innovation (DBEI) of the Government of Ireland.

The study was managed and supervised by Jonathan Potter (Head of the Entrepreneurship Policy and Analysis Unit, CFE) and coordinated by Kris Boschmans (Policy Analyst, CFE). The report was drafted by a team involving Martin Andersson (Blekinge Institute of Technology – main responsibility for Chapter 6), Kris Boschmans (main responsibility for Chapter 3 and parts of Chapter 5 and 7), Alexander Coad (Católica Graduate Business School, Lima, Peru – main responsibility for Chapter 7), Lora Pissareva (Policy Analyst, CFE – main responsibility for Chapter 2), Jonathan Potter (main responsibility for Chapter 1), Alasdair Reid (European Future Innovation System Centre – main responsibility for parts of Chapter 5) and Lois Stevenson (independent consultant – main responsibility for Chapters 4 and 8). Additional written inputs were provided by Sebastian Ptok and Susanne Schlepphorst (both from the Institut für Mittelstandsforschung, Bonn, Germany – Chapter 5), and Sandra Hannig (Policy Analyst, CFE – Chapter 6). The report was edited by Kris Boschmans and Jonathan Potter.

Input and/or feedback is gratefully acknowledged from Bert Brys (Head of Unit, Centre for Tax Policy, OECD [CTP]), Sarah Perret (Tax Economist, CTP), Lucia Cusmano (Head of SME and Entrepreneurship Division, CFE), Malgorzata Kuczera (Policy Analyst, Education Directorate, OECD), Benjamin Gerloff (Consultant, Governance Directorate, OECD), São Igreja (Portuguese Securities Market Commission - CMVM) and Ben Westmore (Senior Economist, Economics Directorate, OECD). Heather Mortimer Charoy, Assistant, CFE, provided project support.

Members of the Steering Group of the Working Party on SMEs and Entrepreneurship provided valuable input to the report: Nels Ekelund and Laurie Hayley (Canada), Matteo Corbetta and Salvatore Zecchini (Italy), Karl Woodhead (New Zealand) and Simon Falck and Carly Smith-Jonsson (Sweden). The German Federal Ministry for Economic Affairs and Ministry of Education and Research also provided valuable comments.

This report could not have been drafted without the support and continued engagement of key stakeholders from Ireland. Numerous individuals from government organisations, associations, academics, think thanks and other institutions provided vital information and feedback throughout the drafting process. Their assistance during the kick-off mission and subsequent two study missions, the detailed information submitted through the questionnaire, and constructive comments on earlier draft versions of this report proved crucial to the finalisation of this study. Special thanks are reserved for Nina Brennan, Laura Byrne, Hazel Carroll, Declan Hughes, Michael O'Rourke, Eoghan Richardson and Conor Verdon, all from the DBEI, for their hospitality and tireless support.

Abbreviations and acronyms

ABM	Association of Business Mentors
ADIE	Association Pour le Droit à l´Initiative Économique (France)
AGSB	Advisory Group on Small Business
ASS	Allocation de Solidarité Spécifique (France)
AUD	Australian Dollar
BAI	Business Accelerator and Incubator
BAS	Business Advisory and Support
BERD	Business R&D
BMNZ	Business Mentors New Zealand
BMWi	Federal Ministry for Economic Affairs and Energy Germany)
BTWEA	Back to Work Enterprise Allowance
CAD	Canadian Dollar
CAIP	Canadian Accelerator and Incubator Programme
CCI	Carlyle Cardinal Ireland
CEC	Community Enterprise Centre
CEEN	Campus Entrepreneurship Enterprise Network
CEM	New Client Engagement Model
CEO	Chief Executive Officer
CET	Continuing Education and Training
CGS	Credit Guarantee Scheme
CGT	Capital Gains Tax
CIIT	Commission of Industry and Information Technology (China)
CMVM	Securities Market Commission (Portugal)
CRMS	Customer Relationship Management System
CSO	Central Statistics Office
DAFM	Department of Agriculture, Food and Marine
DBEI	Department of Business, Enterprise and Innovation
DCCAE	Department of Communication, Climate Action and Environment
DES	Department of Education and Skills
DFAT	Department of Foreign Affairs and Trade
DIHK	Deutscher Industrie- und Handelskammertag (Germany)
DIT	Dublin Institute of Technology
DKK	Danish krone
DPER	Department of Public Expenditure and Reform
DRCD	Department of Rural and Community Development

DTF	Difficult To Fill
DTIF	Disruptive Technologies Innovation Fund
DTTAS	Department of Transport, Tourism and Sport
EAP	Employment Activation Programme
EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortisation
ECEI	European Cluster Excellence Initiative
EGFSN	Expert Group on Future Skills Needs
EI	Enterprise Ireland
ERP	Enterprise Resource Planning
ESCA	European Secretariat for Cluster Analysis
EU	European Union
EUR	Euro
FAQ	Frequently Asked Questions
FDI	Foreign Direct Investment
FET	Further Education and Training
FSP	Future Skills Programme
GBER	General Block Exemption Regulation
GDP	Gross Domestic Product
GEM	Global Entrepreneurship Monitor
GERD	Gross Domestic Expenditure on R&D
GNI	Gross National Income
GNP	Gross National Product
GRDB	Government R&D Budget
GVA	Gross Value added
GVC	Global Value Chain
HBAN	Halo Business Angel Network
HEA	Higher Education Authority
HEI	Higher Education Institute
HGF	High Growth Firms
HIP	High Impact Programme
HPSU	High-Potential Start-Ups
HR	Human Resources
HSEOL	Highly Skilled Eligible Occupations List
IAPMEI	Agency for Competitiveness and Innovation (Portugal)
IBEC	Irish Business and Employers Confederation
IBYE	Ireland Best Young Entrepreneur
ICIO	Inter Country Input-Output
ICT	Information and Communication Technology
IEDFD	Indigenous Enterprise, Digital and Finance Division
INEGI	National Institute of Statistics and Geography (Mexico)
IP	Intellectual Property
iREG	Indicators of Regulatory Policy and Governance

ISED	Innovation, Science and Economic Development (Canada)
ISIF	Ireland Strategic Investment Fund
ISME	Irish SME Association
ISTAT	National Institute of Statistics (Italy)
ITI	InterTradeIreland
JA	Jobseeker's Allowance
JB	Jobseeker's Benefit
KDB	Knowledge Development Box
KTI	Knowledge Transfer Ireland
LCD	Large Case Division
LEADER	Liaisons Entre Actions de Développement de l'Economie Rurale (France)
LEO	Local Enterprise Office
MBIE	Ministry of Business, Innovation and Employment (New Zealand)
MFI	Micro-Finance Ireland
MNE	Multinational Enterprise
MWh	Megawatt hour of energy
NACE	Statistical Classification of Economic Activities in the European Community
NACEC	National Association of Community Enterprise Centres
NCC	National Competitiveness Council
NEET	Not in Education, Employment, or Training
NFQ	National Framework of Qualifications
NOK	Norwegian Krone
NPF	National Planning Framework
NPSE	National Policy Statement on Entrepreneurship
NSAI	National Standards Authority of Ireland
NSC	National Skills Council
NSDC	National SME Development Council (Malaysia)
NSF	United States National Science Foundation
NSS	National Skills Strategy
NTF	National Training Fund
NTMA	National Treasury Management Agency
NUTS	Nomenclature of Territorial Units for Statistics
NZTE	New Zealand Trade and Enterprise
OECD	Organisation for Economic Cooperation and Development
OGP	Office of Government Procurement
PCB	Pre-Commercial Public Procurement
PIAAC	Programme for the International Assessment of Adult Competencies
PISA	Programme for Internationals Student Assessment
PMF	Performance Measurement Framework
PRSI	Pay Related Social Insurance

PSB	Public Service Body
R&D	Research and Development
RBPN	Regional Business Partner Network (New Zealand)
RGP	Rural Growth Pilot (Denmark)
RIA	Regulatory Impact Assessment
RMF	Research Microdata Files
RPE	Research Prioritisation Exercise
RSA	Revenu de Solidarité Active (France)
SARP	Special Assignee Relief programme
SBA	Small Business Administration (United States)
SBCI	Strategic Banking Corporation of Ireland
SBIR	Small Business Innovation Research
SDBS	Structural and Demographic Business Statistics
SEP	Student Enterprise Programme
SFI	Science Foundation Ireland
SLMRU	Skills and Labour Market Research Unit
SME	Small and Medium-sized Enterprises
SME Corp	Small and Medium Enterprise Corporation (Malaysia)
SMEIPA	Annual SME Integrated Plan of Action (Malaysia)
SOLAS	Further Education and Training Authority
SPD	Strategic Policy Division
STEM	Science, Technology, Engineering and Mathematics
TAS	Tender Advisory Service
TEA	Total Early Stage Entrepreneurial Activity
TIP	Technology and Innovation Pole
TNP	Training Networks Programme
TOV	Trading Online Voucher
TP	Agency for Tourism (Portugal)
UK	United Kingdom
US	United States
USC	Universal Social Charge
USD	United States Dollar
WRAP	Western Regional Audio-visual Producers
ZIM	Zentrales Innovationsprogramm Mittelstand (Germany)

Basic statistics of Ireland

Basic statistics of Ireland, 2016 (Number 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	Feb	2016
ECONOMY					
Gross domestic product (GDP)			Value added shares (%)		
In current prices (billion USD)	304.8		Primary sector	1	(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)
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)
Women	59.5	(59.3)	Long-term unemployed (1 year and over, %)	4.2	(2)
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	(0.31)	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)	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)			

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

SMEs and entrepreneurship are central to Ireland's challenge of generating a broad-based growth and prosperity that builds on and extends its successes in attracting high quality foreign direct investment. This report examines how to strengthen SMEs and entrepreneurship across the economy. It covers the characteristics and performance of SMEs and entrepreneurship, the business environment, the framework for policy formulation and delivery, national programmes for SMEs and entrepreneurs, the role of local bodies and interventions in tailoring policy to spatial differences, the productivity performance of SMEs, and the design and delivery of business development services.

The report identifies a number of challenges for policy. These include increasing productivity growth in SMEs, increasing the business start-up rate and business dynamism, facilitating entrepreneurship among women, youth and migrants, scaling up micro-enterprises and generating more medium-sized firms, and increasing SME activity on foreign markets. A number of recommendations are provided to help meet these challenges.

Key findings

Increasing business dynamism and SME productivity growth are priorities

Ireland is a successful generator of high-growth firms and its SMEs are innovative. Attitudes toward entrepreneurship are also positive overall. However, business dynamism and the start-up rate are relatively low, Irish SMEs are not very active in international markets, and SME productivity growth is stagnant. There are also weaknesses in SME management skills, capital investment levels and technology adoption.

The overall business environment is strong but there are priorities in skills and finance

Ireland offers a favourable regulatory environment, low taxation, extensive R&D support and good physical infrastructure. However, access to finance remains problematic and incentives could be strengthened for investment in SMEs and entrepreneurship. Skills shortages are also rising, implying a need to monitor the success of recent apprenticeship and skills development policies. SME engagement in the design of business regulation policies could also be strengthened.

A unified national SME and entrepreneurship policy would be valuable

Ireland has good arrangements for the co-ordination of SME and entrepreneurship policies across government, including for policy monitoring and evaluation. However, the country lacks a unified SME and entrepreneurship policy document that could show in one place the full range of support that is provided for SMEs and entrepreneurship

together with the related objectives, activities, targets and budgets. This would be an important guide for future policy development and monitoring.

SME and entrepreneurship programmes could be upscaled and refined in some areas

Ireland has a comprehensive and solid set of support programmes for SMEs and entrepreneurship. However, there is a danger of some traditional SMEs falling between the support offers of the Local Enterprise Offices (LEOs), which mainly focus on smaller enterprises, and Enterprise Ireland, which primarily targets firms demonstrating export potential. The remit of the LEOs could be expanded to address this concern. Some areas of programme support also merit upscaling and refinement. There is scope to strengthen programmes for microcredit and credit guarantees and increase support for financial literacy in businesses. Innovation support could also be made more SME-friendly, in particular when it comes to tax credits for SME innovation. Support for SME internationalisation could be strengthened, especially for markets beyond the United Kingdom. There is also potential to strengthen the use of enterprise-led networks for the delivery of business support and to strengthen enterprise network management bodies. Increased dedicated support for migrant entrepreneurship is also a priority.

Local Enterprise Offices have an important role to play

There are large spatial variations in conditions for SME and entrepreneurship activity within Ireland. The LEOs play an important function in providing tailored support for SMEs and entrepreneurship in their areas in collaboration with other bodies working locally and regionally. However there is potential to enhance local level policies to build local networks of enterprises working on common skills and innovation projects, particularly in local industry clusters. Approaches are also needed to connect SMEs and entrepreneurs in remote regions with broader entrepreneurship ecosystems in urban centres and larger cities.

A multi-pronged approach is needed to increase SME productivity growth

Ireland has many SMEs with low productivity compared to the frontier firms in their industry. The causes include prolonged use of low-productivity techniques, underinvestment in capital, weak management practices, insufficient digital technology adoption and limited direct entry into export markets. A range of policy initiatives need to be applied to address this multifaceted issue. They include increasing take up by SMEs of Skillnet Ireland management training programmes, expanding vouchers for digitalisation processes in SMEs, integrating international standards adhesion in SME development programmes, and increasing SMEs take up of R&D incentives.

There is scope to strengthen business advisory services

Business advisory services can play an important role in helping SMEs and entrepreneurs to see how to address their challenges and in increasing the effective use of business support programmes by improving the match between firm needs and support taken. While there is a reasonable supply of business development services in Ireland, in particular through the LEO network and Enterprise Ireland, and while SMEs and entrepreneurs have good access to mentoring opportunities, there remains scope for improvement. A business diagnostic tool could be used more widely as an entry point to business development services, management training programmes and financial support

for consultancy expanded, training and guidelines for external mentors improved and potential gaps in the provision of services assessed.

Selected recommendations

A broad range of detailed recommendations are offered in the report. They include the following:

- Draft a unified national SME and entrepreneurship strategy document to increase policy visibility.
- Expand the use of online business diagnostic tools as entry points into the business advisory services system.
- Simplify the approval procedure for R&D tax credits to facilitate the participation of SMEs in this initiative.
- Encourage SME involvement in innovation collaborations to increase their knowledge absorption capacities.
- Create a network of regional enterprise network managers to identify local cluster challenges and broker joint responses involving a range of public sector and private sector actors.
- Increase support for international standards adhesion by SMEs as an additional lever for encouraging upgrading to international best practice business management approaches.
- Scale up current SME internationalisation initiatives to increase SME direct exporting and expand the range of markets addressed.
- Expand current access to credit initiatives for SMEs, particularly to segments of the enterprise population with the greatest access to financing challenges.
- Develop an action plan for financial education to strengthen the financial skills and financial management of small business owners and managers.
- Introduce a tax relief for non-domiciled new hires by Irish SMEs to increase access to international talented labour.
- Ramp up support for the digitalisation of SME business processes to address low digital skills and awareness among SMEs and increase SME take up of key digital technologies.

Chapter 1. Overall assessment and recommendations

This chapter summarises the findings and recommendations of the OECD SME and Entrepreneurship Policy country review of Ireland.

SME and entrepreneurship characteristics and performance

SMEs are a critical pillar of the Irish economy

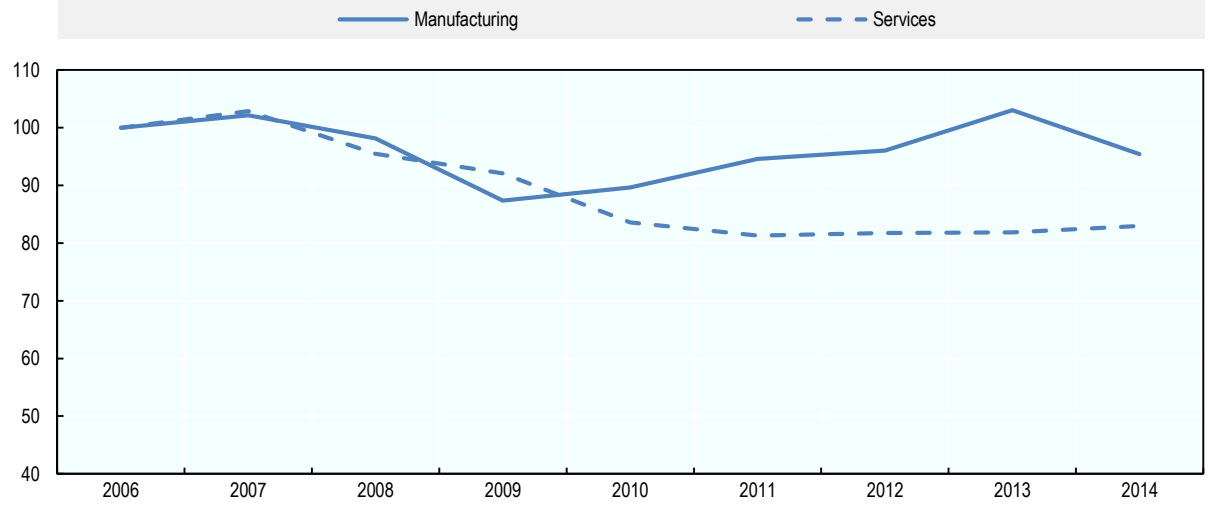
There were approximately 250 000 active enterprises in Ireland in 2016, virtually all of them SMEs. Some 92% of enterprises had less than 10 employees (micro), 6.8% had between 10-49 employees (small), 1.2% had 50-249 employees (medium), and only 0.2% had 250 or more employees (large). The share of micro-enterprises is slightly above the OECD average and the share of medium-sized firms somewhat lower than the OECD average. Furthermore, SMEs account for as much as 56% of manufacturing employment and 74% of services employment in Ireland, roughly in line with the OECD averages.

Alongside this substantial SME activity, Ireland has a strong concentration of large firms in capital-intensive and globalised activities, such as manufacturing of computers or pharmaceuticals, as well as in international financial services and software development.

SME productivity growth has been stagnant overall

There are several indications of a problem with lack of productivity growth among established SMEs in Ireland. Figure 1.1 shows the evolution of multifactor productivity for the median firm in Ireland. It shows that the majority of firms experienced declining productivity in the period 2006-2014. Furthermore, the productivity dispersion between firms at the 90th percentile and firms at the 10th percentile of the labour productivity distribution is higher than in the OECD average, implying that firms lagging behind have large scope for catch up (Belingieri et al. 2017 and Papa et al, 2018). Other evidence shows that medium-sized firms in particular, in both manufacturing and services sectors, have had relatively poor productivity growth in the period 2005-2016 (OECD SDBS database). SME productivity issues are addressed further later in this chapter.

Figure 1.1. Median firm productivity (Index 2006 = 100)



Notes: The firm level analysis uses the OECD MultiProd database. 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: (OECD, 2018c) OECD Economic Surveys: Ireland 2018, p70.

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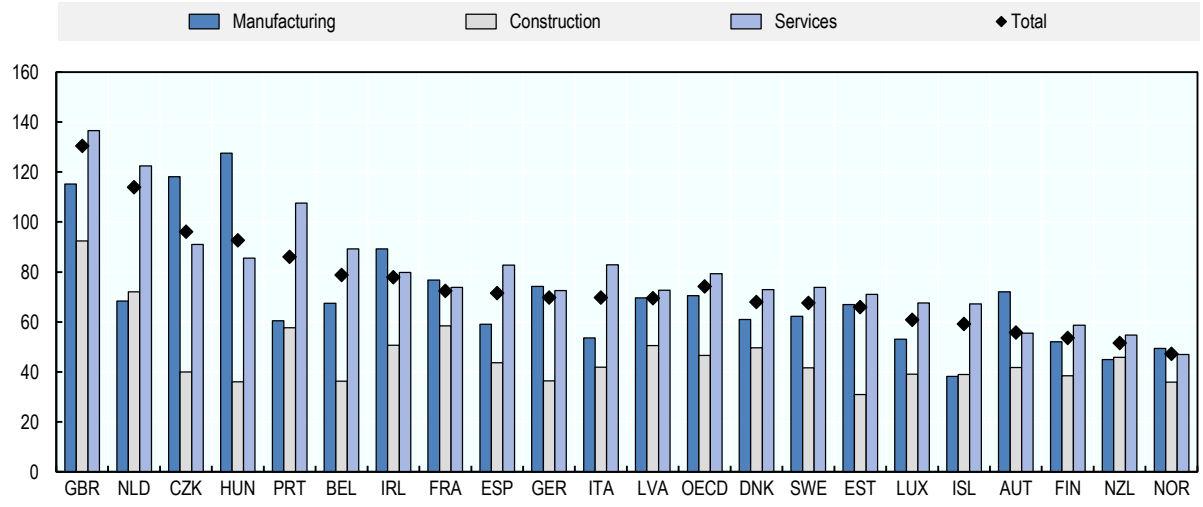
Business entry-exit dynamism should be strengthened

Ireland is very successful in generating high-growth firms, which are a key driver of employment, innovation, and productivity growth in the economy. Ireland's share of high-growth firms was 12.3% in 2014, above the average of 10% for the EU-28 (Eurostat, 2016). The average number of employees in Irish high-growth firms is also above the OECD average (Figure 1.2). Looking more broadly, the survival rate of start-ups is high. In 2015, the five year survival rate of new business starts in Ireland was 66.9%, well above the OECD average of 50%.

Figure 1.2. Average employment in high-growth enterprises

Average number of employees per enterprise by sector, 2014, or latest available year



Note: Data refer to enterprises with 10 employees or more
Source: OECD SDBS database

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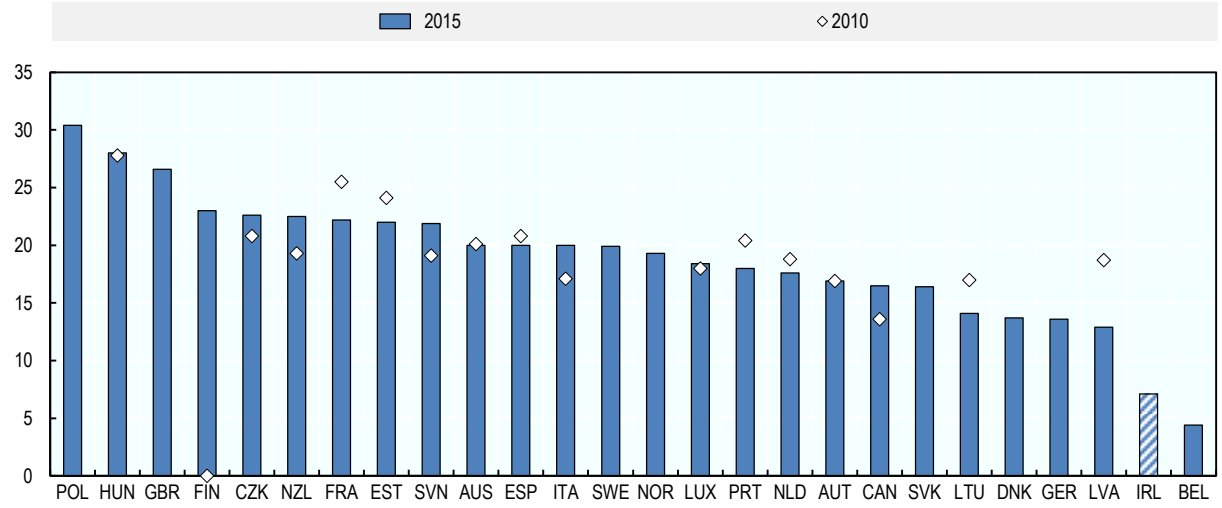
While a high start-up survival rate demonstrates a good capacity of new firms to enter the market successfully, it is also illustrative of a low business churn rate[1], a commonly used proxy for entrepreneurial dynamics. Indeed, in 2015, among OECD countries, Ireland had one of the lowest employer enterprise churn rates (Figure 1.3). This may adversely affect productivity growth through a low rate of resource reallocation and competitive spur, if characterised by a low level of entry of new innovative firms and low rate of exit of the least productive firms (OECD, 2016a).

Figure 1.3. Employer enterprise churn rate, total economy

Percentage values, 2015 or latest available year



Note: The churn rate is defined as the sum of the employer enterprise birth and death rate.
Source: OECD SDBS database.

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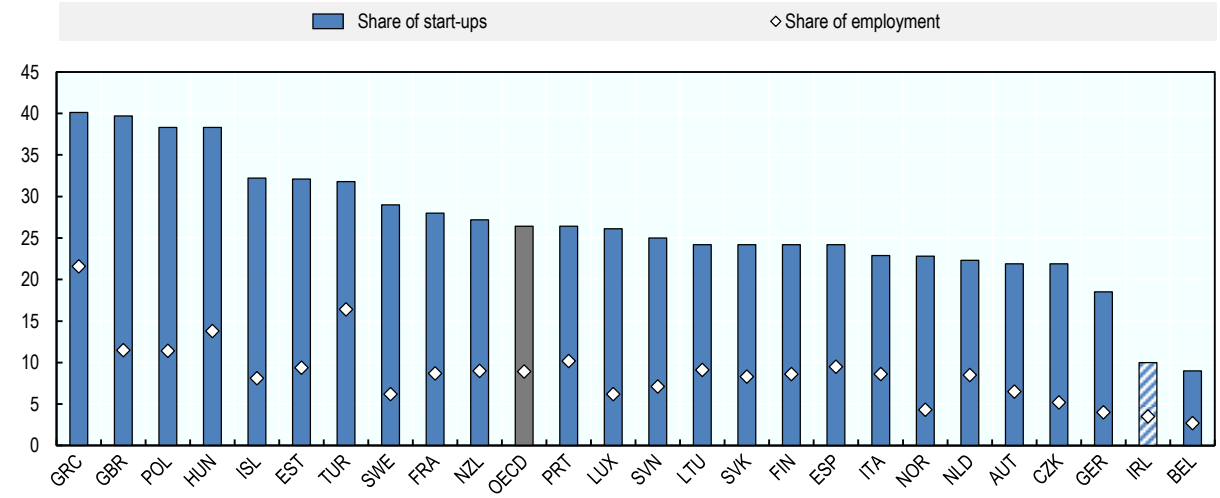
Part of the issue of low business dynamism in Ireland is a low start-up rate. Internationally, after a period of decline in business births in the aftermath of the global financial crisis, the number of firm creations has been recovering since 2013-2014, reaching (or even surpassing) pre-crisis levels in many countries (OECD, 2017c). Ireland has not followed this general trend. While the total start-up rate (employer and non-employer) stood at 10.4% in 2007, it had dropped to 7.3% in 2015, around 3 percentage points lower than the OECD average of 10% (OECD, 2017c). The share of employer enterprise start-ups was 3.5% in 2015, significantly below the OECD average (Figure 1.4).

Figure 1.4. Share of start-ups and their employment, business economy

As a percentage of all employer enterprises and of employment in all employer enterprises, 2015



Note: Employer start-ups include all employer enterprises that are up to two years old, i.e. the newly-born enterprises plus those that are one and two years old.
Source: OECD Structural and Demographic Business Statistics (SDBS) (database).

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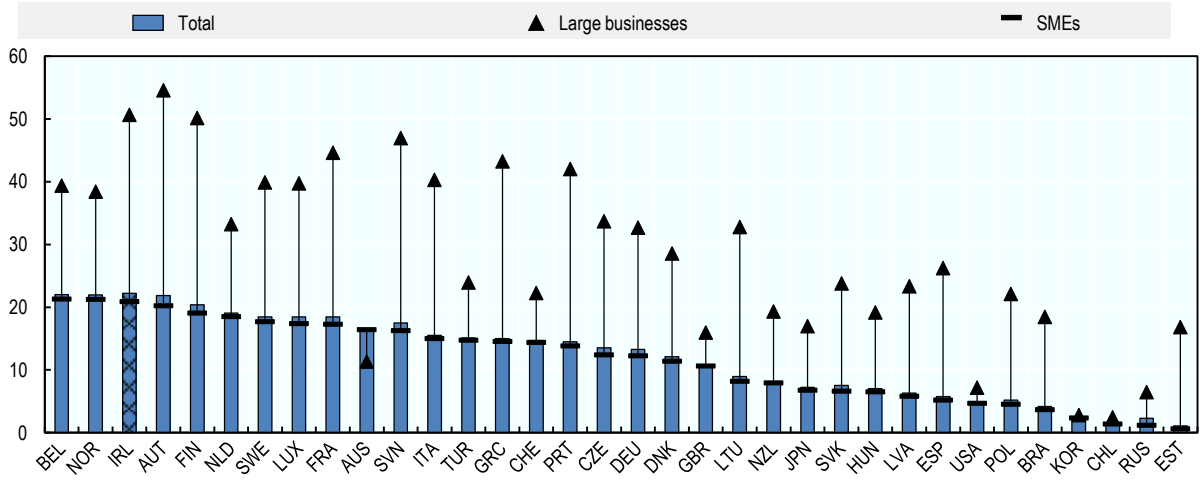
A high proportion of Irish SMEs engage in innovation activities

SMEs in Ireland to participate in mixed modes of innovation than the OECD average. Furthermore, Irish SMEs display the third-highest share of new-to-market production innovation in OECD economies (Figure 1.5). The SME share of business R&D (BERD) in Ireland stood at almost 40% in 2015, above the OECD average of 35% (OECD, 2017a).

Figure 1.5. New-to-market product innovators, by size, 2012-14

As a percentage of all businesses in each size category, within the scope of national innovation surveys



Note: International comparability may be limited due to differences in innovation survey methodologies and country-specific response patterns. European countries follow harmonised survey guidelines with the Community Innovation Survey.
Source: OECD (2017) OECD STI Scoreboard 2017, based on the 2017 OECD survey of national innovation statistics and the Eurostat, Community Innovation Survey (CIS-2014).

StatLink http://dx.doi.org/10.1787/888934004371

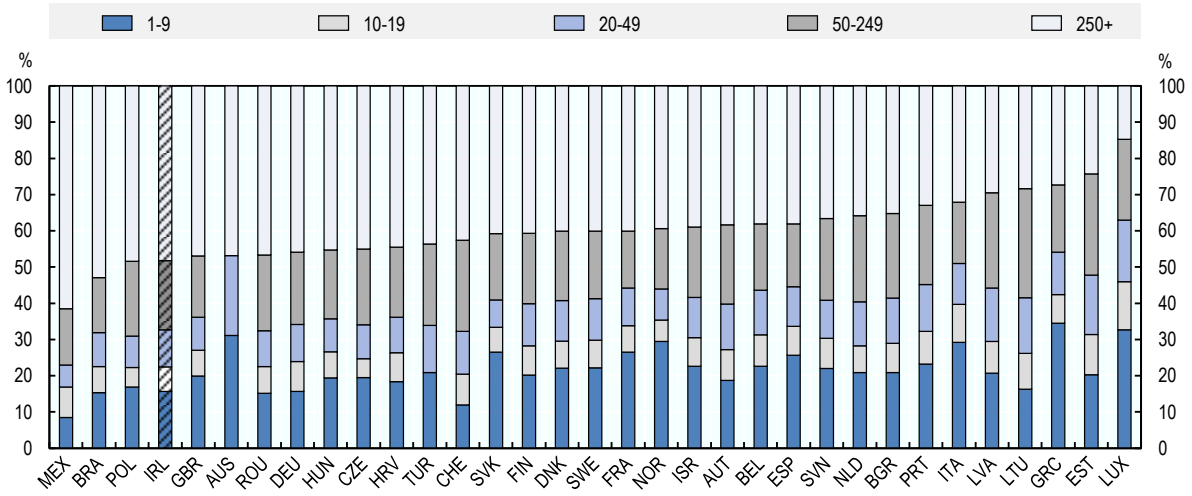
On the other hand this R&D and innovation activity does not translate into high levels of SME productivity growth, which could reflect a range of other issues related to human capital, physical capital, access to foreign markets, externalities and business dynamism. Furthermore, digital technology adoption rates are low in SMEs, which will also affect productivity growth. For example, Irish small firms (10-49 employees) are only around one-third as likely as large firms to be using Enterprise Resource Planning (ERP), a software platform that integrates core business processes in real-time (OECD, 2018a).

Irish SMEs are not very active in international markets

Ireland's direct SME export levels are very low by international standards, with only about 6% of Irish SMEs directly trading across borders. Furthermore, a high share of existing SME exporters trade only with the neighbouring UK market. Although SMEs may also contribute to exports indirectly, for example by providing multinational firms with components and services, the share of SMEs in total domestic value added in exports is also relatively low (Figure 1.6).

Figure 1.6. Domestic value added in exports

As a percentage, by firm size



OECD/Eurostat Trade by Enterprise Characteristics (TEC) database, OECD Structural and Demographic Business Statistics (SDBS) database, OECD-WTO TiVA database.

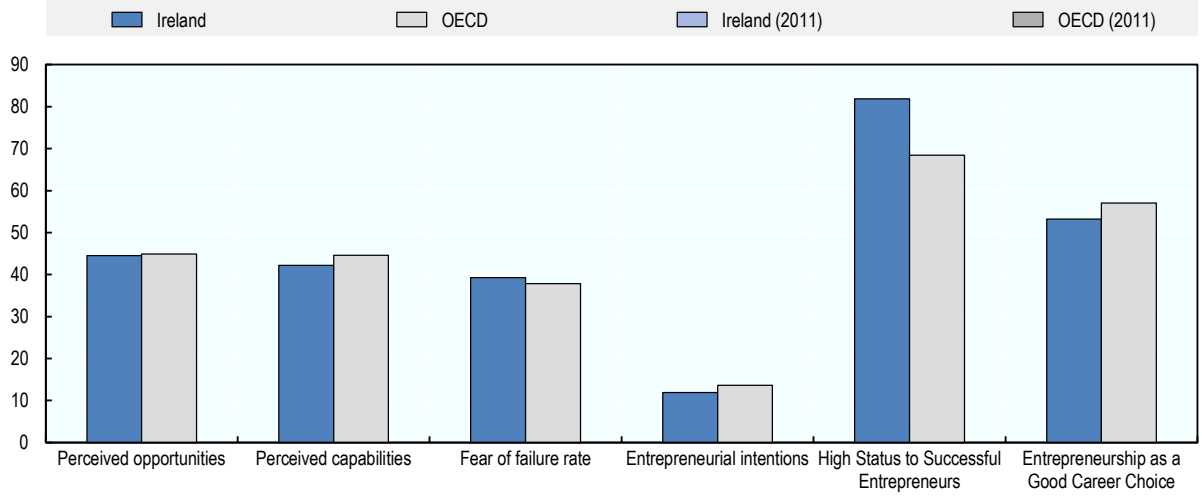
StatLink http://dx.doi.org/10.1787/888934004390

Entrepreneurial attitudes are generally positive

The share of Ireland's adult population with high regard for successful entrepreneurs is above the OECD average, whilst other indicators of entrepreneurial attitudes lie around the OECD average, as shown in Figure 1.7. On the other hand, less than half of the people (42%) who perceive opportunities believe they have the skills and knowledge required to start a business.

Figure 1.7. Entrepreneurial attitudes in Ireland, 2017

Percentage values



Note: Detailed definitions for the indicators can be found in Chapter 2.
Source: OECD based on data supplied by the Global Entrepreneurship Monitor (GEM) research consortium.

StatLink http://dx.doi.org/10.1787/888934004409

There are also variations across different parts of the population in their involvement in entrepreneurship, suggesting areas of untapped potential. In particular, the self-employment rate for women and youth were significantly below the respective EU averages in 2016 (OECD/EU, 2017b). These differences are also evident in Total early-stage Entrepreneurial Activities (TEA) rates (Figure 1.8).

Figure 1.8. Early stage entrepreneurial activity among target groups

TEA rate (percentage values), 2012-16 average

Note: The Total Early Stage Entrepreneurial Activity (TEA) rate is the proportion of adults (18-64 years old) involved in setting up a business or managing a business that is less than 42 months old.
Source: OECD/EU (2017b), The Missing Entrepreneurs, based on GEM, Special tabulations of the Global Entrepreneurship Monitor adult population survey, 2012-16.

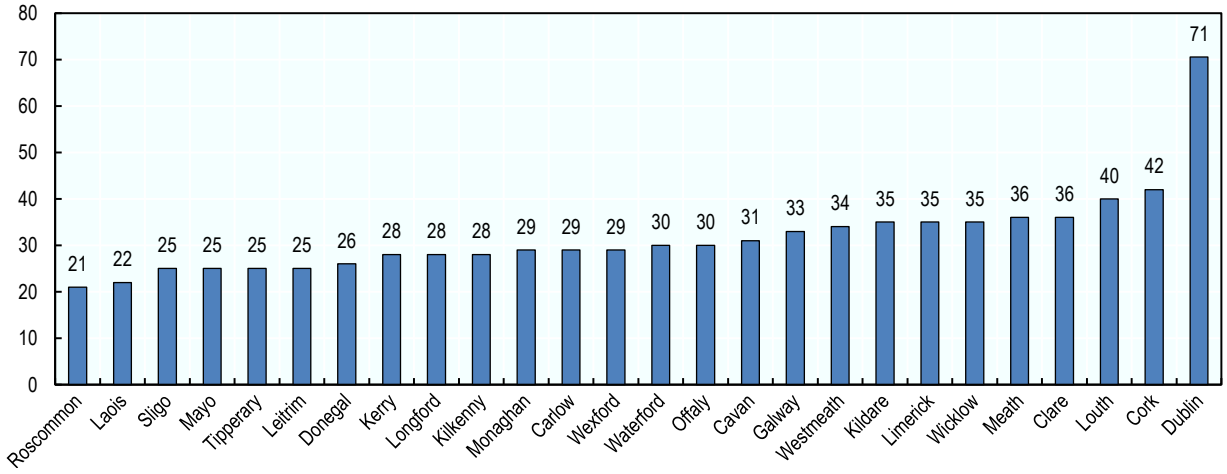
StatLink http://dx.doi.org/10.1787/888934004428

SME and entrepreneurship performance varies spatially within Ireland

Business start-up rates vary significantly across Ireland (Figure 1.9). The start-up rates are the highest in the two core cities of the country, Dublin and Cork, and are significantly lower in the rest of the country. SME innovation rates show a similar core-periphery pattern (Crowley and McCann, 2015). These variations appear to reflect a number of differences in the quality of local entrepreneurship ecosystems across Ireland in terms of the degree to which they provide favourable institutional and access to resources conditions.

Figure 1.9. New company formations per 10 000 population by county

Average 2015-17



Source: CSO.

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Some data gaps and measurement challenges affect understanding of SME and entrepreneurship issues

Certain data gaps affect the detailed assessment of SME and entrepreneurship issues in Ireland. This includes information on numbers of high-growth firms, distinctions between employer and non-employer enterprises, and information on value added generated in Ireland by multinational firms, which affects productivity comparisons with SMEs (Department of Finance, 2018; Beesley, 2017). The Central Statistics Office is working to help address these issues, such as through the production of a new Gross National Income (GNI) indicator to better account for temporary multinational flows in GDP.

Policy recommendations

Key recommendations on SME and entrepreneurship characteristics and performance

Promote policy measures to:

- Increase the productivity of "small" and "medium" size band SMEs.
- Increase the business start-up rate and business dynamism.
- Ensure equal opportunities for entrepreneurship across the population and address gaps in the self-employment and entrepreneurship activity rates of women, youth and migrants.
- Scale up micro-enterprises, particularly indigenous locally-trading and non-exporting enterprises, and increase the cohort of medium-sized enterprises (50-259 employees).

- Increase SME access to foreign markets, including non-United Kingdom markets.
- Address spatial disparities in entrepreneurship by strengthening local entrepreneurship ecosystem conditions for start-up and scale-up entrepreneurship.
- Address data gaps on SME and entrepreneurship performance, particularly on firms not assisted by government agencies, including on high growth firms, SME exports, SME productivity, and distinctions between employer and non-employer enterprises.

The business environment for SMEs and entrepreneurship

Uncertainties in the macro-economic environment could affect SME performance

The Irish economy was badly hit by the financial crisis but has since recovered well, and GDP growth has been above the OECD average in recent years. Nonetheless, economic uncertainties remain. The planned departure of the United Kingdom from the European Union (Brexit) may adversely affect SMEs, both those trading with the UK and not.

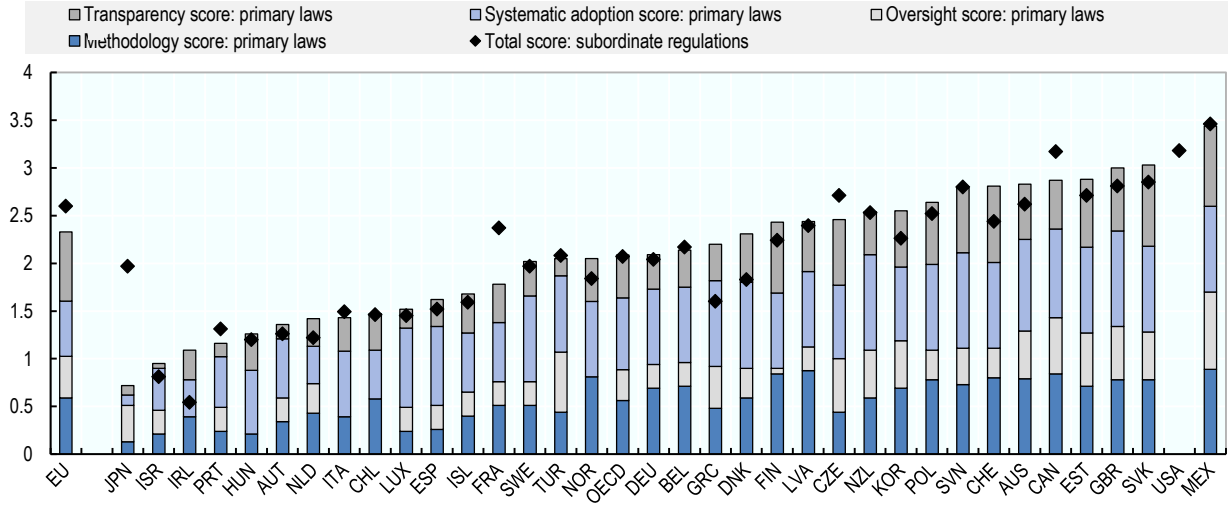
The innovation system is supportive overall

Ireland has a good innovation performance in a range of areas – including SME innovation rates, share of the population with higher education, employment in knowledge intensive sectors and high technology exports. Areas of weakness relate to a relatively low volume of R&D expenditure by the public sector, which was scaled back in the aftermath of the financial crisis, and a low incidence of private co-funding of public R&D expenditure.

Ireland offers a favourable regulatory environment, but further improvements could benefit SMEs

Ireland ranks highly (23rd globally) on the World Bank "ease of doing business" index, scoring particularly well for regulatory ease of starting a business, paying taxes and protecting minority investors. The index suggests, however, that regulatory improvements are possible in the areas of enforcing contracts, commercial property, legal services and business failure. Furthermore, Ireland has been slow to introduce the so-called SME Test of new regulation, which has been under trial in Ireland as of the beginning of early 2019, and in reporting on the degree of usage of Regulatory Impact Assessment procedures. Ireland could also strengthen its stakeholder engagement when designing regulation, as illustrated by its relatively low score on the OECD Indicators of Regulatory Policy and Governance (iREG) (Figure 1.10), although the Irish Government has recently made improvements in this area.

Figure 1.10. Stakeholder engagement in developing subordinate regulations, 2018



Note: Data for OECD countries is based on the 34 countries that were OECD members in 2014 and the European Union. Data on new OECD member and accession countries in 2017 includes Colombia, Costa Rica, Latvia and Lithuania. The more regulatory practices as advocated in the 2012 Recommendation a country has implemented, the higher its iREG score.
Source: (OECD, 2018[33]).

StatLink http://dx.doi.org/10.1787/888934004466

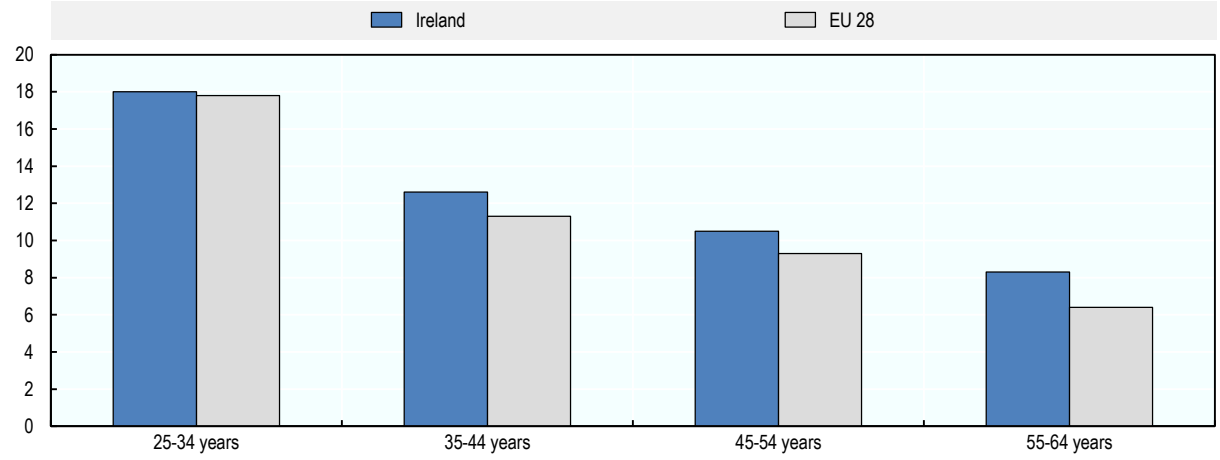
Policy efforts are increasing lifelong learning levels

The share of the population completing tertiary education and the expected financial benefits from completing tertiary education are high in Ireland, suggesting that the higher education system is playing an important role in providing skills that are relevant to the labour market (OECD/EU, 2017a). However, the OECD Programme for the International Assessment of Adult Competencies (PIAAC) indicates that adults in Ireland have been performing below the OECD average in literacy, numeracy and problem solving in recent years (OECD, 2018b), suggesting that the Irish economy would benefit from wider participation in lifelong learning programmes.

The 2016 Action Plan for Education set out the objective of increasing the adult participation rate in lifelong learning to 10% by 2020 and to 15% by 2025. In addition, a national apprenticeship action plan has been developed and a national promotional campaign on apprenticeships launched. Ireland's lifelong learning rate for adults 25-64 years old was 12.5% at the end of 2018, compared with an EU 28 average of 11.1%, however the participation rates fall with the age of employees (see Figure 1.11). Continued efforts are needed to further strengthen lifelong learning, including by enhancing current initiatives such as Springboard+ and EXPLORE, which support training and education among the employed and older employees.

Figure 1.11. Participation rate in education and training by age group, last 4 weeks 2018

Ireland and the EU 28 average



Source: Eurostat adult learning statistics

StatLink http://dx.doi.org/10.1787/888934004485

A more specific skills issue relates to skills shortages. The 2018 National Skills Bulletin points to a recent increase in difficult-to-fill (DTF) vacancies. Attracting foreign talent equipped with the relevant skills could help alleviate these issues.

Broadband connection opportunities are good

Broadband coverage in Ireland is good. Some 97.4% of small enterprises and 98.3% of medium-sized enterprises benefitted from broadband connectivity in 2016 (OECD, 2017a) and Next Generation Access (NGA Broadband) reaches more than 80% of Irish households (European Commission, 2017). Fixed broadband subscription rates in 2017 were 29.44 per 100 people compared to the OECD average of 30.60 per 100 people. To encourage even greater digital technology adoption, the Irish Government is implementing a long-term National Broadband Plan that is investing in public procurement of high speed connections to businesses that are not yet connected.

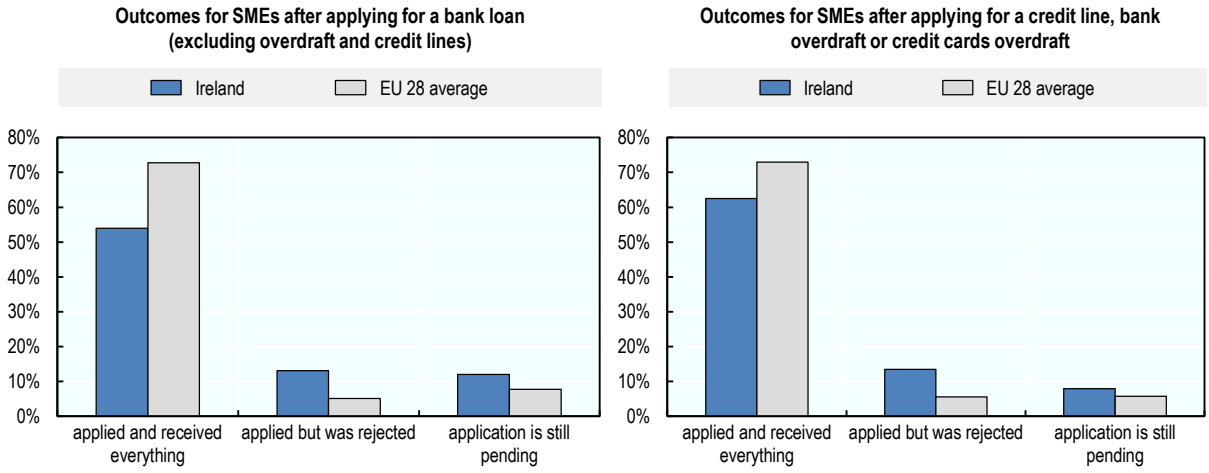
SME access to bank credit is constrained

The global financial crisis had a strong impact on Ireland, with a decline in SME lending of 23% between March 2010 and March 2015. The share of SME lending in total business loans also fell from 87% in 2010 to 67% in 2016; and the interest rate spread between SMEs and large firms increased from 1.02 percentage points in 2010 to 2.47 percentage points in 2016 (OECD, 2018d).

Moreover requests for bank loans, overdrafts and credit lines are more often turned down in Ireland than the EU average and time to process applications is relatively high (Figure 1.12).

Figure 1.12. Loan requests are more often declined in Ireland than in most other EU 28 countries

Outcomes for credit applications, 2017



Source: (European Commission, Survey on the access to finance of enterprises (SAFE): Analytical Report 2017[1]).

StatLink http://dx.doi.org/10.1787/888934004504

SMEs also appear to have been discouraged from seeking bank lending. Half of Irish SMEs did not hold any debt in the period from March to September 2017, twice as many as in September 2013, although this could also result from a better cash flow situation. One of the issues is a high demand for guarantees by banks. Research from the Central Statistics Office reveals that 73.6% of all bank finance applications in 2014 required some form of collateral. Of these, more than half (53.9%) required a personal guarantee from the business owner. Limited financial capabilities among SME managers and entrepreneurs also represent a challenge, according to government stakeholders who provide financial services. However, there is little statistical evidence available on the extent of possible financial literacy weaknesses.

Low corporate taxation provides a platform to stimulate business

Ireland's 12.5% corporate tax rate for active trading companies is lower than in any other OECD country except Hungary. This provides strong incentives for business investment and business activity in Ireland.

Ireland has a highly progressive personal tax regime. However, high marginal rates of personal taxation may constrain entrepreneurship as well as the attraction of talented entrepreneurial labour from abroad. Although the Special Assignee Relief Programme allows a discounted income tax rate for certain workers attracted from abroad, the structure of the relief favours multinational enterprises.

The Irish Capital Gains Tax rate of 33% is high compared to the OECD mean, which may discourage investment and entrepreneurship. The "revised entrepreneur relief" lowers the rate to 10%. However, it applies to lifetime gains of only up to EUR 1 million and tends to favour outright sales of businesses rather than partial disposals. Also, it is aimed at the entrepreneur and business angel investors cannot benefit. Ireland does not

have any generalised accelerated depreciation for SMEs, unlike many OECD countries, although it has introduced accelerated depreciation for energy efficiency investments.

Openness to trade and foreign direct investment offers opportunities for SMEs and entrepreneurship

Ireland is a very open economy, exporting 61% of its domestic value added in 2016, one of the highest shares within the OECD. Ireland is also a large net recipient of foreign direct investments (FDI), which is a major driver of economic development in the country. In principle, high levels of international trade and direct investment could provide positive spillovers to Irish SMEs, however this is held back by limited SME participation in the global value chains hosted domestically. Increased linkages between multinational firms based in Ireland and indigenous Irish SMEs could be developed in a number of ways, including ensuring that programme support to potential SME exporters extends to supporting linkages with FDI value chains, supporting SME compliance with international industry standards and involving FDI in enterprise-led networks for innovation and skills development collaborations.

Policy recommendations

Key recommendations on the business environment for SMEs and entrepreneurship

- Adopt best practices to improve stakeholder engagement in regulatory development on a systematic basis across government departments.
- Evaluate the impact of the promotional campaign to stimulate apprenticeships, especially with an eye to its impact on small employers.
- Develop an action plan for financial education with an emphasis on SME business owners and entrepreneurs and strengthen the evidence base on the managerial and financial skills of small business owners and managers.
- Broaden the tax relief of the statutory capital gains tax (revised entrepreneur relief) by making third party equity investors eligible.
- Consider lowering the marginal tax rate on personal income for medium earners, potentially while broadening the tax base to limit the budgetary implications.
- Consider the introduction of a tax relief for non-domiciled new hires by Irish SMEs who have not been tax resident previously, potentially through amendments to SARP relief. Set tight eligibility criteria so as to alleviate specific skills shortages.
- Support FDI-SME linkages by ensuring that export promotion initiatives extend to helping SMEs join FDI value chains, supporting SME compliance with industry standards, and involving FDI in local enterprise-led networks for innovation and skills development.

The strategic framework and delivery system for SME and entrepreneurship policy

A unified SME and entrepreneurship policy document would help guide and promote policy formulation, delivery and evaluation

SME and entrepreneurship development is a key priority of the Irish government, and SME and entrepreneurship policy actions are included in a range of national policy documents and statements, including the Action Plan for Jobs 2018, Future Jobs Ireland and the strategic documents of individual government departments (Enterprise 2025-Renewed; Innovation 2020; National Skills Strategy; National Strategy for Higher Education to 2030; National Policy Statement on Entrepreneurship in Ireland; National Digital Strategy for Ireland). However, an integrated policy framework for SMEs and entrepreneurship – stating policy objectives, actions and targets in this area – is not clearly articulated in a distinct national policy document, and thus appears fragmented to SME stakeholders. Enterprise 2025 Renewed, the strategy document of the Department of Business, Enterprise and Innovation (DBEI), lays out the whole enterprise policy framework, but includes large Irish-owned enterprises and foreign-owned enterprises. The National Policy Statement on Entrepreneurship (NPSE) is a stand-alone policy document, but is due to expire in 2019 and focuses on entrepreneurship rather than existing SMEs.

There are good whole-of-government arrangements for co-ordinating SME and entrepreneurship policies

The DBEI has the lead responsibility for co-ordinating SME and entrepreneurship policies across government. It consults broadly with other departments on policy directions and actions and has been effective in embedding a policy focus on SMEs and entrepreneurship in their strategies. It also benefits from having oversight control of many of the implementing agencies (e.g. Enterprise Ireland, the Local Enterprise Offices, Science Foundation Ireland, InterTradeIreland, Microfinance Ireland, the National Standards Authority of Ireland, the Industrial Development Authority, and the Irish Patents Office). However, there is no inter-departmental working group on SME and entrepreneurship policy that could involve senior government officials from different departments in aligning and promoting SME and entrepreneurship policy actions across government.

Broad stakeholder engagement processes are part of policy development

The government actively consults stakeholders including the Small Firms Association and the Irish Small and Medium Enterprise Association when developing and updating SME and entrepreneurship policies and programmes. Regular formal consultations are also held with SMEs through the Advisory Group on Small Business (AGSB), chaired by the Minister of State for Trade, Employment, Business, EU Digital Single Market and Data Protection. Currently, however, this is only a consultative body to the DBEI, whereas in many OECD countries such a body advises government at an interdepartmental level.

An in-depth analysis of resource distribution across policy lines and enterprise target groups may reveal opportunities for rebalancing

Some EUR 855 million was allocated to the DBEI in the 2017 government budget for enterprise support through its agencies, an increase of 10% over 2016. Table 1.1 seeks to present a basic 'portfolio analysis' for the distribution of this budget across policy lines and enterprise target groups. It suggests that innovation/R&D supports make up the largest component of expenditures (36.0%), followed by access to finance (33.4%). The smallest expenditure is for market access/export development (12.3%). Established SMEs were beneficiaries of some 40% of the expenditures and start-ups accounted for some 32%. Over 70% of the expenditure for established SMEs was directed to Enterprise Ireland-assisted firms.

Table 1.1. Allocation of enterprise support budget for entrepreneurship and SME development (in EUR) by policy and enterprise category, 2017

		1	2	3	4	Totals	Row % of total
		Entrepreneurial education, training, management skills	Access to finance	Market access/export development	Innovation/R&D		
A	Entrepreneurial culture/nascent entrepreneur	1 574 447	-	-	4 731 401	6 305 848	4.2%
B	Start-ups	3 827 049	33 833 823	2 808 352	7 549 611	48 018 835	32.3%
C	Micro-enterprises	9 271 112	11 141 516	3 893 176	3 164 536	27 470 340	18.5%
D	Established SMEs	10 737 387	2 936 304	8 500 241	37 047 344	59 221 276	39.9%
E	High growth potential firms	1 705 836	1 654 069	3 060 006	1 014 328	7 434 239	5.0%
	Totals	27 115 831	49 565 712	18 261 775	53 507 220	148 450 537	100%
	Column % of total	18.3%	33.4%	12.3%	36.0%	100%	

Notes: The table is not inclusive of all expenditures targeting entrepreneurs and SMEs. For example it does not include costs to the Exchequer of various tax relief incentives for the self-employed to start businesses, Enterprise Allowance schemes, individuals investing in SMEs, etc., although these could amount to significant investments in start-up and business support, for example, the cost of the Start Your Own Business Relief was estimated at EUR 4 million in 2017. Expenditures under the Regional Action Plan for Jobs are also not included, although that plan does include policy measures to support enterprise start-ups and growth. Included are expenditures for Enterprise Ireland, LEOs, InterTradeIreland, Microfinance Ireland, the Science Foundation Ireland (SFI) (projects specifically targeting nascent and starting entrepreneurs, i.e. TIDA and SFI/NSF I-Corps@SFI Entrepreneurial Training Programme), and Credit Guarantee Scheme (estimates of default costs). Of the active collaborative research projects supported by SFI in 2017, approximately 30% involved SMEs. As SFI does not directly fund enterprise, the percentage of funding benefiting SMEs is not included in the policy portfolio analysis. The portfolio does not include budget/expenditures for entrepreneurship and SME supports delivered by the Fáilte Ireland (Irish Tourism Trade Support) and Irish Food Board.
Source: Estimates by the OECD based on information from the DBEI collated with implementing agencies, complemented by information from annual reports of policy organisations and a review of available data on SME and entrepreneurship expenditures from the 2017 budget. The table is not based on officially published data under these headings.

There are no obvious imbalances in the distribution of resources across different types of policy intervention and client group. However, there may be potential for increasing impact by rebalancing resources in certain ways, for example towards programmes for market access and established SMEs not identified by Enterprise Ireland as exporters or

potential exporters and therefore included in their client group. Before such decisions can be made, a more accurate and complete policy portfolio analysis should be undertaken, including expenditures by other government departments, information on differences in levels of client demand and supply and evaluation evidence on policy impacts.

Policy evaluation is embedded

Evaluation of SME and entrepreneurship programmes is well executed by DBEI and its agencies. For example, progress to targets set in key policy documents and Departmental strategic plans is consistently monitored, a Policy Evaluations Unit applies an evaluation framework informed by international best practice, and evaluation reports are published on the DBEI website. However, more could be done to evaluate the impact of policies across government that affect SMEs and entrepreneurship, including tax policies, and to compare the effectiveness and efficiency of programmes in different parts of the policy portfolio (i.e. by lines of policy action and enterprise target groups).

Delivery of SME and entrepreneurship programmes has been strengthened

A relatively small number of agencies are involved in delivery of policy support to SMEs and entrepreneurs, often under the purview of the DBEI. Enterprise Ireland supports high potential start-ups and SMEs in manufacturing and tradeable services with exporting potential. The 31 Local Enterprise Offices (LEOs) are the first stop for start-ups and micro-enterprises, and also support larger SMEs on some programmes. Other key agencies include Science Foundation Ireland (SFI), InterTradeIreland (ITI), Microfinance Ireland, Fáilte Ireland (tourism sector), and Bord Biá (food sector).

The creation of the LEOs in 2014 has been an important reform creating more coherent pathways into the business support system for entrepreneurs and increasing synergies in the provision of support. The LEOs represented a reorganisation of the former County Enterprise Boards into more consistent offers governed by Service Level Agreements with Enterprise Ireland. They are supported by an Enterprise Ireland Centre of Excellence for LEOs and co-operation agreements between the LEOs and the Community Enterprise Centres (CECs). This system could be reinforced by encompassing a wider range of delivery partners in local co-operations led by LEOs, such as incubators, accelerators, business innovation centres, research centres, and Technology Development Offices.

The launch of the cross-government "Supporting SMEs Online" tool in 2014 further supports access of SMEs and entrepreneurs to the business support system, enabling them to identify which of over 170 government supports (funding, programmes, business support initiatives) is appropriate for their needs. In Q1 of 2019, the Online Tool was updated to include an SME events calendar and a latest news section along with an upgraded search function. The website is now located at www.supportingsmes.gov.ie.

Policy recommendations

Recommendations on the strategic framework and delivery system for SME and entrepreneurship policy

- Draft a unified SME and entrepreneurship strategy document integrating all the relevant SME and entrepreneurship policy objectives and actions identified in high level policy documents across government.
- Publish an annual report on the state of SMEs and entrepreneurship in Ireland.
- Establish an interdepartmental committee on SMEs and entrepreneurship (informal or formal), chaired by the DBEI Minister, and including relevant ministerial counterparts, and extend the consultative role of the Advisory Group on Small Business (AGSB) to this broader group of departmental entities.
- Establish an inter-departmental SME and Entrepreneurship Policy Working Group consisting of senior officials working as SME and entrepreneurship focal points.
- Undertake an in-depth policy portfolio assessment of the distribution of government resources across different types of policy support and enterprise target groups.
- Fully implement the local protocols between the LEOs and the National Association of Community Enterprise Centres (NACEC) across the country to promote complementarity of services and the reach of LEO services into rural areas.
- Foster the further development of "ecosystem support hubs" through more collaboration at the local level between LEOs, CECs, incubators, accelerators, business innovation centres, research centres, Technology Development Offices, and other support providers.

SME and entrepreneurship programmes

There is scope to scale up SME lending support

The Government established a new credit guarantee scheme in 2017, which increased the guarantee coverage of individual loans to 80% and extended eligibility to a wider range of financial providers and products. However, the programme remains modest in scale. The Strategic Banking Corporation of Ireland (SBCI), a state-owned bank, was established in 2015 providing funding to banks and financial institutions for lending to SMEs. One of its key programmes is the Brexit Loan Scheme launched in 2018. In addition, the Action Plan for Jobs established the Microenterprise Loan Fund, managed by Microfinance Ireland. However the scheme is relatively small, having approved 2 065 loans between October 2012 and March 2019.

The Government is also supporting equity investment for innovative SMEs and entrepreneurs in Ireland. In particular, Enterprise Ireland manages the Development Capital Scheme, Innovation Fund Ireland, and the Seed and Venture Capital Scheme. Other significant initiatives are InterTradeIreland's Seedcorn Competition and the WDC Investment Fund serving the Western Region.

Innovation tax incentives could be adjusted to better support SME innovation activity

Companies can receive a credit of 25% of qualifying expenditure under the R&D tax credit. This expenditure is also a deductible cost for corporation tax purposes. Recent revisions to the scheme include a payable element and a carry forward of unused credits, which are both helpful for small innovative enterprises in loss-making development phases. However, 78% of the tax expenditures still went to large firms in 2016. SME involvement may be held back by difficulties in understanding how to use the scheme and the costs of preparing, filing and defending claims. In addition, restrictions on credits for expenditure on third party subcontractors or universities are likely to affect SME involvement.

The Knowledge Development Box was introduced in 2016, offering a preferential tax rate on income from intellectual property resulting from R&D carried out in Ireland. Additional legislation was passed in 2017 which aimed to make the scheme more accessible to SMEs by allowing income from certain non-patented assets to qualify. However, in April 2018, fewer than 10 taxpayers had claimed tax relief under the scheme. The eligibility and administration procedures could be further examined with a view to increasing SME take up, as well as awareness of the scheme.

Several programmes support research-driven innovation

Enterprise Ireland offers a wide range of support for innovation to SMEs and start-ups in the manufacturing and internationally traded services sectors. Innovation Vouchers and an Exploring Innovation grant encourage firms to get started in planning innovation and working with external knowledge providers. An RD&I (research, development and innovation) Fund offers more substantial innovation grants, with a bonus for collaboration between two companies. Commercialisation of research is encouraged by Innovation Partnership projects, which support SMEs to work with Irish research institutes, and an Agile Innovation Fund, which helps commercialise innovations from research institutes. Leadership development and advice is also provided for innovation through the Innovation 4 Growth programme and the High Potential Start Up programme.

The public sector also makes important investments in research and technology development in priority fields for the Irish economy, hence opening up opportunities for research exploitation through entrepreneurship and research collaborations with SMEs. The effort includes sixteen Science Foundation Ireland Research Centres, a network of industry-led Technology Centres supported by Enterprise Ireland and IDA to introduce companies to the research expertise in HEIs, and fifteen Enterprise Ireland Technology Gateways to develop technology solutions for SMEs in partnership with Institutes of Technology. There is a range of support for mobility of researchers into industry (including the SFI Industry Fellowships, SFI Partnership Programme, the Innovation Partnership Programme, the Marie Curie Fit Programme and InterTradeIreland's Fusion programme). There are also key commercialisation support initiatives for research institutions, including Enterprise Ireland's Commercialisation Fund, the SFI TIDA and SFI/NSF I-Corps@SFI programmes, and the recently announced Disruptive Technologies Innovation Fund.

This package represents a strong set of research-driven innovation support for SMEs and start-ups. Nonetheless, there may be insufficient attention in innovation support to basic

management and organisational innovation in low productivity SMEs, including for basic technology upgrading such as digitalisation of production processes.

SME internationalisation is a recognised government priority

The government recognises an urgent need to stimulate more exporting and internationalisation in the SME population, including reducing dependence on the UK market given the challenges of Brexit. In 2018, it announced the Global Ireland – Ireland's Global Footprint to 2025 initiative, which includes a number of objectives related to business internationalisation. In addition, Enterprise Ireland has adopted an Expand Reach objective to double the total value of exports by its clients outside the UK between 2015 and 2025.

In operational terms, there are many programmes across various government departments and agencies. They are led by Enterprise Ireland initiatives including the Market Discovery Fund (for market research and market entry strategies), a Market Research Centre, an expanded network of overseas offices, trade missions and events, Graduates for International Growth (supporting SME export capabilities with graduate placements), the International Selling Programme and Excel at Export Selling (training supports). A number of further players are involved, including InterTradeIreland (for cross-border trade) and Bord Bia (for food and drink companies).

Despite these initiatives, more could be done to raise export ambition in SME management teams, notably through greater coaching and training support to second tier management to increase the number of 'export-capable' firms amongst smaller SMEs.

Entrepreneurship education and training have been strengthened

There is broad support from government and education industry stakeholders for entrepreneurship education and a number of significant policy initiatives are underway. For example, the LEOs run a Student Enterprise Programme in secondary schools, HEI teachers receive support from the Campus Entrepreneurship Enterprise Network and the National Forum for the Enhancement for Teaching and Learning in Higher Education, and Springboard+ has provided a range of entrepreneurship courses in HEIs since it commenced in 2011. The momentum for entrepreneurship education can be maintained with increased core as opposed to project-based funding and expansion at primary and secondary education levels.

For people outside of the formal education system, New Frontiers delivers entrepreneurship training in Institutes of Technology funded by Enterprise Ireland. In addition, Enterprise Ireland provides pre-start-up training for approximately 170 entrepreneurs per annum linked to its equity financing activities, and SFI operates boot camps for science-based entrepreneurship teams to travel to the US and engage in a six-week customer validation process. Furthermore, academic researchers who are awarded an SFI Technology Innovation and Development Award or an SFI/NSF I-Corps@SFI Entrepreneurial Training Programme award are offered entrepreneurship and commercialisation training.

There is significant programme support for SME workforce skills development

The National Training Fund (NTF) invested EUR 122 million in 2018 for apprenticeships, including access for SMEs. It also invested EUR 21.7 million in

supporting Skillnet Ireland programmes. These include the Training Networks Programme (which supported 15 000 companies through over 50 enterprise groups and 66 learning networks in 2017), the Future Skills Programme (which provides seed funding for enterprise groups to develop innovative enterprise-led trainings with HEIs and private training providers) and a Management Development programme for SMEs. Nine Regional Skills Fora have been established to support regional public partners (including IDA, Enterprise Ireland and the LEOs) and businesses (structured by enterprise sectors and sizes) to identify skill needs and facilitate the creation of responses from the education and training system. The LEOs also provide a range of upskilling and training programmes to enterprises, with approximately 30 000 participants annually.

In addition to these programmes, it is worth considering launching a dedicated initiative to support Irish SMEs in the transition to 'factories of the future' (Industry 4.0) whereby industry-led platforms would support awareness-raising, coaching and application of digital technologies, human centred production, networked factories, circular economy approaches, etc.

Developing enterprise-led networks could increase the effectiveness of business support

Delivering policy to enterprise networks rather than individual SMEs offers a number advantages. They help SMEs to define and steer the nature of support, support peer learning among participants opportunities, and offer economies of scale in the delivery of business support that may make it efficient to deliver support that could not be offered to individual firms. The Government already operates some programmes aimed at enterprise networks. For example, LEOs provide start-ups and established SMEs with access to a variety of networks on different topics, Skillnet Ireland uses regional enterprise networks to support SME upskilling, and the Technology Centre Initiative provides an industry-led network approach to introducing enterprises to research expertise. The Regional Enterprise Development Fund also offers funding to major collaborative and innovative initiatives and enterprise clustering and the DBEI has recently launched a new Institute of Technology Clustering Programme. However, the majority of public policy initiatives aim at individual businesses rather than groups of SMEs and there is scope to expand the enterprise-led approach drawing on models from countries such as Germany and Denmark. A national cluster policy is under consideration and development and could offer a means of institutionalising this kind of support.

Public procurement is being utilised to promote SME development

An Office of Government Procurement (OGP) was created in 2014 co-ordinating public procurement for four key procurement sectors – Health, Defence, Education and Local Government. The OGP and its sector partners have put in place framework agreements and contracts through which public sector bodies can buy goods and services, with an estimated value of EUR 4 billion annually. SME participation is encouraged by sub-division of framework contracts into lots, support to form SME bidding consortia, a tender advisory service, and measures to increase the visibility of public procurement opportunities to SMEs, such as videos on public procurement and case studies of successful tenderers. National policy guidance also requires buyers to advertise goods and services contracts with an estimated value of EUR 25 000 (excluding VAT) and over on the Government's electronic tendering portal e-Tenders. In addition, Enterprise Ireland manages a Small Business Innovation Research (SBIR) initiative, which is a pre-

commercial public procurement approach with the objective of stimulating innovative solutions to specific public sector needs.

However, understanding of the potential for procurement of 'new to market' products and services could be built further across government, including the introduction of SBIR type approaches in other parts of government. Efforts are also needed to increase the uptake of policy measures that require the most time and resources from public buyers, e.g. conducting pre-tender market analysis or accepting reasonable variants to specifications, which lag behind take up of more easy to implement measures. There also remains a large number of public purchasing bodies outside of the OGP framework, and further consolidation may be appropriate in the coming years. Finally, guidance could be enhanced on green public procurement.

Programmes for migrant entrepreneurship could be boosted

There are a number of inclusive entrepreneurship programmes in Ireland that aim to promote equal opportunities in entrepreneurship across social groups. This includes a range of support for women's entrepreneurship, and to a lesser extent support for entrepreneurship by older people, youth and the unemployed (OECD/EU, 2017b). However, there appears to be a gap in support for entrepreneurship among migrants. This group has a number of distinct needs in entrepreneurship and an overall client group size that is large enough to merit dedicated support. While some LEOs have occasionally provided targeted training programmes to migrants, these activities appear less common in recent years.

Policy recommendations

Key recommendations on SME and entrepreneurship programmes

Financing

- Review the effectiveness of the recently revised credit guarantee scheme and awareness of it among possible beneficiaries and consider scaling up its activities.
- Consider more direct lending activities to segments in the population of SMEs and entrepreneurs that face particular challenges to access credit, such as micro-enterprises and start-ups.
- Closely scrutinise the economic impact and return on investment of ISIF in light of its innovative features.

Innovation

- Set a clear objective to increase the intensity of R&D and innovation activity by smaller Irish-owned enterprises, including additional measures to improve their knowledge absorption capacities (innovation and technological management skills, etc.);
- Enhance co-operation between enterprises for R&D and innovation, notably smaller firms with other enterprises (clients and customers) and with the research

base and other innovation relevant players (consultants, commercial labs, and so on).

- Adapt the R&D tax credit instrument to encourage innovation collaborations by SMEs by increasing the share of subsidies that flow to smaller firms involved in outsourcing R&D tasks to research and technology organisations, and considering shifting resources to large firms for R&D undertaken with SMEs and Irish technology centres.
- Introduce a pre-approval procedure of R&D tax credits to help reduce uncertainty for SMEs.
- Further develop strategic collaborative R&D and innovation programmes in specific sectors through the Technology Centres programme covering strategic sectors for the Irish economy where R&D and innovation intensity is lower than could be expected, such as the food industry and the bioeconomy.
- Consider additional targeted support for the technology validation phase for SMEs to fill a gap in the pipeline from concept to exportable product or service.
- Assess the potential for launching a dedicated initiative to support SMEs in the transition to 'factories of the future' (Industry 4.0).

Workforce skills development

- Further embed and broaden entrepreneurial education curricula at primary and secondary education levels. This could be done by generalising good practice examples within the mainstream educational system.

Enterprise-led networks

- Place a stronger emphasis on supporting and utilising enterprise network structures in SME and entrepreneurship policy.
- Develop a national cluster policy via a long-term collaborative process involving national and regional policy makers.
- Create a central communication platform for the roll-out and development of a national cluster policy.
- Support the professionalisation of network and cluster organisations, including achieving the award of the quality label of the European Cluster Excellence Initiative.

Public procurement

- Further develop guidance on green public procurement and reinforce the understanding across procurement services of the potential for innovative public procurement.
- Encourage more public sector bodies to participate in SBIR Ireland innovation challenges for pre-commercial public procurement.

Under-represented social groups

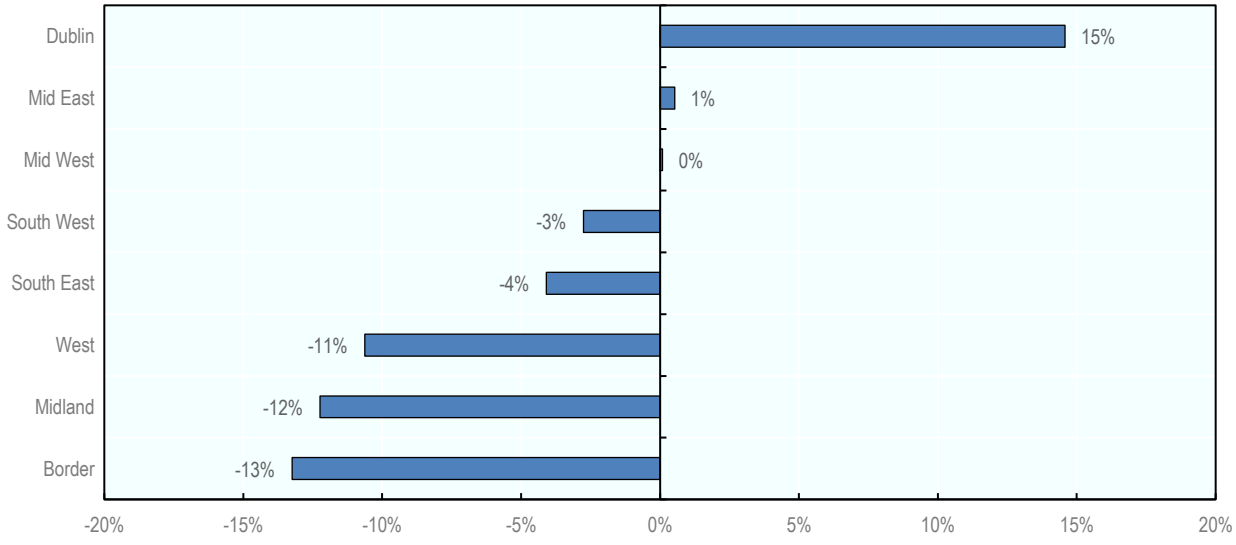
- Expand dedicated programme support to assist migrants to start businesses across the country.

The local dimension

Conditions for SME and entrepreneurship development vary spatially within Ireland

Despite its small size, Ireland experiences strong core-periphery disparities that hamper equity and growth. Economic activity is heavily concentrated in the Dublin agglomeration, where about 30% of the country's employees reside and income per head is substantially above the rest of the country (Figure 1.13). These disparities are among the highest among OECD countries (OECD, 2016b).

Figure 1.13. Disposable income per person by NUTS 3 region, percentage deviation from state average 2015



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There are also significant local concentrations of specialised industry with related skills and FDI presence. Three major sectoral concentrations of activity are Medical Devices in Galway, Pharmaceuticals in Cork and Information and Communication Technology (ICT) in Dublin, but there are also many other sub-national concentrations.

Local entrepreneurship ecosystem conditions affecting innovative start-ups, scale-ups and SME innovation also vary significantly across the country, and some regions are affected by significant bottlenecks, including problems of broadband connectivity (which is particularly important for accessing agglomeration economies in distant urban centres from low density and remote areas) and access to specialised skills.

Mechanisms for local tailoring of SME and entrepreneurship policy could be further developed

SME and entrepreneurship policy could contribute to addressing issues of regional disparity and strengthening regional and national growth by alleviating the local entrepreneurship ecosystem bottlenecks affecting start-ups, scale-ups and SME innovation. Additional focus is needed on supporting new local growth trajectories that

build on existing local industry, skills, technology and research strengths and cluster potential, including diversification into "related variety" activities. The facilitation of these local emerging industries will depend significantly on promoting relevant skills development and knowledge exchanges.

The 31 LEOs have the capacity to vary the business advice and finance they provide to match their local conditions and help identify SMEs with key local cluster development potential for further Enterprise Ireland support.

In addition, nine Regional Enterprise Action Plans to 2020 (REPs) have been developed by DBEI working with regional stakeholders. The principle behind the Regional Enterprise Plans is collaboration between regional stakeholders on initiatives that can help to realise the region's enterprise development potential. They are shaped from the 'bottom-up' by regional stakeholders. Each of the nine Regional Enterprise Plans have different Strategic Objectives that were formulated and agreed upon at a regional level, with guidance from DBEI to ensure coherence and aligment with national policies. The REPs are backed up by a competitive Regional Enterprise Development Fund (REDF) to support major initiatives to build on regional sectoral strengths or strengthen enterprise capability.

Nine Regional Skills Fora have also been developed by the Department of Education and Skills (DES) as part of the Government's National Skills Strategy. They aim to facilitate collaboration between firms and the education and training system to address local skills needs, while the Spotlight on Skills programme aims to enable SMEs to identify their skill needs.

These local and regional initiatives are very promising as mechanisms for identifying and alleviating local entrepreneurship ecosystem bottlenecks, but they could be further strengthened in this role. While the LEOs in principle have significant flexibility, they tend to deliver largely a standardised national policy at local level. In addition, the combined body of these local policy tailoring systems, together with other actions such as the WDC and LEADER initiatives operating in specific parts of the country, could benefit from a stronger thrust on supporting innovative entrepreneurship and SME innovation in key local clusters to support their upgrading and diversification. This effort would benefit from better local data on entrepreneurship and clusters, including issues such as local labour flows and innovation linkages.

Regional alignment of entrepreneurship policy is strong but sub-national policy co-ordination could be extended in some fields

The enterprise agencies EI and IDA both have a regional office footprint and regional focus within their corporate plans, and EI has recently launched 'Powering the Regions', which articulates a tailoring of approach depending on particular regional circumstances. The launch of Regional Enterprise Plans and their implementation through Regional Steering Committees provides a vehicle for collaborative initiatives tailored to regional needs and opportunities, and include the Regional Skills Fora managers, the enterprise agencies and the LEOs. The structures in place could be leveraged further to drive sub-national co-ordination relevant to SME and entrepreneurship development. For example, the Global Sourcing Initiative of Enterprise Ireland and IDA does not make use of LEOs or the National Standards Authority of Ireland (NSAI) for building SME capabilities around accessing local FDI supply chains and has no apparent links to Regional Skills Fora.

Policy recommendations

Key recommendations on the local dimension

- Improve data and information on local entrepreneurship ecosystem conditions particularly with respect to constraints to cluster development.
- Map and assess the functions and roles of the various agencies and organisations in the local enterprise support system and identify possibilities to reduce complexity, enhance coordination and increase opportunities for local tailoring.
- Create a mechanism to involve the Regional Skills Fora and LEOs in new collaborations to address the challenge of raising SME innovation capacity at a regional level.
- Set up a collaboration between LEOs, Enterprise Ireland, education providers, IDA and NSAI to organise training and awareness building of local SMEs on the role of standards and certification in growth and internationalisation.
- Include a focus within SME and entrepreneurship policy on the further development of local and regional enterprise networks and clusters, including specialisations and capabilities.
- Develop approaches to connect SMEs and entrepreneurs in remote regions with broader entrepreneurship ecosystems in urban centres and larger cities.

Note: There are key recommendations in other chapters that are important to consider in the context of addressing spatial disparities and SME and entrepreneurship development in the regions. These include: Regional competence centres (Chapter 7); Ecosystem support hubs (Chapter 4); Rebalancing of expenditure (Chapter 4) and Networks and cluster policy (Chapter 5).

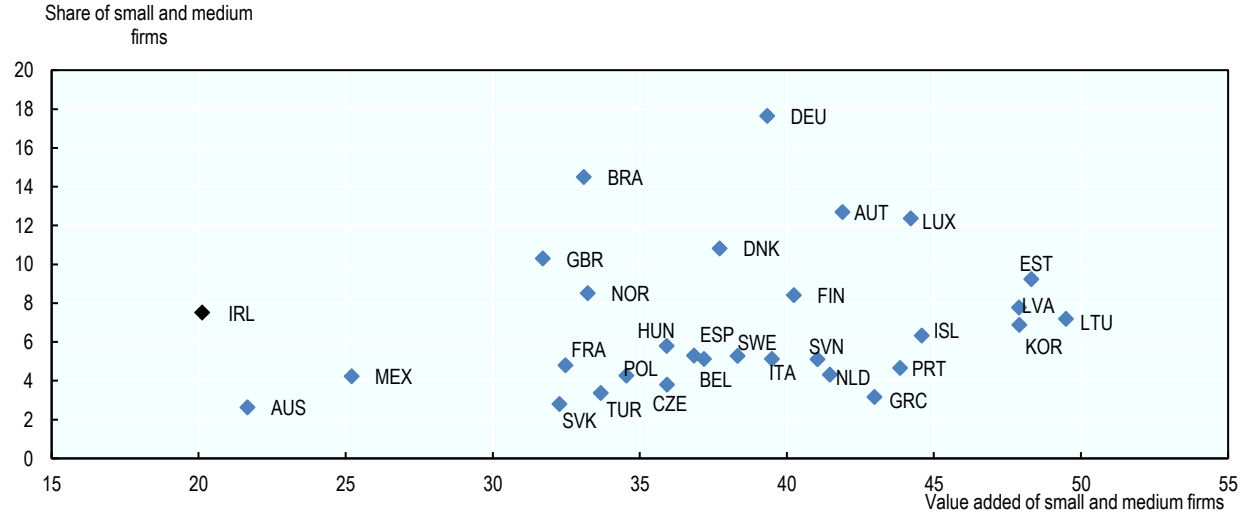
SME productivity in Ireland

The recent productivity growth performance of SMEs has been weak

The issue of low productivity growth among SMEs and particularly medium-sized firms is highlighted in the SME and entrepreneurship performance section of this report, and a range of SME and entrepreneurship programme interventions that can support SME productivity upgrading have been discussed in the section on national SME and entrepreneurship programmes. Figure 1.14 illustrates the productivity issue, showing that although firms with 10 to 249 employees account for 7.5% of enterprises in Ireland, which is above average in international comparison, they account for less than 20% of output, which is the lowest of all OECD countries. Furthermore, the median firm productivity level declined between 2006 and 2014.

Figure 1.14. Share of small and medium firms and contribution to value added

As a percentage



Note: Small and medium-sized firms refer to businesses employing between 10 and 249 employees. Micro firms (1-9 employees) are excluded.
Source: OECD SDBS database.

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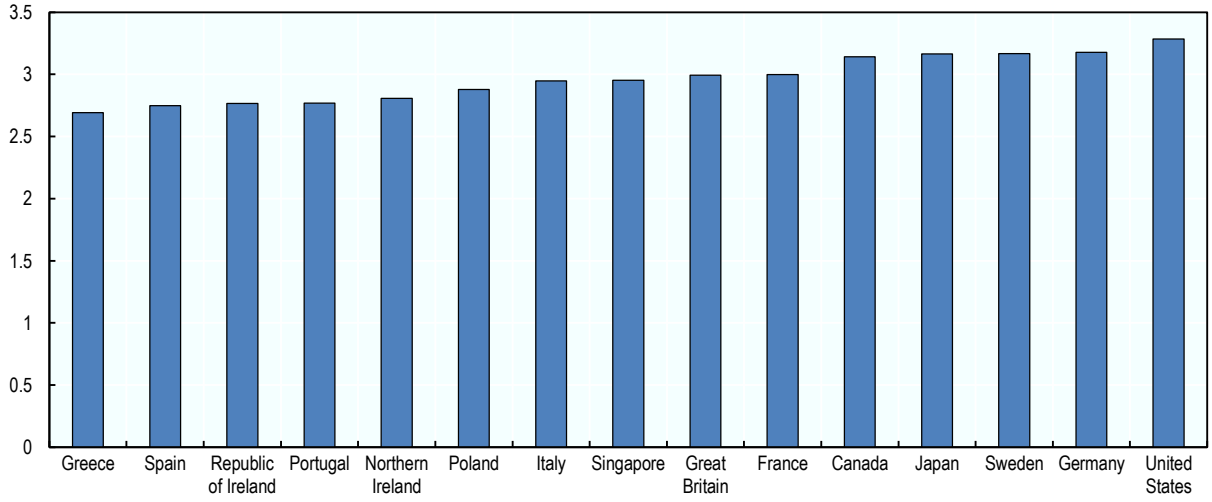
Low-productivity SMEs should be a target of policy

There is wide dispersion across SMEs in productivity levels and a relatively long tail of low-productivity SMEs at the bottom end of the productivity distribution. Improving productivity in low-productivity SMEs should therefore be a key focus of SME policy in Ireland. This can be driven by adoption of good management practices, introduction of newer capital stock and production techniques and increasing the share of SMEs that export and engage in global value chains.

Management skills and practices

Figure 1.15 indicates that Irish managerial skills are weak when compared to other high-income countries such as Germany, Sweden and the United Kingdom. SMEs should be encouraged to build up their management skills, and also to apply these skills on a routine basis in order to translate them into superior management practices. This can be supported in particular by expanding Skillnet Ireland management development support to reach more SMEs and strengthening the reach of business advice and consultancy to low productivity SMEs.

Figure 1.15. Average management skills of sampled firms in different countries, according to the World Management Survey



Note: The World Management Survey measures the quality of management practices in establishments across multiple dimensions, creating a management score from responses to questions regarding use of short-term targets, provision of incentives for high performance, monitoring performance data, and so on. Graph prepared using the manufacturing 2004-2014 combined survey data. See Bloom et al., (2014) for details.
Source: World Management Survey, worldmanagementsurvey.org.

StatLink http://dx.doi.org/10.1787/888934004561

SME investment in physical capital is low

Productivity upgrading driven by embodied technology in new capital equipment is held back in Ireland by low capital investment rates by SMEs. A recent study based on survey data found that Irish SMEs have an estimated underinvestment of about 30%, given the state of the economy (Lawless et al., 2018).

SME adoption of digital technologies is low

Although Ireland's progress in digitalisation of business processes is satisfactory overall, there is still room for improvement. For example, in 2015, Ireland ranked only 22nd among 30 mainly OECD countries in terms of use of Enterprise Resource Planning (ERP) and had the second lowest density of industrial robots in the EU-15 (excluding Luxembourg) in 2017 (OECD, 2018a). Ireland also currently has a digital skills deficit in comparison with the EU average (OECD, 2018a). There are also instances of lack of awareness among SME managers of digitalisation opportunities and their benefits (European Investment Bank, 2018).

Setting up a 'Digital Growth Panel', such as that operated in Denmark, would be valuable as a way of recognising the importance of digitalisation in Ireland, formulating a strategy for investing in future challenges of SME digitalisation, and being attentive to the requirement of industry regarding areas such as investment, infrastructure, and skills gaps.

Entry into export markets is limited

Ireland has a relatively low share of SME exporters in international comparison. The Government is seeking to address this issue. Grants and advice to encourage SMEs to start to export or to expand their exporting are available from InterTradeIreland (with respect to cross-border trade on the island of Ireland) and from Enterprise Ireland (with regard to all foreign markets). The latter include for example the Market Discovery Fund, providing grant supports of up to EUR 150 000. The LEOs also offer support for micro exporters.

Increased SME adoption of international standards could support productivity growth

Compliance with industry standards could help SMEs to increase quality, win contracts with foreign-owned multinationals, engage in e-commerce and develop their intellectual assets and innovation. However, there seems to be a lack of awareness among SMEs of the benefits of standards while support for standards adoption is not fully integrated into the packages of policy support offered to Irish SMEs.

Inter-firm networking can be a route to greater productivity spillovers

Ireland's high overall productivity performance per person is driven by high value added in a small number of large foreign-owned multinationals. However, despite policy efforts to catalyse innovation diffusion to indigenous SMEs, productivity spillovers have been hard to detect. Strengthened networking between FDI and domestic SMEs could help provide better opportunities for knowledge diffusion. At the same time, opportunities for peer learning among SMEs should be further promoted through supporting SME networks for innovation, training and exchange of information on best practice techniques, e.g. through local network or cluster organisations.

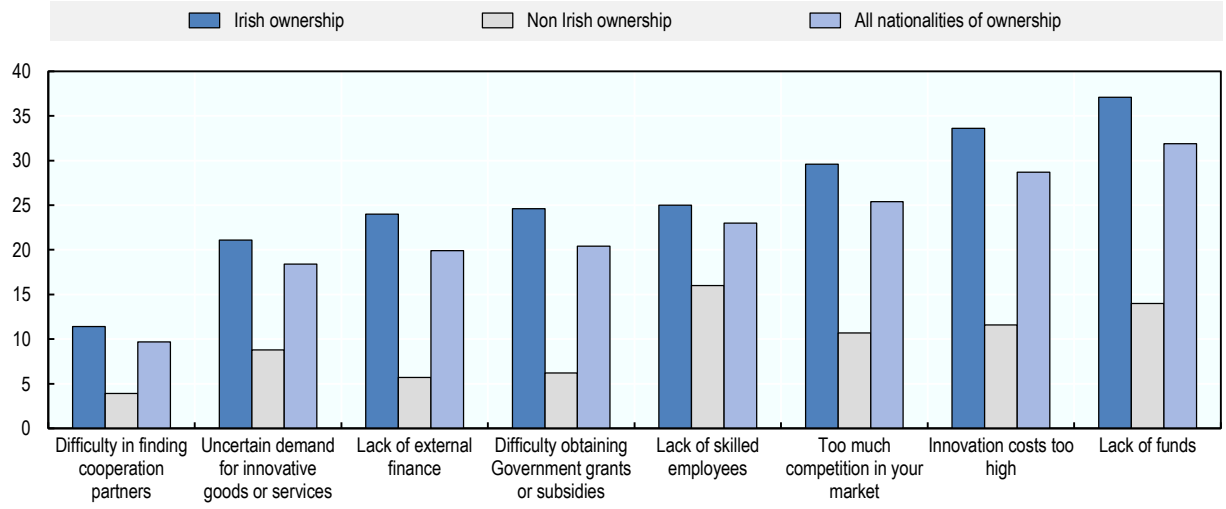
Business dynamism is weak

The Irish economy has relatively low business entry and exit rates and a relatively high survival rate. Weak business demographics could hold back productivity growth, particularly if innovative start-ups are few in number. One of the means of promoting innovative start-ups that should be explored further involves facilitating their access to financing, as discussed in the sections on access to financing and CGT arrangements.

Direct support for SME innovation could be boosted

Irish-owned firms report a number of barriers to innovation including lack of funds, innovation costs, and lack of skilled employees (Figure 1.16). Innovation policies can help address some of these issues. The mix of innovation policy expenditures in Ireland emphasises tax credits (OECD, 2018c), which appear to be effective in stimulating R&D investment. At the same time, the role of more direct R&D grants and loans and loan guarantees for innovation investments could be strengthened. Innovation capabilities could also be enhanced by broad-based upskilling, such as by targeting skilled workers whose skills are in need of updating.

Figure 1.16. Hampering factors for innovation, by ownership (2014-16)



Source: www.cso.ie, graph by authors.

StatLink http://dx.doi.org/10.1787/888934004580

Policy recommendations

Key recommendations for boosting SME productivity

- Continue efforts to facilitate researcher access to Central Statistics Office (CSO) micro data on SME productivity to support evidence-based policymaking.
- Encourage wider take-up of Skillnet Ireland programmes to develop management capabilities in Irish SMEs, and consider a further push to target firms that are not at the technological frontier.
- Consider the establishment of a national panel comprising industry representatives that feeds into government decision-making and strategy formulation on SME productivity.
- Further support digitalisation of business processes in SMEs, for example through targeted loans or vouchers and creation of a small number of regional competence centres.
- Introduce policy initiatives to encourage the adoption of productivity-enhancing techniques such as ERP and industrial robots. A twin track approach to accelerate digital transformation via e-invoicing in Irish SMEs could be adopted, by educating via Skillnet Ireland as well as by designing appropriate Enterprise Ireland and/or LEO grant schemes.
- Increase policy attention to the role that adopting and developing international standards can play in enhancing SME productivity. This could include increased collaborations between NSAI and SFI, EI, and IDA on incorporating standards adhesion in company SME programmes and enhanced treatment of standards in Skillnet Ireland management development programmes.

- Increase export assistance for SMEs, for example through grants to complement existing initiatives by LEOs and EI to support would-be exporters.
- Augment Irish industry-led business networks involving both SMEs and large firms, to support collaboration on common issues such as training and innovation and the diffusion of good practice management approaches.
- Roll out broadband infrastructure across Ireland, in keeping with the National Broadband Plan.
- Maintain R&D tax credits, while trying to increase their take-up by smaller enterprises by design changes and awareness raising.
- Strengthen the offer of grants, vouchers, loans, and loan guarantees for R&D and innovation in SMEs as well as measures to facilitate risk capital markets.

Business advisory services

Business advisory services are a key feature of policy support in Ireland

Business advisory services – in the form of information, consultancy, mentoring and management training – can play an important role in helping SMEs and entrepreneurs to understand the strengths and weaknesses of their businesses and the actions they can take to improve competitiveness. These services can play an important role in guiding SMEs and entrepreneurs to the public programmes that can support them (as discussed in the section of this report on national SME and entrepreneurship programmes). Furthermore, business development services can support Irish SMEs in understanding how to remain competitive and sustainable in the face of the challenges and opportunities brought by global megatrends (demographic change, climate change, digitalisation etc.) and how to introduce good corporate social responsibility (CSR) practice that enables businesses to take more reponsiblity for their actions on their people, the planet and the community they operate in.

The LEO network and Enterprise Ireland are key agencies offering business advisory services in Ireland. Business advisors working in the LEO offices offer a range of face-to-face services to a wide range of micro enterprises including Group Business Information Sessions and one-to-one Business Advice Clinics. Enterprise Ireland also employs Development Advisors in its head office and 10 regional offices providing a key link to the SME and entrepreneurship programmes of Enterprise Ireland and other agencies. Enterprise Ireland also funds an infrastructure of 30 incubators and accelerators offering advisory support to start-ups and early-stage growth potential enterprises in universities and Institutes of Technology.

Further agencies are also engaged in business development services aimed at specific issues or sectors. They include InterTradeIreland (for cross-border trade issues), Fáilte Ireland (National Tourism Development Agency) and Bord Bia (Irish Food Board). Skillnet Ireland supports 65 enterprise networks to diagnose, develop and deliver responses to skills needs, including business development advice to firms.

These agencies typically make significant use of third party organisations (such as the Irish Management Institute, Institutes of Technology, universities, and Technology Gateways) and private sector consultants and mentors and have strong links with incubators and start-up accelerators typically located in universities and Institutes of

Technology. The relationship with third parties and consultants and mentors is commonly governed by formal agreements that lay out the nature of the services, delivery standards, performance expectations, and reporting requirements that help ensure consistency and quality of service delivery across the system.

Business diagnostic tools have further potential

Enterprise Ireland operates an online business diagnostic tool – the Company Health Check – that supports clients to benchmark themselves against competitors across different business functions and performance areas and helps identify the most appropriate support services for their needs. In addition, the Workplace Innovation Toolkit was launched in 2018 to help companies and their workforces identify where there is scope to improve their businesses and workforces, including questions about the company's employee engagement, innovation, productivity and training approaches. However, the LEOs and other agencies do not make systematic use of a business diagnostic tool.

The 'Supporting SMEs Online' tool could be extended to diagnosis and advice

The 'Supporting SMEs Online' portal was launched by the government in 2014 providing information on 170 business supports for SMEs and entrepreneurs from 27 different government departments, agencies and initiatives. It uses simple questions to guide enterprises to appropriate support based on the kind of support they are seeking and features of their business (sector, stage of development, location etc.). However, it does not include an interactive online business diagnostic tool, online advice and mentoring opportunities or basic online information and guidance on issues such as on how to develop a business idea, start a business, grow a business, finance a business, etc.

Relatively small numbers of SMEs receive management training

Management and start-up training are offered by the LEOs and Enterprise Ireland through private trainers. SkillNet Ireland also provides management training. However, in 2017, SMEs made up less than 2% of learners on the Skillnet Management Works Programme (Indecon, 2018).

Financial support for consultancy could be extended to more firms

The LEOs, Enterprise Ireland and InterTradeIreland all operate voucher schemes that SMEs can use to acquire external consultancy from approved suppliers as well as various grant-based consultancy programmes. However, some of these schemes could be scaled up. For example, in 2018 only 558 Innovation Vouchers were redeemed and only 5 600 have been redeemed since the start of the programme in 2007, which appears to be below the level of potential demand for this type of support.

SMEs and entrepreneurs have good access to mentoring opportunities

Mentoring is widely employed in the Irish business advisory services system. The main public providers are the LEOs, Enterprise Ireland and Skillnet Ireland, but InterTradeIreland, the Food Advisory Service, Fáilte Ireland and the business incubators and accelerators are also involved. A review in 2014 reported that there were some 2 000 paid mentors to SMEs and 1 000 volunteer mentors in the public system (Forfás, 2014).

Support for mentors could be increased

The public agencies in Ireland recruit experienced staff and provide training to advisers, consultants, and mentors, such as the EI Best Practice Masterclasses and Best Practice Guide for the Mentor Network. These capacity building activities have strengthened in recent years. However, considering the widespread use of mentoring in the Irish system, there is merit in a review of training and guidelines provided to publicly-funded mentors to assess the current situation. This could potentially point to a need for a strengthened process of orientation, training and certification of mentors.

An assessment is needed of potential gaps in business advisory services provision

There has not been a comprehensive assessment of the supply and demand for business advisory services in Ireland for some years and it appears that demand exceeds supply for some services and there may also be important latent needs. In particular, SMEs of 10-249 employees may be overlooked if they are outside of manufacturing and tradable services and not demonstrating strong export ambition. This is because LEOs largely aim their support at micro enterprises, although they can also support larger firms (for example through the Lean 4 Micro programme and a range of training programmes), and Enterprise Ireland largely focuses on SMEs with potential to export. In addition, LEOs limit the number of mentoring sessions per individual client and the take up of SME management training appears insufficient compared with the importance of upgrading management skills in Irish SMEs. Regular analysis of demand for business advisory services (covering issues such as awareness of support, needs with respect to content, conditions and design, levels of participation in public and private services, and attitudes to services) would help assess the potential gaps in current supply.

Additional evaluation is needed in certain areas of the business advisory system

Although the government has required impact evaluations of many business advisory services programmes there has not been a recent rigorous impact evaluation of the business accelerator and incubator system. There is also no co-ordinated approach to collecting key performance indicator data from the accelerators and incubators at the system level. In addition, a more rigorous evaluation is required of the impact of business mentoring assistance.

Policy recommendations

Key recommendations on business advisory and support services

- Expand the information content on the Supporting SMEs Online portal to improve its capacity to serve as a first-stop information source for all SMEs.
- Expand the use of online business diagnostic tools for SMEs and entrepreneurs to help them identify their challenges and provide basic guidance. Explore how to use the diagnostic results to help match the offer of business advice with the needs of individual enterprises.
- Encourage the LEOs to collect and report information on the take-up of group information sessions, business advisory clinics and mentoring services disaggregated by type of client and enterprise and type of advice requested.
- Make enhanced use of virtual tools to improve SME access to specialised mentors who may not reside in the local area of the LEO.
- Increase the level of awareness and take-up by SMEs in the Skillnet Ireland training initiatives, particularly in relation to management development training in micro and small enterprises.
- Consider the use of a voucher scheme to incentivise more micro and small enterprises to participate in management development training programmes.
- Develop mechanisms for the tailoring and extension of relevant management development programme modules to cohorts of SMEs not currently engaging in such programmes offered by the LEOs and EI.
- Scale up the Trading Online Voucher system by increasing the amount of the voucher or allowing micro-enterprises to apply for a second follow-on voucher.
- Hold regular information and awareness sessions with staff and business advisors of the LEOs to ensure they are updated on the programmes and support services and act as an effective signpost. This could make use of regularly amended versions of the "Mapping of Supports" that has been produced by the DBEI.
- Increase opportunities for business mentors to acquire professional qualifications and accreditation.
- Develop a national incubator and accelerator policy to encourage the systematic sharing of key performance indicator data on Ireland's publicly-funded business incubator and accelerators and to offer opportunities for sharing good practice across different incubator and accelerator providers.
- Include information and advice on good corporate social responsibility practices in business development services offers, focused on how Irish SMEs can remain competitive and sustainable in response to global megatrends.

Notes

[1] The churn rate is defined as the sum of birth and death rates of enterprises and thus provides a measure of how frequently new firms are created and existing enterprises close down.

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Chapter 2. SME and entrepreneurship characteristics and performance in Ireland

This chapter describes the structure and performance of SME and entrepreneurship activity in Ireland. It presents information on numbers of enterprises, employment and value added by enterprise size class. It examines key business demography indicators such as the business entry, exit and churn rate, as well as the proportions of high-growth firms in the business population. It presents evidence on the productivity of SMEs, the level of SME internationalisation and rates of R&D and innovation in SMEs in Ireland, as well as on entrepreneurial attitudes and the rate of early-stage entrepreneurial activity in the Irish population. It also examines spatial disparities in SME and entrepreneurship rates across Ireland. It shows that SMEs make a large contribution to employment. As well as many strengths, such as strong overall SME innovation performance, the Chapter highlights some priorities for policy development related to lagging SME productivity performance, low business entry-exit dynamism, and an under-representation of Irish SMEs in international markets. Lastly, the Chapter comments, where appropriate, on current challenges related to existing data gaps and measurement issues specific to Ireland.

The structure of the Irish business economy

Enterprises by size class

Data from the Central Statistics Office in Ireland indicate that there were around 250 000 active enterprises in Ireland in 2016, of which close to 92% had less than 10 employees (micro), 6.8% had between 10-49 employees (small), 1.2% had 50-249 employees (medium), and 0.2% had 250 or more employees (large).

Table 2.1. Active enterprises in Ireland, 2012-16

Absolute number and share, by firm size

	2012		2013		2014		2015		2016	
	Number	Share (%)	Number	Share (%)	Number	Share (%)	Number	Share (%)	Number	Share (%)
Under 10	227 210	93.0	226 018	92.8	219 888	92.3	229 472	92.2	229 534	91.8
10 – 19	9 255	3.8	9 429	3.9	9 838	4.1	10 316	4.1	10 748	4.3
20 – 49	5 056	2.1	5 151	2.1	5 375	2.3	5 686	2.3	6 166	2.5
50 – 249	2 395	1.0	2 468	1.0	2 634	1.1	2 829	1.1	3 003	1.2
250 and over	478	0.2	505	0.2	514	0.2	540	0.2	582	0.2
Total	244 394	100	243 571	100	238 249	100	248 843	100	250 033	100

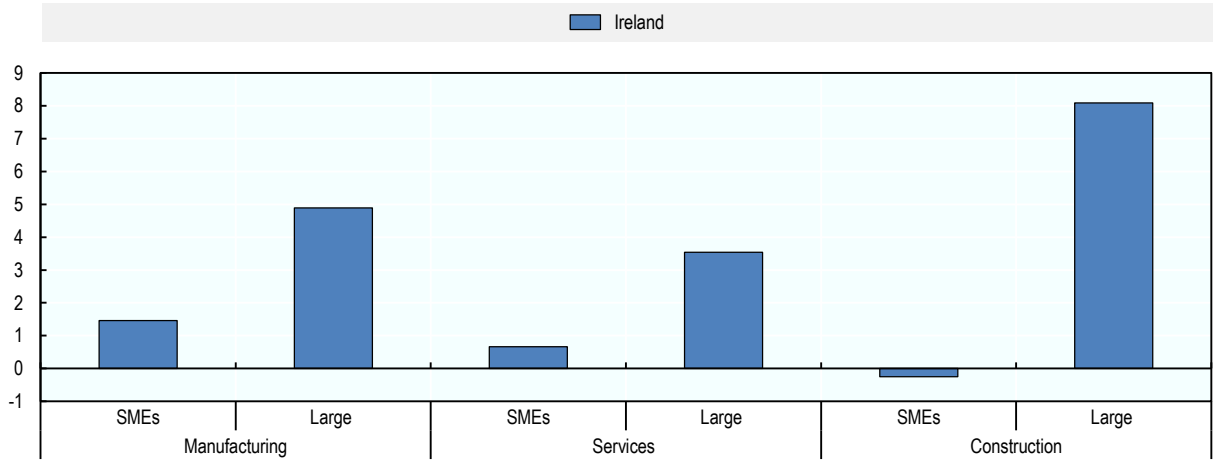
Note: NACE Code 64.20 activities of holding companies are excluded. An active enterprise is defined as an enterprise that had either turnover or employment at any time during the reference period.
Ireland uses the EU definition, which defines the category of micro, small and medium-sized enterprises (SMEs) as enterprises that employ fewer than 250 persons and that have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million, whereby micro enterprises have less than 10 employees and have an annual turnover not exceeding EUR 2 million, small enterprises have between 10-49 employees and an annual turnover not exceeding EUR 10 million, and medium enterprises have between 50 and 249 employees, and an annual turnover not exceeding EUR 50 million.
Source: Central Statistics Office Ireland, Business Demography Database.

Over the 2012-16 period, the number of active enterprises in Ireland increased by 2.3%, corresponding to nearly 5 700 additional firms in the economy, compared to an OECD median of 6.2% for this period. The overall proportion of micro-enterprises declined marginally, while the number of small enterprises grew on average by 4.2% and medium and large enterprises displayed an annual average growth of 5.1%. This potentially suggests some degree of consolidation within the Irish SME population, with a small decline in the share of micro enterprises. The service sector grew in importance over the last decade and accounted for over half (51.1%) of all enterprises, while the construction sector's importance declined over the same period, accounting for over a fifth of all active enterprises (20.6%) in 2016, representing nonetheless the highest share among EU countries.

In around half of OECD economies, especially those hit hard by the crisis, the number of enterprises in 2015 remained below levels in 2008. The construction sector was especially affected, and to a lesser extent manufacturing, while services fared much better in most OECD economies. In most OECD countries and across all sectors, the number of SMEs typically grew faster than the number of large enterprises (OECD, 2017). Ireland bucks both these trends. First, in 2015 there were close to 6 000 more active enterprises Ireland than in 2008. Second, as shown in Figure 2.1 below, the number of large enterprises expanded more than the number of SMEs across all sectors. Irish SMEs in the construction sector were hit particularly hard, with their number shrinking almost continuously over the reference period. In addition, the number of Irish SMEs active in the service sector recovered less well compared to large firms, with the growth rate for the latter more than five times as high than those of small businesses.

Figure 2.1. Average annual change in number of enterprises, 2011-16

As a percentage, by sector



Note: NACE Code 64.20 activities of holding companies are excluded.
Source: Central Statistics Office Ireland, Business Demography Database.

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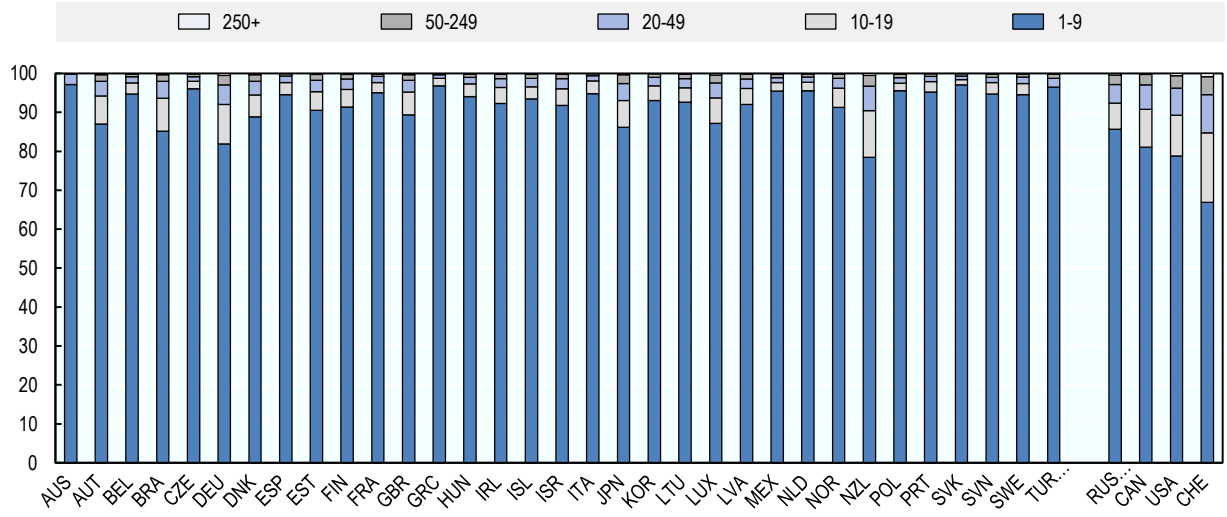
The OECD's Structural and Demographic Business Statistics (SDBS) database, which collects firm-level data from national business registers, offers comparable information on SME numbers for 36 countries (33 OECD countries plus Brazil, Romania and the Russian Federation) for 2014. Based on this source, Figure 2.2 below shows that the SME share in the total enterprise population was above 99% in Ireland in that period, in line with most other OECD economies.

Micro-enterprises (employing less than 10 people) represented around 92.4% of all Irish businesses, slightly above the OECD average of 90%, and more than in other small open economies, such as Austria, Denmark and New Zealand. Ireland's proportion of medium-sized firms (50-249 employees) was a little above 1% of total enterprises; lower than the OECD average of 1.5%, and more than four times smaller than the share in Switzerland (4.41% of total enterprises), for example. This possibly reflects limited opportunities for Irish micro-enterprises to grow.

Figure 2.2. Enterprises by size, business economy

Percentage of all enterprises, 2016, or latest available year



Note: Detailed notes available at http://dx.doi.org/10.1787/888933563075
Source: OECD SDBS database.

Employment by enterprise size class

Data from the Central Statistics Office (CSO) Ireland indicate that SMEs accounted for 68.4% of total employment in 2016, compared with almost 70% in 2011. Within the SME segment, the total number of people employed increased across all firm size bands over the 2011-16 period. However, in 2016, the relative employment weight of micro-enterprises in the economy was almost 3% lower compared to 2011, whereas that of firms in the small size segment inched up by 0.3%. Medium-sized enterprises displayed a higher increase in their total employment share than large businesses (1.36% vs. 1.16%) (Table 2.2). These developments thus document a shift in employment shares, with an overall decline in the employment weight of micro firms, while larger share increases are observed in the case of medium and large firms.

Table 2.2. Employment and employment weight in the Irish business sector

Absolute numbers and percentage values

	2011	2012	2013	2014	2015	2016
Total	1 259 326	1 264 769	1 288 017	1 334 291	1 402 981	1 478 236
Under 10	370 497	371 116	370 112	373 342	386 725	392 829
Share	29.42%	29.34%	28.74%	27.98%	27.56%	26.57%
10 - 19	126 201	123 545	125 812	131 445	138 098	143 842
Share	10.02%	9.77%	9.77%	9.85%	9.84%	9.73%
20 - 49	148 758	150 353	153 589	160 269	169 527	183 730
Share	11.81%	11.89%	11.92%	12.01%	12.08%	12.43%
50 - 249	230 472	229 404	236 123	254 928	274 531	290 604
Share	18.30%	18.14%	18.33%	19.11%	19.57%	19.66%
250 and over	383 398	390 351	402 381	414 307	434 100	467 231
Share	30.44%	30.86%	31.24%	31.05%	30.94%	31.61%

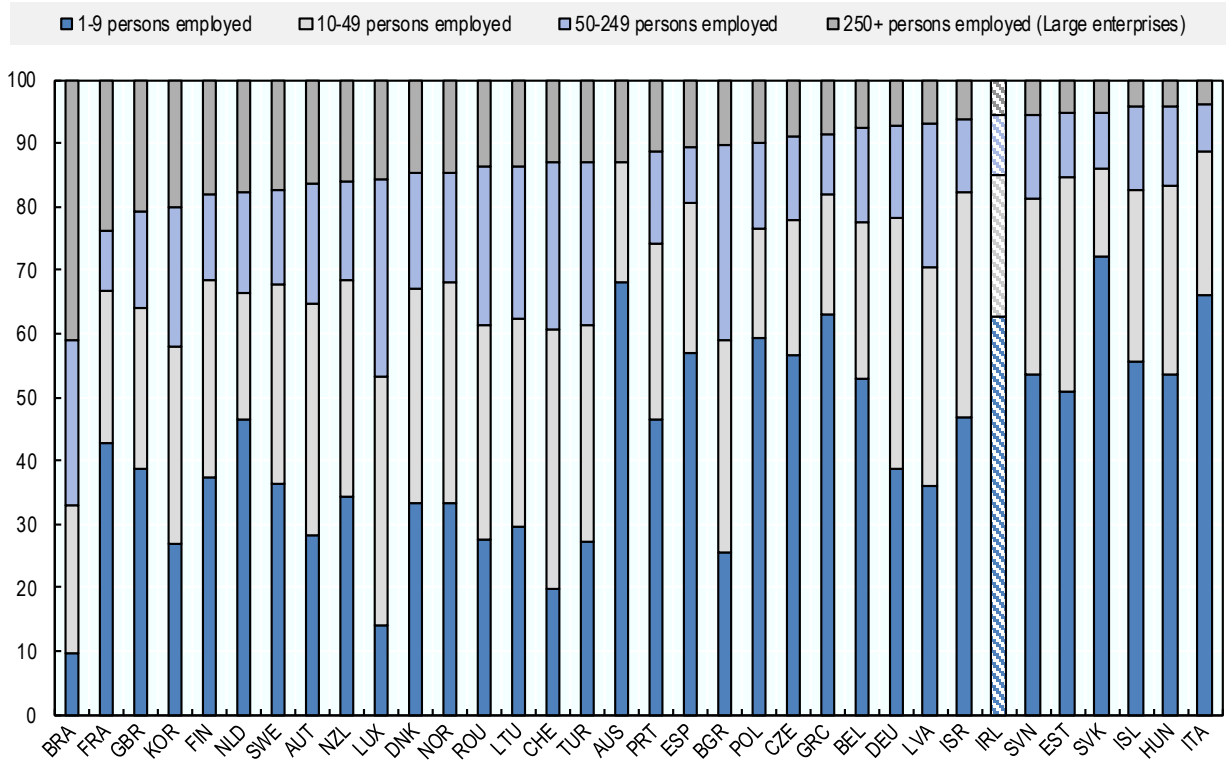
Note: NACE Code 64.20 activities of holding companies are excluded.
Source: Central Statistics Office Ireland, Business Demography Database.

On average, across OECD countries SMEs account for around 60% of total manufacturing employment and for around 75% in services(OECD, 2017a). The employment share in Irish SMEs for the manufacturing (56%) and services sector (74%) is thus roughly in line with the OECD average. More specifically, the SME share of employment in Ireland is highest not only in a range of services sectors like construction, accommodation and food or real estate services but also in a number of manufacturing industries, like manufacturing of basic metals and metal products or manufacturing of rubber and plastic. At the same time, a strong concentration of large firms can be observed in capital-intensive and globalised activities such manufacturing of computers or pharmaceuticals, for which the share of large firms is high relative to the OECD average.

In the construction sector, Irish SMEs account for a much higher share of employment compared to most other OECD countries (Figure 2.3). According to Ireland's CSO, the construction sector had the largest share of persons employed in SMEs in 2016, at 94.5%. In particular, Ireland displays a high share of micro-enterprises active in this sector: in 2014, 66% of Irish construction businesses were micro firms, compared to an OECD average of 40%. Only Australia, Italy and Greece had a higher share of micro enterprises in this sector.

Figure 2.3. Employment by enterprise size, construction sector

Percentage of total employment in the sector, 2016, or latest available year



Note: For detailed notes on differences in definitions and methodology, please refer to http://dx.doi.org/10.1787/888933563227
Source: OECD SDBS database and Japanese 2014 Economic Census.

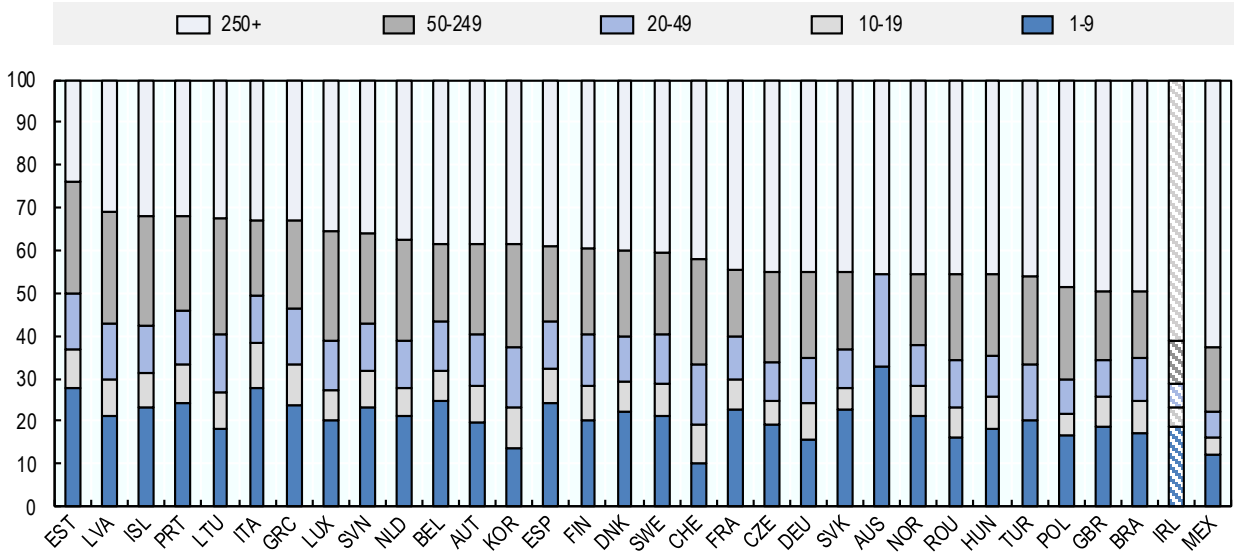
Value added by enterprise size class

Data on value added broken down by enterprise size provide important insights into structural factors that drive growth, employment and entrepreneurial value, but also shed light on slowing productivity diffusion and productivity-wage decoupling. In most countries, large enterprises account for a considerable share of the value added of the business economy, despite constituting less than 1% of businesses (OECD, 2017a).

In 2016, SMEs in Ireland had the second lowest share in total value added among OECD countries (under 40%), reflecting the structure of the Irish business population, which is dominated by a large number of highly productive foreign multinationals. The share of SME value added is thus significantly below the OECD average of 59%, especially for small and medium-sized firms, whose share in value added was in fact the lowest among OECD countries in 2016, while the contribution of Irish micro firms at 18.6% was more or less in line with the OECD average of 20.6%.

Figure 2.4. Value added by enterprise size, business economy

Percentage of total value added, 2016 or latest available year



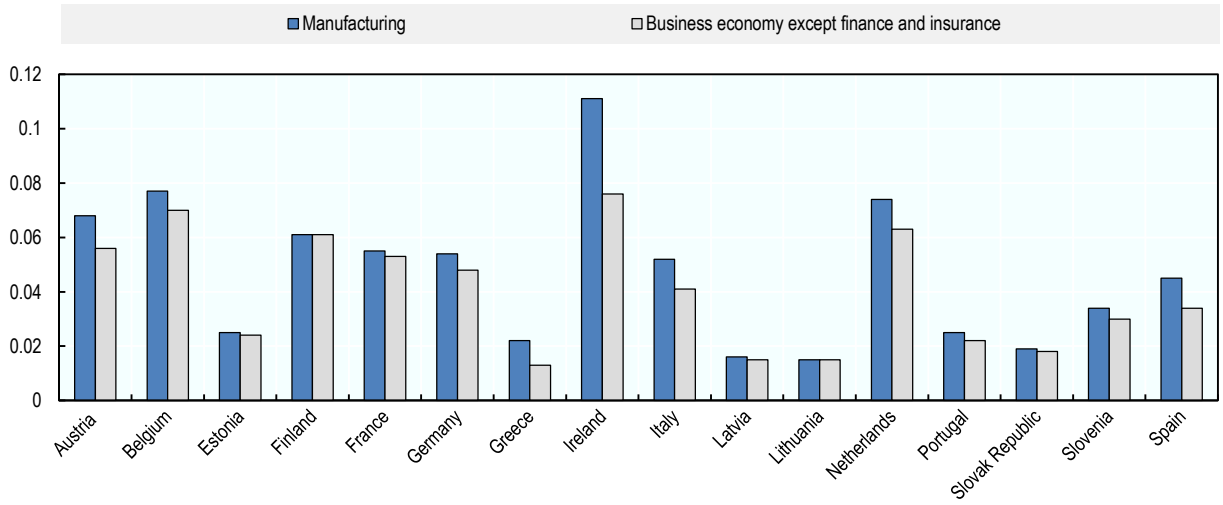
Note: Size classes are based on the number of persons employed. Data refer to value added at factor costs in European countries and value added at basic prices for other countries.
Source: OECD SDBS database.

StatLink http://dx.doi.org/10.1787/888934004618

Although there is a wide gap between SME and large firm productivity in Ireland, the absolute level of labour productivity in Irish SMEs is high, as show in Figure 2.5. Some caution is nonetheless required in interpreting the data because of differences between countries in the sector, size and ownership structures of SMEs.

Figure 2.5. Labour productivity of SMEs

Euros, millions, 2016



Note: Size classes are based on the number of persons employed. Labour productivity is measured as value added per person employed. Data for the Czech Republic are excluded.
Source: OECD SDBS database.

StatLink http://dx.doi.org/10.1787/888934004637

According to the CSO in Ireland, in the construction sector, almost 91% of all gross value added (GVA) was generated in small and medium enterprises in 2015, compared to an OECD average of 80%, while SMEs in the services sectors accounted for 61% of GVA, compared to an OECD average of 68%.

Between 2008 and 2014, the relative shares of SMEs and large firms in total value added in manufacturing remained stable in virtually all countries, with the exception of Ireland. While in 2008, Irish manufacturing SMEs accounted for 42% of all business value added, that share had dropped to 28% in 2014, even though the number of small firms active in this sector over this period remained broadly stable(OECD, 2017a). This could suggest either a slowing of productivity among Irish manufacturing SMEs over the past decade, or a widening productivity gap between small and large manufacturing firms. The latter could reflect changes in patterns of reporting of value added by foreign-owned companies operating in Ireland.

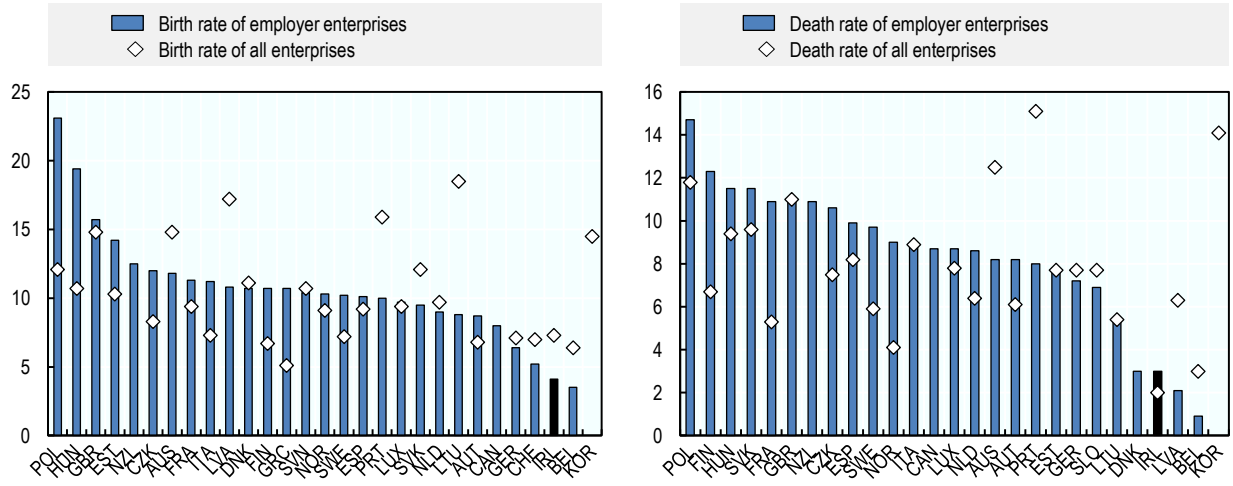
Business demography

Business demography indicators, i.e. business entry (birth) and exit (death) rates, are key indicators of business dynamism. Ireland's start-up data are incomplete and Ireland's Central Statistics Office (CSO) has only recently begun publishing employer firm data, even though the latter is important in terms of the economic potential of such firms compared to non-employer firms (Hennigan, 2016a).

After a period of decline in the aftermath of the global financial crisis, the number of firm creations has been recovering since 2013-2014, reaching (or even surpassing) pre-crisis levels in many countries(OECD, 2017b). Ireland has not followed this general trend: While the total start-up rate stood at 10.4% in 2007, it had dropped to 7.3% in 2015, and even to 4.1% with regard to employer enterprises(OECD, 2017a). In addition, as shown in Figure 2.6, both the employer enterprise birth rate and death rates, are much lower in Ireland compared to most other OECD countries. In 2015, Ireland's birth rate was around 3% lower than the OECD average of 10% and half that of the UK rate at 14%.

Figure 2.6. Enterprise birth and death rates

Percentage values, 2015 or latest available year



Note: An employer enterprise birth/ death refers is the birth/ death of an enterprise with at least one employee. A non-employer enterprise birth/ death refers to the birth/ death of an enterprise with no employees. Employer-enterprise births/ deaths do not include entries/ exits from the population due to mergers, take-overs, break-ups and restructuring of a set of enterprises. They also exclude entries/ exits from a sub-population resulting only from a change of activity.
Source: OECD SDBS database.

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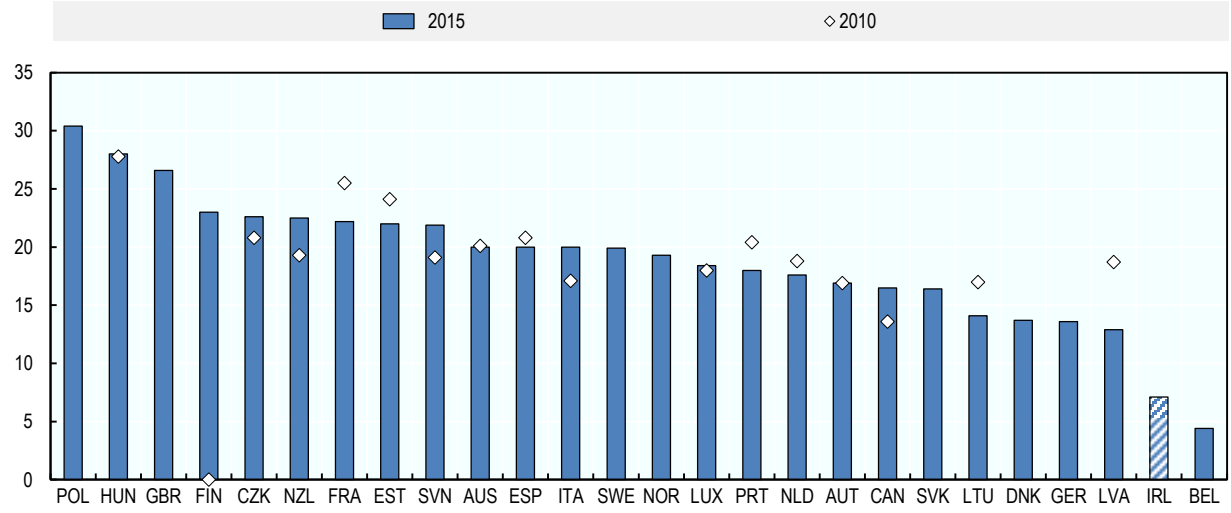
As a consequence, Ireland had also one of the lowest employer enterprise churn rates[1] among OECD countries in 2015, a commonly used proxy for entrepreneurial dynamics (Figure 2.7). The low enterprise churn rate is likely to adversely affect productivity growth, given a more limited resource reallocation from less productive firms to young SMEs.

Figure 2.7. Employer enterprise churn rate, total economy

Percentage values, 2015 or latest available year



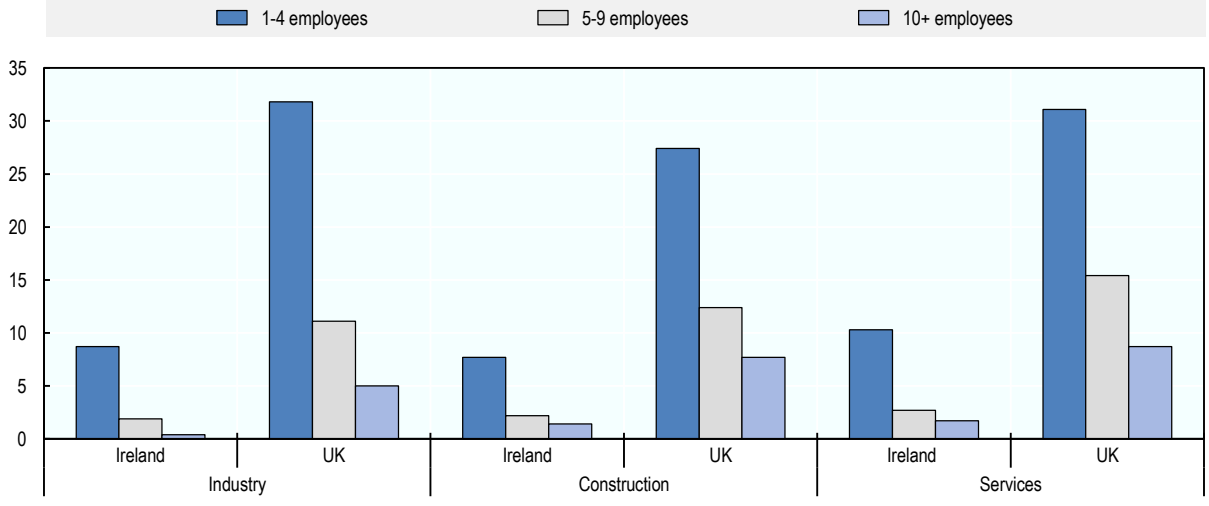
Note: The sum of the employer enterprise birth and death rate.
Source: OECD SDBS database.

StatLink http://dx.doi.org/10.1787/888934004333

A comparison of churn rates across sectors additionally reveals that in 2015, these were consistently higher in the United Kingdom than in Ireland (Figure 2.8).

Figure 2.8. Employer enterprise churn rates in Ireland and the United Kingdom, 2015

By sector, percentage values



Note: Sum of the employer enterprise birth rate and death rate in each sector.
Source: OECD SDBS database.

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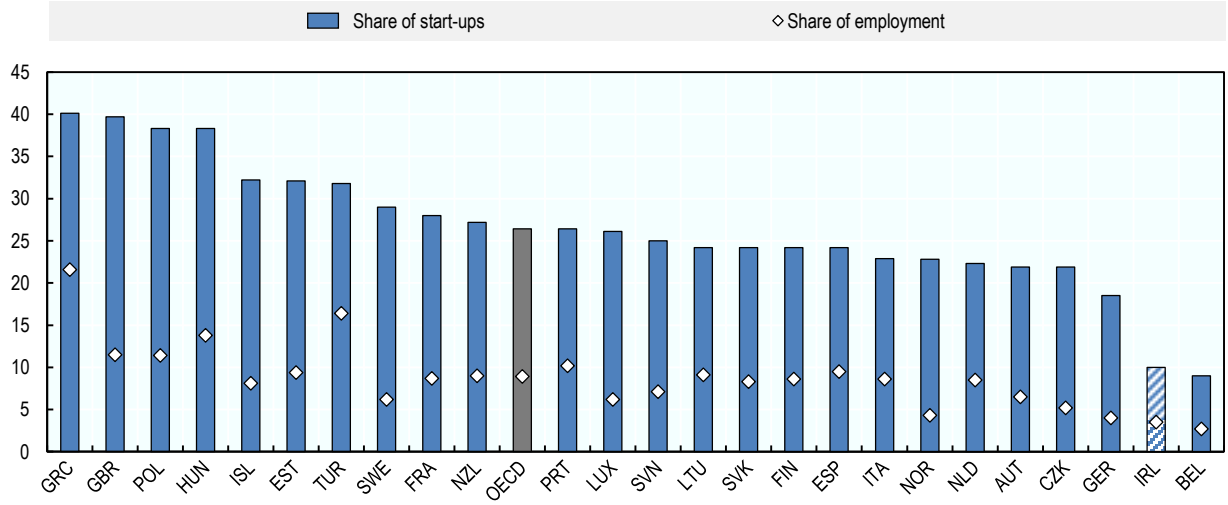
Start-ups and young firms are often a source of radical and disruptive innovations. In addition, they are considered important drivers of growth due to their disproportionate contribution to aggregate job creation and the productivity-enhancing effect associated with a higher pace of firm entry and exit(OECD, 2017a). While most new employer enterprises in OECD economies are created with between one and four employees, the average number of persons employed in employer enterprise births is typically higher in industry than in services, reflecting economies of scale.

As a consequence of its low business dynamism, Ireland is also an outlier in this regard, with the second lowest share of start-ups in the business economy, as well as the second lowest share of employment in start-ups in 2015. This suggests that the contribution of start-ups to growth and employment remains potentially untapped (Figure 2.9). In fact, overall employment change in Ireland tends to be driven by rates of job creation by incumbent firms.

In addition, much of the recent job creation in start-ups has taken place in below average productivity sectors, including accommodation and food services (30%), trade (16%) and construction (10%), although professional, scientific and technical activities together with ICT services also account for a substantial share (22%) of overall job creation by newly born enterprises.

Figure 2.9. Share of start-ups and their employment, business economy

As a percentage of all employer enterprises and of employment in all employer enterprises, 2015



Note: Employer start-ups include all employer enterprises that are up to two years old, i.e. the newly-born enterprises plus those that are one and two years old.
Source: OECD Structural and Demographic Business Statistics (SDBS) (database).

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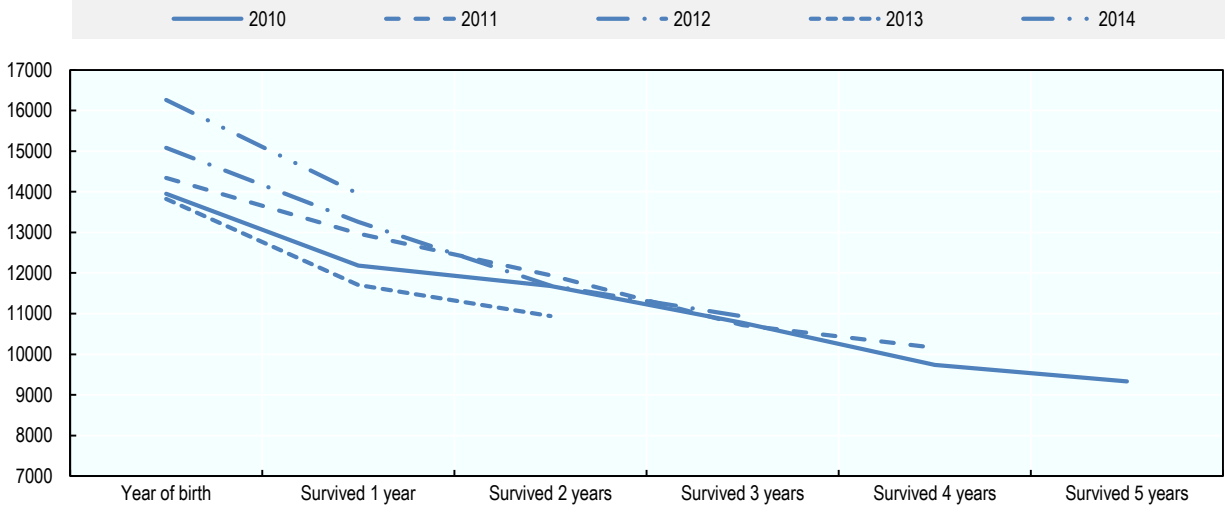
Aside from the analysis of birth rates, post-entry performance is an important indicator of firms' ability to remain and successfully compete in the market. Many newly-created enterprises fail within the first few years of life, although there are important differences across countries(OECD, 2017a). The one-year survival rate[2] of employer enterprises born in 2013 was above 90% in Lithuania, Luxembourg, Sweden, the United Kingdom and the United States, but between 60% and 70% in the Czech Republic and Poland, and below

55% in the Slovak Republic. In Ireland, the one-year survival rate decreased slightly from 87.3% in 2010 to 85.3% in 2014 (Central Statistics Office Ireland, 2018).

In the majority of countries surveyed by the OECD, the survival rate is equal to just above 60% after 3 years from entry; it falls to about 50% after 5 years, and to just over 40% after seven years. Furthermore, it appears as a striking regularity across many countries that the probability of exiting is highest when businesses are two years old, and decreases (linearly) beyond that age(OECD, 2017a). In Ireland, there were 13 954 new enterprise created in 2010, with 9 331 of these still active in reference year 2015, a 66.9% survival rate, thus higher than the OECD average of 50%. This higher survival share may to some extent reflect policy choices of previous government administrations that sought to reduce firm failure rates in the country.

Figure 2.10. Surviving enterprises by birth year in Ireland, 2010-14

Absolute numbers



Source: Central Statistics Office Ireland, Business Demography Database.

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Survival rates are typically higher in industry than in services or construction, and for enterprises born with five employees or more. OECD data shows that, in 2015, Ireland's 3-year survival rate for SMEs operating in the services sector was 64%, thus almost 10 percentage points above the OECD average of 55% for that sector. This further corroborates the observation that a larger share of Irish businesses manage to remain in the market, including in sectors that are typically characterised by higher rates of business dynamism.

High-growth enterprises and gazelles

High-growth firms (HGFs)[3], i.e. enterprises that grow rapidly over a short period of time, are a major source of job creation. They also favour the entrepreneurial process of creative destruction and often generate knowledge spill-overs, which other firms can harness. The OECD finds that although high-growth firms represented only between 3.2% and 6.4% of the total stock of enterprises in several countries over the 2002-05 period, they accounted

for between 40% and 64% of all new jobs, depending on the country (Bravo-Biosca et al., 2013).

Data on HGFs in Ireland is sparse. A study of agency-supported firms, carried out by Forfás[4] in 2011, observed that, based on the metric of employment, agency-supported HGFs in Ireland accounted for 4.5% of active agency-supported firms, and contributed 33% of the new jobs created by agency-supported firms over the 2008-11 period. This performance by agency-supported firms in Ireland is in line with international norms (Forfás, 2014).

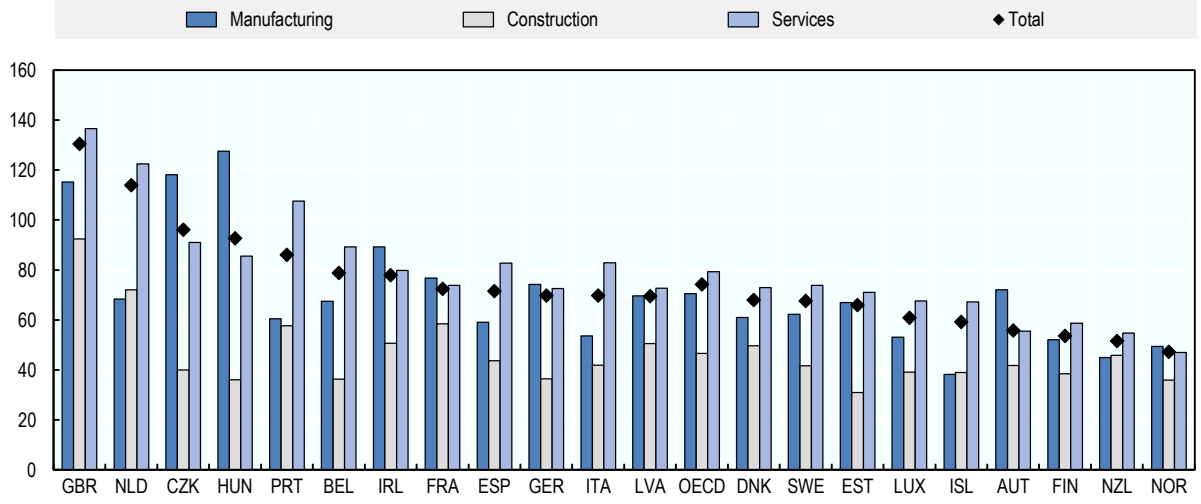
While the CSO has not published data directly in relation to HGFs, it does provide HGF figures to Eurostat, whose available data shows that while in many countries the share of these firms stagnated or declined in recent years, their share in Ireland grew continuously over the 2012-15 period. In addition, Eurostat reported in October 2016 that Ireland's overall HGFs rate was 12.3%, at the same level as Sweden's, compared to almost 10% in the EU 28 (Eurostat, 2016).

The highest ratio of HGFs in the EU was found in the "Information and communication" sector (15% of active enterprises), followed by "Administrative and support service activities" (12.7%), "Transportation and storage" and "Professional, scientific and technical activities" (both 11%). Among EU countries, Ireland had the second highest share of HGFs in the Information and communication sector at 19.9%; surpassed only by Malta at 22.3% and followed by the United Kingdom (18.6%); Sweden (18.2%) and the Netherlands (17.6%).

In addition, as shown in Figure 2.11, overall, the average number of employees in Irish HGFs was slightly above the OECD average (77.9 vs. 74.2 employees), but well below the United Kingdom, which employed an average of 130 people in HGFs, and where the gap by sector is also quite pronounced, particularly with regard to construction.

Figure 2.11. Average employment in high-growth enterprises

Average number of employees per enterprise by sector, 2014, or latest available year



Note: Data refer to enterprises with 10 employees or more.
Source: OECD SDBS database.

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The productivity, innovation and internationalisation performance of Irish small business

Data and measurement issues

Globalisation presents significant challenges in terms of measuring economic activity at national level. While this is the case in most advanced economies, the issues are particularly acute in the Irish context, given the large multinational footprint. Notably, there are increased challenges related to interpreting the real-time information embedded in standard, internationally recognised metrics such as Gross Domestic Product (GDP) and Gross National Income (GNI), which in turn impact measurements of productivity, innovation and exports, among other things. Movements in these aggregates have become increasingly disconnected from actual trends in living standards in Ireland, as illustrated most recently by the GDP growth figures reported in 2015, which stood at 26% (Department of Finance, 2018a).

This surge arose in fact largely as a consequence of internal restructuring by Irish-resident multinationals, and more specifically their underlying intellectual property, alongside an increase in the amount of contract manufacturing carried out outside of Ireland (Beesley, 2017). Under current statistical rules, however, such sales (production) generated from the use of intellectual property are marked down as a boost to Ireland's exports and are then reflected in the country's national accounts, even though the actual economic activity takes place elsewhere. Given the size of these companies, the boost to GDP growth has been correspondingly large.

Such developments have led policy-makers to develop a new measure of economic activity to strip out the impact of globalisation on the Irish economy. Since 2017, data on Ireland's "modified gross national income"[5] is published annually alongside traditional quarterly data. In spite of a few shortcomings, the modified GNI aggregate is considered a better approximation of the size of the Irish economy and an important indicator for fiscal purposes, especially for ratio, where it can provide significant added value. In fact, by this measure, Ireland's economy is about one-third smaller than official GDP figures suggest (Beesley, 2017).

As a result, indicators presented in the following sections, which are all based on internationally standardised statistical concepts, should be interpreted carefully and with the above in mind, in particular with regard to comparisons of performance between SMEs and large firms.

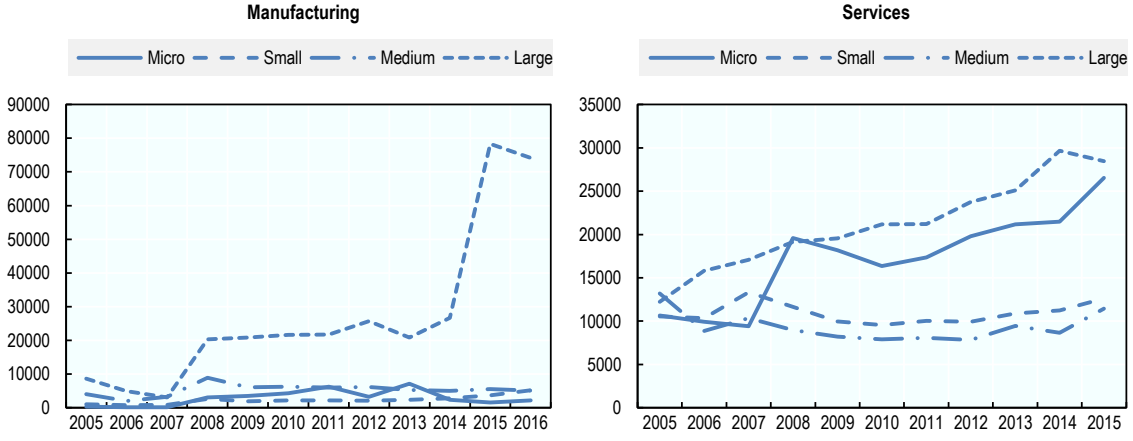
Productivity of Irish SMEs

Overall, a large share of Irish firms experienced stagnating or declining productivity over the period 2006-2014, especially in the services sector (Department of Finance, 2018b). Aggregate productivity growth has relied on the performance of a group of very large successful firms and is thus consistent with a rising dispersion in productivity levels between Ireland's foreign-owned and locally-owned firms in most industries. This disparity has also tended to translate into wage gaps, stoking Ireland's very high level of market income inequality and a pronounced difficulty for SMEs to access skilled labour at competitive cost. The resilience of the Irish economy, especially in light of the uncertainties surrounding Brexit, will thus hinge on unblocking the productivity potential of these indigenous businesses (OECD, 2018a).

Nonetheless, a somewhat more mixed picture emerges when looking beneath aggregate trends. As shown in Figure 2.12, trends in value added among micro firms active in the services sector actually kept pace with those of large firms over the past decade, while growth declined (or remained flat) among small and medium firms, resulting in a widening gap vis-à-vis large and micro businesses. In the manufacturing sector, on the other hand, productivity of all segments of the SME population was stagnant over 2005-16, while that of large businesses increased strongly during that period. This suggests a productivity growth problem with established small and medium-sized indigenous firms. Even though these only represent a minority of the overall enterprise population (around 8% in 2016), they account for a large chunk of employment and value added, and may thus drag down aggregate productivity as a consequence.

Figure 2.12. Productivity trends in Ireland

Value added at factor costs per persons employed, in EUR million



Note: Value added at factor cost refers to the gross income from operating activities after adjusting for operating subsidies and indirect taxes.
Source: OECD SDBS database.

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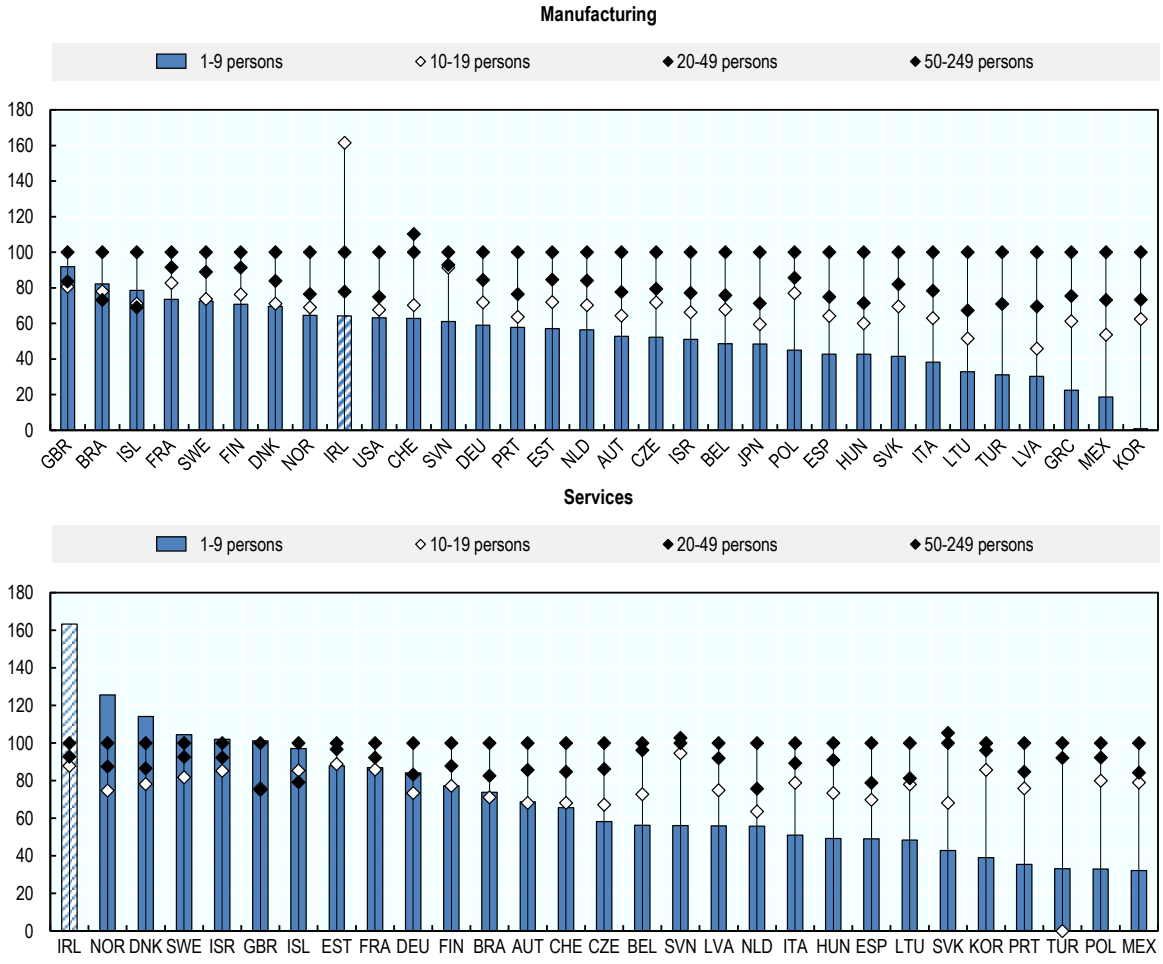
It has been noted above that there are difficulties in examining the productivity gap between SMEs and large firms in Ireland due to reporting of value added by multinationals. Figure 2.13 therefore concentrates on labour productivity within the SME segment across OECD countries. Using the labour productivity performance of mid-sized firms as an index, the data show that medium firms in Ireland were not necessarily more productive than smaller firms. In the manufacturing sector, small firms (10-19 employees) actually outperformed by far all other size segments. In addition, in the services sector, Irish micro-firms significantly outperformed all other size categories, while small firms were on par with their mid-sized counterparts. Only Denmark, Norway and Sweden showed a similar performance structure in the services sector, while in most other countries the productivity gap between micro and medium-sized firms was much more pronounced.

Figure 2.13. Labour productivity by firm size, manufacturing and business services

Value added per person employed, index 50-249=100, 2015, or latest available year



Note: Labour productivity by enterprise size class is measured as gross value added in current prices per person employed. Labour input is measured as total employment, which includes employees and all other paid or unpaid persons who worked for the concerned unit during the reference year.
Source: OECD Structural and Demographic Business Statistics (database), February 2018.

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Chapter 7 of this report analyses in greater detail SME productivity issues in Ireland, exploring in particular the policy levers available to upgrade SME productivity, mainly with regard to resource reallocation and absorptive capacity.

Internationalisation of Irish SMEs

According to CSO data, there werea total of 8 545 exporting enterprises[6] in 2016. Even though there were only 263 large exporting enterprises (3% of all exporting enterprises), they accounted for 67% (EUR 79.5 billion) of all Irish exports in 2016. By contrast, there were 7 900 SMEs exporting goods in 2016, which corresponds to around 3% of the total SME population. The total value of SME exports amounted to EUR 36.4 billion in 2016, or 31% of total exports, compared to an OECD average of around 40%. This included 5 007

micro enterprises, which exported EUR 6.9 billion of goods. Micro enterprises accounted for 60% of exporters and 6% of the value of goods exported (Table 2.3).[7]

Table 2.3. Exporting enterprises in Ireland

By firm size, 2016

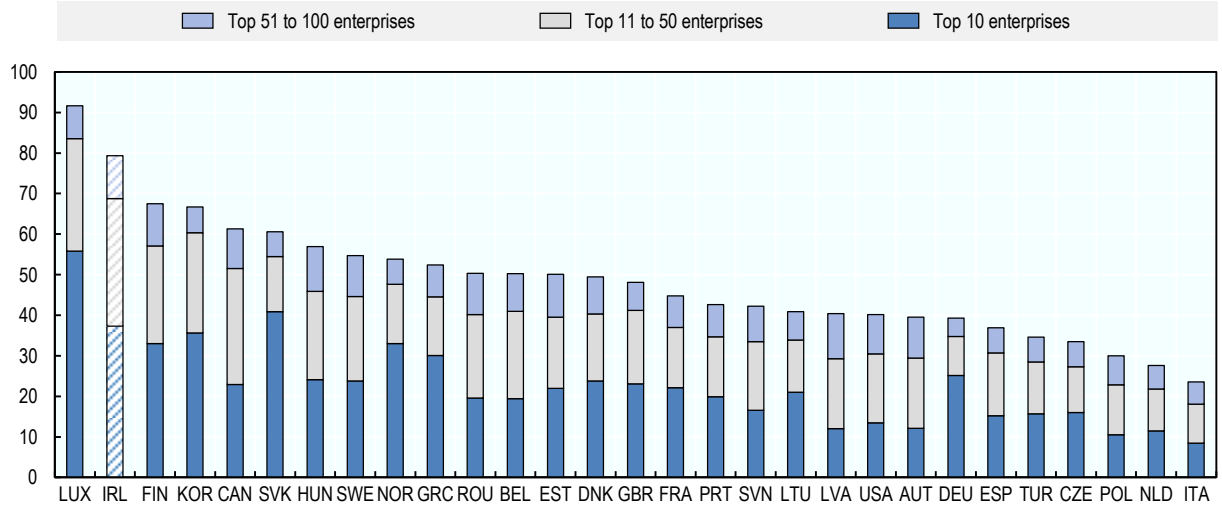
Enterprise size	Value (EUR million)	% of total	Number of enterprises	% of total
Micro	6 917	6	5 007	59
Small	7 507	6	2 143	25
Medium	22 020	19	750	9
SMEs	**36 443**	**31**	**7 900**	**92**
Large	79 526	67	263	3
Unknown	2 261	2	382	4
Total	**118 230**	**100**	**8 545**	**100**

Source: Central Statistics Office Ireland, Trade by Enterprise Characteristics Database.

As shown in Figure 2.14, more than one third (37%) of Ireland's total export volume is accounted for by the ten largest exporters and more than two-thirds (69%) by the fifty largest exporters. Among OECD countries, only Luxembourg has more concentrated direct export activity than Ireland.

Figure 2.14. Concentration of exports by exporting enterprises, total economy

Percentage of total value of exports, 2015, or latest available year



Note: The concentration of exports by exporting enterprises is calculated as the ratio of the value of exports by each rank (top 10, top 11 to 50, and top 51 to 100 exporting enterprises) divided by the total value of exports.
Source: OECD TEC database.

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The Eurozone is the top market for Irish exports, accounting for almost a third of adjusted headline exports (goods and services) in 2016, compared to 17% for both the United Kingdom and the United States. Separate data from Enterprise Ireland (EI) for indigenous exports by agency-assisted firms indicates sales of EUR 4.8 billion to the euro area in 2018.

In addition, recent analysis undertaken by InterTradeIreland (ITI) shows that Irish SMEs are likely to take their first step into exporting across the border with Northern Ireland, whose cross-border market is particularly vital for small firms. Almost a sixth of the exports of small firms in Ireland go to Northern Ireland. This near-neighbour exporting may provide a bridge to expanding export activities to other countries (InterTradeIreland, 2013).

Available evidence suggests that Ireland has one of the lowest ratios of exporters to total enterprises, employer enterprises, and population in the EU, although the CSO does not distinguish in its export data between employer and non-employer enterprises. In a recently published research paper, an estimate for joint-stock companies was therefore added, which provides a proxy for the total number of employer enterprises of 95 000. On that basis, the Irish firm exporting ratio relative to employer firms was 6.3%, with only 1.5% of Irish-owned services firms engaged in export activities. On the same basis, the ratio for countries of a similar size such as Denmark or Finland was much higher, as shown in Table 2.4 (Lawless, Siedschlag and Studnicka, 2017). Only Greece had a similarly low ratio of 6.6%.

Table 2.4. Export propensity

Absolute numbers and as a percentage of total number of employer enterprises

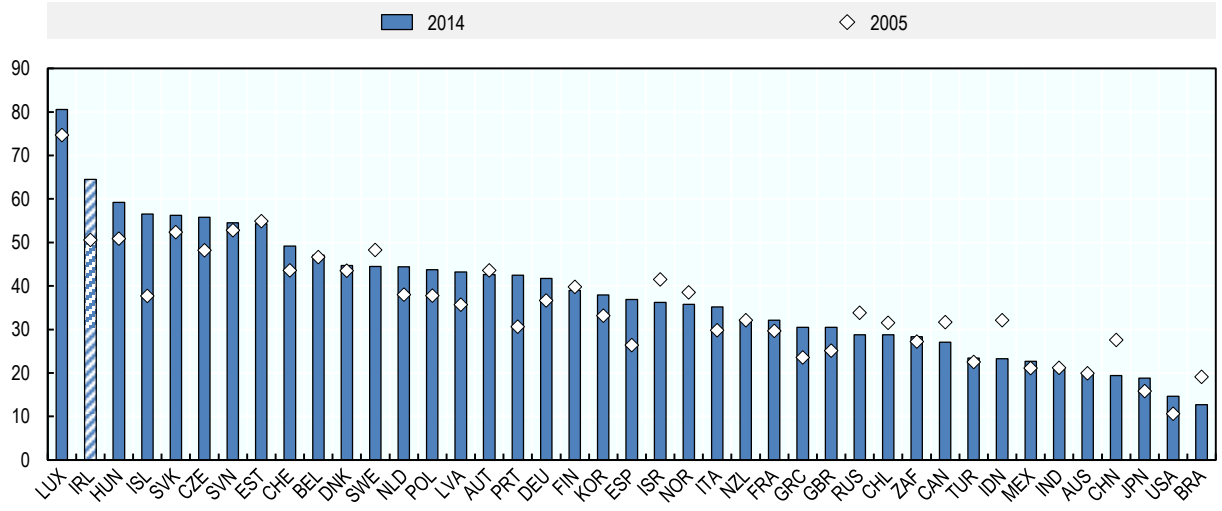
	Number of employer enterprises	Number of exporting firms	Firm exporting ratio, %
Ireland	**95 000**	**5 985**	**6.3**
Greece	272 727	18 000	6.6
France	1 139 583	109 400	9.6
Finland	102 000	15 300	15
UK	765 517	133 200	17.4
Germany	1 811 429	317 000	17.5
Austria	194 144	43 100	22.2
Denmark	101 852	27 500	27
Netherlands	334 239	123 000	36.8

Source: Own elaboration, based on Lawless, Siedschlag and Studnicka, 2017; Hennigan, 2017 and OECD/ Eurostat databases.

The OECD's Inter Country Input-Output (ICIO) database sheds light on the extent to which a country is integrated into the global economy by looking at the share of jobs embodied in foreign final demand. As shown in Figure 2.15, Ireland's economy had one of the highest shares of jobs that were sustained by foreign final demand in 2014, namely 64.5% compared to an OECD average of 38.1%, and topped only by Luxembourg. For example, in most European countries between 30% and 60% of jobs in the business sector were sustained by consumers in foreign markets in 2014, while in Japan and the United States, shares were lower, at 15.8% and 10.6%, respectively, reflecting their relatively large size and lower dependency on exports/imports (OECD, 2017c).

Figure 2.15. Jobs in the business sector sustained by foreign final demand

As a percentage of total business sector employment



Note: The business sector corresponds to ISIC Rev.3 Divisions 10 to 74, i.e. total economy excluding Agriculture, forestry and fishing (Divisions 01-05), Public administration (75), Education (80), Health (85) and Other community, social and personal services (90-95).
Source: Source: OECD calculations based on Inter-Country Input-Output (ICIO) Database, Annual National Accounts Database, Structural Analysis (STAN) Database, Trade in Employment (TiM); World Input-Output Database (WIOD) and national sources, June 2017.

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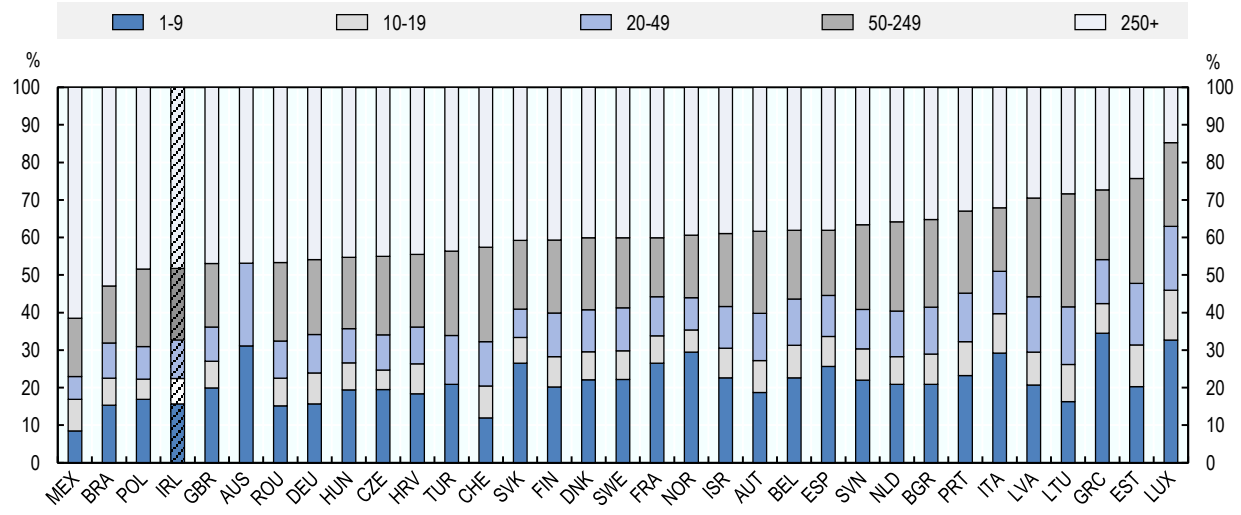
However, the contribution of Irish SMEs to domestic value in exports is very limited, as shown in Figure 2.16. Almost 50% of domestic value added in exports is produced by large firms, one of the highest shares among OECD countries, with only Mexico, Brazil and Poland displaying higher shares in this regard.

Figure 2.16. Domestic value added in exports

As a percentage, by firm size



Source: OECD/Eurostat Trade by Enterprise Characteristics (TEC) database, OECD Structural and Demographic Business Statistics (SDBS) database, OECD-WTO TiVA database.

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R&D and innovation in Irish SMEs

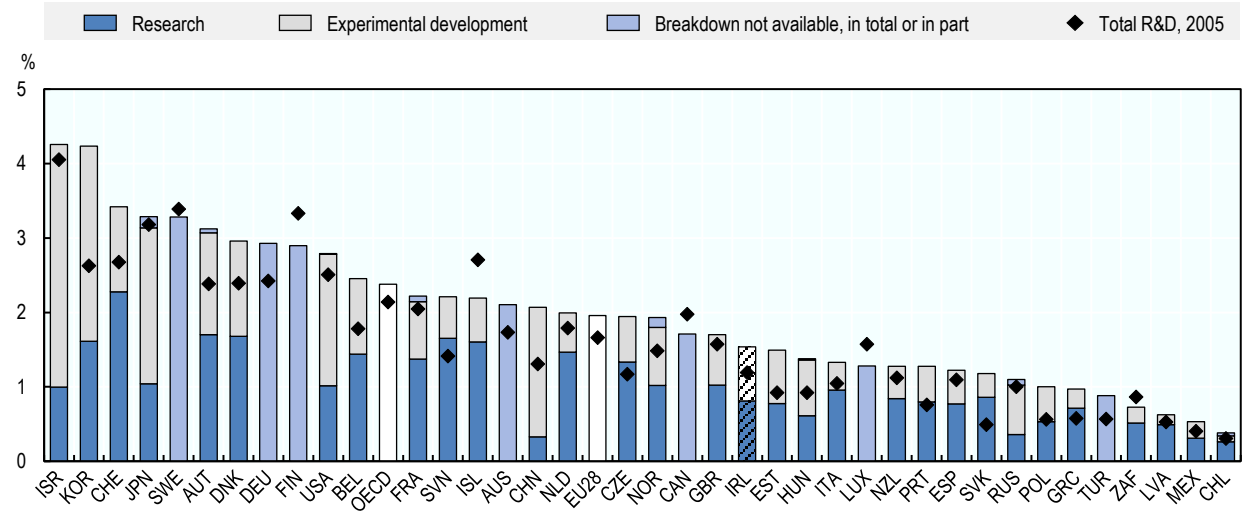
Data from the OECD's Main Science and Technology Indicators Database shows that gross domestic expenditure on R&D (GERD) in Ireland stood at 1.16% of GDP in 2016, thus below the OECD average of 2.34% and equally below the EU 28 of 1.94%. Business expenditure on R&D (BERD) was 0.94% of GDP in 2017. This compares with an OECD average of 1.67% and an EU-28 average of 1.30%.

In 2015, expenditure on experimental development (0.73% of GDP), which builds upon research to produce new or improved products or processes, was also below the OECD average of 0.9% of GDP (Figure 2.17). This type of R&D is usually conducted within firms and often associated with productivity gains.

In 2017, 68% of BERD was financed by the business sector (compared with an OECD average of 87%), 4.6% from government sources and 0.1% from other national sources and 27.3% from the rest of the world. BERD accounted for 72% of GERD in Ireland in 2016 (compared to an OECD average of 69.9%).

Figure 2.17. Gross domestic expenditure on R&D, 2015

By type of R&D, as a percentage of GDP

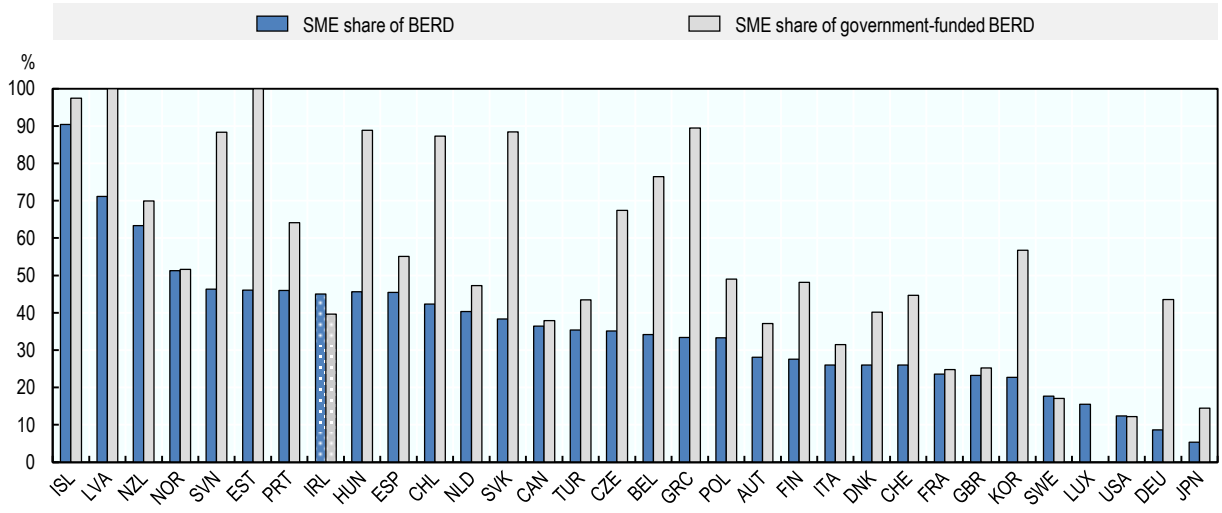


Note: Gross domestic spending on R&D is defined as the total expenditure (current and capital) on R&D carried out by all resident companies, research institutes, university and government laboratories, etc., in a country. It includes R&D funded from abroad, but excludes domestic funds for R&D performed outside the domestic economy. Detailed notes are available here: http://dx.doi.org/10.1787/888933618365 .
Source: OECD, Main Science and Technology Indicators Database.

In spite of the below average overall spending on R&D, the SME share of business R&D (BERD) in Ireland stood at almost 40% in 2015, which was above the OECD average of 35%.[8] On the other hand, Irish SMEs perform less well in terms of securing government funds to carry out R&D, likely because of lower application levels to available support measures among these firms. As a result, in 2015, only around 40% of government-funded BERD went to Irish SMEs – a share much lower than in countries like Belgium or New Zealand (70% and above), and also well below the OECD average of 56% (Figure 2.18). This suggests that government-funded BERD has remained skewed toward large enterprises, in spite of an increasing availability of SME-targeted instruments in this area.

Figure 2.18. SME share in business R&D and government-funded business R&D

As a percentage of the relevant total, 2015 or latest available year



Note: Government-funded business R&D is the component of R&D performed by business enterprises that they attribute to direct government funding. It includes grants and payments for R&D contracts for procurement, but not R&D tax incentives, repayable loans or equity investments. For Ireland, data covers enterprises with 10-249 employees. Microenterprises are excluded.
Source: OECD, Research and Development Statistics Database.

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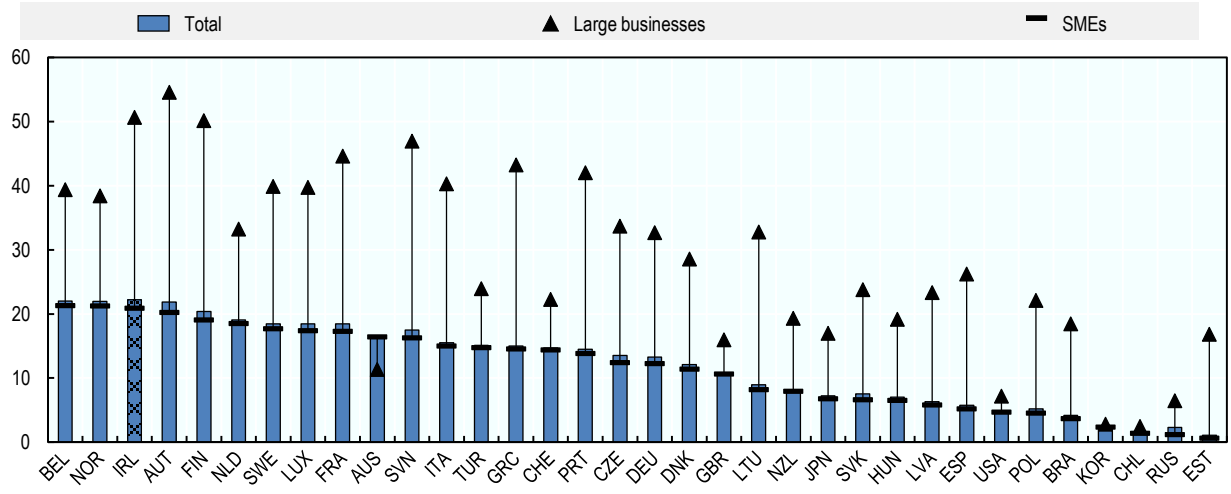
While research activity in the indigenous business sector is small, there is some indication that it has been growing in recent years. A particular emphasis in Irish research, development and innovation (RD&I) policy in recent years has been on technology transfer between publicly funded research performing organisations and SMEs. Irish SMEs are performing very well in securing funding under the Horizon 2020 SME Instrument, with a 8.6% success rate in applications under the instrument – the highest in the EU28 and nearly double the EU average of 4.6%.[9]

In addition, Ireland fares well in terms of new-to-market product innovation, which refers to the introduction of a new or significantly improved product into the firm's market before any other competitors (although the product may have already been available in other markets), and is in fact frequently uncoupled from R&D activities. Still, in many countries, differences tend to be very marked between large businesses and SMEs in this area (OECD, 2017c). In this regard, Irish SMEs actually outperform most other OECD economies, displaying the third-highest share of new-to-market production innovation (Figure 2.19). This picture is confirmed by a recent large-scale survey exercise on Irish micro-enterprises, which indicates that 40% of micro-enterprises (with between one and ten employees) introduced a new or improved product or service in the three years prior to the survey. This compares favourably with micro-enterprises in the United Kingdom and the United States (Bourke and Roper, 2019).

Figure 2.19. New-to-market product innovators, by size, 2012-14

As a percentage of all businesses in each size category, within the scope of national innovation surveys



Note: International comparability may be limited due to differences in innovation survey methodologies and country-specific response patterns. European countries follow harmonised survey guidelines with the Community Innovation Survey.
Source: OECD STI Scoreboard 2017, based on the 2017 OECD survey of national innovation statistics and the Eurostat, Community Innovation Survey (CIS-2014).

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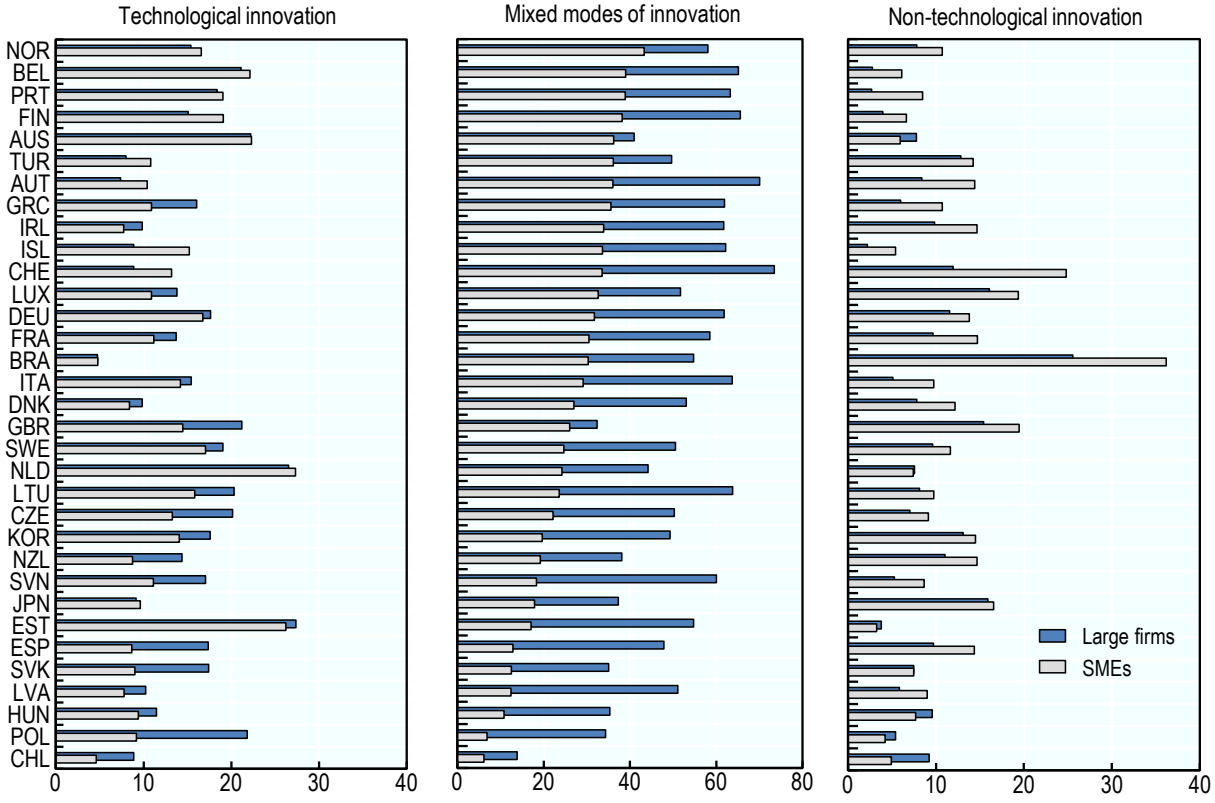
A report commissioned by the Irish Government in 2015 found that, overall, Irish R&D activity was largely carried out by foreign multinationals concentrated in a number of high technology sectors, and there has only been a limited spill-over to SMEs. In addition, the report shows that patenting in Ireland was low, with a small number of firms responsible for the majority of patent applications. Only 0.2% of firms in Ireland accounted for 77% of applications between 1999- 2013 (Wain et al., 2015).

As in many OECD countries, Irish small firms (10-49 employees) are also only approximately one-third as likely as large firms to be using Enterprise Resource Planning (ERP), a software platform that integrates core business processes in real-time (OECD, 2018b. This may pose additional hurdles to innovation, since companies which develop and use their internal strategic resources effectively (e.g. managerial and workforce skills, ICT, R&D, etc.), and collaborate with external partners in the innovation system, tend to display better innovation performance.

At the same time, Irish SMEs fare relatively well in terms of using different innovation types (Figure 2.20). In particular, Ireland has a relatively high share of SMEs that engage in mixed modes of innovation (33.9% vs. an OECD average of 26.1%), i.e. a combination of technological and non-technological innovation (e.g. related to product or process and marketing or organisational innovation), that usually requires a larger knowledge endowment, without necessarily implying direct engagement in R&D activities.

Figure 2.20. Innovation types, by business size, 2016

Percentage of innovative firms in each size category by mode of innovation



Note: International comparability may be limited due to differences in innovation survey methodologies and country-specific response patterns. European countries follow harmonised survey guidelines with the Community Innovation Survey.
Source: OECD, based on the 2017 OECD survey of national innovation statistics and the Eurostat, Community Innovation Survey (CIS-2014), http:// oe.cd/inno-stats, June 2017. More data and information is available here: http://dx.doi.org/10.1787/888933619353.

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Entrepreneurship performance in Ireland

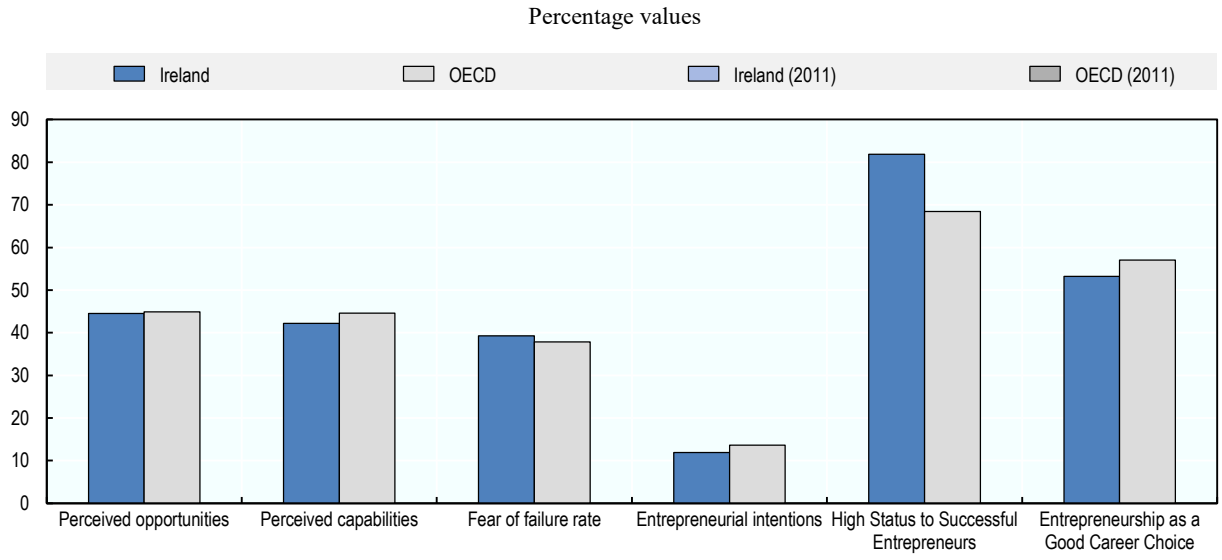
Entrepreneurial attitudes

According to the most recent Global Entrepreneurship Monitor (GEM) report on Ireland, popular culture in the country is very supportive of entrepreneurship. Ireland ranks highest in Europe in terms of popular regard for successful entrepreneurs and also above the OECD average (Fitzsimons and O'Gorman, 2018). On the other hand, in Ireland, only a little more than half (53%) of people perceive entrepreneurship as a good career choice, which is lower than most other European countries (an average rate of 59%), with Ireland ranking 16th out of 20 countries, as well as below the OECD average. It should also be noted that during the years of the Celtic Tiger[10], this rate was much higher, at 66% in 2003. It then declined significantly during the recession years and has begun to recover with economic growth picking up again, without returning to the rates observed prior to the recession, though. In Ireland, around one in every seven people aspire to start a business in the next three years.

Aspirations are higher among younger people, with nearly 17% of those aged 18-24 aspiring to start a business in the near future.

According to the most recent GEM report, less than half of the adult population (45%) in Ireland see entrepreneurial opportunities in their local area, a share that doubled over 2007-12. While this is in line with the OECD average, some countries have much higher rates, for example Sweden (79%), Poland (69%) and the Netherlands (64%). Of those in Ireland that perceive opportunities, less than half (42%) believe they have the skills and knowledge required to start a business. This is below the OECD average and particularly lower than in countries like the United States, Canada and Australia, where 50% or more believe they have the required skills and knowledge to start a business. Fear of failure would prevent 39% Irish people from starting a business, which is also in line with the OECD average, but slightly below the European average of 43%. Fear of failure in Ireland increased over 2010-13, and has remained stable at this higher level since, in spite of the overall good performance of the Irish economy.

Figure 2.21. Entrepreneurial attitudes in Ireland, 2017



Note: Detailed definitions for the indicators can be found at the end of the Chapter.[11]
Source: OECD based on data supplied by the Global Entrepreneurship Monitor (GEM) research consortium.

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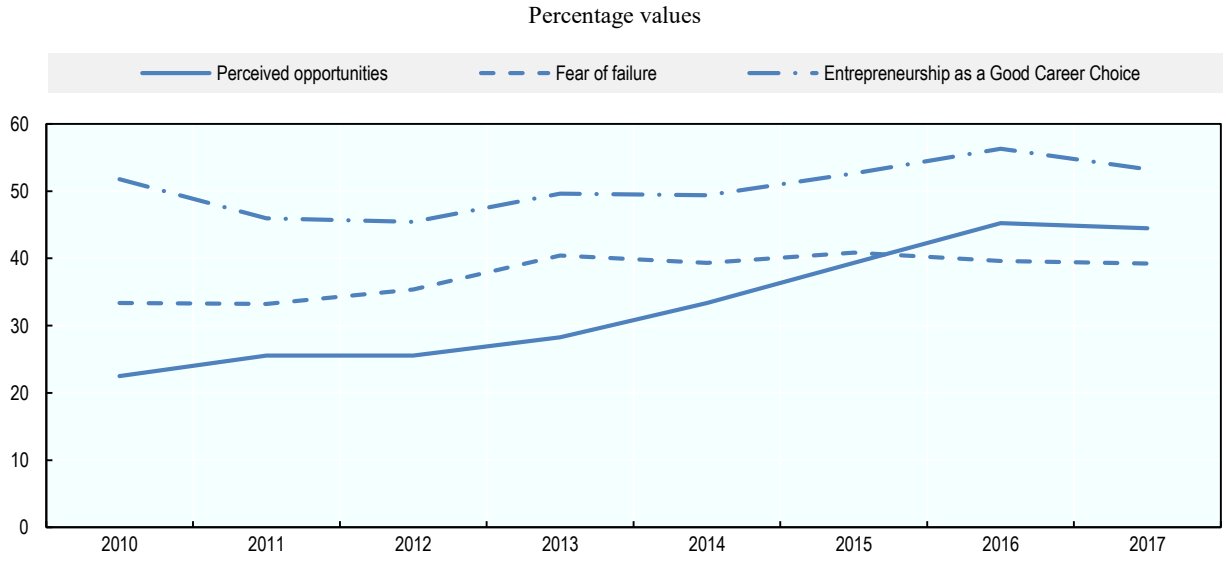
The perception of Entrepreneurship as a good career was somewhat erratic over the past years, but has remained mostly above 50% (Figure 2.22).

Figure 2.22. Evolution of entrepreneurial attitudes in Ireland



Note: Percentage of 18-64 year-old population (individuals involved in any stage of entrepreneurial activity excluded), who are latent entrepreneurs, including those who intend to start a business within three years.
Source: OECD calculations on data supplied by the Global Entrepreneurship Monitor (GEM) research consortium.

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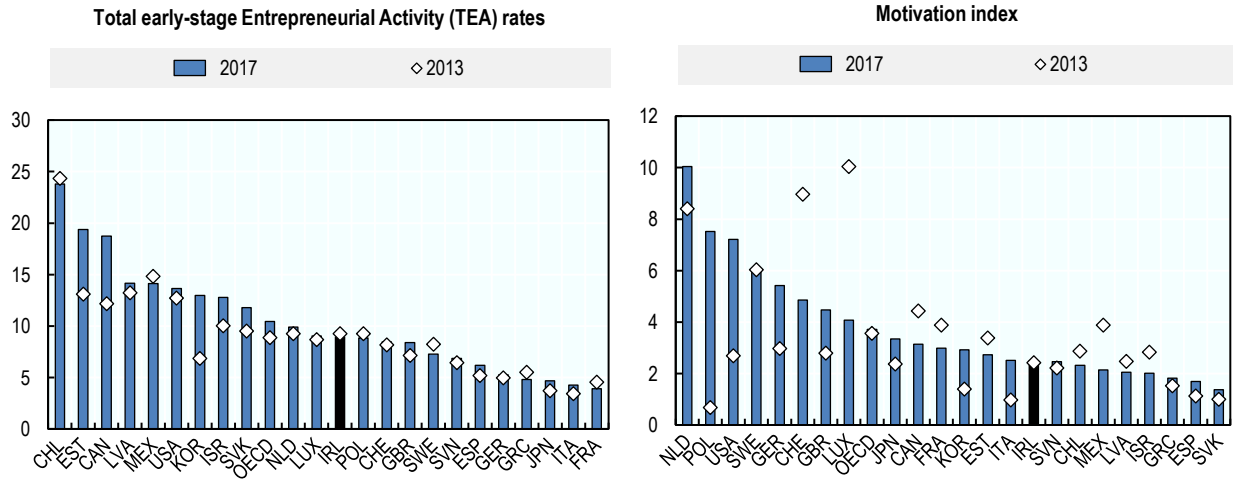
Early-stage entrepreneurial activity

Rates of entrepreneurship in Ireland, as measured by the Total Early Stage Entrepreneurial Activity (TEA) index, were below the OECD average of 10.4% in 2017, at 8.9%. This represents a drop, albeit small, compared to 2016, where eleven in every 100 people were active as a nascent entrepreneur or a new business owner. It should be noted, however, that the levels of entrepreneurship in Ireland have now surpassed the levels observed pre-recession.

The strongest primary motivation cited by nascent entrepreneurs and new business owners in Ireland is "to increase income". In Ireland, one in every five entrepreneurs is motivated by a "desire to be independent". In comparison, more entrepreneurs in Switzerland, one in every two entrepreneurs, and the United States, one in every three entrepreneurs, is motivated by a "desire to be independent". In Ireland, nearly one in every four entrepreneurs cites "no better alternative" or "seeking to maintain income" as their primary motive for their entrepreneurship.

Figure 2.23. Early stage entrepreneurial activity

As a percentage of the adult population (18-64 years) (chart A) and ratio of improvement-driven to necessity-driven TEA (chart B)



Note: Chart A; The Total Early Stage Entrepreneurial Activity (TEA) rate is the proportion of adults (18-64 years old) involved in setting up a business or who own and manage a business that is less than 42 months old. Chart B: Percentage of those involved in TEA that are improvement-driven opportunity motivated, divided by the percentage of TEA that is necessity-motivated.
Source: Global Entrepreneurship Monitor (GEM) research consortium.

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Using a binary "Opportunity" versus "Necessity" categorisation, Irish entrepreneurs are predominately motivated by opportunity (83%), as compared to necessity (16%). Responding to a perceived opportunity was always the dominant reason for individuals in Ireland to become involved in entrepreneurship. At the time of the recent crisis, however, the number of those becoming an entrepreneur through necessity increased substantially. For example in 2010, this was the case for as many as three in every ten entrepreneurs. As the opportunity for alternative employment has picked up, the rate of those turning to entrepreneurship out of necessity has declined.

Social target groups

Although the self-employment rate in Ireland was approximately equal to the EU average in 2016 (14.6% vs. 14% for the EU), the self-employment rate for several social groups was below the EU average, including women (6.9% vs. 9.9% for the EU) and youth (1.9% vs. 4.2% for the EU) (OECD, 2017b).

More specifically, men were three times more likely than women to be self-employed (21.2% vs. 6.9% for women), which is a greater gap than in most other EU member states. This picture is corroborated by recent GEM and CSO data, which suggest that the gender gap in entrepreneurship is higher than the gap in labour force participation in Ireland, even though the gap is almost equal when considering full time employment (Table 2.5). In addition, men and women in Ireland differ most notably in terms of self-perceptions regarding the skills required to start and grow a business, with 53% of men considering they have the appropriate skill set versus 35% of women.

Table 2.5. Rates of labour force participation and entrepreneurship

As a percentage of adult population

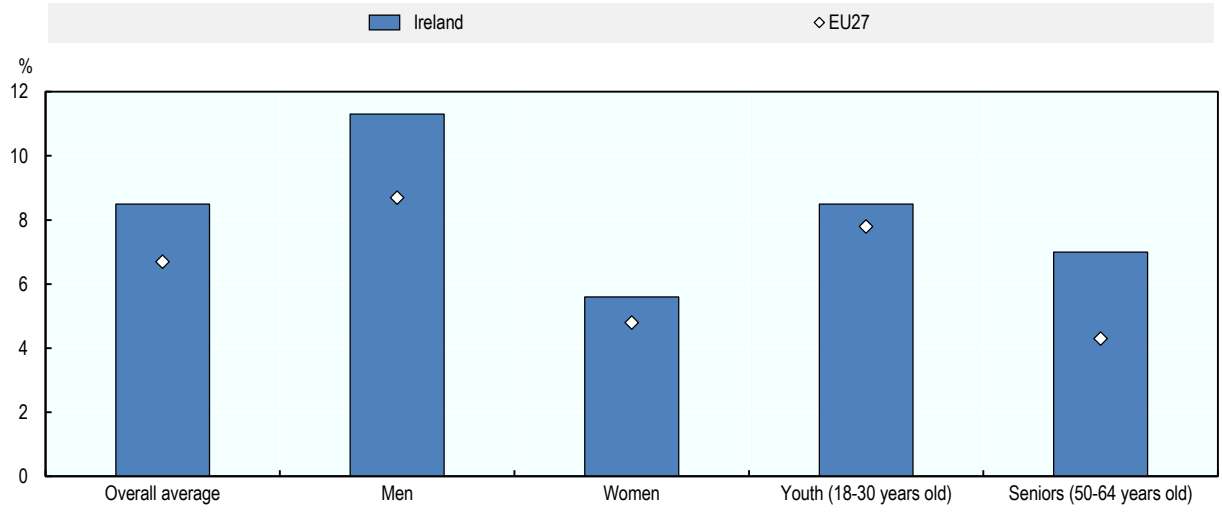
		Men	Women	Ratio of rates
Participation in labour force	Age 20-64	84% (1 131 000)	69% (947 000)	1.2 : 1
	Working fulltime (Age 15+)	74% (899 000)	52% (520 000)	1.7 : 1
Rates of entrepreneurship	New business owners (started in past 3.5 years)	4.6%	2.6%	1.8 : 1
	Total Early Stage Entrepreneurship Index	12.7%	7.0%	1.8 : 1

Note: Unless indicated otherwise, the adult population is defined as aged 18-64. Working fulltime is defined as working 35+ hrs per week.
Source: CSO (2016) and GEM.

Furthermore, the Total early-stage Entrepreneurial Activities (TEA) rate was higher for men than women (11.3% vs. 5.6% for women), although the share of women who are entrepreneurs on this measure is higher than the EU-27 average, as shown in Figure 2.24 below.

Figure 2.24. Early stage entrepreneurial activity among target groups

TEA rate (percentage values), 2012-16 average



Note: The Total Early Stage Entrepreneurial Activity (TEA) rate is the proportion of adults (18-64 years old) involved in setting up a business or managing a business that is less than 42 months old.
Source: OECD (2017), The Missing Entrepreneurs, based on GEM (2017), Special tabulations of the Global Entrepreneurship Monitor adult population survey, 2012-16.

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Relatively high rates of entrepreneurship in Ireland compared with the EU average are also evident among older age groups (24.6% vs. 18.5% for the EU). Indeed, Ireland ranks second in Europe in terms of senior entrepreneurship, i.e. those aged between 55 and 64 years, with one in every seven Irish entrepreneurs classified as a senior. This was not always the case. For example, in the 55 to 64 age group about one in every 20 people (4.8%) in 2010, compared to two in every 20 people (9.4%) in 2016, were entrepreneurs.

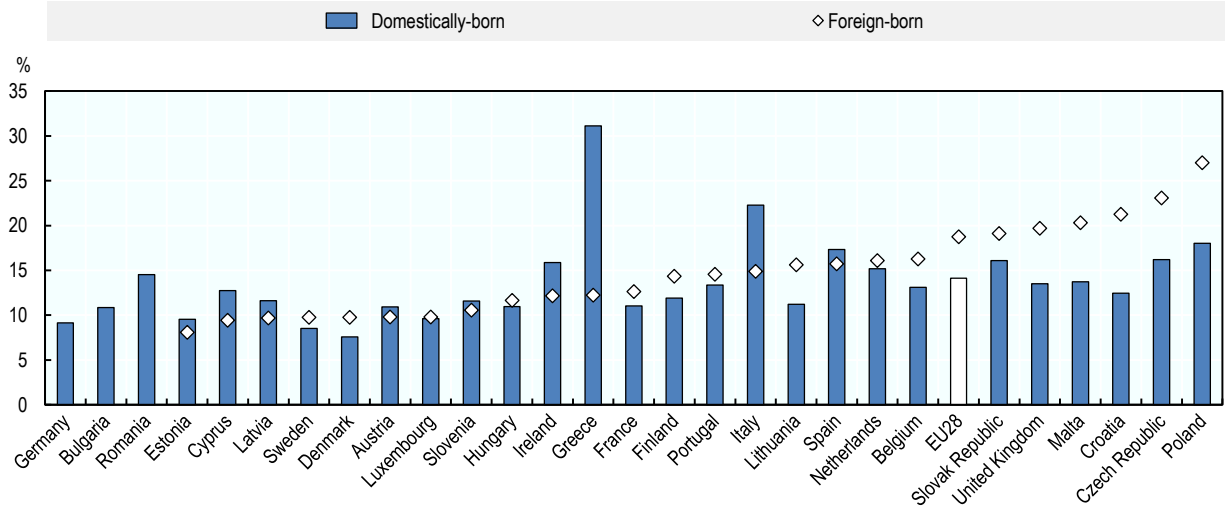
In contrast, Ireland ranks 9th in Europe in terms of youth entrepreneurship, i.e. those aged between 18 and 24 years, with only one in eleven entrepreneurs in Ireland being a youth entrepreneur (Fitzsimons and O'Gorman, 2018).

Women and older entrepreneurs were more likely to operate innovative businesses than the EU average (youth were not) and all social target groups were more likely to expect to create a significant number of jobs over the next five years than the EU average (OECD, 2017d).

Entrepreneurial activity among migrants is relatively low in Ireland (Figure 2.25). In 2015, the self-employment rate among foreign-born people stood at 12.1% in Ireland, compared to 15.9% of the domestically-born. In the majority of OECD countries the foreign-born entrepreneurship rate is higher than the domestic-born population, suggesting that the entrepreneurial potential of migrants could be better tapped. It should be noted, however, that GEM data paints a somewhat more positive picture in this respect, suggesting that in 2017, about one in five owner-managers of established businesses in Ireland were born outside of the country. In addition, GEM data also indicates that entrepreneurial intentions among migrants are higher compared to those born in Ireland (30% vs. 8% in 2017).

Figure 2.25. Self-employment rates for immigrants by country, 2015

Percentage of total employment with foreign citizenship, 2016 or latest available year



Note: 1. Data are not presented for Germany because the place of birth is not collected in the Labour Force Survey in Germany. Therefore a total for the European Union is not reported. 2. Some data are not available for Bulgaria, Malta, Ireland because the samples are too small to derive reliable estimates.
Source: OECD/European Union 2017

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Rates of entrepreneurship in Ireland are also generally higher for those with more education. Seven in every ten entrepreneurs in Ireland have post-secondary education and the country has the 5th highest rate of entrepreneurship in Europe for people with graduate education (Fitzsimons and O'Gorman, 2018).

Geographical variations in SME and entrepreneurship activity

Spatial variations in the economic contribution of SMEs

The contribution of SMEs to the economy varies significantly across the Irish regions. In Ireland as a whole, almost 70 % of the persons engaged in active enterprises in the private business economy are in SMEs, i.e. private enterprises with less than 250 employees. This ranges, however, from 97 % in Midland region to 53 % in Dublin region.

Dublin and the South-West – the regions with largest employment shares in Ireland and also the regions with highest GVA per capita – have a significantly lower share of persons engaged in SMEs than the other regions. This can be explained by the presence of many foreign firms in services, manufacturing as well as banking and insurance. Furthermore, in many smaller regions small-scale agriculture and basic services activity constitute a larger fraction of the economy.

Table 2.6. Persons engaged in active enterprises by employment size, NUTS 3 regions

Share of regional total, 2016, as a percentage

	Border	Dublin	Mid-East	Mid-West	Midland	South-East	South-West	West
Under 10	38%	17%	37%	35%	45%	36%	32%	35%
Size 10-19	13%	7%	12%	12%	9%	12%	11%	12%
Size 20-49	16%	10%	15%	15%	17%	15%	13%	14%
Size 50-249	22%	19%	19%	18%	20%	19%	21%	22%
SME share (<250)	**88%**	**53%**	**83%**	**80%**	**92%**	**82%**	**76%**	**84%**
Size 250+	12%	47%	17%	20%	8%	18%	24%	16%

Note: The data is an aggregation of data at the level of counties to the level of NUTS 3 regions. The geographical breakdown for enterprises is an approximation. The original county breakdown is based on the address at which an enterprise is registered for revenue purposes, rather than where the business actually operates. No comprehensive administrative data source is currently available for business locations. If an enterprise has local units in several counties, but one head office where all employment is registered, all its employees will be attributed to the county where the head office is located. For some size-classes in different counties, data has also been suppressed to protect the confidentiality of individual enterprise.
Source: CSO.

Spatial variations in new firm formation

Available data on entrepreneurial activity at the regional level further illustrate the role of local variations and the special role of Dublin. Figure 2.26 presents the average rate of company formation per 10 000 inhabitants across counties in Ireland over the period 2015-17.[12]

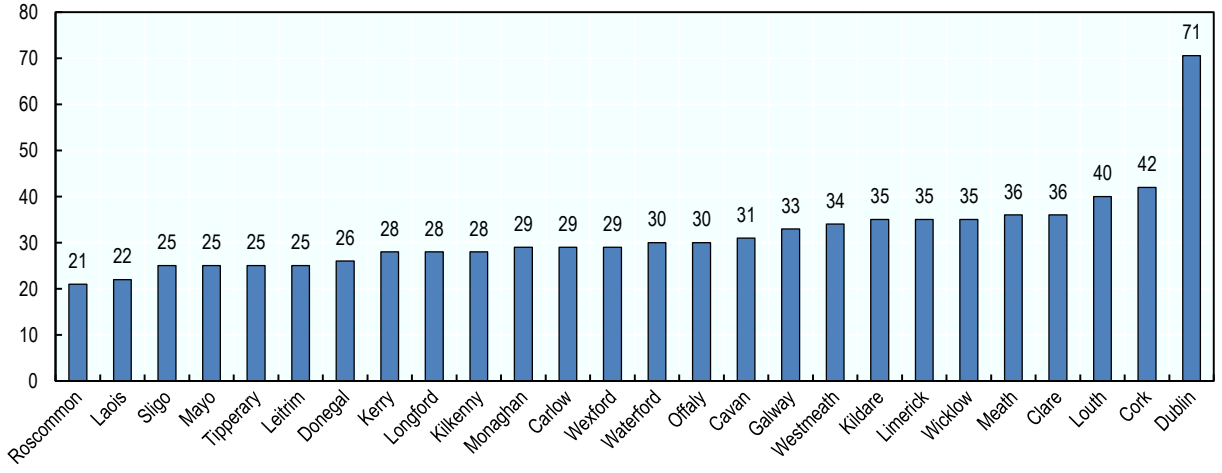
Dublin has a rate of company formation in the order of 70 firms per 10 000 inhabitants. This is about 70% above the county with second highest rate of company formation, namely Cork. There are further large spatial variations in rates of company formation across the country excluding Dublin, with rates ranging from about 20 in Roscommon and Laois to around 40 in Louth and Cork. To some extent, the data on start-up rates produces a mirror image to the data on the economic importance of SMEs. Regions with the lowest dependence on SMEs, i.e. Dublin and Cork, have the highest rates of company formation.

A recent study by McCoy et al (2018) analyse the influence of a number of local characteristics on the location of new business establishments.[13] They find that local characteristics matter and that broadband infrastructure, distance to a third-level education

institution, level of educational attainment of the population and industry diversity are important factors influencing new firm formation.

Figure 2.26. New company formations per 10 000 population by county

Average 2015-17



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Conclusions and policy recommendations

SMEs are central to the Irish economy, accounting for close to 70% of total employment and around 50% of value added. SMEs in Ireland are somewhat more likely to be micro-enterprises, which represent around 92.4% of all Irish businesses, slightly above the OECD average of 90%, and more than in other small open economies. In addition, while the employment share in Irish SMEs for the manufacturing and services sector is roughly in line with the OECD average, Irish construction SMEs account for a much higher share of employment compared to most other OECD countries.

Ireland displays one of the lowest business dynamism rates in the OECD area, but performs well in terms of its high-growth firm rate, which is above the EU average. In addition, Ireland had the second-highest share of HGFs active in the ICT sector in the EU. Almost 60% of Irish SMEs engage in innovation-related activities, which is high by international standards. On the other hand, Irish SMEs seem to perform much less well in terms of securing government funds to carry out R&D compared to their peers in other OECD countries.

Certain segments of the Irish SME population experience very low (in some cases negative) productivity growth – this does not concern large firms or high-growth enterprises, and not even micro-enterprises, but rather established small and medium sized firms, whose productivity share in the total enterprise population has remained below the OECD average as a result. In addition, Ireland's SME export performance is very low by international standards, with only about 6% of Irish SMEs trading across borders and a high concentration of export activity among a small set of mainly large (multinational) firms. Large firms also account for almost 50% of domestic value added in Irish exports, one of the highest shares among OECD countries.

Entrepreneurial attitudes in Ireland are generally positive and above OECD and EU averages. In particular, the share of the adult population seeing good opportunities to start a firm in the area where they live almost doubled between 2010 and 2017, rising from 20% to almost 45%. This is somewhat at odds with Ireland's very low business entry and exit rates. In addition, the entrepreneurial potential of certain social groups, in particular migrants, could be better tapped into.

There are also important regional differences in SME and entrepreneurship activity rates in Ireland. In particular, the new firm formation rate is higher in the more prosperous cities of Dublin and Cork, suggesting a need to spread positive conditions for entrepreneurship across the country. The spatial variations in entrepreneurship rates are linked to variations in the health of local entrepreneurship ecosystems across the country, particularly in terms of access to connectivity infrastructure and talent and skills, as well as differences in industrial diversity.

Overall, this Chapter points to important performance characteristics of the Irish SME base, which are taken up further in the following Chapters, although the analysis could be extended in the future with improved data on certain issues such as SME productivity performance. In particular, the Chapter points to the need to scale up the average size of Irish SMEs and micro firms, increase business start-up rates including among specific social groups such as migrants, increase productivity growth in established "small" and "medium" size category SMEs, increase SME exports and promote conditions for entrepreneurship success across the whole country. Subsequent chapters examine how to influence the business environment for SMEs and entrepreneurship and how to further develop government programmes targeted directly at SMEs and entrepreneurship in order to meet these challenges. Special attention is given to supporting entrepreneurship and SME productivity and export growth with local tailored initiatives, the range of measures that can be taken to increase SME productivity, and the role of business advice to SMEs as a lever for productivity and export development. The report also examines in more depth the strategic framework for the design and delivery of SME and entrepreneurship policy in Ireland.

Based on the analysis of the structure and performance of SMEs and entrepreneurship in Ireland, the following overall recommendations are advanced in terms of priority areas for policy development. Further information on how to address these priorities is provided in later chapters.

Key recommendations on SME and entrepreneurship structure and performance

Promote policy measures to:

- Increase the productivity of "small" and "medium" size band SMEs.
- Increase the business start-up rate and business dynamism.
- Ensure equal opportunities for entrepreneurship across the population and address gaps in the self-employment and entrepreneurship activity rates of women, youth and migrants.
- Scale up micro-enterprises, particularly indigenous locally-trading and non-exporting enterprises, and increase the cohort of medium-sized enterprises (50-259 employees).
- Increase SME access to foreign markets, including non-United Kingdom markets.

- Address spatial disparities in entrepreneurship by strengthening local entrepreneurship ecosystem conditions for start-up and scale-up entrepreneurship.
- Address data gaps on SME and entrepreneurship performance, particularly on firms not assisted by government agencies, including on high growth firms, SME exports, SME productivity, and distinctions between employer and non-employer enterprises.

Notes

[1] The churn rate is defined as the sum of birth and death rates of enterprises and thus provides a measure of how frequently new firms are created and existing enterprises close down.

[2] Relates to enterprises born in one year and still active in the next year.

[3] The OECD defines HGFs as firms that grow 20% or more per year, with growth being measured by the number of employees or by turnover, while Eurostat defines HGFs as firms with an annualised growth of 10% over 3 years.

[4] Forfás was the national policy advisory board for enterprise, trade, science, technology and innovation in Ireland. The agency was established in January 1994 under the Industrial Development Act, 1993 and was run by a board appointed by the Minister for Jobs, Enterprise and Innovation, to whom the agency is responsible. Forfás was dissolved on 1 August 2014 and integrated with the Department of Jobs, Enterprise and Innovation.

[5] In July 2017, the CSO published an alternative measure of the size of the economy, so-called 'modified Gross National Income' (sometimes called GNI*). This aggregate is equal to GNI but excludes retained earnings of firms that have re-domiciled to Ireland; the depreciation of foreign-owned intellectual property assets located in Ireland; and, the depreciation of aircraft owned by aircraft-leasing companies. Modified GNI is currently only available in nominal terms, i.e. the CSO has not yet adjusted the series for the effect of price developments. Moreover, the new metric is only available on an annual basis, as opposed to quarterly as is the case for both GDP and GNP. As a result, this aggregate is of limited use for the purpose of short-term conjunctural analysis (Department of Finance, 2018a).

[6] Exporting enterprises in this case refer to firms with goods exports of over EUR 5 000 in the year.

[7] GVC participation indicators have become a standard measure of countries' insertion into regional and global value chains. They reflect the intermediate products imported from abroad that are embodied in a country's exports (backward linkages), as well as the country's exported intermediates that are incorporated into other countries' exports (forward linkages) (Bohn et al., 2015). Both are measured as shares of gross exports. Higher backward linkages are generally observed in countries with larger shares of manufacturing in GDP. Larger domestic markets are associated with lower backward linkages – because of larger domestic capabilities for sourcing inputs – and larger forward linkages (OECD, 2013). Furthermore, recent studies show that stronger backward linkages are also positively related to diversification, productivity growth and positive structural change (Rieländer and Traoré, 2015; AfDB/OECD/UNDP/UNECA, 2013). Thus, a country's upstream position in a value chain as a provider of primary inputs may offer different opportunities from a further downstream position that integrates inputs into final products.

[8] The CSO statistics on R&D exclude companies with less than 10 employees. This may downplay to some extent the overall R&D expenditure by SMEs. To note is, for example, that Enterprise Ireland invests every year into around 100 high-potential start-ups, which are significant R&D active firms.

[9] See Horizon 2020 dashboard: https://webgate.ec.europa.eu/dashboard/hub/.

[10] "Celtic Tiger" is a term referring to the economy of the Republic of Ireland from the mid-1990s to the late-2000s, a period of rapid real economic growth fuelled by foreign direct investment. The boom was dampened by a subsequent property bubble which resulted in a severe economic downturn.

[11] The exact definition for each indicator is as follows: i) Perceived opportunities: Percentage of the total adult population (18-64) who see good opportunities to start a firm in the area where they live; ii) Perceived capabilities: Percentage of the total adult population (18-64) who believe to have the required skills and knowledge to start a business iii) Fear of failure: Percentage of 18-64 population with positive perceived opportunities who indicate that fear of failure would prevent them from setting up a business. iv) Entrepreneurial intention: Percentage of the total adult population (18-64) (individuals involved in any stage of entrepreneurial activity excluded) who intend to start a business within three years; v) Social status of entrepreneurship: Percentage of the total adult population (18-64) who agree with the statement that in their country, successful entrepreneurs receive high status; vi) Desirability of entrepreneurship: Percentage of the total adult population (18-64) who agree with the statement that in their country, most people consider starting a business as a desirable career choice.

[12] Dublin county is the same as Dublin NUTS 3 region.

[13] Because of its special attractiveness for new firms, Dublin is excluded from their analysis.

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Chapter 3. The business environment for SMEs and entrepreneurship in Ireland

This chapter describes the main strengths and weaknesses of the business environment for SMEs and entrepreneurs in Ireland. It examines macro-economic conditions, labour market conditions, skills and the educational attainment, the tax environment affecting SMEs and entrepreneurs, the regulatory environment, access to finance conditions, infrastructure and energy, trade and foreign direct investment, and ends with a recap of the main recommendations in these areas.

Note by Turkey:
The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

Note by all the European Union Member States of the OECD and the European Union:
The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

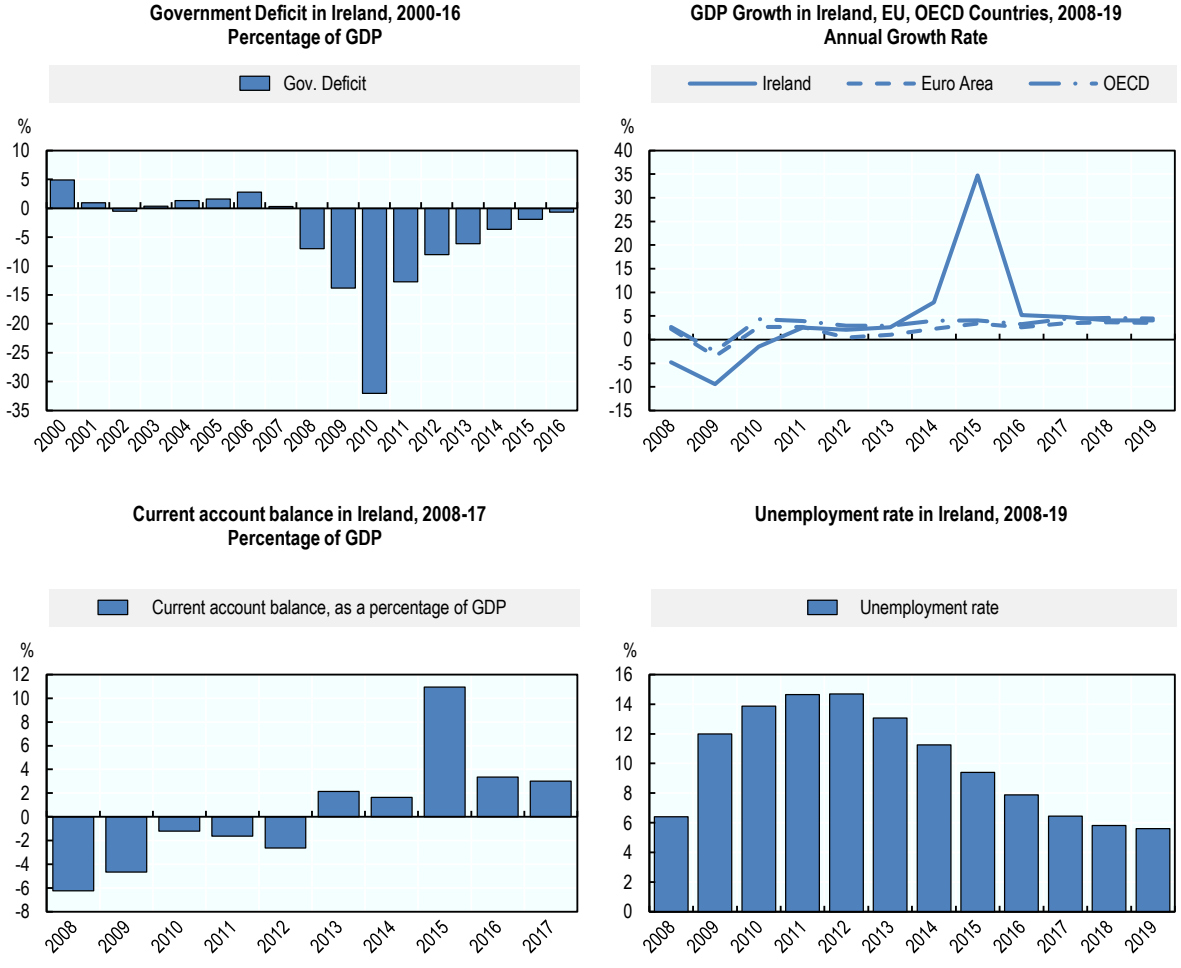
The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Macro-economic conditions

Although the Irish economy was hit severely by the financial crisis, with GDP declining by almost 5% and 10% in 2008 and 2009 respectively, recovery has been sustained and Irish economic growth has outpaced the OECD and euro zone average in recent years. Average income in Ireland ranks at above the average of the OECD and income inequality, in stark contrast to many economies, has reduced.

This recovery is also reflected in government finances; the government deficit expanded to 32% of GDP in 2010, but dropped to almost zero in 2016. In a similar vein, the current account deficit turned into a surplus in 2013 and unemployment, having peaked in 2012, to a level of almost 15%, declined substantially to a level of 5.6% in 2017 (see Figure 3.1).

Figure 3.1. Macro-economic conditions in Ireland



Note: 2015 data on GDP growth is excluded for Ireland due to changes in national accounting.
Source: (OECD, 2018[2]).

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Nonetheless, some economic uncertainties remain. The planned departure of the United Kingdom from the European Union represents a key challenge for Ireland, given the strong economic links between the countries. As an illustration, 18% of all exports from Ireland are directed to the United Kingdom, with almost 3 400 companies exporting exclusively to the country, and 38% of the turnover of Irish-owned foreign affiliates was in the United Kingdom (Central Statistics Office, 2016).

"Brexit" will probably adversely affect Irish SMEs even where they have no direct link to the United Kingdom, for example through a decline in domestic demand and reduced consumer and investor confidence. A survey by the Department of Business, Enterprise and Innovation (DBEI) illustrated that 15% of all surveyed SMEs had been substantially impacted by Brexit in 2018 and another 37% moderately with many expecting a further impact in the near future (DBEI, 2018a).

The Irish economy is also vulnerable to the rising tide of protectionism. A recent study of 42 countries identified Ireland as the country whose economy has benefited the most from globalisation (and therefore has most to lose from protectionism) (Stiftung, 2018). Transatlantic trade tensions in particular could damage the Irish economy, as many American multinationals have their (European) headquarters based in Ireland.

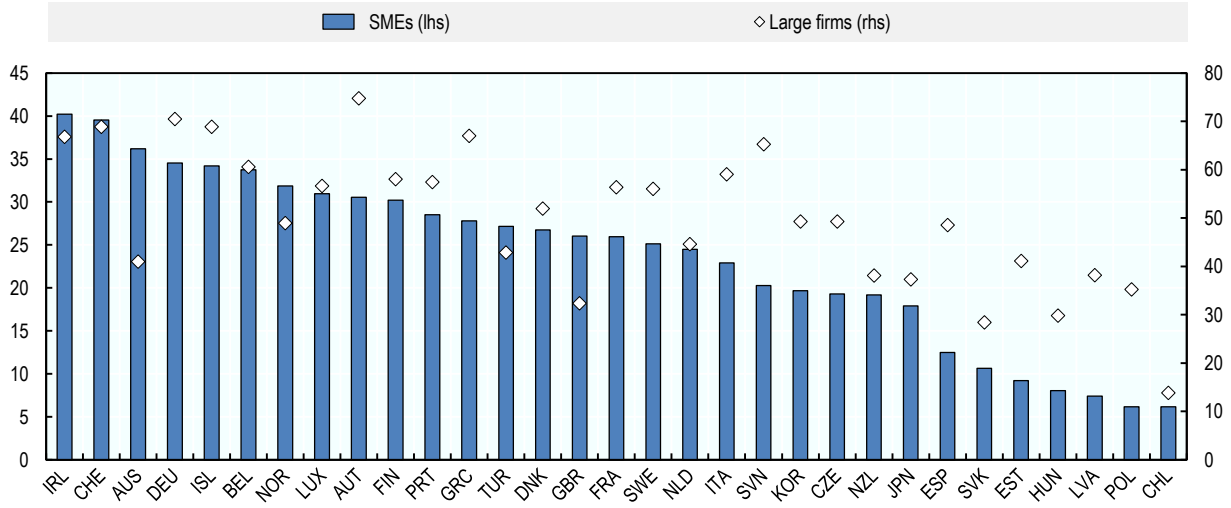
A third risk for the Irish economy over the medium term is related to changes to the international tax environment. This could erode Ireland's competitiveness and could possibly lead to a slowdown in foreign direct investment or even a potential exit of some large corporate groups that are resident in Ireland. The Irish Fiscal Advisory Council recently estimated the impact of a multinational moving headquarters out of Ireland. As a direct impact, this would reduce the estimated government revenues by over EUR 330 million, around 0.5% of total revenue in 2016, mostly through lower corporate taxation. It would also lower Gross Value Added by 1.9%, while the impact on employment and employee earnings would be more limited. The indirect impact is harder to measure, but could be considerably higher as spill-over effects to the wider economy are likely (Irish Fiscal Advisory Council, 2018a).

The innovation system

As discussed in Chapter 2, SME innovation performance is solid in Ireland. Some 40% of all SMEs in Ireland combine product or process innovation with marketing or organisational innovation strategies, the highest proportion among OECD countries (see Figure 3.2).

Figure 3.2. Firms undertaking an innovation strategy as a percentage of all firms

SMEs and large firms



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: (Yin and Westmore, 2018).

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This is supported by a strong innovation system overall. Ireland outperforms the EU average on most indicators identified by the European Innovation Scoreboard 2019. In addition, its performance has improved relative to that of the EU since 2011. Overall, Ireland is classified by the Scoreboard as a "Strong Innovator", just below the "Innovation Leader" countries. As set out in Table 3.1, Ireland scored highly relative to the EU average in 2018 on the dimensions of human resources, attractive research systems, innovators, employment impacts and sales impacts. It performed less well in 2018 on the dimensions of finance and support, firm investments, linkages and intellectual assets.

One indicator on which Ireland scores relatively weakly is R&D expenditure by the public sector, which was scaled back in the aftermath of the financial crisis. Whereas in 2009, the government R&D budget (GRDB) amounted to 0.63% of GNP, this declined to 0.32% in 2017 and is estimated to have fallen to 0.30% in 2018 (according to provisional data) (DBEI, 2019). This is low by international standards; the average OECD country spent 0.51% of its GDP on GRDB in 2016, for example (DBEI, 2019). A related area for potential improvements is the low incidence of private co-funding of R&D expenditure, which is low by international standards, despite the relative innovativeness of SMEs in Ireland and the strong presence of multinational firms active in Ireland.

Table 3.1. Innovation performance in Ireland vs. EU

Ireland	Performance Relative to EU 2011 in 2011	Performance Relative to EU 2011 in 2018	Performance Relative to EU in 2018 in 2018
SUMMARY INNOVATION INDEX	113.4	117.6	108.1
Human Resources	143.1	160.7	131.4
New doctorate graduates	107.7	156.9	108.1
Population with tertiary education	230.6	235.1	196.9
Lifelong learning	82.3	82.3	80.6
Attractive research systems	143.6	147.3	130.8
International scientific co-publications	166.8	234.8	161.4
Most cited publications	113.4	123.0	112.3
Foreign doctorate students	175.6	127.2	133.1
Innovation-friendly environment	68.9	154.5	97.8
Broadband penetration	100.0	233.3	116.7
Opportunity-driven entrepreneurship	47.8	100.9	77.9
Finance and support	119.6	78.7	72.0
R&D expenditure in the public sector	58.9	23.4	25.3
Venture capital expenditures	191.6	144.2	111.5
Firm Investments	125.5	101.5	85.1
R&D expenditure in the business sector	91.4	61.4	53.6
Non-R&D innovation expenditures	132.2	73.8	63.2
Enterprises providing ICT training	153.3	173.3	136.8
Innovators	127.4	119.4	131.5
SMEs product/process innovations	126.3	109.5	112.8
SMEs marketing/organisational innovations	105.5	129.3	151.5
SMEs innovating in-house	150.6	119.4	132.6
Linkages	66.7	82.1	79.1
Innovative SMEs collaborating with others	86.5	104.4	97.8
Public-private co-publications	91.9	161.0	137.3
Private co-funding of public R&D exp.	41.3	31.9	33.2
Intellectual Assets	63.1	50.3	51.7
PCT patent applications	68.5	49.9	54.9
Trademark applications	88.7	74.1	66.5
Design applications	36.7	31.3	33.9
Employment Impacts	158.2	173.6	166.3
Employment in knowledge-intensive activities	193.6	193.6	177.6
Employment in fast-growing enterprises	132.6	159.2	157.4
Sales Impacts	108.5	131.5	127.6
Medium and high tech product exports	92.3	107.4	99.6
Knowledge-intensive services exports	151.8	151.8	147.2
Sales of new-to-market/firm innovations	77.8	136.5	140.7

Note: Scores of above 100.0 are above the EU average. Scores of below 100.0 are below the EU average.
Source: European Innovation Scoreboard 2019, European Commission (2019)

Regulatory environment

Ease of doing business

Ireland is 23th on the worldwide "ease of doing business" ranking, conducted annually by the World Bank. Ireland scores particularly well in terms of starting a business, paying taxes and protecting minority investors. It is worth noting that, while this ranking is relevant

for businesses of all sizes, a favourable regulatory environment is especially important for smaller enterprises, which have less resources at their disposal to deal with administrative burdens, red tape and regulatory complexities. Despite the strong overall performance, improvements are possible. The time and cost of enforcing contracts, for example, is well above the average in high-income countries. In addition, regulation relating to commercial property and legal services as well as the costs of business failure are high (see Table 3.2). As a minor source of concern, Ireland's ranking dropped from 17 to 23 between 2017 and 2018, indicating more reform efforts from other top ranked countries.

Table 3.2. Ireland's World Bank Doing Business performance, 2018

	Ranking	Distance to Frontier (% points)
Starting a Business	10	95.9
Protecting Minority Investors	15	75.0
Getting Credit	44	70.0
Paying Taxes	4	94.5
Resolving Insolvency	18	79.1
Registering Property	64	69.6
Trading Across Borders	52	87.3
Enforcing Contracts	102	56.0
Dealing with Construction Permits	28	77.5
Getting Electricity	43	84.2

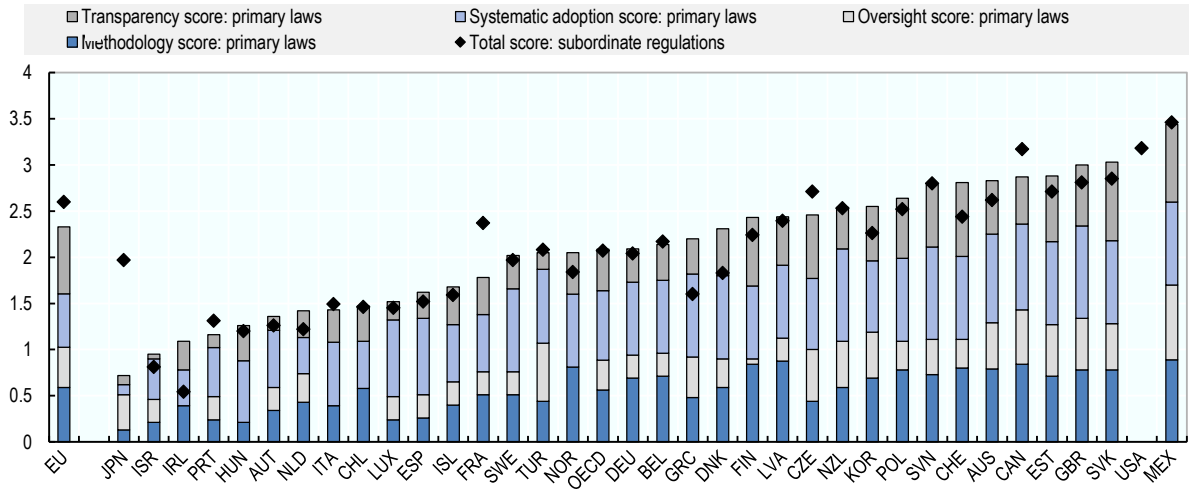
Source: (World Bank, 2019)

Eegulatory impact assessments (RIA) are an important tool for identifying where new regulation could have adverse impacts on SMEs and remedying the main problems. Although RIAs are mandatory for all primary laws and major subordinate regulations in Ireland, there is a paucity of information on how many RIAs are actually conducted and their quality and implementation. In addition, Ireland has been slower than many other EU countries to introduce the so-called SME Test. This is under trial in Ireland as of the beginning of early 2019.

Stakeholder engagement

Ireland could strengthen its stakeholder engagement when designing regulation. The OECD has developed Indicators of Regulatory Policy and Governance (iREG), which comprise four key dimensions (methodology, oversight and quality control, systematic adoption and transparency). Ireland scores well below the OECD average in the area of stakeholder engagement in developing primary laws. Furthermore, Ireland ranks at the bottom of all OECD countries for stakeholder engagement in developing subordinate regulations, marking a deterioration compared to 2015 data (see Figure 3.3). The low score reflects that while draft primary laws are systematically subject to stakeholder engagement, consultation on draft subordinate regulation is not systematically undertaken. In addition and for both primary laws and subordinate regulation, stakeholder engagement is not systematically conducted at the early stage of the rule-making process, i.e. prior to a preferred solution being identified and/or a new or revised regulation being drafted, and there is no requirement to conduct consultation with the general public and there are no minimum consultation periods. Further, Ireland currently does not make use of interactive websites to engage with stakeholders, nor is it required to publish feedback on consultations. A evaluation of the current system and/or a performance reporting system could improve current consultation practices (OECD, 2018a).

Figure 3.3. Stakeholder engagement in developing subordinate regulations, 2018



Note: Data for OECD countries is based on the 34 countries that were OECD members in 2014 and the European Union. Data on new OECD member and accession countries in 2017 includes Colombia, Costa Rica, Latvia and Lithuania. The more regulatory practices as advocated in the 2012 Recommendation a country has implemented, the higher its iREG score.
Source: (OECD, 2018a).

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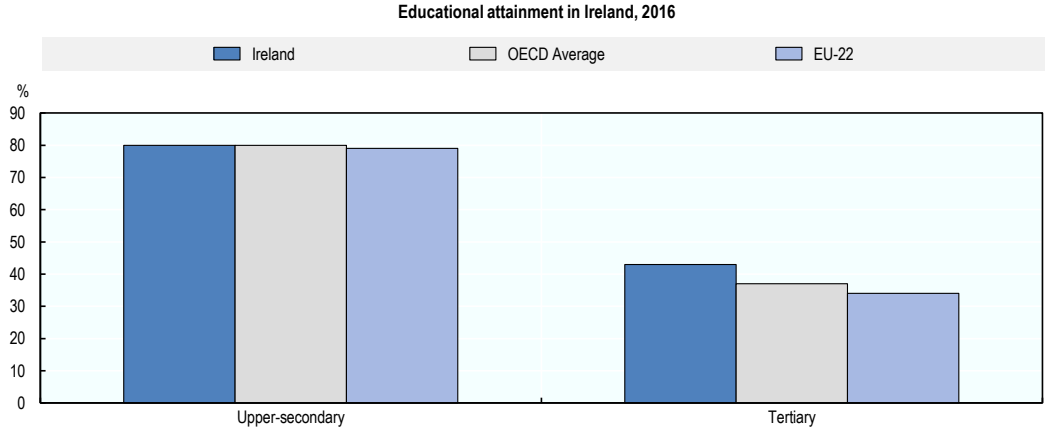
Educational attainment and skills

Tertiary education

Ireland has a well-educated workforce. Comparative data illustrate that a high proportion of the population has completed tertiary education, while the share of the population with higher secondary education is about average (see Figure 3.4). The employment prospects and expected financial benefits from completing tertiary education are also higher than in most other European countries, suggesting that the education system provides skills that are relevant to the labour market (OECD, 2017a). The National Strategy for Higher Education to 2030 aims to make the higher educational system even more responsive to the business needs of Irish enterprises (OECD/EU, 2017).

Figure 3.4. Educational attainment in Ireland compared to the OECD and EU-22 average, 2016



Note: EU-22 refers to EU 28 countries that are member states of the OECD.
Source: (OECD, 2017).

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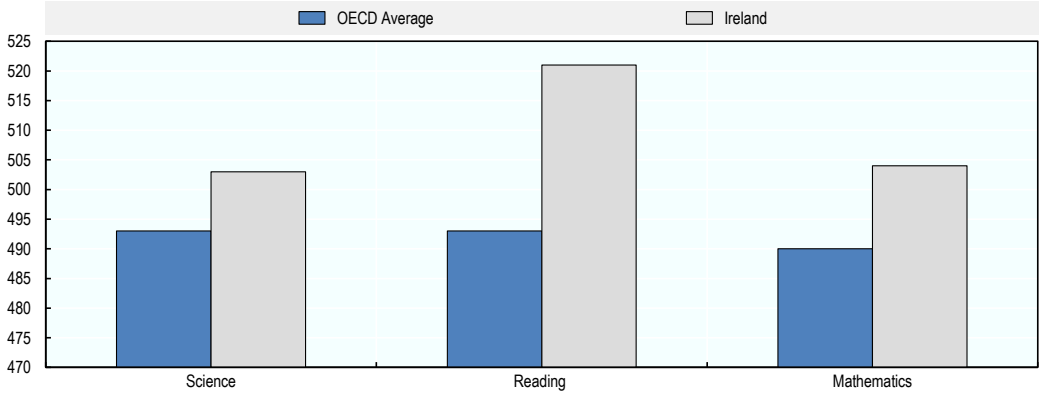
The OECD Programme for International Student Assessment (PISA) survey offers a comparative analysis of 15 year olds' science, reading and mathematics skills and is widely perceived as a key indicator for a country's education quality. The data illustrates that Ireland performs better than the OECD average on all three skill areas (OECD, 2016a) (see Figure 3.5).

Figure 3.5. Performance of 15 year olds in science, reading and mathematics, 2015

Mean values for Ireland and the OECD average



Source: (OECD, 2016a).

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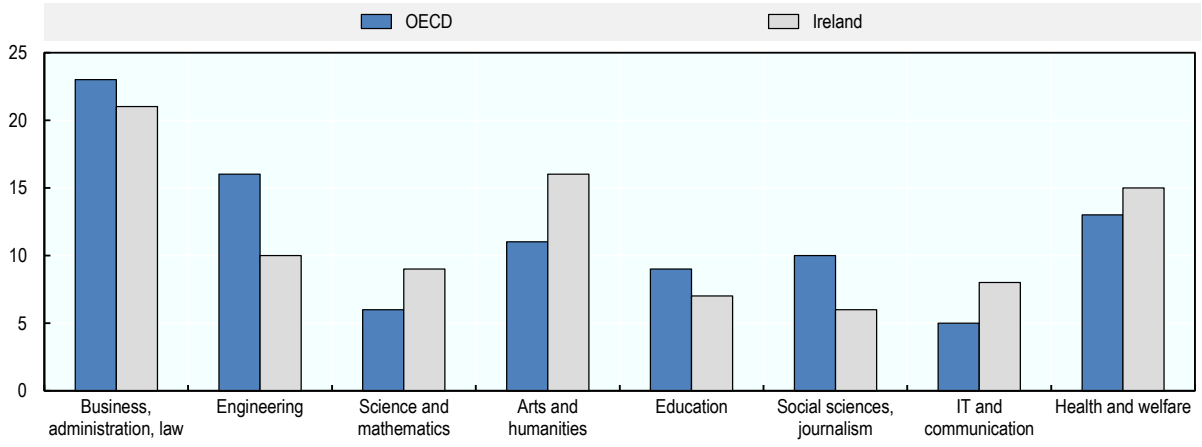
In addition, 18% of new entrants to tertiary education in 2015 chose the fields of natural sciences, mathematics, statistics, and information and communication technologies (see Figure 3.6). This compares favourably to the average of 11% for the OECD (although engineering studies are relatively unpopular in Ireland) (OECD, 2017a).

Figure 3.6. Fields of study for entrants to tertiary education, 2015

Ireland compared to the OECD average



Source: (OECD, 2017a).

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In 2017, 13% of native-born Irish between the age of 15-29 were classified as NEETs, on par with the OECD average. The Irish-born NEET share is on a downward trend, after a surge in the aftermath of the financial crisis, up to a level of 22.4% in 2011. The NEET level among the foreign-born in Ireland lies below the OECD average (OECD, 2018b).

Dual training and apprenticeships

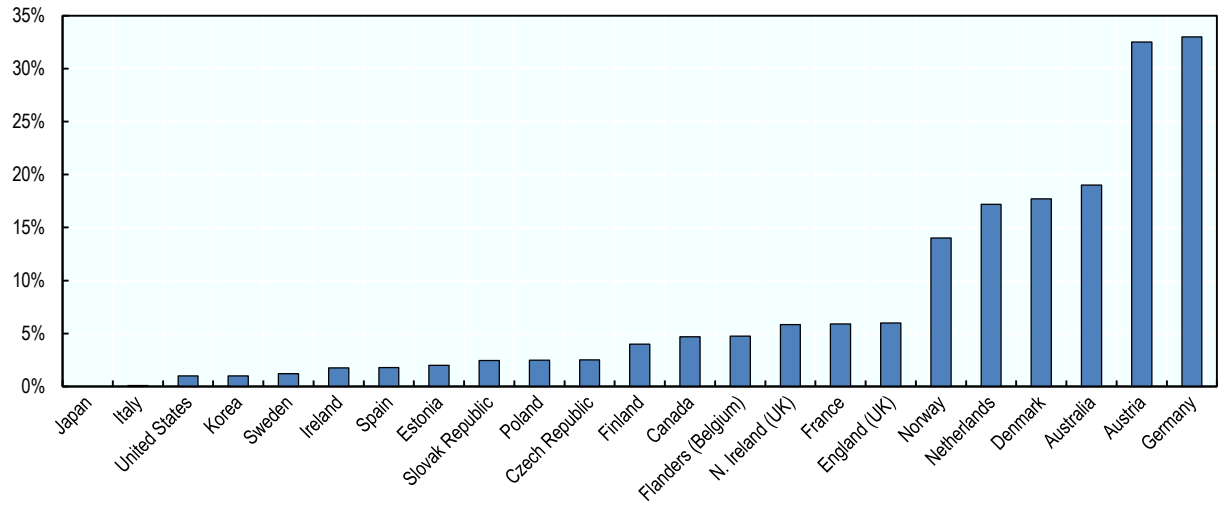
A 2017 OECD study illustrates that apprenticeships, defined as blending on and off-the-job learning, is an uncommon practice in Ireland (see Figure 3.7).

Boosting apprenticeships has some potential in Ireland. On the one side, it may prove an avenue for NEETs who are hard to reach through the traditional education system. In addition, the system may address labour shortages increasingly experienced by many Irish SMEs, given international evidence that smaller employers often make effective use of apprenticeships (Kuczera, 2017).

A national promotional campaign was launched in 2017 to stimulate apprenticeships, with the Apprenticeship Council, SOLAS, the HEA and other key stakeholders working in partnership and supported by a new website (www.apprenticeship.ie). It is too early to assess the impact of this approach. In addition, a new Retail Apprenticeship Scheme is being launched in 2019. It will be delivered through Retail Ireland Skillnet and will be the first sector based apprenticeship for the retail sector.

Figure 3.7. The use of apprenticeships across selected countries, 2012

Current apprentices in programmes leading to upper-secondary or shorter post-secondary qualifications as a share of all students enrolled in upper-secondary and shorter post-secondary education (ISCED 3 and ISCED C), 16-25 year-olds (2012)



Note: In Ireland, Italy, Japan, Korea, Spain, Sweden and the United States the estimated share of current apprentices is not significantly different from zero.
Source: (Kuczera, 2017).

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A key consideration given labour market tightness in Ireland is that small enterprises are not likely to engage in apprenticeships or related blended learning models if there is a high chance of their personnel being poached after training costs have been incurred. This implies a need for appropriate policy intervention to support training and reduce poaching. Possibly, the provision of training opportunities could even be employed as a tool to increase employee loyalty (Mühlemann, 2016).[1] Several policy models can be employed in principle:

- The introduction of training funds to which all employers contribute, but which are allocated to firms providing apprenticeships or training. These typically operate at the regional or sectorial level and are either run by governments or professional associations. The building sector in Germany and the construction sector in Austria are examples of this approach at the sectorial level. Switzerland has introduced a more general levy. Ireland established the National Training Fund (NTF) in 2000. The Government raised the levy from 0.7% to 0.8% in 2018 and plans a further increase by 0.1 percentage points in both 2019 and 2020 (Department of Education and Skills, 2018a).
- Favouring the provision of public procurement contracts to firms that make of apprenticeship schemes, as in Switzerland.
- Directly subsidising or reimbursing training costs as in Denmark, Finland or Norway. This could potentially be made conditional, for example, on targeting disadvantaged youths, or be made more attractive for small employers.
- In a similar vein, tax incentives such as in Australia and France could be further explored in Ireland.[2]

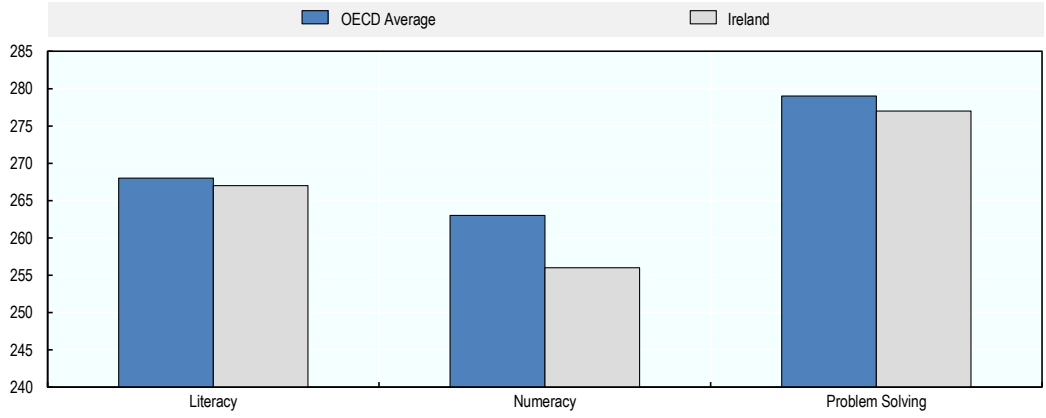
In addition to the types of measures listed above, apprenticeship programmes benefit from more general policies, in particular support to public vocational schools and industry-specific training courses and measures to adapt apprenticeship programmes to the demands of the business community.[3] Furthermore the take-up of apprenticeships by small employers can benefit from cooperation with associations and chambers of commerce to coordinate and encourage the development of apprenticeship programmes, promoting joint apprenticeships (as are relatively common in Austria and Germany), as well as from measures to limit and assist SMEs with the administrative procedures (Kuczera, 2017).

Life-long learning and adult skills

While Ireland performs well when it comes to skills of 15 year olds, the OECD Programme for the International Assessment of Adult Competencies (PIAAC) shows a different picture among Irish adults of working age (across the age group from 16 to 65). The data indicate that they consistently perform below the OECD average on three areas measured by this study, i.e. literacy, numeracy and problem solving (see Figure 3.8). These numbers are aggregates and hide significant heterogeneity. In particular, younger cohorts perform better compared to the OECD average, indicating improvements in the Irish education system in recent decades (OECD, 2018).

Figure 3.8. Performance of adults in PIAAC literacy, numeracy and problem solving skills, 2012

Ireland and the OECD average



Source: (OECD, 2018).

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Increasing adult participation in lifelong learning is an established policy priority in Ireland. The National Skills Strategy 2025 aims to increase the participation rate to 10% by 2020 and to 15% by 2025 and these targets are being pursued through the Action Plan for 2016-2019 and its annual implementation plans. Policies will focus on four areas:

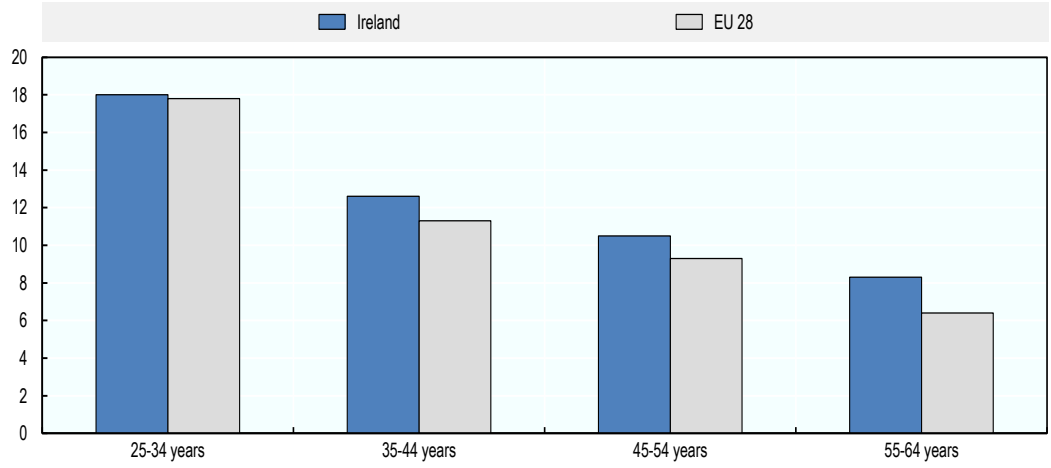
- Promotion and communication of the benefits of lifelong learning to the full population.
- Improving the opportunities for education and training among the employed.
- Developing greater recognition of workplace learning and capacity for recognition of prior learning.

- Strengthening career guidance with the aid of employer engagement (Department of Education and Skills, 2016).

Ireland's lifelong learning rate for adults 25-64 years old was 12.5% at the end of 2018, compared with an EU-28 average of 11.1%. This exceeds the participation rate objective set for 2020, but still needs to increase further to meet the 2025 target. According to SOLAS (2018), the participation rate of adults was 5% in formal learning activities and 9% in non-formal learning activities at the end of 2018. These participation rates have been increasing significantly and Ireland's position has improved significantly compared to the the EU-28 average. The lifelong learning rates decline with age (see Figure 3.10) and are lower among adults with lower education attainment levels. To continue the increase in lifelong learning participation, efforts are needed to strengthen current initiatives (such as Springboard+ and EXPLORE)[4] to support training and education among the employed, particularly in older employees.

Figure 3.9. Participation rate in education and training by age group, last 4 weeks 2018

Ireland and the EU-28 average



Source: Eurostat Adult Learning Statistics

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Carefully monitoring progress on these fronts will be important in the years to come, especially considering the relatively low skill level of the adult population. Examples from leading countries, such as Switzerland (see Box 3.1), suggest that employer engagement is crucial in boosting lifelong learning activities. For this, employers need to be convinced that training and education is ultimately beneficial to their business (see Box 3.1).

The Further Education and Training (FET) sector in Ireland is in a period of transition. The first ever Further Education and Training (FET) Strategy 2014-2019 was published in May 2014. SOLAS (An tSeirbhís Oideachais Leanúnaigh agus Scileanna) is the new national Authority in this area, providing oversight and funding of the FET programmes, with 16 Educational and Training Boards established to replace 33 Vocational Education Committees.

One possible factor at play is the strong progressivity of the personal tax system in Ireland, which imposes high tax rates on average incomes. These high tax rates may discourage

participation in lifelong learning activities for up-skilling and reduce the incentives to work longer and at a higher level (see below for more information about the personal tax system in Ireland).

Box 3.1. Life-long learning in Switzerland

In Switzerland, fully one-third of the surveyed population between the ages of 25 to 64 had participated in some kind of Continuing Education and Training (CET) in the preceding four weeks in 2017. This is the highest proportion among OECD member states and more than four times the share in Ireland.

About three-quarters of participants in training courses stated that they have been partly supported by their employer to take part in the training, and expenses borne by individuals are tax deductible. In addition, Swiss companies are required to contribute to a corresponding vocational and professional education and training levy, dependent on the economic sector they are active in, which is allocated to firms which provide training activities.

A crucial feature of the CET system in Switzerland is its responsiveness to market conditions. Business associations and professional organisations are closely involved with the training offering, as are regional governments (cantons). There is a wide spectrum of training programmes on offer with a large modularity allowing a large proportion of the working population to participate (such as courses on evenings, weekends, and so on).

A concern for Switzerland, common among high-income countries, relates to the tendency for the participants in CET to be weighted to young workers, highly-skilled workers and employees of large companies to take part in CET. Groups such as immigrants or the low skilled are considerably less likely to participate, even though they arguably may benefit most from lifelong learning (Vujanovic and Lewis, 2017[22]).

Entrepreneurial and management skills and education

Entrepreneurship education is relatively well developed in Ireland

Higher education in Ireland plays an important role in encouraging entrepreneurship, and this represents another area where Ireland performs well in an international context. Entrepreneurship education is offered across the sector in various disciplines. Course modules and programmes have been introduced in business schools to develop entrepreneurial mindsets and behaviours and have been adopted in an increasing number of disciplines and higher education institutions (HEIs). University College Cork, for example, has developed a cohesive approach to entrepreneurship for postgraduate levels, spearheaded by IGNITE, a one-year programme offering a wide range of support for students of different fields of study to set up their own businesses.

Programmes to integrate entrepreneurship in the curriculum are increasingly being assessed for their impact and are widely backed by senior management in education institutions. This is evidenced, for example, by the introduction of awards for entrepreneurial activities in HEIs and the drive in many HEIs to broaden entrepreneurship education beyond business and commerce to increasingly emphasise creativity and innovation (OECD/EU, 2017).

The evidence base on managerial skills is weak

In addition, several actors such as Local Enterprise Offices and Enterprise Ireland offer training and support to strengthen managerial skills. The education and training system also provides courses in this areas, including through the Springboard+ and Skillnet Ireland programmes. However, despite the importance the Irish Government attaches to entrepreneurial and managerial skills, there is a paucity of evidenceon the impact of government intervention in this area and areas requiring policy improvement. While managerial skills are inherently hard to measure objectively and likely to evolve only slowly over time, some countries have developed frameworks that can provide guidance to policy makers on designing programmes for managerial skills development. Box 3.2 provides more information on how management and leadership skills are measured in the United Kingdom as an input into policy design.

Box 3.2. Evidence on leadership and management capabilities in the United Kingdom

A 2012 study on leadership and management capabilities in the United Kingdom (BIS, 2012[23]) provides information on business management skills which can be compared with other countries. Key findings include:

- 43% of managers assessed their line management as ineffective.
- The ineffective management in many businesses cost as much as GBP 19 billion in lost working hours on an annual basis and was responsible for more than half of business failures.
- The management and leadership deficit compared unfavourably with Japan, Germany and the United States, and explained part of the productivity gap with these countries.
- The adoption of best management practices would considerably boost the performance of many small businesses.

Much of the information about managerial and leadership practices from this study came from the "Learning and Talent Development Survey" which ran annually from 1998 to 2015.

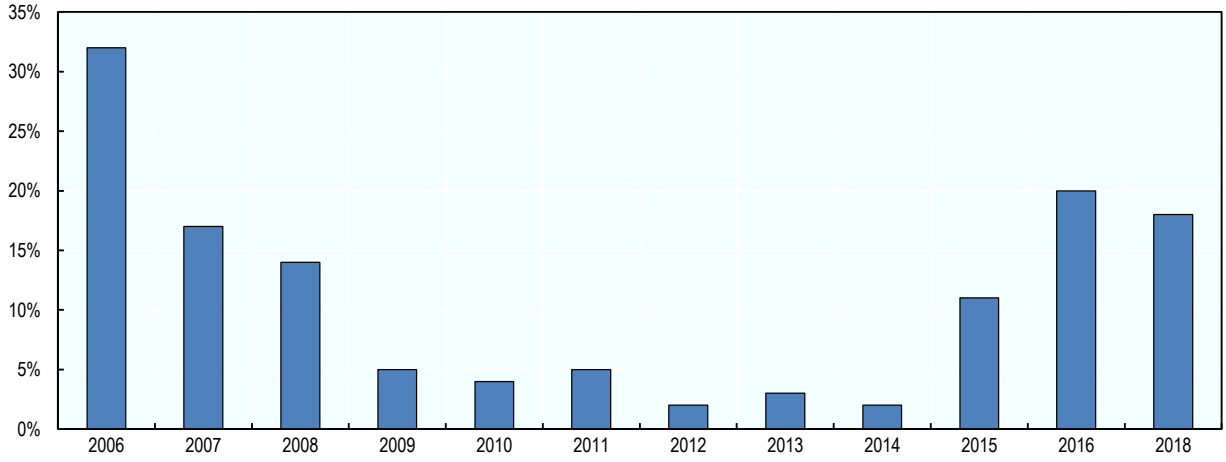
A 2015 report, based on a one-off survey of around 2 500 businesses active in the United Kingdom, re-assessed the same issue. Its main conclusion was that the adoption of good management practices was very uneven, with a long tail of SMEs lagging behind, often far behind, and that this considerably impacted on the performance of these firms (BIS, 2015[24]).

Skills shortages

An annual survey of employers of all sizes by Manpower (a human resources company) found that very few surveyed companies in Ireland encountered major difficulties in recruiting personnel during the height of the global financial crisis period. While close to one in three firms reported difficulties filling jobs in 2006, this share dropped to 2% in 2012. As the economy, and the labour market, recovered, the proportion of companies with recruitment difficulties again started to increase to 20% in 2016 and 18% in 2018 (see Figure 3.10).

Figure 3.10. Talent shortages in Ireland, 2006-18

The number of surveyed enterprises that report having difficulties filling jobs, as a percentage



Note: 2017 data are not available.
Source: ManpowerGroup 2018 Talent Shortage Survey.

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Although these percentages are still low by international comparisons, labour and skills shortages are very likely to intensify as the Irish economy nears full employment. The ability to attract and retain talented individuals increasingly represents a key challenge. This holds especially true for SMEs that compete for talent with larger and multinational companies, as for example evidenced from consultations with Enterprise Ireland clients. For example, a survey of the EOY Alumni community found that 57% of respondents faced difficulties in recruiting experienced hires over the past 12 months and 48% reported that they struggle to compete against large multinationals.

The 2018 National Skills Bulletin points to an increase in the number of mentions of difficult-to-fill (DTF) vacancies. The report states that "*although professional occupations (mostly IT programmers, but also for engineers, accountants, doctors etc.) account for the majority of all DTF mentions, there were also frequent mentions across all occupational groups, particularly for technician posts, multilingual sales and customer care*" (Mcnaboe et al., 2018).

The progressivity of the Irish personal taxation system and the high rates of marginal taxation of employee income at higher skills levels represents a competitive disadvantage compared to many other countries with similar skills shortages, however. Ireland therefore introduced the "Special Assignee Relief Programme" (SARP) in 2014, providing a tax relief for personnel earning at least EUR 75 000 as a base salary who have not been tax resident in Ireland for the 5 tax years preceding the year of arrival. This can ease recruitment of highly skilled workers from abroad. On the other hand, the scheme is limited to assignees or intra group transfers, and not applicable for Irish SMEs that do not have direct investments in other countries for that reason.

To support SMEs to attract highly skilled labour from abroad, the Irish Government could change the eligibility requirements of SARP to make it more relevant for smaller businesses, or introduce a tax relief scheme specific to SMEs recruiting non-nationals. Data from KMPG, an accounting firm, indicates that these schemes are fairly common in

Europe. Eligibility criteria could be tweaked to minimise deadweight losses and ensure a targeting of high-skilled foreign talent. For example, monthly earnings might have to surpass a minimum and/or the tax relief could be limited to individuals with certain identifiable skills, for example the scheme could be limited to the Highly Skilled Eligible Occupations List (HSEOL) in Ireland.

Infrastructure and energy

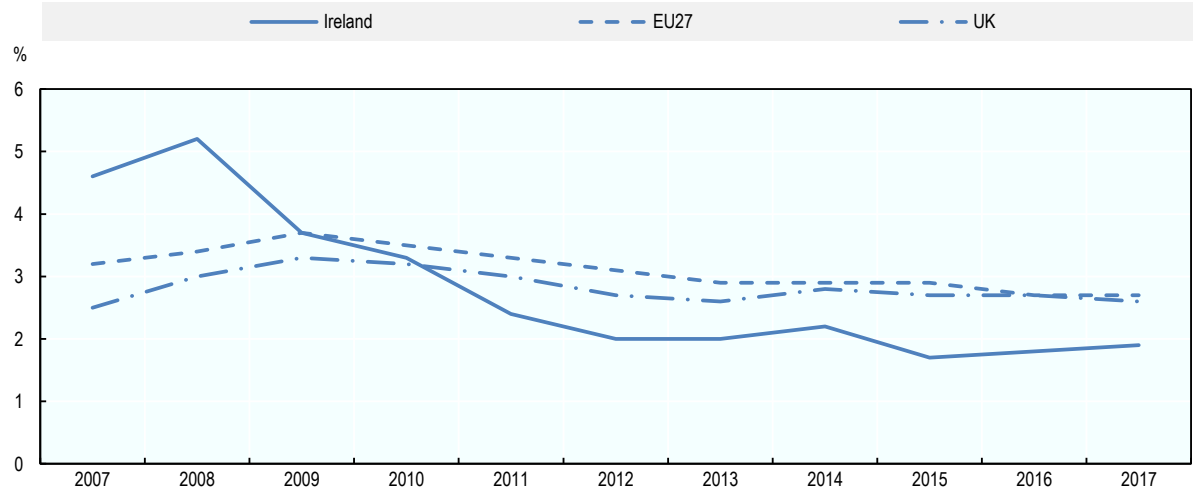
Physical infrastructure

Irish investments in infrastructure decreased severely during the financial crisis. Lower capital investments were primarily driven by large scale government expenditure cuts designed as belt-tightening measures. Prior to 2010, Ireland exceeded the EU-average in gross fixed capital formation but has lagged in this regard over the past 7-8 years. In 2017, Ireland invested only 1.9% of its GDP in fixed capital formation compared to the EU-28 average of 2.7% (see Figure 3.11). Infrastructure investment thus has not yet recovered following the crisis.

Boosting investments in physical infrastructure could yield positive effects on productivity and economic efficiency including for SMEs (Construction Industry Federation, 2017). For example, the World Economic Forum Executive Opinion Survey in 2016 indicated that the quality of Ireland's transport infrastructure was sub-par in comparison to that of other OECD countries posing a severe constraint on the efficiency of seven supply chains and local firms' abilities to maximise the value of participating in global value chains (OECD, 2018d). As another example, Dublin is one of the most traffic congested cities in Europe, while journey times in cities such as Cork and Limerick have increased in recent years as well, detracting from the attractiveness of these cities as an investment location (National Competitiveness Council, 2018a).

Figure 3.11. Government gross fixed capital formation (% of GDP)

Ireland compared with the United Kingdom and EU-27



Source: (European Commission, 2018

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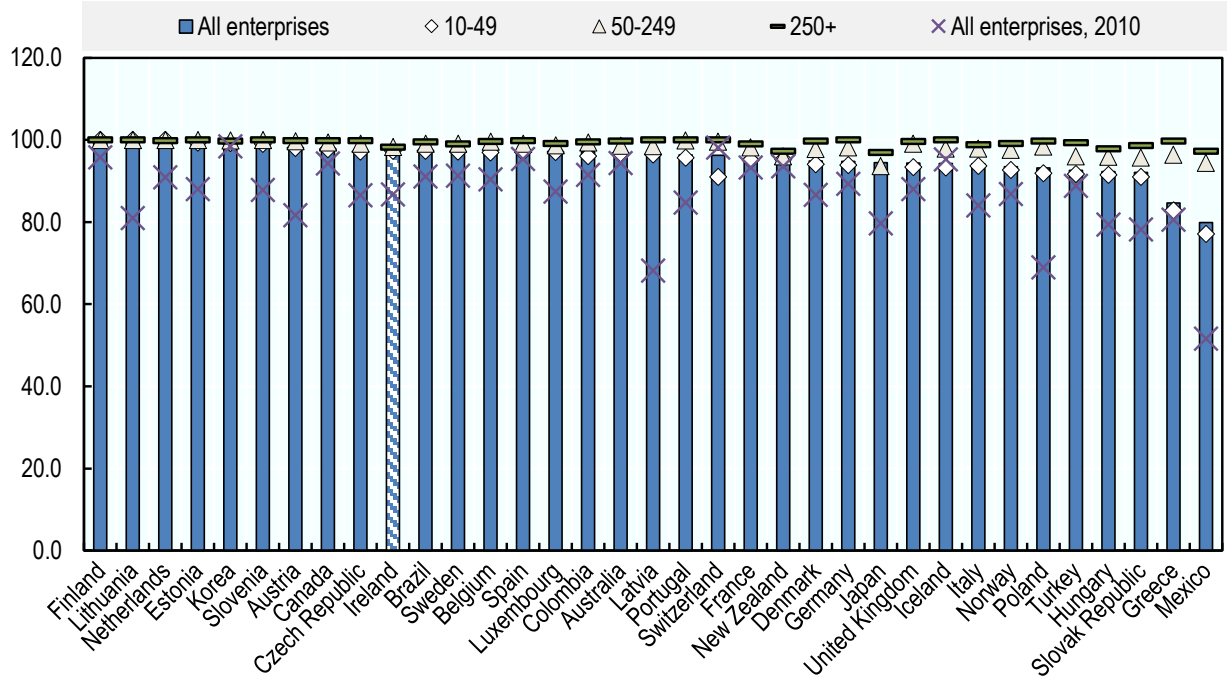
The National Development Plan 2018-27 recognises the importance of physical infrastructure for the competitiveness of Irish businesses and for economic development more generally. In order to meet Ireland's infrastructure and investment needs, the government has committed to invest an estimated EUR 116 billion over the 2018-27 period.

ICT infrastructure

Although Ireland ranks behind several top performing countries, it generally performs well with regards to business' access to broadband. Overall, in 2016, as shown in Figure 3.12, 97.5% of all enterprises in Ireland had access to broadband; with 97.4% of smaller enterprises (10-49%), 98.3% of medium enterprises (50-249 employees) and 98.2% of larger enterprises (250+ employees) benefitting from broadband connectivity(OECD, 2017b). Next Generation Access (NGA Broadband), which is an indicator of high-quality, upgraded ICT infrastructure, is above average in Ireland, reaching 81.6% of Irish households compared to the 75.9% average across the EU (European Commission, 2017).

Figure 3.12. Enterprises' broadband connectivity, by firm size, 2016

As a percentage of enterprises in each employment size class



Source: (OECD, 2017).

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Although broadband coverage is high, adoption rates have been sub-par. For example, in the second quarter of 2017, fixed broadband subscriptions were 29.44 per 100 people compared to the OECD average of 30.60 per 100 people. Although also slightly below the OECD average, mobile subscriptions have experienced tremendous growth in the last four years, helped by the government's commitment to increasing broadband access throughout the country (OECD, 2017c). Price developments may also have played a role. Comparative data illustrate that business mobile broadband is much cheaper in Ireland than in Denmark,

Germany, the Netherlands and Spain, and only slightly more expensive than in the United Kingdom, while the price for a business fixed broadband subscription is relatively high in comparison (National Competitiveness Council, 2018a). Moreover, while broadband connection is generally available, it sometimes represents a key hurdle for SMEs in remote and rural areas to adopt productivity-enhancing digital solutions (see Chapter 6).

Energy costs

In 2017, Ireland ranked among the top ten most expensive countries within the European Union in terms of electricity prices for business consumers at lower consumption bands, where SMEs are most prevalent. More specifically, Ireland ranked as the 7th most expensive country in terms of electricity for businesses consuming less than 20 MWh annually. As shown in Table 3.3, although mitigated to a certain extent by favourable tax policies, the basic cost of electricity in Ireland is high among EU countries, second only to Cyprus and Malta (Sustainable Energy Authority of Ireland, 2017).

High electricity costs in Ireland are primarily a function of external factors (namely Ireland's dependence on imported fuel) as well as a general lack of industry competition and unbundling due to significant government interests in large electricity firms including the ESB group and EirGrid. Between 2010 and 2015, electricity prices for Irish SMEs increased 20% and remained high, accounting for on average 9% of non-wage costs (National Competitiveness Council, 2016). Since 2015, electricity prices have decreased but continue to remain expensive compared to most other countries in the EU (National Competitiveness Council, 2017a). Reducing the cost of electricity would free up cash flow within SMEs for more productive/innovative uses and ultimately increase profit margins, incentivising more interest in entrepreneurship.

Table 3.3. Electricity prices and taxes for industrial consumers (1st semester 2017)

EUR per 100 kWh consumer

	Basic Price plus non-recoverable taxes	Basic Price	Non-recoverable taxes	Non-recoverable taxes as % of ex-VAT price
Sweden	6.48	6.43	0.05	0.8%
Finland	6.67	5.96	0.71	10.6%
Czech Republic	6.88	6.77	0.11	1.6%
Norway	7.11	6.05	1.06	14.9%
Hungary	7.40	6.65	0.75	10.1%
Bulgaria	7.63	7.73	0.10	1.3%
Romania	7.69	6.42	1.27	16.5%
Luxembourg	7.80	6.96	0.84	10.8%
Slovenia	7.84	6.19	1.65	21.0%
Denmark	8.16	5.98	2.18	26.7%
Netherlands	8.22	6.07	2.15	26.2%
Lithuania	8.37	6.96	1.41	16.8%
Estonia	8.70	7.21	1.49	17.1%
Croatia	8.74	8.21	0.53	6.1%
Poland	8.77	7.86	0.91	10.4%
Austria	9.30	6.21	3.09	33.2%
France	9.92	7.36	2.56	25.8%
Spain	10.61	10.10	0.51	4.8%
Greece	10.73	8.62	2.11	19.7%
Belgium	11.27	8.38	2.89	25.6%
Portugal	11.45	8.35	3.10	27.1%
Slovakia	11.48	7.71	3.77	32.8%
Latvia	11.79	9.11	2.68	22.7%
Ireland	**12.37**	**10.95**	**1.42**	**11.5%**
United Kingdom	12.68	9.33	3.35	26.4%
Malta	14.09	14.09	0.00	0.0%
Cyprus	14.14	12.75	1.39	9.8%
Italy	14.77	8.29	6.48	43.9%
Germany	15.19	7.61	7.58	49.9%
EU-28	**11.40**	**7.88**	**3.52**	**30.9%**

Note: Figures pertain to companies consuming between 500 and 2 000 MWh annually
Source: (Sustainable Energy Authority of Ireland, 2017)

Property prices

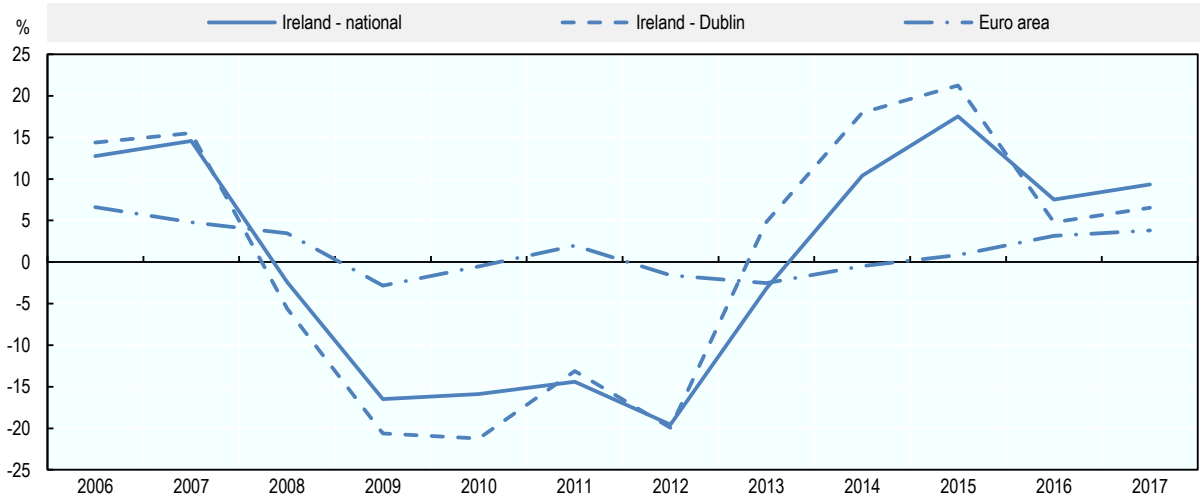
Following the recession between 2007 and 2013, housing prices in Ireland decreased by more than 50%. During the same period, new housing supply contracted by an estimated 90%. Since then, home prices in Ireland have risen dramatically by around 50% between 2013 and 2017, more than in any other OECD country. The recent surge in housing prices largely reflects the recovery from crisis-period prices. Taking 2000 as a benchmark year, housing prices in Ireland are not out of line with most other EU or OECD countries, although price developments have been very volatile. If prices continue to rise as in recent years, as seems likely, this could adversely affect productivity and economic growth, especially in urban centres (OECD, 2018d).

Although demand for housing has recovered following the crisis, housing supply has not recovered to the same extent, which has resulted in a housing shortage that has exacerbated

homelessness levels and inflated the real prices of homes. These effects have been strong in Dublin as shown in Figure 3.13. The shortage of homes renders housing unaffordable and discourages professionals or aspiring entrepreneurs from relocating to potentially high growth areas, like Dublin. As such, increasing the housing supply should be prioritised. The establishment of the Local Infrastructure Housing Activation Fund in 2017 is a good example of a long-term policy solution to address the housing shortage. Other initiatives should seek to streamline administrative processes related to construction and lower construction costs, which remain high in Ireland compared to other countries (OECD, 2018d).

Figure 3.13. Housing property prices, annual growth

Ireland, Dublin, Euro-area



Source: (OECD, 2018[3]).

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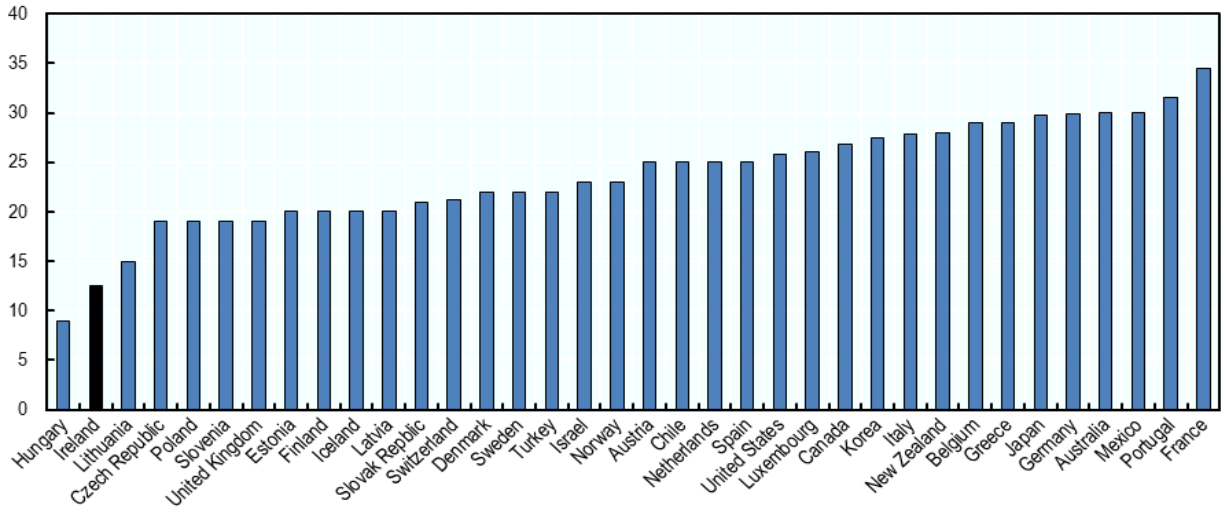
Taxation affecting SMEs and entrepreneurship

Corporate taxation

A primary feature of the Irish tax regime for businesses is the single 12.5% corporate tax rate for active trading companies. That is lower than in any other OECD country except Hungary (see Figure 3.14). An economic impact assessment indicates that this low base rate plays an important role in Ireland's success in attracting investments from multinational companies. A considerable increase in the statutory rate would likely reduce FDI significantly (Department of Finance, 2014).

Figure 3.14. Statutory corporate tax rates, 2018



Source: (OECD, 2018e).

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A discussion of other features of Ireland's tax regime has to take the very low corporate tax rate into account. Recommendations to decrease other taxes paid by businesses should therefore be made with caution, both keeping in mind equity considerations and because reducing business taxes further may have relatively small impacts on business decisions.

Personal income tax

Personal income taxes are highly progressive in Ireland

Ireland has the most progressive personal income tax of all OECD member states bar Israel when measuring progressivity by comparing the tax due by a person on 167% of the average wage with the tax payable at 67% of the average wage (www.taxinstitute.ie, 2016). The top personal income tax (PIT) tax rate in Ireland stands at 22.5% for employees earning EUR 18 000 and 28.75% for employees earning EUR 25 000 on an annual basis. The top tax rate jumps to a level of 48.75 at an income of EUR 50 000, which is just below the average industrial earnings in Ireland.

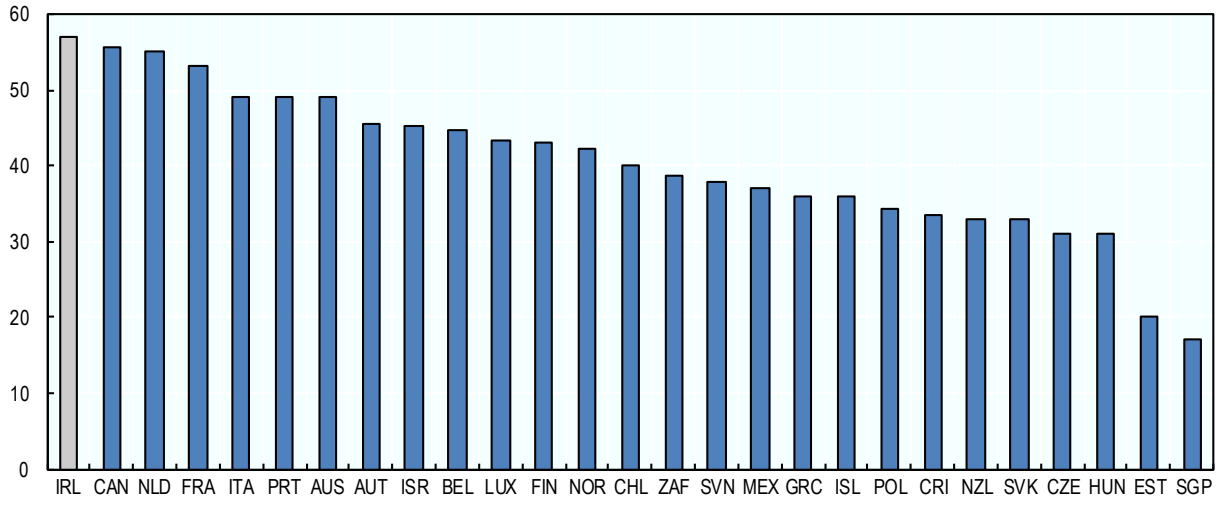
Income taxes are almost zero in Ireland for very low incomes and Irish income tax base is relatively narrow in an international context, exempting a relatively large proportion of earnings from tax liability. However, marginal tax rates jump to high levels at relatively low wages by international comparison. The very high marginal income tax rate at a relatively low point in the income distribution marks the country as an outlier within the EU and OECD (O'connor, Hynes and Haugh, 2016), (McQuade, Riscado and Santacroce, 2017). In addition, employees pay the so-called Universal Social Charge (USC), an individualised tax charged on gross income topping at 8% at a wage of EUR 70 044, which has a very broad tax base, and a social security tax (PRSI), at 4% for most employees. Overall, combined taxation rates for individuals are 28.5% for earnings above EUR 30 000, 48.5% for incomes above EUR 50 000 and 52% for incomes above EUR 70 044.

This progressivity and prevalence of exemptions serves a purpose. In 2013, the Gini coefficient, a common aggregate measure of income inequality[5], stood at 0.58 before taxes

and transfers, and fell to 0.31 after taxes and transfers are included. This is the largest reduction between Gini coefficients before and after taxes and transfers among OECD countries, reflecting the redistributive nature of the Irish tax and transfer system (OECD, 2017d).

The high marginal income tax rates kicking in at relatively modest wages, could act as a disincentive to individuals to invest in human capital or set up and expand a business, however. A related issue is that Ireland has the highest combined top statutory tax rate on dividends among 25 OECD countries for which data are available, largely because of its personal tax regime (as dividends are typically taxed first as corporate income and then taxed again as personal income), which likely holds back corporate investments and economic growth (Dackehag and Hansson, n.d.[4]) (Alstadsæter, Jacob and Michaely, 2017[5]). Figure 3.15 illustrates.

Figure 3.15. Combined top statutory rates on dividends, 1 July 2016 (%)



Note: The unweighted mean includes the tax rate on new equity in Italy and the tax rate on new equity in Turkey and does not include the tax rates on existing equity. If the combined tax rate on existing equity in Italy and in Turkey were used instead of new equity, the unweighted average combined rate would be 41.6%.
Source: : (Harding and Marten, 2018$_a$).

StatLink http://dx.doi.org/10.1787/888934005112

A simulation by the Department of Finance and the OECD suggests that the current tax system indeed represents a drag on economic growth, and that a shift from income taxes to property taxes would boost growth and employment. In addition, this reform could be achieved in a budget-neutral manner without undermining the income distribution (O'connor, Hynes and Haugh, 2016). The Irish Government could therefore consider lowering the marginal income tax rate, especially for mid-income earners.

In addition, Ireland could consider specific measures to attract foreign talent, in light of increasing skills shortages and its current income tax regime. Ireland's Special Assignee Relief Programme (SARP) allows a discounted income tax rate for certain talent attracted from outside Ireland. However, SARP is only available for employees who have already previously worked for the hiring employer for a minimum period of 6 months in another country. This condition renders most SMEs, which typically do not employ personnel outside of Ireland, ineligible for the relief.

Standard capital gains tax

At 33%, Irish companies pay a high shareholder tax rate. Overall taxes payable on capital gains on long-held shares at the corporate and the personal levels total 41.4% in Ireland, higher than the OECD mean of 35.4% (in July 2016), despite the low income tax rate in Ireland (Harding and Marten, 2018a). This may be a disincentive to investment in enterprises.

There are exceptions from the full capital gains tax (CGT) in Ireland, especially for small enterprises. The "revised entrepreneur relief" lowers the rate to 10%. In order to be eligible, the beneficiary must hold at least 5% of the company's shares, must have held them for three out of the five years immediately before disposal and must have worked as a "full-time" director or employee in the business, i.e. spent at least 50% of his/her time working for the company, continuously for three out of the past five years (www.taxinstitute.ie, 2016). The revised entrepreneur relief tends to favour outright sales of businesses, rather than facilitating entrepreneurs to dispose of a part of their holding (through share buyback for instance) without a high tax cost, which would then allow the entrepreneur to reap some financial reward from their investment mid cycle while staying with the business.

Importantly, the aim of the scheme is to encourage owners and entrepreneurs, not third-party investors such as business angels who cannot benefit from the relief, in contrast to a similar relief scheme in the United Kingdom, for example. On the other hand, a Section 626B exemption from CGT does facilitate certain holding companies to dispose of trading companies in a tax efficient manner, which can assist entrepreneurs to reinvest the proceeds of the sale of shares in companies.

Adjusting the revised entrepreneur relief to facilitate business angel investment could have a positive impact on productivity, given the well-documented benefits of angel investing on investee companies and on the general business population through potential spill-over effects (OECD, 2016b). It seems especially relevant in the Irish context, given its strong reliance on straight debt for its external finance options, and the relatively low take-up of external equity by SMEs. More activity from outside investors would also, at least to some extent address the so-called investment gap (Lawless, O'Toole and Slaymaker, 2018).

Compliance costs

Ireland ranks 4th worldwide on the annual the "Paying taxes" indicator by the World Bank. A "representative" Irish business has to make 9 payments per year for tax-related purposes and spend 88 hours to be tax-compliant on average. This compared favourably with the OECD average, which stands at 10.9 payments and 160.7 hours respectively (World Bank, 2019).

SME access to finance

Bank credit

Access to bank credit has not fully recovered from the financial crisis

Irish banks were hit hard by the financial crisis, the government injecting fresh capital of EUR 64 billion (around 40% of GDP) to stabilise the sector between 2008 and 2010. The financial turmoil had a marked impact on SME lending, which declined by 23% between March 2010 and March 2015.

Although the situation has markedly improved, the financial crisis still leaves a mark on the SME financing landscape. For instance, the banking sector is still grappling with a high share of non-performing loans (NPLs). Although NPLs have come down significantly since 2013 when they were among the highest in the euro zone area, they still remain high, especially for loans to SMEs. While in 2014, more than half of SME loans within Irish retail banks were non-performing, this proportion lowered to around one-fourth in the third quarter of 2017 (Donnery et al., 2018). The share of SME lending in total business loans also fell from 87% in 2010 to 67% in 2016; and the interest rate spread between SMEs and large firms increased from 1.02 percentage points in 2010 to 2.47 percentage points in 2016 (OECD, 2018d).

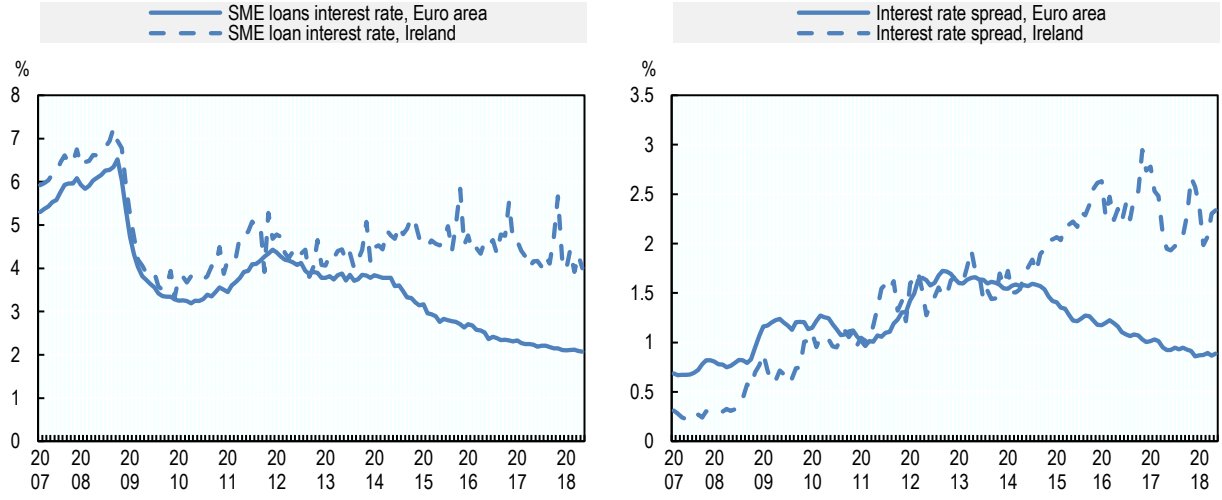
Three large banks dominate the SME market in Ireland, accounting for around 95% of the market. Data from the Central Bank of Ireland shows that the non-retail SME lending market has become more concentrated since 2010, in part because some financial institutions exited from the Irish SME market in the aftermath of the financial crisis and have not returned since (Central Bank of Ireland, 2018).

Irish SMEs pay high interest rates.

Interest rates in Ireland remain well above the euro zone average. As Figure 3.16 illustrates, the average interest charged to SMEs was broadly in line with the euro zone average over the 2007-14 period, but then diverged. In most euro zone countries, SME interest rates declined considerably since 2014 to an average of 2.07% in May 2018. In Ireland, by contrast, interest rates do not show a clear pattern of change between 2014 and Q1 2018 and in May 2018 stood at 4%. The interest rate spread between loans charged to large enterprises and the SMEs also widened in Ireland since 2014, in contrast to developments in most other euro zone countries. This suggests that banks consider SMEs as particularly costly and/or risky to service in Ireland.

Figure 3.16. Interest rates in Ireland and the euro zone average

SME interest rates and the interest rate spread between SMEs and large companies.



Note: SME loans interest rates refer to interest rates on bank loans to corporations of under EUR 1 million with floating rate and IRF up to three months. Interest rate spread refers to the difference between interest rates for SMEs and large businesses. Interest rates for large businesses refer to interest rates on bank loans to corporations of over EUR 1 million with floating rates and an IRF of up to three months.
Source: (ECB, 2018).

StatLink http://dx.doi.org/10.1787/888934005131

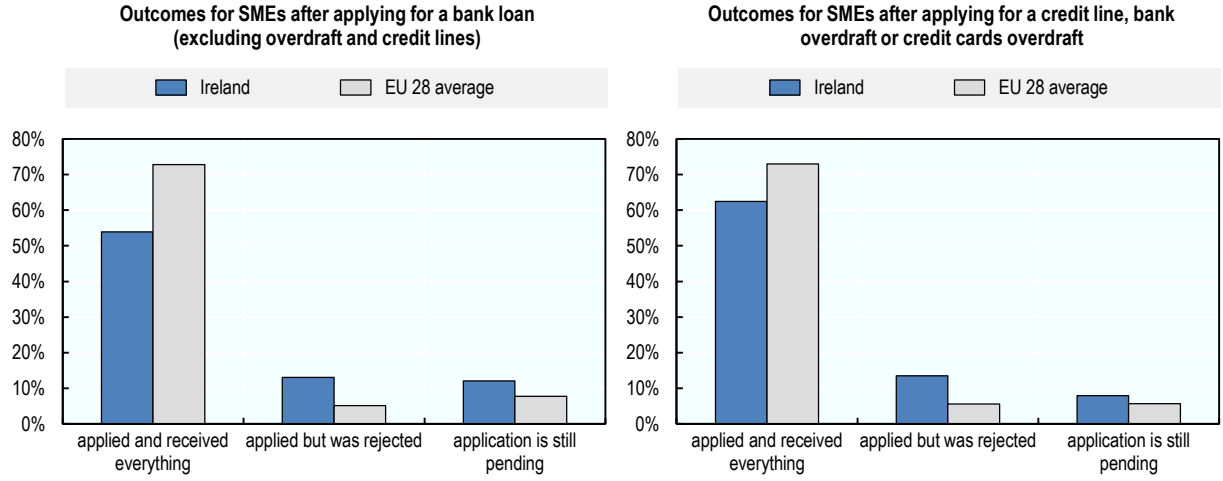
Demand for credit remains subdued

SMEs appear in general to be much more reluctant to take out loans than they were in the recent past. Half of all Irish SMEs did not hold any debt in the period from March to September 2017, twice as many as in September 2013. The number of Irish SMEs with debt levels higher than turnover decreased from 7.8% to 2.9% over the same period. Changing attitudes towards the attractiveness of bank debt, as well as increased cash reserves and low investment levels among SMEs that survived the financial crisis are likely explanations. Somewhat surprisingly, the data show that exporting SMEs take out less debt than their counterparts active only on the domestic market (McQuinn and McCann, 2017).

Survey data illustrate that loan credits are more often turned down in Ireland than in the EU 28 average, both for bank loans and for overdrafts or credit lines. A higher proportion is also pending in Ireland, suggesting that the decision time is higher (see Figure 3.17). A survey from the Irish SME Association (ISME) reveals a sharp uptick in credit refusals in Q2 2018, rising from 24% to 36%. The waiting time from decision to drawdown also increased from 6 to 8 weeks (ISME, 2018).

Figure 3.17. Loan requests are more often declined in Ireland than in most other EU 28 countries

Outcomes for credit applications, 2017



Source: (European Commission, Survey on the access to finance of enterprises (SAFE): Analytical Report 2017).

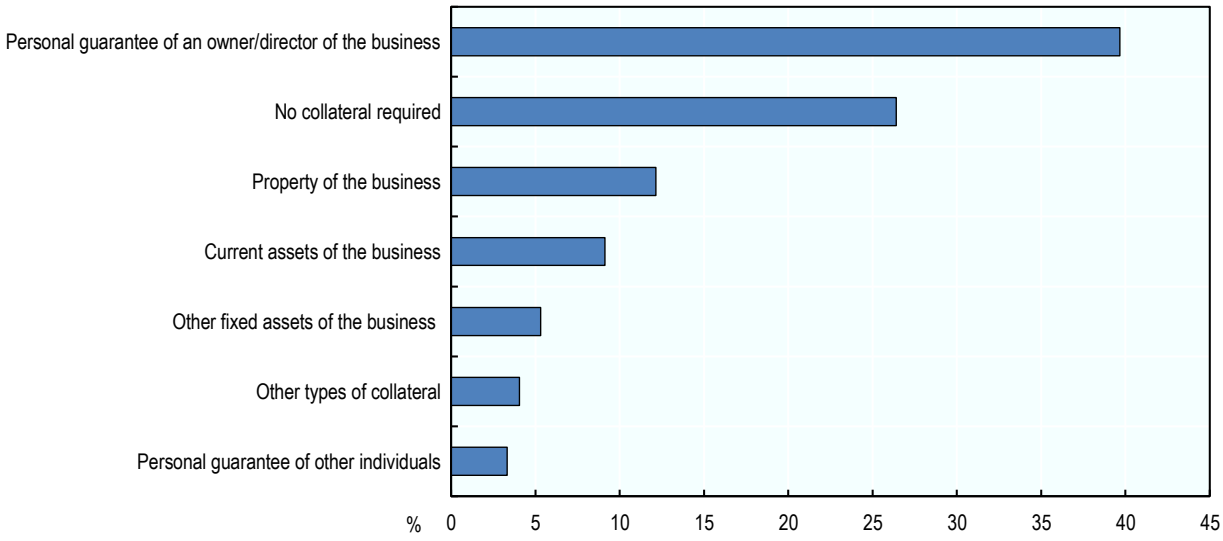
StatLink http://dx.doi.org/10.1787/888934004504

The demand for guarantees, especially personal guarantees (meaning that the business owner is personally liable in case of a default) also discourages Irish enterprises, especially smaller ones, from taking a bank loan. The widespread use of personal guarantees by banks could be detrimental to the creation and expansion of businesses, as it makes investment decisions particularly risky for the entrepreneur (Carroll, McCann and O'Toole, 2015).

In 2015, a study from the Central Bank of Ireland revealed that about one-third of all business loans were coupled with a personal guarantee over the 2012-14 period. The incidence of personal guarantees is negatively correlated with the size of the enterprise, its age and profitability. In addition, personal guarantees were more common for relatively large loans and for loans to innovative businesses (Carroll, McCann and O'Toole, 2015).

Research from the Central Statistics Office revealed that 73.6% of all bank finance applications required some form of collateral in 2014, the most recent data available. Of these, more than half (53.9%) required a personal guarantee from the business owner, while collateral in the form of a property of the business (at 16.5%) and other forms of collateral were much less common (see Figure 3.18).

Figure 3.18. Collateral requirements of SMEs applying for bank loans in Ireland, 2014



Source: CSO Statistical release, OECD calculations.

StatLink http://dx.doi.org/10.1787/888934005150

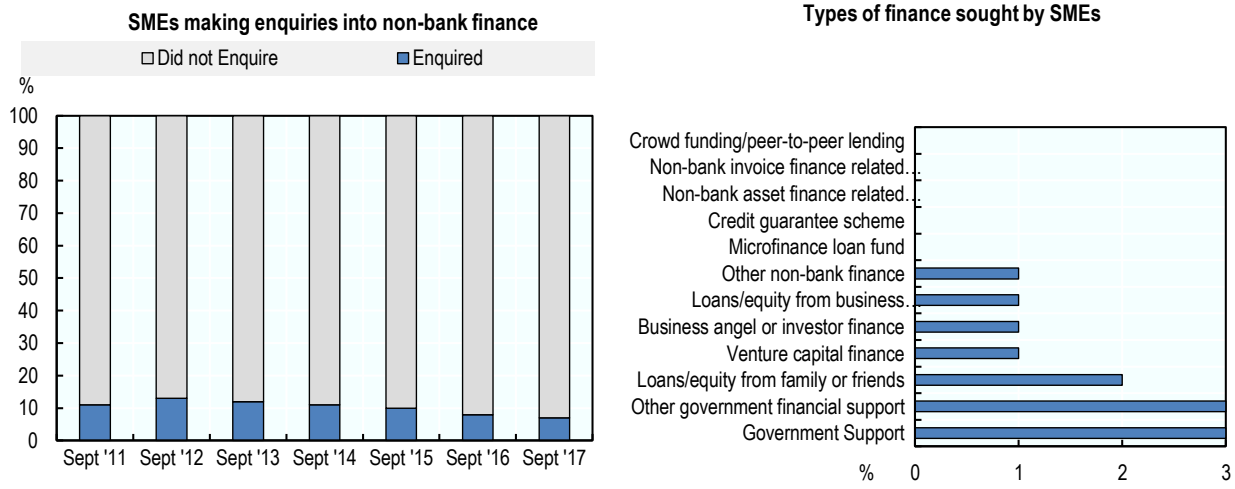
Because of a paucity of data, it is unclear how that proportion has developed in recent years, nor how that number compares with other countries. Nonetheless, there is strong anecdotal evidence from organisations representing SMEs that many of their members perceive demands from banks for personal guarantees as problematic and that this perception contributes to the strong reliance on self-financing.

Take-up of finance instruments other than straight debt

The use and availability of financing instruments other than straight debt are often poorly documented and hard to compare internationally. Nonetheless, there is some evidence that Irish SMEs are very dependent on bank financing and that they face a paucity of alternatives. In September 2017, 7% of surveyed SMEs made inquiries for non-bank finance in the previous 6 months. In 2013, this proportion stood at 13% and continuously declined afterward. Of the firms that made inquiries, most of them related to government support measures with very few SMEs seeking private sector equity (see Figure 3.19).

Interestingly, trade credit is used a lot more by Irish SMEs than by their counterparts in other European countries (up to 35% more). This may be interpreted as further evidence of the reluctance of Irish SMEs to borrow from banks, as trade finance and bank credit are typically considered as relatively close substitutes (O'Toole, Lawless and Lambert, 2015).

Figure 3.19. Inquiries for non-bank sources of finance in Ireland



Source: (Fitzpatrick Associates, 2018).

StatLink http://dx.doi.org/10.1787/888934005169

The strong dependence on bank finance and the apparent reluctance to make use of alternative finance instruments, especially from external equity providers, may constitute a weakness for several reasons. Research documents that a more balanced capital structure increases the likelihood of attracting more bank credit at favourable conditions, which would be particularly welcome in the Irish context. In addition, a more diversified use of finance instruments is associated with higher growth in employment and turnover (Brogi and Lagasio, 2016).

Financial acumen of entrepreneurs and business owners

As with managerial skills, recent systematic data on the financial capabilities are unavailable, but anecdotal evidence suggests that this is often lacking, for example as judged by government stakeholders who provide financial services. An indication of the potential need for a renewed effort to stimulate financial skills among entrepreneurs and business owners is the disappointing take-up of current programmes in this area such as provided by Skillnet, and the local employment offices.

The Irish Government has taken action in this area. In addition to the examples above, Funding For Growth, delivered by InterTradeIreland, aims to improve the investor readiness of its beneficiaries through a range of programmes aimed at both start up and established businesses. These include the delivery of funding advisory workshops, one-to-one equity clinics, business planning workshops, venture capital workshops and the annual InterTradeIreland venture capital conference. InterTradeIreland also runs the Seedcorn investor readiness competition and partly funds HBAN (Halo Business Angel Network) the all-island organisation responsible for the promotion of business angel investments. Nonetheless, Ireland has not adopted a national action plan to coordinate policy efforts. Portugal, another country that observed a marked deterioration in the access and conditions of bank credit following the financial crisis, and which, over the last years, has been observing high levels of household indebtedness when compared to disposable income and low levels of savings, initiated a national action plan for financial education with SMEs as one of its focus groups (see Box 3.3). At the same time, the offer of savings and loan

products in financial markets has become more diversified and complex, with alternatives that are increasingly more difficult to assess by individuals and families without adequate financial education. The major prospective goals to be achieved with the action plan are reducing asymmetries of information between the business community and the financial sector and promoting awareness of risks and opportunities of diverse financing instruments. A similar coordinated approach could be considered in Ireland.

Box 3.3. The Portuguese National Action Plan for Financial Education

The Portuguese National Action Plan for Financial Education defines the medium and long-term financial education goals, as well as the main areas of action to be developed for different target beneficiaries. The plan aims to raise financial knowledge at large among the population, and entrepreneurs and managers of small businesses represent one of the focus groups. It is a long term commitment, rolled out in 2011 and revised in 2016. A large group of stakeholders are involved in the Plan, including ministries, financial sector and consumer associations, trade unions, business associations and universities.

In 2015, the financial supervisors (the Central Bank of Portugal, the Insurance and Pension Funds Supervisory Authority and CMVM) and the Ministry of Economy, through the Portuguese Agency for Competitiveness and Innovation (IAPMEI), signed a cooperation protocol for the promotion of financial education of entrepreneurs and business owners and managers of micro, small and medium-sized enterprises in Portugal. One year later, the Portuguese Agency for Tourism (TP) joined the protocol.

Following the signature of this protocol, the "Core Competencies for Financial Training" was drawn up in November 2016 for the target group of entrepreneurs and business owners, identifying 10 different topics related to financial education and the information that training programmes should cover on these topics, which translated into 9 distinct training sessions. The document endeavours to provide guidelines to all actors active in the country that provide support in this area, thereby harmonising programmes according to good practice. It was developed following a public consultation and was finetuned during a series of pilot training actions.

The Core Competencies support the trainers in planning and implementing training actions on financial topics in a business context through the identification of relevant course contents and putting forward guidance for to ensure consistency and high quality standards in training activities. However, the teaching methodology of the training programme, as well as its planning and adaptation to specific circumstances, is the responsibility of each trainer or group of trainers.

In 2017, the financial supervisors, IAPMEI and TP hosted training courses designed for trainers with the purpose of setting up a pool of trainers to support the implementation of the Core Competencies. Each course ran for a minimum of 32 hours and a maximum of 51 hours of classroom training. Alongside general training, covering such subjects as pedagogical communication, the economic and financial system, the setting up and development of enterprises, and accounting and financial planning, the courses included modules on corporate banking products and services, capital market financing and risk management, insurance and pension funds. To complete their training, trainers had to carry out an on-the-job training session with managers of SMEs.

From a total of 34 individuals participating in these courses, most of them working with business associations, universities and polytechnic institutes, 10 received a certificate

recognising their inclusion in the pool as regular trainers of IAPMEI and TP. The pool of trainers began its activity in 2018.

During the year 2018, the pool of trainers was responsible for 24 training sessions on the above-mentioned subjects directed to the targeted audience of entrepreneurs and SME managers. These sessions were held in different parts of the country, mainly in the premises of local business associations, town councils and business, tourism and hotel schools. They were attended by a total of 382 trainees, 94% of whom rated the sessions as good or very good. The most common subjects covered included business financing, business planning and accounting.

At least 28 training courses are foreseen in 2019 to enable IAPMEI and TP to increase the number of trainers in the pool. They also aim to improve and update the contents of each training course based on their experiences and feedback received.

In addition, IAPMEI and TP will run an annual conference to raise public awareness of the importance of financial education in the management of SMEs.

Source: Written correspondence with experts from CMVM.

It is important to note that the ambition of the Portuguese action plan is not only to boost financial knowledge among business owners, but also to restore confidence and trust between the business community and the financial sector, which was considerably damaged in the aftermath of the financial crisis, an experience which broadly mirrored developments in Ireland.

Chapter 5 of this publication describes the main public initiatives to ease SMEs' access to finance in Ireland, and provides further recommendations for policy in this area.

Trade and foreign direct investments

As Chapter 2 of this publication illustrates, Ireland's exports are strongly concentrated, with the export share of the top five firms being far greater than in most other EU 28 countries. There is also a low incidence of exporting SMEs. The strong reliance on this small group of leading enterprises has been seen as a vulnerability of the Irish economy (National Competitiveness Council, 2018b). Chapter 5 of this publication provides more information on government initiatives to support SME internationalisation.

Ireland is also a large net recipient of foreign direct investments (FDI), and this is typically considered a major driver of economic development. An annual ranking from IBM, published in 2017, lists Ireland as the top country in the world in attracting high-value projects from abroad, followed by Denmark and Singapore. It was the sixth consecutive year that Ireland came on top of this ranking ranking (IBM Institute for Business Value, 2017).

Ireland has been particularly successful in attracting FDI from the United States; at the end of 2014, the stock of US FDI to Ireland amounted to USD 311 billion, more than the total of US FDI flowing to China, Brazil, India, Russia and South Africa (the so-called BRICS) combined (ICS, 2017). Data from IDA Ireland[6], the dedicated promotion agency responsible for attracting FDI, also illustrates the importance of the United States as a source of FDI. More than half of all companies supported by IDA Ireland are US-based and they create far more jobs than FDI activities from all other countries combined (see Table 3.4).

Table 3.4. Origin of IDA Ireland Supported Companies, 2017

	Number of companies	Total Employment
United States	764	152 146
Germany	94	13 678
United Kingdom	96	5 776
France	59	7 091
Rest of Europe	183	16 551
Rest of the World	188	15 201
Total	1 384	210 443

Source: : (IDA Ireland, 2017).

The strong reliance on the United States as a source of FDI potentially poses challenges to the Irish economy going forward in light of increasing trade tensions and a recent reform to the American tax system which led to a very sharp contraction of FDI outflows from the United States in Q1 2018 (OECD, 2018).

Another consideration for Irish policy makers are the limited apparent linkages and productivity spillovers between multinational firms based in Ireland and indigenous Irish SMEs. This topic is further explored in Chapter 7 of this publication.

Policy recommendations

Box 3.4. Key recommendations on the business environment for SMEs and entrepreneurship

- Adopt best practices to improve stakeholder engagement in regulatory development on a systematic basis across government departments.
- Evaluate the impact of the promotional campaign to stimulate apprenticeships, especially with an eye to its impact on small employers.
- Develop an action plan for financial education with an emphasis on SME business owners and entrepreneurs and strengthen the evidence base on the managerial and financial skills of small business owners and managers.
- Broaden the tax relief of the statutory capital gains tax (revised entrepreneur relief) by making third party equity investors eligible.
- Consider lowering the marginal tax rate on personal income for medium earners, potentially while broadening the tax base to limit the budgetary implications.
- Consider the introduction of a tax relief for non-domiciled new hires by Irish SMEs who have not been tax resident previously, potentially through amendments to SARP relief. Set tight eligibility criteria so as to alleviate specific skills shortages.
- Support FDI-SME linkages by ensuring that export promotion initiatives extend to helping SMEs join FDI value chains, supporting SME compliance with industry standards, and involving FDI in local enterprise-led networks for innovation and skills development.

Notes

[1] The information is sourced from (Mühlemann, 2016) and (Kuczera, 2017).

[2] In Australia, there are a number of tax incentives available for employers that provide apprenticeships. Incentive payments are made when Australian apprentices commence, recommence and complete their training, with higher payments for specific targeted groups such as "mature aged employees" and people with a disabilities. The incentives are subject to eligibility criteria, waiting periods and time limits. More information can be found here: https://www.australianapprenticeships.gov.au/programs/incentives.

In France, enterprises receive a tax credit when they employ apprentices for at least one month, worth EUR 1 600 per apprentice per year and EUR 2 200 for apprentices with a disability or low qualification level. In addition, SMEs offering apprenticeships are exempt from employer social contributions.

(SMEs) offering apprenticeships are fully exempted from employer social contributions.

[3] In Australia, for instance, apprenticeships that lead to an occupation from the "National Skills Needs List" are eligible for additional subsidies. This aims to address skills shortages for the regional economy, covering all regions within the eight states of the country (Kuczera, 2017).

[4] The Springboard+ is co-funded by the government of Ireland and the European Social Fund and provides upskilling in higher education through free courses at certificate, degree and masters level. The EXPLORE programme especially targets persons over 35 years of age in manufacturing employment by provide learning opportunities outside of the traditional classroom.

[5] The Gini coefficient ranges from 0 to 1, with higher numbers representing greater inequality of incomes across individuals.

[6] IDA Ireland has articulated a strategy to increase FDI flows to Ireland that is currently being implemented, "Winning: Foreign Direct Investment 2015-2019."

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Chapter 4. The strategic framework and delivery system for SME and entrepreneurship policy in Ireland

This chapter assesses the strategic framework for SME and entrepreneurship policy in Ireland, including providing leadership for the policy area, consultation with stakeholders, and arrangements for co-ordinating policies and programmes across central government. It further examines how national SME and entrepreneurship programme resources are distributed across lines of policy action and types of SMEs and entrepreneurs as part of a policy portfolio analysis. The system of delivery for national SME and entrepreneurship support programmes is also assessed as well as the mechanisms for providing access to SMEs and entrepreneurs to these programmes. The chapter concludes with recommendations for improving the policy framework and programme delivery.

The SME and entrepreneurship policy framework

SMEs and entrepreneurship policy documents

The government's new Project Ireland 2040 and the National Development Plan 2018-27 both place priority on developing the local enterprise economy. This includes a policy line for "A Strong Economy supported by Enterprise, Skills and Innovation", with a proposed budget allocation of EUR 9.4 billion. The policy line includes research and innovation initiatives specifically targeting SMEs; cluster projects geared to fostering collaboration between SMEs, multinational corporations and higher education institutions; supports geared to fostering the productivity and innovation transformation of SMEs; initiatives to assist SMEs in preparing for Brexit; and initiatives for accelerating levels of entrepreneurship and start-up performance and success, including through establishment of eHubs for entrepreneurship and start-ups in every county[1] (DPER, 2018).

Enterprise 2025 Renewed (DBEI, 2018a) is Ireland's national enterprise policy and the key document laying out the enterprise policy framework. It takes a whole-of-enterprise approach, covering all sectors of the economy and including enterprises of all sizes, origin and stages of development. Therefore, it cannot be assumed that the enterprise policy is synonymous with or tantamount to SME and entrepreneurship policy. Although there are specific policy statements targeting SME and entrepreneurship development, mostly related to fostering start-ups and promoting productivity improvements and scaling of SMEs, these references are limited and scattered across the major policy lines.

Other key national policy documents that include references to SMEs and entrepreneurship, and in some cases propose actions specifically applying to them, are Future Jobs Ireland, which is a series of annual reports setting out policy ambitions across key pillars of government action, including Improving SME Productivity, and Action Plan for Jobs 2018 (Government of Ireland, 2017), which also sets a range of key initiatives, including for Driving Enterprise Growth. Policies in favour of SME and entrepreneurship development are also integrated in the policy and strategy documents of the ministry-level departments. This includes, for example, Innovation 2020; the National Skills Strategy 2025 (DES, 2016); the National Strategy for Higher Education to 2030 (DES, 2011), the National Policy Statement on Entrepreneurship in Ireland (DJEI, 2014) due to be updated in 2019; and the National Digital Strategy for Ireland (DCENR, 2013).

However, there is not currently a distinct document laying out the full SME and entrepreneurship policy framework and the full package of SME and entrepreneurship policy across government is not immediately visible. Rather, it is necessary to derive the policy framework from strategic directions outlined across the various main national policy documents and statements.

Table 4.1 outlines the major national policy documents, indicating the more explicit intersections with SME and entrepreneurship policies.

Figure 4.1. Intersection of national policy statements

Entrepreneurship and SME-focused policy themes	National policy documents and specific policy references to entrepreneurship, start-ups and SMEs
	Enterprise 2025 and Enterprise 2025 Renewed
Business environment	Strengthen aspects of the business environment to support Irish SMEs. Enhance the relative competitiveness of the taxation system to support entrepreneurship, start-ups and the competitiveness of Irish SMEs. (Department of Finance)

Entrepreneurship education	References the policy statements from the National Policy Statement on Entrepreneurship in Ireland.
SME skills needs	Workforce skills are noted as very important, but no specific reference to SMEs.
Start-up and SME financing	Increase the availability of access to finance for SMEs; create a comprehensive and competitive funding environment to support entrepreneurship and the growth ambitions of Irish enterprises. Stimulate risk equity investment in start-ups and scaling enterprises. Evaluate the Seed & Venture Capital Scheme to ensure a suitable suite of funding options continues to be available to support Irish-owned start-ups and scaling enterprises. (DBEI). Raise the finance capability of SMEs. Strengthen financial management, strategic planning and awareness of alternative types of financing through availability to all micro-enterprises and SMEs through the Business Advisory Hub. Support the working capital financing of Irish SMEs through commercial lenders through the Brexit Investment Loan Scheme.
SME productivity enhancement	Optimise the contribution from entrepreneurship from Irish-owned enterprises by supporting a more aggressive scaling agenda, from locally trading entities by accelerating productivity growth and competitiveness. Stimulate take-up of productivity, competitiveness and innovation initiatives by micro and small enterprises trading on the local market across all regions, including Lean programmes, Innovation Vouchers, Trading Online Vouchers, management development, training and mentoring. (LEOs).
Start-up and SME innovation	Strengthen the role that HEIs will play within their regions for a strengthened and richer industry liaison system to stimulate greater engagement with enterprise (and SMEs in particular) across a broad agenda including innovation, knowledge sharing and dissemination, peer networking and entrepreneurship with the aim of accelerating enterprise growth. Strengthen the absorptive capacity of SMEs. (DES, DBEI, HEA, Enterprise Ireland, IDA).
SME procurement	Use Ireland's estimated EUR 8.5 billion procurement budget to stimulate innovation in SMEs to develop solutions to meet the needs of the public sector including through rolling-out further Small Business Innovation Research (SBIR) initiatives.
Other	Create awareness of the win-win benefits of Corporate Social Responsibility (CSR) to SMEs for attracting talent, market differentiation, sustainable development, and enhanced productivity. (DBEI, Enterprise Ireland, LEOs).
Annual Action Plans for Jobs (the most recent is 2018) and Future Jobs Ireland (the most recent is 2019)	
Business environment	Provide start-up entrepreneurs and SMEs with tax relief measures.
SME skills needs	Develop a new Management Development offering to engage SME owners and managers in the alignment of skills supply with enterprise needs. (Skillnet Ireland/DES).
Start-up and SME financing	Support SMEs in accessing the finance need to grow their businesses and address the challenges caused by Brexit.
SME productivity enhancement	Strategic goal to drive productivity growth across all sectors of the economy with policy statements regarding the importance of boosting productivity and competitiveness of Ireland's enterprise base through skills and management development, digital adoption, etc., but does not specifically target SMEs per se.
Start-up and SME innovation	Provide and promote enhanced supports for companies to engage in and increase research, development and innovation (RD&I) through the Horizon 2020 SME instrument. Design an innovation programme to encourage collaboration between the design sector and small businesses. Ensure small businesses can avail of the Knowledge Development Box (KDB) to enhance the standard of Irish patents. Launch a TechStart/GradStart programme for SMEs.
SME procurement	Roll out initiatives to support SME engagement in public procurement; develop a systematic approach to innovative public procurement.
Innovation 2020	
Entrepreneurship education	Implement the National Framework for Doctoral Education by incorporating modules on entrepreneurship, intellectual property (IP) and management, etc. (Higher Education Authority).
Start-up and SME financing	Implement "Finance for Growth" actions in Enterprise 2025 to ensure availability of range of financial services to meet the needs of innovative enterprises.
SME productivity enhancement	Implement the Design Strategy to encourage more start-ups and SMEs to use design as a competitive differentiation and to develop the design sector in Ireland. (DBEI).
Start-up and SME innovation	Support indigenous SMEs to engage in research and innovation. Enhance innovation and entrepreneurship related skills by enabling a structured progression of early-career stage researchers to careers in entrepreneurship. (Science Foundation Ireland, Enterprise Ireland). Increase collaboration between firms and the public research system, tailoring support for SMEs. Support the National Digital Research Centre to create high-impact ventures out of opportunities in the research bases and accelerate business model innovations. (DCCAE).

	Generate 16 High Potential Start-ups (HSPUs) from spin-outs of commercialisation of publicly-funded research. Seek opportunities for Irish SMEs to participate in the EU SME Instrument and Fast Track Innovation Pilot.
National Skills Strategy 2025	
Entrepreneurship education	Complete an Entrepreneurship Education Policy Statement and issue guidelines to schools to support the delivery of entrepreneurial education and experiential learning opportunities. Incorporate modules on entrepreneurship, intellectual property management and other generic skills in the National Framework for Doctoral Education (in context of Innovation 2020).
SME skills needs	Promote life-long learning among SME employers and employees, and to the self-employed. Enhance the capacity of SMEs through skill development to make effective use of these skills to improve competitiveness and productivity. Engage SMEs in providing work placement opportunities for students, exposing SMEs to prospective employees and gaining from potentially innovative and entrepreneurial ideas.
Start-up and SME innovation	Roll out the Regional SME Innovation Forum nationally to link SMEs with their local higher education institutions (Enterprise Ireland). Pilot "makerspace", "Fab lab" and other innovative summer camps to promote entrepreneurial thinking, STEM and design skills among second level students.
National Strategy for Higher Education to 2020	
Entrepreneurship education	Place more emphasis on creativity and entrepreneurship in undergraduate curriculum (as a generic skill).
Start-up and SME innovation	Place a particular focus of the amalgamated institutes of technology on supporting local and regional SMEs (as contribution to meeting the national research agenda).
National Digital Strategy for Ireland	
SME productivity enhancement	Ensure SMEs optimally embrace digital technology and ultimately enhance enterprise digital competitiveness.
National Policy Statement on Entrepreneurship in Ireland	
Business environment	Create a business environment where it is easy to start up and grow a new business in terms of Company Law; Tax; Regulation; licensing and where it is one of the most attractive environments in Europe.
Entrepreneurship education	Develop guidance for schools to enhance enterprise in education. (DES) Examine the Entrepreneurship in the Schools activity in each LEO area and develop strategies to increase participation and impact. (LEOs, DBEI) Map relevant entrepreneurship activities in higher education institutions as part of the overall strategy for higher education engagement with enterprise and embed entrepreneurship support within the HEI System Performance Framework. (DES) Encourage higher education to include entrepreneurial education as an important part of the national framework for enterprise engagement. (HEA)

Source: The relevant national policy documents.

Targets for SME and entrepreneurship policy

Targets in Enterprise 2025 are set for start-ups as per the National Policy Statement on Entrepreneurship and replicated in other policy documents (e.g. increase number of start-ups by 25%; increase the first 5-year survival rate of start-ups by 25%; improve the capacity of start-ups to grow to scale by 25%), but targets specific to SMEs apply only to:

- An increase in the percentage of all SMEs introducing product or process innovations from 45% to 50% by 2020 (Enterprise 2025 Renewed);
- An increase the percentage of innovative SMEs engaged in technological collaboration with others as a percentage of all SMEs from 31% to 45% by 2020 (Enterprise 2025 Renewed);
- An increase the number of small businesses trading online (National Digital Strategy).

Some of these targets are further taken up in Future Jobs Ireland, notably a target for the percentage of SMEs introducing product or process innovations is set at 55% for 2025, and a target for the share of SMEs with marketing or organisational innovations has been set at 60%.

Some further SME-specific targets are also set for Enterprise Ireland-assisted firms[2], although this does not cover development of the overall SME population in Ireland.

Overall, specific objectives and targets for the participation of SMEs and new enterprises in the implementation of policy measures are not identified in most of the different national policy documents. When the cohort of SMEs and entrepreneurs is embedded in broader policy statements covering all enterprises and no specific targets are set for their inclusion in policy actions, or requirements to report on the share of SMEs and entrepreneurs among beneficiaries, it is difficult to measure and assess the impact of the national policy as a whole on the development and performance of SMEs and entrepreneurship per se.

The case for a more coherent policy approach for SME policy

The Small Firms Association is calling for the government to design a small business strategy for Ireland that will provide coherence in the policy approach and align all policies and schemes, and thus address the lack of clarity regarding the SME and entrepreneurship policy components in existing policy documents. The rationale for their position is that while multinational firms are thriving, the small business sector is not performing at its optimal level in many areas, including the rate of start-ups, scaling, survival, productivity and exporting, and is deserving of more focused policy support (SFA, 2018).

Also, in June 2018, the Seanad Public Consultation Committee issued a notice for a public consultation on how to improve the promotion, enhancement and success of SMEs, requesting submissions from interested stakeholders on the topic. The follow-up consultations with SMEs and SME stakeholder organisations took place in November 2018. The goal of the consultation process was to gather views leading to the development of an integrated national strategy proposal document for fostering the growth and sustainability of indigenous Irish SMEs and report to ministerial level.[3]

In the meantime, the Irish Government could address the lack of an integrated SME and entrepreneurship policy framework document by pulling together the threads of SME and entrepreneurship-specific and targeted policies embedded in the various national level policy framework documents and presenting them in a stand-alone policy document. This would provide clarity on the government's support and overall strategy for this segment of the economy.

A policy focus on the digitalisation of micro-enterprises and SMEs would be particularly timely given the government's process of developing a new national digital strategy. Currently, Irish SMEs are assessed as having a low digital intensity, and only 30% of SMEs sell online. A directed policy focus to help SMEs improve their level of digital intensity, including addressing skills and technological gaps, is needed in order to prepare them for the accelerated demands of the digital economy.

The National Policy Statement on Entrepreneurship (NPSE)

The National Policy Statement on Entrepreneurship (NPSE) is a stand-alone policy designed to be effective from October 2014 to October 2019. As part of any reformulation of the NPSE, the Irish Government could take the opportunity to reframe it as the National Policy on SME and Entrepreneurship Development, and incorporate policy directions, objectives, targets, lines of action, and performance indicators for micro-enterprises and SMEs, as well for entrepreneurship and start-ups.

In doing so, consideration should be given to addressing the main challenges identified in Chapter 2 on SME and Entrepreneurship Characteristics and Performance, being:

- Increase the productivity of "small" and "medium" size band SMEs.
- Increase the business start-up rate and business dynamism.
- Ensure equal opportunities for entrepreneurship across the population and address gaps in the self-employment and entrepreneurship activity rates of women, youth and migrants.
- Scale up micro-enterprises, particularly indigenous locally-trading and non-exporting enterprises, and increase the cohort of medium-sized enterprises (50-259 employees).
- Increase SME access to foreign markets, including non-United Kingdom markets.
- Address spatial disparities in entrepreneurship by strengthening local entrepreneurship ecosystem conditions for start-up and scale-up entrepreneurship across the whole country.

Dealing with Brexit and preparing SMEs for the implications is also a huge policy challenge for the government. This should also be reflected in the reframed policy document.

The Malaysian experience in developing an SME Masterplan could provide inspiration for Ireland in crafting a more integrated strategic approach to SME and entrepreneurship policy (Box 4.1).

Box 4.1. Developing a Masterplan for Development of SMEs and Entrepreneurship – a good practice from Malaysia

Description of the approach

In Malaysia, the highest policymaking body for setting a long-term strategic direction for government policies on SME and entrepreneurship development is the National SME Development Council (NSDC). This was formed in 2004 to support greater policy coherence and co-ordination among ministries and agencies working towards a common goal in this area. Its original composition was 13 ministries and agencies, the Chief Secretary to the Government, the Director-General of the Economic Planning Unit, and the Governor of the Central Bank. The Secretariat to the NSDC is the Small and Medium Enterprise Corporation (SME Corp. Malaysia), located under the Ministry of International Trade and Industry. SME Corp. is the central government agency tasked with the formulation of SME policies and co-ordination of programme implementation across all related ministries and agencies.

Malaysia is currently implementing the NSDC's first long-term SME Masterplan (2012-20), launched to enhance the contribution of SMEs to Malaysia's Vision 2020, the national development framework. The Masterplan's vision is to "create globally competitive SMEs that enhance wealth creation and contribute to the social well-being of the nation" (NSDC 2012, p. 35). The macro targets set for the SME sector in the SME Masterplan are to raise the SME share of GDP to 41% by 2020 (from 32% in 2010), its employment share to 65% (from 59%); and its share of exports to 23% (from 19%).

The plan has four broad strategic goals, covering targets for new start-ups, high-growth and innovative firms, SME productivity, and formalisation, and six focus areas to support

achievement of those strategic goals, which, based on evidence, were the major forces driving SME performance.

Four strategic goals of the SME Masterplan	Six growth levers to support the strategic goals
• Support a constant stream of new entrants into the market (target of 6% annual increase in the registration of new companies). • Raise labour productivity in SMEs to boost the income of SME workers (target of 93% increase by 2020). • Expand the number of high-growth and innovative firms (by 10% per year). • Step up the formalisation of the economy to promote growth and fair competition (reduce the size of the informal sector from 31% of gross national income to 15% in 2020).	• Innovation and technology adoption among SMEs. • Human capital and entrepreneurship development among SMEs. • Access of creditworthy SMEs to financing for working capital and investment. • Market access for goods and services produced by SMEs. • Legal and regulatory environment conducive to the formation and growth of SMEs. • Effective infrastructure for the development of SMEs (e.g. construction/upgrading of industrial premises, utilities, incubators, broadband).

The Masterplan also identified six High Impact Programmes (HIPs): 1) Integration of Business Registration and Licensing; 2) Technology Commercialisation Programme (for innovation); 3) SME Investment Programme (for early-stage financing); 4) Going Export Programme; 5) Catalyst Programme (to promote home-grown champions); and 6) Inclusive Innovation (to empower the bottom 40%).

The SME Masterplan is an organic document that is implemented through annual action plans. SME Corp. meets annually with relevant ministries and agencies to collect information on entrepreneurship and SME development programmes and publishes the Annual SME Integrated Plan of Action (SMEIPA). The annual action plans are flexibly fine-tuned to adjust to environmental and structural changes.

SME Corp. is responsible for progress updates on the implementation of the SME Masterplan, including how programmes are advancing and stacking up against quantitative targets and milestones, i.e. it takes on the monitoring and evaluation co-ordination role for the SME and entrepreneurship development programmes implemented by the different ministries and agencies. This co-ordinated roll-up enables the government to measure the collective performance of SMEs in terms of their contribution to GDP, employment and exports on an annual basis.

Success factors

The establishment and progressive work of the NSDC is a key success factor in the development of a national government-wide SME policy, while the existence of a central co-ordinating body, SME Corp., ensures the effective implementation and monitoring of SME policies across various ministries and agencies.

The SME Masterplan and annual action plans make it very clear that resulting initiatives and programmes are directed at enterprises falling within the SME definition, so there is no confusion or lack of clarity about the impact on macro level targets of performance improvements in the SME sector, including start-ups.

The launch of the SME Masterplan document and the annual SMEIPA publication has enabled the government to enhance collaboration and reduce duplication, foster greater synergies across ministries and agencies and optimise funding allocations.

Obstacles and responses

There are challenges in adopting a cross-government approach to SME and entrepreneurship policy. In Malaysia, 16 ministries and over 60 agencies implement SME programmes. This was dealt with in Malaysia by forming the inter-ministerial council, the NSDC, with responsibility for crafting and governing the implementation of the national masterplan. As the scope of SME policy issues has expanded, so has the membership representation of the NSDC. As of 2016, membership was broadened to include other relevant ministries with a view to being more inclusive of entrepreneurship and entrepreneurial initiatives across targeted groups.

Co-ordination of the SME strategy is a key challenge, requiring extensive co-ordination resources. To execute this co-ordination function, SME Corp. was allocated additional resources.

Collecting timely information from participating ministries and agencies on programmes and progress can be a challenge as it requires a commitment from a number of ministries and agencies to co-operate. This is facilitated in Malaysia through the annual SMEIPA process.

Relevance for Ireland

Ireland could draw inspiration from Malaysia in preparing a document like the SME Masterplan, that comprises all government policy measures supporting SMEs and entrepreneurship with the aim of improving overall clarity regarding the national SME and entrepreneurship policy framework, its governance structure, and performance metrics.

Sources for further information

NSDC (National SME Development Council) (2012), *SME Master Plan 2012–2020: Catalysing Growth and Income*, Kuala Lumpur, http://www.smecorp.gov.my/images/flippingbook/SME-masterplan/PDF/SMEMasterplan2012-2020.pdf/.

Policy co-ordination across departments and agencies

The Government of Ireland takes a whole-of-government approach to the development and oversight of policy initiatives in order to ensure coherence, co-ordination and streamlining of strategy implementation. This applies to SME and entrepreneurship policy as well as other policy areas. The DBEI has the key role for implementing enterprise policy and co-ordinating SME and entrepreneurship policies across government departments.

In its co-ordination role, the DBEI consults broadly with other departments on policy directions and actions. For example, in formulating the Enterprise 2025 policy document, the DBEI collaborated with senior officials from other departments of government to achieve a cross-departmental perspective. This included the Taoiseach's office, the Department of Finance, the Department of Agriculture, Food and Marine (DAFM), Department of Public Expenditure and Reform (DPER), Department of Foreign Affairs and Trade (DFAT), Department of Transport, Tourism and Sport (DTTAS), Department of Education and Skills (DES), and Department of Rural and Community Development (DRCD). The final policy document was underpinned with extensive research and analysis of global trends impacting on the Irish economy, performance of enterprises over the past decade, and review of progress against metrics in the earlier Enterprise 2025 document. As

a second example, the DBEI chairs an Implementation Group established to govern the implementation of Innovation 2020 policy. The governance structure includes the Chief Scientific Advisor to the Government and high level representation from research funding departments and agencies. The requirement for annual reporting on progress to the Cabinet Committee ensures accountability for effective and co-ordinated implementation.

The DBEI also has the policy lever for many of the enterprise support agencies, such as Enterprise Ireland, the Local Enterprise Offices (LEOs), the Science Foundation Ireland (SFI), InterTradeIreland, the National Standards Authority of Ireland (NSAI), the Industrial Development Authority (IDA), and the Irish Patents Office, all of which report through the DBEI. The DBEI also has responsibility for the policy levers of the Microenterprise Loan Fund, managed by Microfinance Ireland, as well as oversight of the Strategic Banking Corporation Ireland (SBCI). This enables a high degree of departmental policy co-ordination.

Within the DBEI, the Indigenous Enterprise, Digital and Finance Division (IEDFD) has the responsibility for coordination with relevant stakeholders to ensure the appropriate supports are in place to promote and develop entrepreneurship, to help new businesses start and existing businesses to scale and export, and to advocate across the wider system for a supportive business environment (e.g. tax policy, skills availability, etc.).

The Enterprise Strategy, Competitiveness and Evaluations Division (ESCED) leads on the development of Ireland's enterprise policy including designing, executing and evaluating enterprise and jobs strategies, with policy input across all Divisions of the Department. The ESCED leads the development of the Future Jobs Ireland initiative and publishes the annual plans, working together with all government Departments and Agencies to establish clear actions and targets to help create positive conditions for job creation, including through enterprise support. The ESCED also supports the work of the National Competitiveness Council (NCC) and the Expert Group on Future Skills Needs (EGFSN) by providing research and secretariat support. Both are advisory bodies to the government, the NCC on competitiveness issues facing the Irish economy and the EGFSN on skills needs impacting on enterprise and employment growth.

Despite these arrangements the co-ordination function for SME and entrepreneurship policy and measures could be strengthened further. To achieve this, the DBEI is advised to establish an SME and Entrepreneurship Policy Working Group, headed by the IEDFD division and with representation from across DBEI divisions, and consisting of designated SME/entrepreneurship focal points in relevant departments and agencies, including Microfinance Ireland, the SBCI and the SFI. It may be necessary for the DBEI to ensure the division is structured adequately to carry out this enhanced co-ordination function.

Policy dialogue with the private sector and stakeholders

Ireland illustrates good practice in broad stakeholder consultation processes when new or updated policy documents or proposals are being considered by government. For example, in preparation of Enterprise 2025 Renewed, led by the DBEI Strategic Policy Division, consultations were carried out, on the basis of a discussion document, with the heads of industry associations, the members of the Irish Exporters Association, the British/Irish Chamber of Commerce, the American Chamber of Commerce, the Irish Business and Employers Confederation (IBEC) and other stakeholders. Similarly, the Chairs of all nine of the Steering Committees of the Regional Enterprise Plans are from the private sector and were instrumental in delivering these new Plans.

At the same time, Irish business associations are proficient in their role as advocates to the government in favour of policies and supports to meet the needs of their members, including the submission of policy proposals and inputs to the annual budgeting process. This includes the Small Firms Association and the Irish Small and Medium Enterprise Association.

With respect to formal and regularised consultations with SME representative bodies, the Advisory Group on Small Business (AGSB), chaired by the Minister of State for Trade, Employment, Business, EU Digital Single Market and Data Protection, was established in 2011 to provide a platform for structured engagement between SMEs, their representative bodies and the minister with a view to influencing policy. Its role is to provide policy advice for onward reference to government on the key issues affecting the SME sector and the actions to best address them. AGSB members also use their experience and expertise in business to raise key issues requiring government action, advise on the impact of government proposals on small business, and assist government in identifying areas where further work may be required. The membership is broad, including representatives of the major business associations[4], and representatives of Enterprise Ireland and the LEO Centre of Excellence.

Currently the AGSB meets every two months, but in its current role is a consultative body only to the DBEI, which serves as secretariat to the group, while at the same time, other government departments are clearly involved in formulating policies affecting entrepreneurs and SMEs. In many OECD countries, a formal advisory body such as this would advise the government at an interdepartmental level. Thus, it is recommended that the consultative role of the AGSB be extended across departments involved in SME and entrepreneurship development. This (formal or informal) interdepartmental committee on SMEs and entrepreneurship, chaired by the Minister, would logically include ministerial counterparts from the DES, Department of Finance, DCCAE, Department of Rural and Community Development (DRCD), and possibly the Central Bank of Ireland, among others. In addition, the AGSB membership could be modified to include more SME owners, in addition to the representative bodies already represented.

The policy mix and portfolio

The portfolio analysis of SME and entrepreneurship policy

National government expenditures on enterprise supports in the 2017 budget amounted to about 2% of the total EUR 53 billion (of which about EUR 4.5 billion was allocated to gross capital expenditures to deliver programmes versus day-to-day spending). About EUR 855 million was allocated to the DBEI for distribution through its agencies, an increase of 10% over 2016. However, there is no information of what percentage of the total government budget is allocated to support for entrepreneurship, start-ups, micro-enterprises and SMEs, suggesting that adopting an SME and entrepreneurship policy portfolio approach would be helpful in analysing trends and developments over time across these different targets.

An SME and entrepreneurship policy portfolio approach consists of an analysis of the distribution of government spending by main policy area (e.g. entrepreneurship and management training, access to finance, market and export development, innovation, etc.) and by main targeted populations (e.g. potential and nascent entrepreneurs, new start-ups, micro-enterprises, high-growth firms, innovative SMEs, etc.). It is helpful in understanding whether government spending on SME and entrepreneurship policy is balanced, reflects

government priorities, and addresses the main development challenges faced by existing small businesses and entrepreneurs. Used in conjunction with programme evaluation, a portfolio approach can help channel funding into measures with the greatest social and economic benefits. A possible approach to an SME policy portfolio analysis is outlined in Box 4.2.

Box 4.2. The portfolio approach to analysing SME and entrepreneurship policy

Description of the approach

The basic framework for the policy portfolio approach entails an analysis of all SME and entrepreneurship policies and measures by policy categories and by the stages of entrepreneurship and SME development. Focusing on the entrepreneurship/enterprise life cycle allows development of an integrated set of supports to take "would-be" entrepreneurs from the pre-nascent stage to start-up, expansion and internationalisation, with business support systematically addressing market failures in key areas of each life cycle stage. These might include education and training, advice and counselling, finance, and technology upgrading, as common examples, with tailored policy responses to address the specific needs of each life cycle target. Combined with budget detail, the policy portfolio is a useful tool for managing the distribution of spending across projects and programmes in line with the government's policy priorities for SME and entrepreneurship development.

The first step would be to prepare a description of all relevant policy measures and programmes, with each policy/programme assigned to a main policy focus and a stage, or stages, of enterprise development that the policy measure appears to target (see table below). Budget figures would then be allocated to the cells, based on the list of projects and budgets from all programmes. Thus, the total for cell 1A would represent the total budget for all programmes/projects providing education or training to pre-nascent entrepreneurs. The subsequent analysis would, in principle, help to identify where there are relative gaps in programme activity, and where a reallocation of resources could improve performance of the whole policy portfolio. Nevertheless, a policy portfolio analysis should recognise that different interventions have different objectives and that, according to government priorities, certain objectives may be worthy of greater spending than others.

Proposed portfolio framework for SME and entrepreneurship policy intervention

Enterprise Segments (A-G) (enterprise development stages)		Policy and Programme Categories (focus areas)					Total by business stage
		1	2	3	4	5	
		Education training, human capital development	Information knowledge	Finance	Market access/ development	Technology innovation	
A	Pre-nascent	1A	2A	3A	4A	5A	
B	Nascent	1B	2B	3B	4B	5B	
C	Start-up	1C	2C	3C	4C	5C	
D	Operation	1D	2D	3D	4D	5D	
E	Growth	1E	2E	3E	4E	5E	
F	International	1F	2F	3F	4F	5F	
G	Adjust exit	1G	2G	3G	4G	5G	

If coupled with an impact evaluation of government programmes, the policy portfolio analysis can help assess not only the distribution of government spending across policy areas and by targeted segment of SME population, but also its effectiveness, i.e. whether government spending is more effective in certain policy areas for certain target groups than others. Indeed, the policy portfolio categorisation can also help clarify which market failures policy funding is intended to address. Once policy measures and programmes have been evaluated (preferably through cost-benefit analysis of the actual impacts of the interventions on, for example, job creation, business start-up rates, SME growth, increases in productivity, etc.), it becomes possible to assess the relative success or usefulness of the measure, identify gaps in policy support, and determine areas where a reallocation of resources could improve the performance of the whole budget portfolio.

Factors of success

The policy portfolio categorisation enables more precise identification of the target segments (such as start-ups) being supported and identifying policy/programme gaps, thus producing a more informed approach to the design and implementation of national SME and entrepreneurship policy measures.

A policy portfolio analysis undertaken in the framework of the OECD Review of SME policy in Thailand in 2011, for example, revealed that two-thirds of the SME budget expenditures (excluding financial assistance programmes) was directed to existing SMEs, with gaps in funding to address the needs of start-up and growth-stage enterprises. It also revealed that the bulk of the Office of SME Promotion's total project budget (excluding finance measures) was spent on education and training, with considerable gaps in internationalisation, and technology/innovation support (OECD, 2011). The gaps identified as requiring further attention by the government have since been responded to.

Obstacles and responses

Preparing the initial inventory of all SME and entrepreneurship policy measures/programmes is one of the biggest initial challenges in adopting the policy portfolio approach, followed by performing a proper categorisation of the policy measures by type (focus area) and enterprise target group, and quantifying the total budget allocations (across ministries and agencies) according to these categorisations. These challenges can be overcome by assigning the ministry or office responsible for SME and

entrepreneurship policies with the leadership role in collecting and sorting the necessary input information with co-operation and input from all relevant ministries and agencies.

Determining the appropriateness of the budget allocation across the portfolio is also a challenge. This can be overcome by collecting information on the costs and benefits of programmes and projects for each policy category and each enterprise segment and, through evaluations of their effectiveness (i.e. comparisons of whether the benefits actually exceed the costs), inform decisions about the balance of effort across the portfolio and where shifts in spending might deliver a higher economic return on a given investment. In this regard, undertaking ex-ante and ex-post evaluations of the impact of different programmes will inform the policy analysis about the benefits of different interventions and the actual effectiveness of budget expenditures.

Relevance to Ireland

Adopting this approach would assist Ireland with a holistic design of policy that takes into account the distribution of activities across focus areas and enterprise segments. It would aid in identifying and correcting any policy gaps across departments and agencies, and determining the appropriate balance of policy expenditures to meet the perceived needs of the SME sector and the government's overall strategic objectives.

A full-fledged SME and entrepreneurship policy portfolio analysis for Ireland is complicated by two main factors. Firstly, the government budget is distributed across a large number of departments and agencies in the broader context of "enterprise policy", with only some instances of measures explicitly targeting SMEs and entrepreneurship. Secondly, because in many cases the amount of the budget allocation per programme is not broken out to reflect the amount spent on the SME segment, data is not available on the actual amount allocated to SMEs.

Assessing the distribution of resources across the policy framework

While a full portfolio analysis is hindered by the above-mentioned deficiencies, a preliminary analysis is presented in Table 4.1. Although incomplete (for reasons indicated in the notes section below the table), the analysis indicates that innovation/R&D supports make up the largest component of expenditures (36.0%)[5], followed by access to finance (33.4%).

The smallest share of expenditure is for market access/export development (12.3%). Of this amount, 41% is from Enterprise Ireland programmes to client firms and 7.6% from InterTradeIreland (Acumen and Elevate programmes) for cross-border trade development and assistance, while 16.4% is for Trading Online Vouchers from the LEOs (paid for by the DCCAE). The LEOs also have a small Technical Assistance for Micro Exporters Programme (comprising less than 3% of the total). This may suggest a gap in supporting the market access needs of non-exporters (e.g. strengthening their capacity to serve and expand in local markets) and an opportunity to increase the number of Trading Online Vouchers (1 188 issued by the LEOs in 2017).

In terms of target groups, established SMEs were beneficiaries of almost 40% of the budget/expenditures and start-ups for another 32.3%. High-growth potential firms benefited from 5.0% of the expenditure (all of it for EI-assisted SMEs), which is likely reasonable given their share of high-growth firms in the SME population. The majority of the expenditure on established SMEs is on innovation/R&D programmes (62.5%),

followed by investments in their management skills and capacity (18.1%). The majority of the finance programmes (grants, etc.) are directed to start-ups, with Enterprise Ireland grants to high potential start-ups comprising about 70% of the total. About 73% of the finance to micro-enterprises comes from LEO grant programmes (making up just over a third of the LEO programme budget).[6]

Table 4.1. Allocation of enterprise support budget for SME and entrepreneurship development (in EUR) by policy category and enterprise category, 2017

		1	2	3	4	Totals	Row % of total
		Entrepreneurial education, training, management skills	Access to finance	Market access/export development	Innovation/R&D		
A	Entrepreneurial culture/nascent entrepreneur	1 574 447	-	-	4 731 401	6 305 848	4.2%
B	Start-ups	3 827 049	33 833 823	2 808 352	7 549 611	48 018 835	32.3%
C	Micro-enterprises	9 271 112	11 141 516	3 893 176	3 164 536	27 470 340	18.5%
D	Established SMEs	10 737 387	2 936 304	8 500 241	37 047 344	59 221 276	39.9%
E	High growth potential firms	1 705 836	1 654 069	3 060 006	1 014 328	7 434 239	5.0%
	Totals	27 115 831	49 565 712	18 261 775	53 507 220	148 450 537	100%
	Column % of total	18.3%	33.4%	12.3%	36.0%	100%	

Notes: The table is not inclusive of all expenditures targeting entrepreneurs and SMEs. For example it does not include costs to the Exchequer of various tax relief incentives for the self-employed to start businesses, Enterprise Allowance schemes, individuals investing in SMEs, etc., although these could amount to significant investments in start-up and business support, for example, the cost of the Start Your Own Business Relief was estimated at EUR 4 million in 2017. Expenditures under the Regional Action Plan for Jobs are also not included, although that plan does include policy measures to support enterprise start-ups and growth. Included are expenditures for Enterprise Ireland, LEOs, InterTradeIreland, Microfinance Ireland, the Science Foundation Ireland (SFI) (projects specifically targeting nascent and starting entrepreneurs, i.e. TIDA and SFI/NSF I-Corps@SFI Entrepreneurial Training Programme), and Credit Guarantee Scheme (estimates of default costs). Of the active collaborative research projects supported by SFI in 2017, approximately 30% involved SMEs. As SFI does not directly fund enterprise, the percentage of funding benefiting SMEs is not included in the policy portfolio analysis. The portfolio does not include budget/expenditures for entrepreneurship and SME supports delivered by the Fáilte Ireland (Irish Tourism Trade Support) and Irish Food Board.
Source: Estimates by the OECD based on information from the DBEI collated with implementing agencies, complemented by information from annual reports of policy organisations and a review of available data on SME and entrepreneurship expenditures from the 2017 budget. The table is not based on officially published data under these headings.

There are no obvious imbalances in the distribution of resources across different categories of policy intervention and enterprise group. However, there may be potential for increasing impact by rebalancing resources in certain ways, for example towards programmes for market access and towards established SMEs not eligible for Enterprise Ireland support as exporters or potential exporters and not included in their client group. Before such decisions can be taken, a more accurate and complete policy portfolio analysis should be made – also covering SME and entrepreneurship policy expenditures by other government departments – and complemented with additional information on differences in levels of client demand and needs and evaluation evidence on policy impacts across different policy areas and target groups. An important consideration to identify potential imbalances between supply and demand is the excess capacity of programmes. For example, while some support programmes from other agencies have excess capacity, ITI programmes are often oversubscribed, sometimes by four times the current capacity, indicating an unmet demand for programmes to support cross-border trade from this organisation. Chapter 8 of this publication offers more insights.

Evaluation of policy impact

The Irish Government is proficient in monitoring and evaluation at the programme level. Monitoring is undertaken against targets set in the Action Plan for Jobs, Enterprise 2025 and other policy documents, as well as Departments' strategic plans. Primary among the indicators is job creation and each department/agency reports on the number of gross new jobs and net jobs created by government-assisted enterprises.

The DBEI's Enterprise Programmes and Policy Evaluations Unit applies an evaluation framework informed by international best practice, as guidance to the core principles and methodologies of enterprise evaluation. The Unit carries out evaluations of its major agency expenditures on a regular basis, attempting to quantify the cost-benefit, deadweight and additionality of the supports, and where possible conducting control group counterfactual impact assessments (DJEI, 2015; Moloney, 2018).

The evaluation reports place emphasis on market failures and rationale for government intervention, e.g. financing gaps, information asymmetry, capability gaps, spill-over effects, and risk aversion. As well, Enterprise Ireland has developed ex-ante and ex-post evaluation processes for its internal programmes. Evaluation reports are published on the DBEI website or at minimum an executive summary with conclusions and recommendations, demonstrating a high degree of transparency. Other public agencies, such as the SFI, also commission independent evaluations of their various programmes, and Microfinance Ireland produces quarterly performance reports, which are published on the DBEI website, and also undertakes an annual job survey of its clients to measure the ongoing impact of its lending (net of business failures). With an entrenched evaluation culture, Ireland could be considered a good practice country in this regard.

Measurements are made of the impact of government programmes on client-firm performance, based on the expected outcome, e.g. growth, R&D investment, return for each Euro invested, etc. This may include evaluating the impact on SMEs of specific policy interventions, where appropriate (Forfás, 2014[7]; DJEI, 2015; Moloney, 2018). While SMEs are not identified in most of the performance targets of national policy documents this gap does not exist so much at the agency level. For example, Enterprise Ireland[8], the LEOs and Microfinance Ireland, carry out evaluations of programme impact on clients, who are predominately micro-enterprises and growth-oriented SMEs.

Policy delivery arrangements

This section examines the delivery arrangements for SME and entrepreneurship programme actions in Ireland, i.e. the organisations involved in delivering the measures and the different implementation arrangements. Detailed descriptions and assessments of the entrepreneurship and SME support programmes are presented in Chapter 5.

The main actors in delivering SME and entrepreneurship policies.

The major SME and entrepreneurship support programmes are delivered by entities under the purview of the DBEI, i.e. Enterprise Ireland, the LEOs, Science Foundation Ireland (SFI), InterTradeIreland and Microfinance Ireland. Table 4.2 provides a non-comprehensive overview of the major delivery structures categorised by type of policy support. Each one has distinct objectives for developing the enterprise base, including start-ups, micro-enterprises and SMEs.

Enterprise Ireland (EI), with 10 regional offices in Ireland and 33 abroad, is responsible for delivering policy support to high potential start-ups and innovative SMEs in manufacturing and tradeable services with exporting potential. It also has a mandate to stimulate research, development and innovation (RD&I) collaboration between Irish-owned (and foreign-owned) companies and research institutes through the commercialisation of research and seed and venture funding, and assisting firms with their internationalisation efforts.

The 31 **Local Enterprise Offices (LEOs)** are the first stop for micro and small enterprises. The main client base is start-ups and micro-enterprises with fewer than 10 employees with scope in manufacturing and tradeable services (e.g. exporting potential). One of their objectives is to provide a pipeline of potential clients for Enterprise Ireland (once the micro-enterprise grows to 10 or more employees and meets the criteria for one of Enterprise Ireland's programmes). Small enterprises not meeting the remit of Enterprise Ireland may continue to receive support from the LEOs, including training, advice, mentoring and referral to other support providers.

Science Foundation Ireland (SFI) is the national foundation for investment in scientific and engineering research. It does not deal directly with SMEs but invests in researchers and research teams likely to be generating new knowledge, leading edge technologies, collaborative research engagement with enterprise including SMEs, and spin-outs driven by science, technology, engineering and math (STEM fields). SFI has funded 17 National Research Centres since the programme was established, and funded a number of Strategic Partnership awards offering RD&I collaboration opportunities for Irish enterprises, including SMEs. The SFI Industry Fellowship Programme enhances industry-academia collaborations (including SMEs) via the temporary placement of academic researchers in industry, and of industry researchers in academia, supporting collaborative industry-academia research projects and stimulating excellence through knowledge exchange and training of engineers and scientists. In addition, the Technology Offices and Institutes of Technology offer technological expertise to SMEs and Knowledge Transfer Ireland provides assistance with commercialisation of innovations.

InterTradeIreland is a cross-border trade and business development body set up under the Good Friday Agreement and funded by the DBEI and the Department for the Economy in Northern Ireland. It supports small businesses to take advantage of North-South co-operative opportunities to improve capability, drive competitiveness, growth and jobs. It provides practical cross-border business funding, business intelligence, programmes of direct innovation and trade support, as well as meaningful contacts to SMEs across the Island looking to explore new cross-border markets and grow their businesses. Further support is provided to SMEs on access to finance and public sector tendering, with much recent support on helping small enterprises deal with the Brexit issues.

Bord Bia (The Irish Food Board), the Irish state agency responsible for promoting sales of Irish food, drink and horticulture products in Ireland and export markets, acts as a link between Irish producers and their customers worldwide and supports its client companies in identifying new and existing business development opportunities enabling the growth and sustainability of producers.

Table 4.2. Overview of the main policy delivery structures for SME and entrepreneurship support in Ireland

Category of support	Responsible Department/Agency and policy support
Entrepreneurship development and start-up support	• Department of Education and Skills (DES) - embeds enterprise is post-primary curriculum and through the Leaving Certificate Vocational Programme and the Leaving Certificate Applied; promotion of entrepreneurship through education initiatives. • Higher Education Authority (HEA) - funding support to higher education institutions for provision of entrepreneurship summer camps targeting second-level students. • Further Education and Training Authority (SOLAS)/Education and Training Boards – offer a number of entrepreneurship courses in certificate programmes (e.g. Entrepreneurial Skills, Start Your Own Business, Entrepreneurship Studies, Business Planning, etc.); exposes learners to entrepreneurship option. • Local Enterprise Offices (LEOs) – promotes entrepreneurship in local communities and in schools, delivers Start Your Own Business training programmes, runs the National Student Enterprise Awards and the Best Young Entrepreneur competition, provides mentoring services to starters. • Community Enterprise Centres (CECs) – network of 120+ facilities offering equipped and serviced work spaces for new and existing businesses (preferential rent), along with access to some business development and mentoring services. • Local Development Network – supports self-employment as option for "getting back to work" under Back to Work Enterprise Allowance Scheme. • Enterprise Ireland – Enterprise START Workshops offered for people with a business idea that has potential for scaling and exporting; New Frontiers Entrepreneurship Development Programme (to help accelerate development of a start-up business), High Potential Start-up SPRINT Programme to train founders in becoming investor-ready; many grant programmes to assist in the rapid growth and internationalisation of ambitious start-ups and SMEs. • Campus-based Incubators and Business Innovation Centres (BICs) – 30 incubation centres located in universities and institutes of technology and 4 BICs provide incubation support – facilities, advice, mentoring, networks with researchers, entrepreneurs and investors. Many supported by Enterprise Ireland. • Bord Bìá (Irish Food Board) – with Enterprise Ireland and Teagasc manages the Food Works Programme, an accelerator programme for highly ambitious start up food and drink companies with scalable, exportable products. (The programme is delivered through workshops, business advice, technical support and the provision of branding and consumer insight and study tours). • Science Foundation Ireland (SFI) – delivers the SFI/NSF I-Corps@SFI Entrepreneurial Training Programme for SFI funded researchers
Business development support	• Local Enterprise Offices (LEOs) – provide guidance and mentoring to develop management skills; run Lean Programme for micro-enterprises. • Enterprise Ireland – support to help client companies improve their productivity and competitiveness (e.g. Company Competitiveness Health Check, Lean Start, LeanPlus Offer, Green Offer) designed to build the experience, knowledge and capability of the business to strengthen performance and position in global markets; clinics and networking sessions to foster the rapid scaling of ambitious company founders (High Potential Start-up Forum); access to business mentors and advisors for strategic management development advice. • Community Enterprise Centres (CECs) – 120+ centres located in communities across Ireland, providing workspaces/offices at preferential rents for new and existing small firms, office services (such as photocopying, Internet access, etc.), and access to other business supports, often supplied through partnerships with the LEOs. • Fáilte Ireland – Enterprise Development Division offers management development to operators in the tourism sector to improve their business performance and competitiveness; promotes use of online tools to diversify markets. • Bord Bìá (Irish Food Board) - delivers market intelligence, insight and capability building initiatives to Irish food, drink and horticulture companies to assist with business development and growth.

Financing support	• Strategic Banking Corporation of Ireland (SBCI) - established in 2014 to provide low cost and flexible finance to SMEs through partnering banks and non-bank lending institutions. • DBEI/SBCI – SME Credit Guarantee Scheme, developed in 2012, to encourage additional lending to commercially viable SMEs unable to meet normal lending criteria of banks. Guarantee of up to 80% of the loan (loan value of EUR 10 000-EUR 1 million); can also apply to leasing, invoice financing and other non-bank products. • Microfinance Ireland (MFI) - established in 2012 to provide small loans to start-ups and established businesses (EUR 2 000 to EUR 25 000). Works through four main delivery channels for applications: 1) the LEO Network; 2) the Irish Local Development Network; 3) the main commercial banks, and 4) a direct channel. • LEOs – Feasibility Study Grants for micro-enterprises to assist with researching market demand for a product or service, assistance with innovation, hiring of expertise from third level colleges, private specialists, design and prototype development). Priming (start-up) Grant to micro-enterprises within the first 18 months of start-up. Business Expansion to assist a business in its growth phase after the initial 18 months start-up period. • Enterprise Ireland - Enterprise Ireland Seed and Venture Capital Scheme, using a co-investment model with decisions made by independent fund managers. • InterTradeIreland – offer a range of programmes, workshops and advisory services to help businesses become investor ready including the Seedcorn competition and Funding Advisory, Venture Capital & Business Planning workshops offers programmes, workshops and advisory services to help businesses become investor-ready (e.g. Seedcorn competition, Funding Advisory, Venture Capital & Business Planning workshops).
Market development support and access	• Enterprise Ireland – provides assistance to help enterprise become export ready and to support their entry into new markets. • Enterprise Ireland – provides assistance to help enterprise become export ready and to support their entry into new markets. • InterTradeIreland – helps small businesses explore new cross-border markets (Northern Ireland), develop new products, processes and services, win public sector contracts and become investor ready. • Local Enterprise Offices (LEOs) – offer Technical Assistance for Micro Exporters' Grant. • Bord Biá (Irish Food Board) – provides market assistance to companies looking to export or develop in new markets across the Island. • Office of Government Procurement – efforts to bring SMEs into the EUR 8.5 billion government procurement market; offers a Tender Advisory Service to help SMEs through the tendering process.
Innovation support	• Science Foundation Ireland offers programmes relevant to innovative entrepreneurship (e.g. Research Centres Technology Innovation Development Award (TIDA) programme, SFI/NSF iCorp Entrepreneurial Training Programme, SFI Industry Fellowship Programme); makes an effort to attract established SMEs in the collaborative research projects of the SFI Research Centres. Limited information on the participation of SMEs in SFI programmes. • Enterprise Ireland – several programmes to support firms to undertake R&D and innovation activities; grants for innovation projects, Innovation Vouchers, funding for client firms to engage in collaborations with Technology Centres and with higher education research facilities located in the Institutes of Technology. • Enterprise Ireland and IDA Ireland – establishment market-focused Technology Centres Programme to provide industry-research centre collaborations for projects identified by industry and individual enterprises. • InterTradeIreland – provides support to SMEs through the US-Ireland R&D partnership, Horizon 2020, the All-Island Innovation Programme, the Synergy (clusters) programme, FUSION and Challenge Programmes. FUSION supports new product/service development or improvement through partnerships between SMEs and science/technology graduates and third level institutions. Challenge Programme supports SMEs to embed a proven, reliable and repeatable innovation model into the organisation. • Local Enterprise Offices (LEOs) – offer the Agile Innovation Fund, giving LEO clients rapid access to innovation funding. • Bord Bia (Irish Food Board) - Masters programme in insight-led design innovation (Food). Supports and promotes consumer-focused innovation. • Knowledge Transfer Ireland – helps businesses by facilitating connections to and engagement with the research bases in Ireland to progress innovation and commercialisation of research and intellectual property available in the publicly-funded research system. Accountable to the DBEI and presidents of Irish universities.

The Department of Education and Skills (DES) and the Higher Education Authority (HEA) have the lead on integrating entrepreneurship education in schools and higher educational institutions. **Skillnet Ireland** works with businesses in Ireland to address their current and future skills needs. Of the 16 500 businesses in their learning networks, 56% are micro-enterprises, 26% are small enterprises (total of 79%) and 13% are medium enterprises and 5% are large companies. With an estimate of over 240 000 micro and small enterprises in Ireland, only a small share is availing of the Skillnet training and skills development programmes. The Regional Skills Fora engage with SMEs on their skills needs, aiming to help employers better understand and access the full range of services available across the education and training system and enhance links between education and training providers in planning and delivering programmes. About 75% of this engagement in Q1 2018 was with SMEs.

Governments can deliver SME financing programmes by using incentive systems to encourage private sector financial institutions to channel more credit into SMEs or directly through centrally-managed agencies and funds. Ireland uses both approaches. First, two structures are in place to incentivise banks to lend to SMEs. The **Strategic Banking Corporation of Ireland** (SBCI), established in 2014 as a state-owned bank, provides low cost and flexible finance to SMEs through banks and non-bank lending institutions. The **SME Credit Scheme** (guarantee scheme, guaranteeing up to 80% of the loan granted by a partner bank) also encourages banks to lend to SMEs. At the microfinance level, the government supported the establishment of **Microfinance Ireland** (MFI) as a not-for-profit (direct) lender to deliver the government's Microenterprise Loan Fund. This fund supports start-ups and micro-enterprises that have not been able to secure commercial bank financing.

Other financing is delivered by various government agencies in the form of grants to support strategic activity of enterprises, such as export development, or R&D and innovation projects (e.g. Enterprise Ireland, the LEOs, InterTradeIreland, and the SFI). Enterprise Ireland, in supporting the Seed and Venture Capital Scheme, makes use of independent private sector fund managers, and a co-investment model. It also provides partnership funding to the Halo Business Angel Network for co-investments. The co-investment model reduces risk and helps attract private sector investment, also reducing their risk.

The network of incubators and start-up accelerators is well developed across Ireland. The majority of these structures are located in universities and Institutes of Technology and were funded in their establishment by Enterprise Ireland. Enterprise Ireland currently enters into agreements with some of the incubators to deliver special pre-incubation and incubation programmes (e.g. New Frontiers, Female Founders), and encourages the incubators to refer high potential incubatees to Enterprise Ireland programmes.

Partnerships with private sector consultants and mentors

Developing partnerships with private sector consultants and mentors can be considered a good practice for businesss advice interventions, as it incentivises demand for external professional services and avoids crowding-out of private sector consultancy services. This is very much the approach adopted in Ireland. Enterprise Ireland maintains a database of consultants and mentors, which is shared with the LEOs, each of which has a panel of local consultants and mentors that it uses for referral to its start-up and micro-enterprise clients under various programmes. InterTradeIreland, Fáilte Ireland (tourism sector), and Bord Bia (food sector) also provide policy supports to micro-enterprise and SME clients. In some

cases, they work through the LEOs to facilitate mentoring services to their clients. Microfinance Ireland also makes use of the LEOs to provide guidance and mentoring to its microfinance borrowers. These co-operative policy delivery arrangements between public service providers reduce the possibility of parallel entities providing duplicative services and make more effective use of public resources.

Management of the LEO system

The Government established LEOs in 2014 to streamline and increase the coherence and accessibility of SME and entrepreneurship support for smaller firms. This involved a reorganisation of the former County Enterprise Boards into more consistent LEO offers. Although the LEOs are overseen by Enterprise Ireland, they are operated by the Local Authorities in a relationship governed by Service Level Agreements laying out the nature of the services, delivery standards, performance expectations, and reporting requirements.

The LEO Centre for Excellence in Enterprise Ireland issued a LEO Procedures Manual outlining the roles of the tripartite parties; control procedures; funding arrangements agreed to by Enterprise Ireland and the DBEI; management information systems and reporting requirements; branding guidelines; regulations for administering grants to microenterprise clients and for providing business supports, such as training and advisory/mentoring support; and annual submission of a Local Enterprise Development Plan and metrics to the DBEI and the LEO Centre of Excellence.

Enterprise Ireland also develops and trains LEO staff to ensure maintenance and improvement of core enterprise support skills, sets targets for progression of high potential companies from the LEO network to Enterprise Ireland, and undertakes performance evaluations. Through this new arrangement the government is able to offer micro-enterprises and SMEs easier access to a wider range of supports and provide a clearer pathway for micro-enterprises in manufacturing and tradable services to move up to the Enterprise Ireland client base.

To further ensure co-ordination of policy delivery at the local level, Enterprise Ireland has entered into a formal agreement with the National Association of Community Enterprise Centres (NACEC) to streamline the first stop services between the LEOs and the Community Enterprise Centres (CECs) nationally. The CECs are located in more communities across Ireland than the LEOs and reach into the rural areas where micro and small firms may not have easy access to the LEO services and networking activities. Implementing the local protocols across the country will ensure the LEOs are more fully integrated into the enterprise development plans of each county and promote complementarity of services provided by both entities to the benefit of the clients they mutually serve. The key role of the NACEC is to engage local stakeholders in building a local ecosystem of support for start-ups and micro and small enterprises and facilitate regional exchange of experience and information. Useful in this regard is an assessment of the entrepreneurial and business support ecosystem/landscape at the local level to identify gaps in support, as well as opportunities for designing a coherent pathway for new entrepreneurs to access the right supports to help them progress through development and growth stages with a higher degree of success.

In addition, the DBEI and the Department of Rural and Community Development (DRCD) have put into place a formal protocol regarding the facilitation of agreements at the local level between the LEOs and Local Action Groups (LAGs) and other partners involved in delivering the EU LEADER (*Liaisons Entre Actions de Development de l' Economie Rurale*/Links Between Actions for the Development of the Rural Economy) programme

for rural development policies. The purpose of the protocol is to ensure the key players reach agreement in relation to co-operation and collaboration in line with their respective mandates to support local enterprise development.

It should be noted that geographical distances between LEO offices sometimes act as a limiting factor to engage in local networks, particularly in rural areas. This can impede for example the frequency and intensity with which enterprises can participate in LEO events or supports (Cork Chamber of Commerce 2018).

Raising awareness of the policy offer

A common challenge facing the delivery of SME and entrepreneurship policies is creating awareness of the policy offer among the intended beneficiaries and ensuring that access to programmes is simple and inexpensive. This is especially important in the case of small business policy measures because the costs of search and access are proportionally higher for smaller enterprises. The launch in 2014 of the searchable "Supporting SMEs Online" tool, a new cross-governmental guide, helps entrepreneurs and micro and small enterprises identify which of the over 170 government supports (funding, programmes, business support initiatives) is appropriate for their business needs. In Q1 of 2019, the Online Tool was updated to include an SME events calendar and a latest news section along with an upgraded search function. The website is now located at www.supportingsmes.gov.ie. With some improvements (see Chapter 8 on business advisory services in Ireland), the complementary benefit of this online service is that it may serve as a first-stop information source for all SMEs, regardless of sector or stage of development, and help ensure that all segments of the SME population are directed to appropriate services, even where they might otherwise not be picked up in the outreach of the LEOs and Enterprise Ireland.

Policy recommendations

Recommendations on the strategic framework and delivery system for SME and entrepreneurship policy

- Draft a unified SME and entrepreneurship strategy document integrating all the relevant SME and entrepreneurship policy objectives and actions identified in high level policy documents across government.
- Publish an annual report on the state of SMEs and entrepreneurship in Ireland.
- Establish an interdepartmental committee on SMEs and entrepreneurship (informal or formal), chaired by the DBEI Minister, and including relevant ministerial counterparts, and extend the consultative role of the Advisory Group on Small Business (AGSB) to this broader group of departmental entities.
- Establish an inter-departmental SME and Entrepreneurship Policy Working Group consisting of senior officials working as SME and entrepreneurship focal points.
- Undertake an in-depth policy portfolio assessment of the distribution of government resources across different types of policy support and enterprise target groups.
- Fully implement the local protocols between the LEOs and the National Association of Community Enterprise Centres (NACEC) across the country to promote complementarity of services and the reach of LEO services into rural areas.
- Foster the further development of "ecosystem support hubs" through more collaboration at the local level between LEOs, CECs, incubators, accelerators, business innovation centres, research centres, Technology Development Offices, and other support providers.

Notes

[1] The goal is to achieve a one-third increase in levels of entrepreneurship and survival of start-ups that are trading in all regions through eHubs, mentoring and other collaborative initiatives at the sectoral level (DPER, 2018, p. 60).

[2] These include: an increase in scale (based on level of out-of-country sales) of Enterprise Ireland-assisted firms, the number of assisted firms active in research, development and innovation (RDI) by sales volume, growth in the number of High Potential Start-ups supported by Enterprise Ireland, and increased employment in client firms.

[3] https://www.oireachtas.ie/en/press-centre/press-releases/20181112-seanad-public-consultation-committee-to-consider-ways-of-assisting-and-promoting-smes/

[4] These include the Small Firms Association, the Irish Small and Medium Enterprise Association, the Design and Crafts Council of Ireland, the Irish Hotels Federation, the Irish Farmers Association, Chambers Ireland, Retail Excellence Ireland, the National Association of Community Enterprise Centres, plus the Irish Tax Institute, CPA Ireland, and The Digital Hub.

[5] The innovation/R&D expenditure included the EUR 22 273 137 reported from Enterprise Ireland, InterTradeIreland Fusion and Challenge programmes (just over EUR 3 million) and an estimated EUR 11.6 million from the SFI Collaborative Research programmes (although it is not clear that all this funding was directed to SMEs).

[6] Microfinance Ireland gives financial support to small indigenous microenterprises and start-ups in Ireland irrespective of whether they are considered to have export potential. The product is a repayable microfinance loan. The amount of loan portfolio is not included in this analysis. However, the cost of defaults is built in because that is paid out of the government purse. For the sake of this analysis, the default rate was estimated at about 9% of the loan portfolio.

[7] https://dbei.gov.ie/en/Publications/Publication-files/Forf%C3%A1s/Evaluation-of-Enterprise-Supports-for-Start-Ups-and-Entrepreneurship.pdf/

[8] For example, an annual business survey is conducted with EI client firms to measure growth in jobs, exports, investment, etc., which produces longitudinal data on the impact of EI supports.

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Chapter 5. SME and entrepreneurship programmes in Ireland

This chapter examines recently completed, on-going, and planned Government SME and entrepreneurship programmes at national level by thematic area of policy intervention. Each section describes and assesses the main programmes. It focuses on a number of key issues including the 'take up' of the programmes by target firms and how well the programmes address the key policy challenges for SME and entrepreneurship in Ireland identified in this report (e.g. increasing productivity, increasing business dynamism, diversification of export markets, etc.). The Chapter concludes with a set of policy recommendations.

Financing programmes

Credit Guarantee Scheme (CGS)

Ireland's Credit Guarantee Scheme was launched in October 2012 and provided a 75% guarantee to banks against losses on loans to eligible SMEs with a value ranging between EUR 10 000 and EUR 1 million. It thus aimed to facilitate lending to SMEs with a viable business model but inadequate collateral. SMEs making use of the CGS were requested to pay a maximum premium of 2% per annum to the Department of Business, Enterprise and Innovation (DBEI). Up to the end of Q1 2019, 669 facilities have been sanctioned for a total value of EUR 107 million.

In March 2017, following a review of the scheme, an updated Credit Guarantee Scheme was established. The main differences with the previous scheme are:

- An increase in the level of risk the State will take to 80% of individual loans;
- An extension of the scope to cover other financial product providers, like lessors, invoice discounters etc.; and
- An extension of the definition of loan agreements to include non-credit products and overdrafts.

Surveys among beneficiaries report that insufficient collateral represents the most important reason for using the credit guarantee, rather than securing a credit facility through the traditional commercial lending route (with 444 out of 487 respondents stating this as their primary reason). Around two-thirds of all CGS facilities were for working capital needs (SBCI, 2018).

Comparisons with other CGSs around Europe indicate that the Irish scheme is modest in size and outreach. In Flanders for example, a region of around 6.5 million inhabitants, slightly more than EUR 300 million in guarantees were disbursed in 2017 alone. In Denmark and Finland, countries with a population somewhat above Ireland's, the corresponding 2017 number is around EUR 185 million (DKK 1.377 billion) and EUR 560 million respectively (OECD, 2019). The relatively low take-up of the CGS in Ireland is surprising given the high collateral requirements imposed by financial institutions and the lingering difficulties of small firms to access finance compared to most other EU28 countries. This might possibly be related to insufficient awareness of the existence and benefits of the credit guarantee scheme among potential beneficiaries.

The CGS in Ireland has not been subject to an impact evaluation, which would shed light on the reasons behind the relatively low take-up of its activities as well as on its economic impact and additionality. A recent survey conducted by the European Commission and the OECD indicates that such schemes are commonly evaluated, albeit with large variations in frequency and evaluation methods (Schich et al., 2017). Ireland could conduct an evaluation of its revised credit guarantee scheme, and consider further additional revisions to increase the take-up.

Local Enterprise Office (LEO) grants

Local Enterprise Offices (LEOs) can offer direct financial grants to micro-firms (10 employees or fewer) in the manufacturing and internationally traded services sectors. The latter requirement is there to ensure that financially supported firms have a potential to develop into indigenous export firms, which is in accordance with Enterprise Ireland's (EI) overall mission.[1]

There are three main categories of grants under which direct financial assistance is provided:

- Feasibility Grants (investigating the potential of a business idea);
- Priming Grants (to part-fund a start-up);
- Business Development Grants for existing businesses that want to expand.

There is also a Technical Assistance Grant available for eligible micro-exporters who are seeking to explore alternative markets for their product or service. The most recent impact report shows that LEOs in 2017 approved financial grants to a total value of EUR 16.6 million for 1 131 applications. The vast majority (> 80 %) were attributed to grants for business development and feasibility.[2]

Strategic Banking Corporation of Ireland (SBCI)

The SBCI, a state-owned bank, began operations in March 2015. It does not provide financing directly to SMEs, but provides funding at relatively low rates to financial institutions that in turn allocate funds to SMEs. It works with seven on-lending partners, three bank and four non-bank institutions, and has a funding capacity of more than 1 EUR billion. At the end of 2017, the SBCI had lent EUR 920 million to 22 962 SMEs. EUR 391 million of loans were drawn by Irish SMEs with an average loan size of EUR 37 300 in 2017, with 80% of loans for investment purposes. The SBCI has also continued to provide low cost liquidity to a number of non-bank lenders providing a range of products (leasing, hire purchase and invoice discounting).

The SBCI launched the Brexit Loan Scheme together with the Department of Finance, DBEI and the Department of Agriculture, Food and the Marine at the end of March 2018. The scheme provides 1-3 year term loans of between EUR 25 000 and EUR 1.5 million to eligible enterprises, at a maximum interest rate of 4%. Loans of up to EUR 500 000 can be underwritten without any collateral requirements and the scheme is budgeted at EUR 300 million. It is supported by EIB Group's InnovFin SME Guarantee Facility.

The scheme has been available from 28th March 2018 and is planned to remain open until 28th March 2020. It aims to address the need for relatively short-term credit to face working capital challenges brought about by Brexit and is therefore only available for firms up to 499 employees that can prove to be impacted by the decision of the United Kingdom to leave the European Union (and complies to the InnovFin conditions which among others, excludes firms operating in primary sectors such as agriculture). The scheme mostly supports firms with export activities to the United Kingdom.

A new Future Growth Loan Scheme announced in Budget 2019, jointly funded by the DBEI and the Department of Agriculture, Food and the Marine provides a longer-term scheme facility of up to EUR 300 million to support capital investment by business. The scheme is delivered by SBCI at competitively priced rates with better terms and conditions than currently offered in the marketplace (e.g. no security is required for loans up to EUR 500 000) and offers loan terms of 8 to 10 years. This scheme includes the primary agriculture and seafood sectors.

Microenterprise Loan Fund Scheme

The Microenterprise Loan Fund, managed by Microfinance Ireland, was set up under the Action Plan for Jobs to support economic development and to increase employment and enterprise. This is achieved through the provision of unsecured business loans of EUR

2 000 to EUR 25 000 for commercially viable proposals to micro-enterprises that cannot get funding through normal commercial channels, for working capital, equipment, start-up costs, or marketing purposes. The loan term is typically 3 years for working capital purposes and can be extended to 5 years for capital expenditures. Interest rates range from a fixed rate Annual Percentage Rate (APR) of 7.8% for direct applicants to a fixed rate APR of 6.8% for applicants through the LEO Network, Local Development Companies and banks. Between October 2012 and the end of March 2019, the Fund received 4 724 applications and approved 2 065 loans to micro-enterprises for a total value of EUR 30 million, supporting 5 028 jobs. This fund is the only direct lender to indigenous microenterprises unable to source bank lending that is active in Ireland.

In an internal DBEI Review published in March 2015, Microfinance Ireland was reviewed as moderately successful in its first two years of operation. The lower than anticipated demand for microfinance represented a weakness, in particular in some counties (Department of Jobs, Enterprise and Innovation, 2015).. Since then, the demand for its services has increased significantly with applications volumes doubling since 2014. The Fund is now receiving in excess of 1 000 applications per year and since 2014 has achieved and beaten the job target of 770 jobs per year. Applications up to September 2018 were 18% ahead of 2017 (Microfinance Ireland, 2018).

Microenterprises generally make less use of external financing instruments than their larger peers, likely reflecting the more difficult access (Kraemer-Eis et al., 2018). In Europe, the number of microfinance loans has expanded by 20% between 2015 and 2017 and volumes by 32% over the same period (European Microfinance Network, 2018). The more successful schemes in Europe appear to have a significant impact on entrepreneurship, economic growth and social inclusion. One crucial characteristic for success appears to be the availability of non-financial support such as coaching and mentoring to their beneficiaries (see Box 5.1 for the experience in France and the Netherlands). The Microfinance Loan Fund compares favourably in its reach to Qredits, a similar scheme in the Netherlands, when equalised for population size, time in existence and loan size.

A key focus of the Fund is financially vulnerable sectors such as the unemployed, females, older adults, youth and migrants. As of September 2018, 23% of loans were for beneficiaries of the “Back to Work Enterprise Allowance”, of which 26% were women and 19% non-Irish passport holders.

Box 5.1. Microfinance in the Netherlands (Qredits) and in France (ADIE)

Qredits in the Netherlands was founded in 2009 as a private foundation by a group of public and private partners. The idea behind Qredits is that it provides support to all groups in society that have an interest in entrepreneurship, have a viable business plan, but are not able to obtain loans otherwise.

In 2016 Qredits issued over EUR 42 million in business loans benefitting 1 750 entrepreneurs, 27% more than in 2015. 1 490 of these loans were micro-loans, up to EUR 50 000, which is twice the ceiling in Ireland. In addition, Qredits also provided 105 loans between EUR 50 000 and EUR 250 000. 155 received a flexible credit for a total of EUR 2 million. This working capital product has a EUR 25 000 limit and can be accessed and paid back as needed.

Apart from providing loans, Qredits also provides mentoring and business development tools for micro-entrepreneurs. Although non- finance activities have always been a part of Qredits' portfolio, they have expanded strongly in recent years and almost half of all beneficiaries received coaching in 2014.

76% of surveyed entrepreneurs who benefited from micro-finance under the Qredit programme declared that they would have been unable to start their business in the absence of the programme. 42% of the beneficiaries of the Qredits stated that access to finance still represented the most important barrier to them to set up a business (Ibrahimovic and can Teeffelen, 2016). Both numbers suggest a considerable additionality of the micro-finance scheme in the Netherlands.

A counterfactual study conducted in 2016 came to the conclusion that the scheme had achieved the intended impact, providing finance mostly to SMEs that are deemed too risky to be served by regular financial institutions, but were generally as successful as firms in a control group (Kerste et al., 2016a).

ADIE (*Association Pour le Droit à l´Initiative Economique*) was established in France in 1989. It provides the following support measures:

- Loans up to EUR 10 000;
- "Start-up grants" funded by the French government or by local authorities;
- Subordinated loans bearing no interest rates;
- Micro-insurance schemes to protect micro-entrepreneurs and their business;
- Microfranchising;
- One on one business development services such as coaching, business planning, advice regarding administrative and legal procedures and so on.

In 2016, an evaluation by KPMG, an accounting firm, was released. It illustrated that for every one euro that was invested by tax payers, there was a collective return on investment of EUR 2.38 on average after two years of investment, both because of a decrease of welfare spending (like the *revenu de solidarité active (RSA)*, providing a minimum income for unemployed and underemployed people or the *solidarité spécifique (ASS)* for unemployed people who do not qualify for the RSA) and because of increased contributions to social security (KPMG, 2017).

In Ireland, Microfinance Ireland provides mentoring support to its successful applicants. These services are paid for by Microfinance Ireland and provided through the LEO Mentor Panel. These supports consist of up to five mentoring sessions for start-up businesses and up to three for established enterprises.

Schemes to develop risk capital for innovative Irish firms

Development Capital Scheme

The Development Capital Scheme is designed to address the funding gap for mid-sized, high-growth, indigenous companies that have significant prospects for job and export growth. Through this scheme, Enterprise Ireland co-invests on a *pari passu* basis and with the same commercial terms as privately run and managed Funds, i.e. MML Capital Ireland, BDO Development Capital Fund and Cardinal Carlyle Ireland Fund. A total of EUR 225 million in funding is available, typically investing between EUR 2 to EUR 10 million in equity, quasi equity and/or debt.

Innovation Fund Ireland

Innovation Fund Ireland aims to attract global venture capital firms and experienced investment managers to Ireland to invest in innovative SMEs. It is managed by Enterprise Ireland and the Ireland Strategic Investment Fund (ISIF), which both invest EUR 125 million in the Fund. Approximately EUR 80 million has been committed to four funds which are actively investing and have completed their investment cycle. These funds are Sofinnova Ventures, Arch Venture Partners, Highland Capital Partners Europe and Lightstone Ventures.

Enterprise Ireland Seed and Venture Capital Scheme

The Seed and Venture Capital Scheme has been in operation since 1994 and was established to increase the availability of risk capital for SMEs. Since 1994 there have been four multi-annual programmes under the scheme. The government, through Enterprise Ireland has made a further EUR 175 million available for a fifth multi-annual programme (2019-2024) to stimulate job creation and support the funding requirements of young innovative Irish companies. All funds are independently managed by private sector fund managers who make the decisions regarding investments. To date, EI has committed more than EUR 510 million, which, using a co-investment model, has raised a total of EUR 1.19 billion in Seed and Venture capital funding.

Ireland Strategic Investment Fund (ISIF)

The Ireland Strategic Investment Fund, managed and controlled by the National Treasury Management Agency (NTMA), is a EUR 8.9 billion sovereign development fund with the mandate to stimulate economic activity and employment in Ireland on a commercial basis. ISIF absorbed the EUR 7.1 billion Discretionary Portfolio of the National Pensions Reserve Fund on December 2014. To ensure the efficient delivery of funds, the ISIF targets its investments in private sector entities that interface directly with SMEs. To date, commitments have been made to a number of funds, the details of which are included below (OECD, 2019):

- SME Equity Fund – Carlyle Cardinal Ireland (CCI); ISIF committed EUR 125 million to this EUR 292 million fund focused on lower mid-market private equity investing;

- SME Credit Fund – Bluebay; ISIF committed EUR 450 million to the Bluebay SME credit fund focused on lending to large SME and mid-sized companies;
- DunPort SME Fund; ISIF completed a EUR 95 million commitment in 2018. The fund will provide a mix of Unitranche, Senior and Mezzanine debt to Irish SMEs with ticket sizes of EUR 3 million to EUR 35 million and terms of 3-5 years;
- BMS Finance Ireland: The EUR 30 million fund provides debt finance to high-growth Irish SMEs for working capital, contract wins, capital expenditure, acquisitions and MBOs;
- Causeway Capital; a EUR 60 million Dublin-based private equity fund that targets fast-growing small and medium businesses in Ireland and the United Kingdom;
- Milkflex Fund: Milkflex Fund is a EUR 100 million fund which provides loans of between EUR 25 000 and EUR 300 000 to dairy farmers;
- Finance Ireland: ISIF invested EUR 30 million in equity in Finance Ireland. whose overall strategic goal is to become Ireland's leading broad based non-bank lender to the SME sector;
- Muzinich Pan-European Private Debt Fund: ISIF committed EUR 45 million to the Muzinich Pan-European Private Debt Fund 7 which, in turn, targeted investment of EUR 67.5 million towards Irish SMEs through sub EUR 10 million loans;
- Finistere Ventures: The Ag-Tech Fund was established with EUR 20 million to invest in technological companies in the food and agriculture sector;
- Insight Venture Partners: A commitment of USD 100 million in a global investor focused exclusively on growth stage software companies;
- BGF: An investment fund with EUR 250 million to invest as minority stakes of between 2 EUR million and 10 EUR million;
- Motive Capital: USD 29.5 million investment in a Fintech specialist private equity investor.

Few sovereign wealth funds around the globe have an explicit mandate to support economic activities and employment (and focus solely on delivering commercial returns), and ISIF thus represents an outlier in this respect. Although precise data are not available, only a small fraction of institutional investor's funds are directed to small companies, due to regulatory restrictions, the opacity of SME markets, limited scale and exit options (Boschmans and Pissareva, 2017) (World Bank, IMF, OECD, 2015). Given the relative novelty of ISIF's mandate, it is advisable to closely scrutinise the economic impact and return on investment.

InterTradeIreland Seedcorn

The InterTradeIreland Seedcorn competition mirrors the real life investment process in order to improve participating firms' ability to attract investors. The competition is aimed at early and new start companies that have a new equity funding requirement and has a total cash prize fund of EUR 280 000.

WDC Investment Fund

WDC Investment Fund is a EUR 50 million Evergreen Risk Capital Fund serving the Western Region covering the counties Clare, Donegal, Galway, Leitrim, Mayo, Roscommon and Sligo. The WDC Investment Fund has a number of targeted sub-funds:

- WDC Business Investment Fund provides equity investment and loan finance to small and medium-sized enterprises (SMEs) with first round investments ranging from EUR 100 000 to EUR 1 million. The WDC's Business Investment Fund invests across all sectors, including Lifesciences and MedTech, ICT, CleanTech, Creative Industries, Marine and Natural Resources, Food and Tourism.
- The Western Regional Audio-visual Producers (WRAP) Fund is a EUR 2 million regional fund for the audio-visual sector. It provides funding of up to EUR 200 000 for feature films, television dramas, animation and games that undertake a significant portion of their production in the WRAP area, which covers counties Clare, Donegal, Galway, Mayo, Roscommon and Sligo, and up to EUR 15 000 by way of loan for the development of feature films, television dramas, animation and games at any stage from treatment to pre-production. It is a joint initiative with Galway Film Centre and is supported by the local authorities of Clare, Donegal, Galway, Mayo, Roscommon and Sligo and Udaras na Gaeltachta.
- WDC Micro-Loan Fund for Creative Industries provides micro-loans of up to EUR 25 000 on an unsecured basis to micro-enterprises in the creative industry sector.
- WDC Community Loan Fund provides loan finance to community and social enterprises at a low interest rate. The WDC Community Loan Fund also provides bridging finance to facilitate community and social enterprises drawdown approved grant-aid.

Innovation programmes

Overall innovation framework

The DBEI, along with the Department of Education and Skills (DES), is responsible for leading National Strategic Outcome 5 – A Strong Economy Supported by Enterprise, Innovation and Skills (NSO5). In June 2018, it published an investment overview which summarises the strategic investment priorities (with a foreseen capital funding of EUR 3.16 billion to 2022 and a planned total allocation of EUR 9.4 billion to 2027), which will deliver the NSO over the period 2018-27. The Strategic Investment Priorities (see page 11 of DBEI, 2018) include investments in line with the Innovation 2020 strategy (see below) as well as new initiatives such as regional 'Technology and Innovation Poles' (TIPs) and regional sectoral clusters (see Chapter on the local dimension).

The Innovation 2020 strategy, adopted in 2015, is an overarching policy framework for research and innovation and is a "whole government strategy" covering the implementation of 140 actions by Enterprise Ireland (EI), Science Foundation Ireland (SFI), the Local Enterprise Offices (LEOs) and a number of other departments and agencies. Innovation also is given a prominent place in the annually updated Action Plan for Jobs (Irish Government, 2018).

Innovation 2020 aims to increase gross expenditure on R&D (GERD) to 2.5% of GNP, a significant increase on the 2014 rate (1.5%), notably by the business sector investing more in R&D. A related target is to increase the number of research personnel in enterprises by

60% to 40 000. Both these targets appear ambitious, despite a gradual growth in absolute levels of business expenditure on R&D (BERD) from 2013 to 2015 (CSO, 2018), since faster GNP growth has resulted in lower GERD and BERD intensities. A third target to increase the number of "significant business R&D performers" (spending between EUR 100 000 and EUR 1 999 999) to 1 200 enterprises is challenging (the number was 918 in 2017).

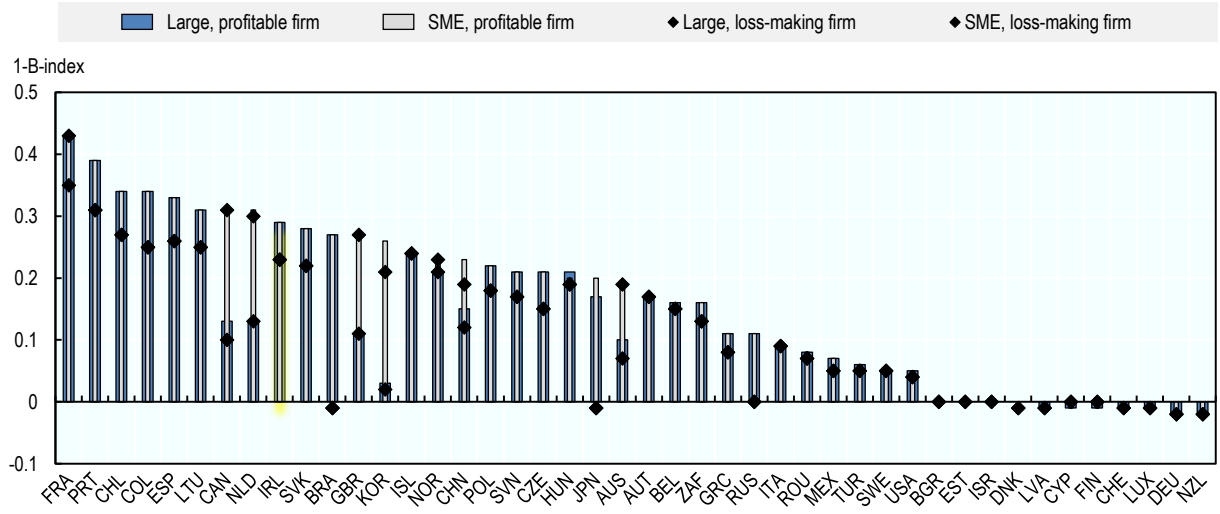
Tax incentives for business R&D and innovation

R&D tax credit

An R&D tax credit was first introduced in 2004 in Ireland and has undergone several changes since then. The most significant change was in 2015, when Ireland's tax credit became entirely volume-based, which led to a significant increase in the implied marginal tax subsidy rates for SMEs and large firms in both profit and loss scenarios (OECD, 2018). A payable element to the R&D tax credit was introduced in 2009, which is useful for smaller loss-making firms in the development phase and beyond. The payable element is limited by reference to the company's corporation tax or payroll tax liabilities. Moreover, expenditure on activity outsourced to third level institutes is restricted to the greater of 5% of overall spend or EUR 100 000. Likewise, expenditure on activity outsourced to third party subcontractors is restricted to the greater of 15% of overall spend or EUR 100 000. These restrictions are also subject to 'matched' internal expenditure requirements, which can also be a barrier (a firm can only claim EUR 100 000 of outsourced expenditure, for example, if it has spent the same amount internally). A provision was also introduced to make it possible to carry forward unused credits (for three years), again useful for smaller loss-making firms in the development phase. However, upper ceilings apply to the amount of subcontracted R&D that can be claimed through tax credits. Under the R&D tax credit, companies can receive a credit of 25% of qualifying expenditure. This expenditure is also a deductible cost for corporation tax purposes. In practice, companies undertaking qualifying R&D can thus claim a refund from the Revenue of EUR 37.50 for every EUR 100 worth of R&D expenditure.

In 2017, Ireland had the highest share of tax incentives financing BERD (0.29% of GDP) and the sixth most generous R&D tax subsidy rate of the OECD and other selected countries (Figure 5.1).

Figure 5.1. Tax subsidy rates on R&D expenditures, 2017



Source: OECD R&D Tax Incentive Database, http://oe.cd/rdtax, March 2019.

StatLink http://dx.doi.org/10.1787/888934005188

The above data indicate that the current R&D support is already quite generous in an international perspective. The Irish Government may therefore consider optimising current schemes, for example by ensuring smaller companies have easier access to government support in this area, rather than further raising expenditures.

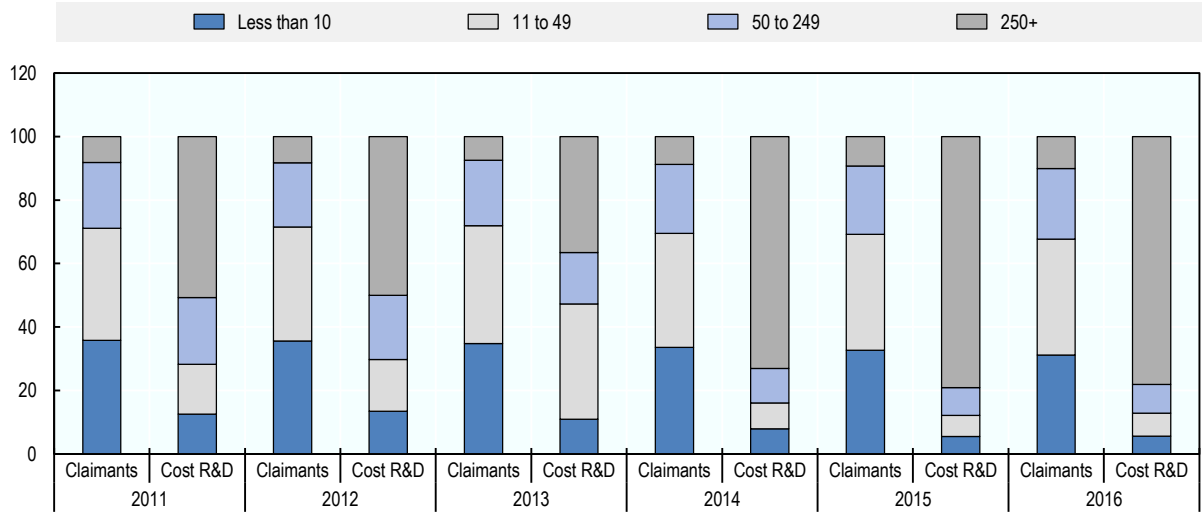
In particular, the distribution of the R&D tax subsidy to firms by size is heavily skewed to larger firms. Firms with more than 250 employees accounted for 10% of claims but 78% of the cost of the R&D tax credit in 2016. Similarly, the Large Case Division (LCD) of the Irish Revenue service handled 12% of claims but "LCD firms" (the largest corporate taxpayers) accounted for 70% of the cost of the R&D tax credit in 2017. While the statistics do not distinguish between indigenous and foreign-owned firms, these data suggest that MNEs are the main beneficiaries of the R&D tax credit. Two main reasons for the limited claims by smaller companies are:

- The cost of preparing, filing and defending a claim is too high. The criteria for making claims, recording and justifying claims and so on as laid down by Revenue are onerous for SMEs – the rules appear to have been designed with large established R&D intensive (e.g. pharmaceutical) companies in mind, where development processes are very detailed and structured. In contrast, the rules are not a good fit with, for example, new, agile software development companies, where processes are fluid and fast and documentation is less necessary.
- The risk of Revenue making a clawback of a claim, going back up to 4 years, can put SMEs off. Revenue data shows that revenue audits on R&D claims are both frequent and high yielding in terms of clawbacks of claims. SMEs may find it hard to carry a potential clawback liability and may see the risk as too high.

As noted above, efforts have been made to simplify the R&D tax credit and make it attractive to smaller (indigenous) firms. However, the data suggest that larger firms are increasingly subsidised via the R&D tax credits with a growth of close to 300% in the value

of R&D tax credits compared to 14% for SMEs in the period 2011-15 (see Figure 5.2). The increase in the value of R&D credits was particularly significant from 2014 onwards. This could be due to changes to the tax credit regime with the removal of the "base year" and incremental allowable amounts from 1 January 2015.

Figure 5.2. Share of R&D tax credit claimant numbers and total exchequer cost by firm size (number of employees)



Source: Revenue Ireland, data extracted 27/9/18, calculations author.

StatLink http://dx.doi.org/10.1787/888934005207

An empirical study published in 2018 investigated the impact of the R&D tax incentives by firm size as operated in France, Italy, Spain and the United Kingdom over the 2008-2009 period. In these four countries, the positive impact on firm behaviour (measured as the intensity of R&D expenses over sales) was much higher for small enterprises than for large ones. The research suggests that large enterprises, in contrast to SMEs, typically engage in R&D activities in the absence of tax incentives (Sterlacchini and Venturini, 2018). Efforts to make the Irish R&D tax credit more accessible to smaller firms would therefore likely increase its additionality and efficiency. This is especially relevant given significant deadweight of the current scheme. It has been estimated that 40% of the R&D in Ireland benefiting from the incentives would have occurred anyway (Department of Finance, 2016).

A pre-approval process for R&D tax credits would diminish the uncertainty of potentially incurring a clawback and paying penalties and encourage more take-up by SMEs. Another potential improvement is simplified and updated record keeping requirements (a reduction of the four-year period) and clearer guidance on the eligibility criteria.

In addition, with a view to increasing co-operation among businesses and with higher education, the limits on outsourcing R&D work to third parties or universities should be reviewed. This discourages collaboration and is likely to disproportionately affect SMEs as, with fewer resources, a collaborative approach may be the only way for an SME to progress.

Further, if a company does not have a tax liability in the current or immediate prior period, it can claim a repayment in cash of R&D tax credits in three equal instalments over a three-year cycle. In comparison, in the United Kingdom, SMEs can obtain refunds immediately after filing their corporation tax return. This is particularly significant for SMEs, which are more likely to be unprofitable at the R&D stage.

To provide a point of comparison, learning elements from Norway's Skattefunn scheme, identified as a successful R&D tax credit scheme by a 2014 European Commission study are summarised in Box 5.2.[3]

Box 5.2. The Norwegian experience in targeting R&D tax credits to boost SME R&D innovation

Description of the approach

Norway introduced the SkatteFUNN refundable R&D tax credit for SMEs in 2002 as a volume based tax credit with a headline rate of 20% (which has remained stable since introduction) for SMEs. Where there is insufficient tax liability, firms receive a refund of unused credits in the following year. A ceiling of NOK 25 million applies to in-house R&D (inclusive of R&D procured from entities other than approved R&D institutions) and NOK 50 million to purchased (subcontracted) R&D when purchased from approved R&D institutions. The caps on eligible costs are applicable for each individual company, meaning that if a holding company has three subsidiaries, each of the three companies may benefit from SkatteFUNN up to the cap for each company.

The tax incentive is based on R&D projects, which are approved by the Research Council of Norway within the same calendar year as the application has been filed. In practice, this procedure is an ex-ante appraisal of whether or not a project qualifies as R&D or not. In 2017, more than 7 600 projects received support under the SkatteFUNN tax deduction scheme, a 10 per cent increase from the year before. The total cost for eligible R&D projects amounted to nearly NOK 31 billion, leading to tax deductions of just over NOK 5.5 billion. The scheme is considered to be well-suited for SMEs and an important instrument for restructuring industry and boosting trade.

Factors of success

The SkatteFUNN R&D tax incentive has been evaluated several times and was found to be effective in stimulating private R&D investments. Firms that previously invested less than the cap increased their R&D more than firms that previously invested above the cap. Firms that previously did not invest in R&D were more likely to invest. Additionality effects were found to be strongest in small, low tech and low-skilled firms.

A key factor of success is the simple application process (the application form was further simplified in 2018) to apply for a deduction. The application procedure is based on a self-declaration and advice and guidance is provided throughout the application. Moreover, the Research Council of Norway, which administers the scheme, has a policy of pro-active communication with potential applicants and of educating auditors and accountants. This has resulted in a sustained year-on-year increase in applications since 2011, with almost 50% of companies applying having less than 10 employees and more than 80% with less than 50 employees. Approximately 20% of the SkatteFUNN beneficiaries each year are new and slightly less than half have no prior experience in R&D (Benedictow et al, 2018).

The 2018 evaluation found that SkatteFUNN significantly increases recipient's investments in R&D so that for every NOK 1 of tax credit, R&D expenditure increases by more than NOK 2. Positive effects were found on increasing innovation in terms of new products and processes as well as on labour productivity. The evaluation concluded that SkatteFUNN is better suited to enhancing smaller R&D projects (in smaller firms) than other R&D grant based instruments.

Obstacles and responses

While, the SkatteFUNN scheme does not stipulate any particular obligations with regards to inter-company collaboration, a company may choose to carry out the project using internal resources or to collaborate with other companies or external R&D institutions, applying the double cap for eligible costs when sub-contracting. If more than one company is involved in an R&D project, each company is required to submit a separate SkatteFUNN application, listing its share of specific R&D activities in the project.

However, both the 2016 and 2018 evaluations have not found a strong impact on co-operation with universities, colleges and research institutes. The 2018 evaluation noted that the number of collaborative projects with R&D institutions had remained stable over 10 years, and that despite the fact that collaborative SkatteFUNN projects had increased in both duration and total budget since 2009, this is not due to the share of extramural R&D rising. The evaluation concluded that despite the specific increases in the cost cap for extramural R&D, this has not stimulated additional collaboration (yet). This led the evaluators to recommend increasing the tax credit rate to 25% for intensive collaboration (defined as projects that spend at least half the budget on purchased R&D).

Relevance for Ireland

SkatteFUNN's ex-ante evaluation (pre-approval) process is of relevance to the Irish case as it provides a high-degree of certainty, notably to smaller firms, about the eligibility of the planned expenditure. Combined with advice to smaller firms from institutions such as Enterprise Ireland, LEOs or Technology Gateways, it can help them define a feasible R&D project, and leverage additional uptake (and volume of credits) of the R&D tax credit by Irish SMEs.

The SkatteFUNN provision that allows doubling of the maximum eligible costs in case of sub-contracting to a research institute could also be a means of enhancing R&D efforts by smaller Irish firm while strengthening co-operation within the Irish innovation system. Increasing the R&D tax credit rate for intensive collaboration while reducing the rate for non-collaborative R&D could generate a significant behavioural additionality in the Irish system, boosting co-operation between larger (foreign-owned) and smaller (Irish-owned) firms as well as between both types of firms and the Irish research and technology infrastructures and centres.

For further information: www.skattefunn.no.

The Knowledge Development Box (KDB)

The Knowledge Development Box (KDB) initiative, a complementary measure, was introduced in 2016, and provides for a preferential tax rate on income from qualifying intellectual property (IP) resulting from R&D carried out in Ireland. Additional legislation was passed in 2017 which aimed to make the scheme more accessible to SMEs by allowing the exploitation of certain non-patented assets to qualify for relief. Under the scheme, firms

can apply to the Controller of Patents, Designs and Trade Marks for a certificate when they believe that their IP generated as a result of R&D is novel, non-obvious and useful. If the certificate is granted, the SME will be entitled to a deduction equal to 50% of its qualifying profits in computing the profits of its specified trade, resulting in an effective tax rate of 6.25% on profits arising from the IP assets. Restrictions on outsourcing are less stringent than those under the R&D tax credit regime and since the share of the profits from IP that can be claimed depends on the share of R&D undertaken in Ireland, this would potentially benefit SMEs more than MNEs (the latter are more likely to develop IP based on research done partly elsewhere than in Ireland). However, in April 2018, fewer than 10 taxpayers had claimed tax relief under the KDB scheme, suggesting that it may not be proving easy for firms to use this new tax relief. The eligibility and administration procedures could be further examined as well as awareness of the scheme.

Direct support to incentivise domestic owned firms to innovate

At the national level, direct innovation support is delivered mainly by Enterprise Ireland (EI). EI targets three types of firms: high-potential start-ups (HPSU), established SMEs, and large companies (over 250 employees). The latter are eligible for R&D funding and business innovation funding under the De Minimis State Aid rules from the European Union (EU), which allows small amounts of aid unlikely to distort competition.

The 2017-20 EI strategy aims to "support more Irish companies to achieve greater scale and expand into new export markets". This includes EI support for innovation with the aim to increase business R&D spend by 50%, reach a target of EUR 1.25 billion per annum by 2020, increase the level of innovation and entrepreneurship across Irish regions and improve connections between EI client firms and "international innovation ecosystems". To reach these objectives EI foresaw, amongst other measures, introducing new innovation supports broadening the scope of direct in-company research, development and innovation (RDI) support to new sectors and further boosting innovation-led pre-commercial procurement (see section on procurement).

EI direct support schemes

In Ireland, "HPSU" (defined as start-up businesses with the potential to develop an innovative product or service for sale on international markets and to create 10 jobs or more and EUR 1 million in sales within 3-4 years of starting) are supported through the dedicated EI HPSU programme. In 2017, 90 new HSPUs were approved, the focus of HPSU being predominantly in the ICT sector. In practice, the HPSU scheme involves EI pre-screening the business case of applicant entrepreneurs and, when an entrepreneur or existing start-up is deemed eligible, the HPSU is then provided with advice on funding and other support from an EI Development Advisor. Firms that do not qualify are either encouraged to further develop their business case by following a start-up development programme or redirected towards a LEO for funding and support. Entrepreneurs managing HPSU or other tech-based start-up firms can also avail of the R&D tax credits and business innovation funding and support programmes, as well as various entrepreneurship education and training initiatives discussed below.

Increasing the engagement of SMEs in RD&I is facilitated by a suite of EI measures. The core elements of EI direct support to firms for RD&I include:

- **Innovation vouchers** providing funding to assist a company explore a business opportunity or problem with a registered knowledge provider. Two types of vouchers are offered: Standard EUR 5 000 vouchers can be applied for during

regular open calls; and Co-funded Fast Track Applications where the value of the voucher is EUR 5 000 and the company contributes 50% of the project costs in cash (hence total budget of maximum EUR 10 000). In 2017, 557 innovation vouchers were redeemed to solve small business problems (EI Annual Report 2017);

- The **Exploring Innovation grant** aims to support better planning of R&D, Innovation or International Collaboration projects. The maximum grant for these feasibility study projects is EUR 35 000 (50% of eligible costs). The outputs should include a project plan that may form the basis of an application for R&D or other funding from EI. Hence, it acts as a pipeline for other EI funding schemes.
- The **RD&I fund** supports firms in manufacturing or internationally traded services (not HPSU firms unless they have sustainable revenues of EUR 500 000). Two types of projects can be funded: R&D projects involving the resolution of technical challenges in order to develop new products, processes or services; and business innovation projects involving the implementation of a new services delivery or a new production method or a substantive change to the business model of the company. Maximum grants for R&D Projects are EUR 650 000 (although larger projects can be supported by EI on a case-by-case basis) and for Business Innovation Projects EUR 150 000 (with variable shares of project costs eligible in line with EU State Aid rules). A collaboration bonus of up to 15% is available for R&D projects where there is collaboration between two companies, but the total maximum funding cannot exceed 50% of the total project cost. In 2017, there were 99 R&D grant approvals in excess of EUR 100 000. According to EI's Annual Report for 2017, 146 companies were engaged in substantial R&D projects of above EUR 1 million spend per annum and 982 client companies were engaged in significant R&D expenditure of above EUR 100 000 per annum. EI's Key Manager Programme also offers a grant that can cover salary for innovation projects and recruit "innovation managers" who can be incorporated into an R&D Fund proposal.
- The **Innovation Partnerships** can provide up to 80% of the cost of research work to develop new and improved products, processes or services, or generate new knowledge and know-how. The Programme encourages Ireland-based companies to work with Irish research institutes, resulting in companies accessing expertise and the research centre benefiting in terms of developing skill sets, intellectual property and publications. The application to EI is managed by the Principal Investigator in the participating research institute. All Innovation Partnerships projects require the company partner to provide minimum cash contribution of 20% of the total project cost. The average of EI funding per project is EUR 220 000 with some projects thus receiving significantly higher funding. In 2017, a record 85 innovation partnerships were approved, 36 of which were between EI client companies and higher education institutes (EI Annual Report 2017).

In November 2017 the new **Agile Innovation Fund** was launched to help companies commercialise innovations rapidly in (international) markets. The Fund gives companies rapid access to funding for innovation and to respond to changing market opportunities and challenges (such as those posed by Brexit). The Fund aims to support companies in sectors with rapid design cycles to maintain their technology position. The Fund is managed on a fast-track approval procedure and a streamlined online application process and companies can access up to 50% funding to support product, process or service development projects with a total cost of up to EUR 300 000.

In addition, EI has developed an **Innovation 4 Growth** programme which provides tailored executive education to managing directors and their top teams in Irish businesses. The programme is delivered by the Irish Management Institute in partnership with MIT Sloan School of Management in Cambridge, Massachusetts. The programme is designed around five modules and aims to develop increased innovation management skills and growth.

Direct support schemes from InterTradeIreland

InterTradeIreland runs the **Challenge Programme** which provides SMEs with a sustainable and repeatable process for managing innovation. Through workshops and coaching over a nine-month period, proven tools and techniques to help companies create, evaluate and commercialise new ideas are embedded in the company. Over 100 SMEs have benefitted from this coaching since the first programme in 2011. In addition, InterTradeIreland runs the **All Island Innovation Programme**, which aims to promote and encourage innovation across the Island. A series of innovation lectures, seminars and masterclasses are held throughout the year to share international best practice in areas of innovation. The events, which take place in Belfast, Dublin, Galway and Cork each year, are attended by over 1 000 business leaders, policy makers, students and academics from across the Island.

InterTradeIreland helps companies and researchers from Ireland and Northern Ireland to collaborate in **Horizon 2020**, the European Commission's seven year, EUR 80 billion, Research and Innovation programme designed to boost jobs and growth across Europe. The exchange of information, contacts and knowledge through the steering group and the relationships brokered and facilitated by InterTradeIreland is the most important element in achieving a step change in cross-border research cooperation. The total drawdown to March 2017 for collaborative North-South applications from Horizon 2020 is EUR 63.46 million. The programme aims to achieve its objectives by engaging industry, so that scientific ideas can be turned into viable products and services. Since 2014 InterTradeIreland has offered Cross Border and EU travel vouchers to 64 SMEs.

Attracting foreign-owned R&D and innovation-intensive high growth firms

The government's investment, via SFI and EI, in a range of research and technology centres (discussed below) is a key element of a strategy to attract more knowledge- and innovation-intensive FDI and to connect these investments with indigenous firms and the Irish research base. **IDA Ireland**, the Irish foreign direct investment (FDI) agency, also provides a number of grants to support both large and "small multinational companies" (in partnership with EI) as well as IDA managed grants for: Innovation Vouchers; Research, Development and Innovation (RD&I) Feasibility Studies; and in-house R&D.

The small multinational company category seems to be synonymous with the IDA targeting of high-growth companies that are "typically operating less than seven years and have a turnover between USD 30 million – USD 70 million." Since 2010, over 100 high growth global companies have established their operations in Ireland. In 2017, IDA Ireland reported 50 RD&I projects and investment in these projects of EUR 905 million. In 2016, IDA reported that the total R&D in-house expenditure of domestically hosted MNEs was EUR 1.64 billion. This compares to a target of winning a cumulative EUR 3 billion in new R&D expenditure and to encourage 120 additional companies to engage in R&D across the FDI portfolio (IDA Strategy).

Policy programmes supporting collaborative R&D and innovation

Collaboration, between enterprises (including MNEs) and between enterprises and the research base, in the Irish innovation system is fostered via investment in research and technology infrastructures, managed principally by EI and Science Foundation Ireland (SFI), in partnership with the IDA for certain programmes. These centres are complemented by a number of funding programmes such as SFI Industry Fellowships, Knowledge Transfer Ireland (KTI) and InterTradeIreland's Fusion programme (which helps firms recruit a high calibre science, engineering or technology graduate in partnership with a third level education institution).

As part of Innovation 2020, the national research prioritisation exercise (RPE) (considered as Ireland's response to the EU's requirement to present a 'Smart Specialisation Strategy') has identified 14 priority areas (after a process of consultation with stakeholders, including industry) for targeting competitively awarded research investment and funding within six broad enterprise themes (ICT, health and wellbeing, food, energy, climate change and sustainability, manufacturing and materials as well as services and business processes).

A number of research and technology 'centres' have been developed and the RPE is used as a guiding framework for further investment. These infrastructures include:

- SFI funded Research Centres;
- EI funded network of industry-led Technology Centres; and
- EI funded Technology Gateways.

The SFI Research Centres focus on applied and basic research combined (ABC), while the EI sponsored Technology Centres and particularly the Technology Gateways work closer to the immediate needs of firms (notably SMEs). While SFI Research Centres undertake fundamental and earlier-stage applied research, they are increasingly working with industry to support embedding and scaling of technology. SFI Research Centres also work extensively with SMEs. Some observers point to an overlap in activities and engagement with industry between SFI Research Centres and EI Technology Centres.

A further programme supporting mobility of researchers into industry is the Marie Curie Career Fit Programme, which addresses skills gaps for innovation in SMEs by sourcing highly experienced international researchers or engineers to work with sectoral challenges facing companies associated with the Enterprise Ireland Technology Centres. It provides an opportunity for experienced researchers to develop their careers in market focused applied research in Ireland's Technology Centres, with an enterprise secondment between 6 and 12 months during the Fellowship.

Science Foundation Ireland Research Centres and related measures to support collaboration

SFI has funded 17 SFI Research Centres to date, with an investment of EUR 450 million by the government and a further EUR 250 million from industry collaborations (SFI, 2018). They support basic and applied research with strong industry engagement, economic, and societal impact that address critical and emerging areas of the economy. To add to the 12 Centres that existed in 2016, four new Centres were launched in 2017 in the fields of Smart Manufacturing (CONFIRM), additive manufacturing (I-FORM), neurological diseases (FutureNeuro), and the bio economy (BEACON). A 17th research centre in the field of future milk/precision agriculture (VISTAMILK) was launched in 2018 (in partnership with

the Department of Agriculture, Food and the Marine). During 2018, SFI completed the review process concerning phase 2 funding for the seven research centres launched in 2012, with 6 of the 7 Research Centres funded for a second 6-year term. Cumulatively the SFI Research Centres have signed more than 750 collaborative research agreements with over 400 industrial partners representing cumulative company commitments of over EUR 180 million (> EUR 90 million in cash) and have won EUR 195 million from EU and international funding agencies (SFI, 2019).

An interim evaluation (covering the first seven centres funded from 2013) of the Research Centres programme (Indecon, 2017) concluded that the research centres had generally outperformed targets when it came to attracting cash funding from industry. Collaborations with industry were split between 45% Irish-owned and 55% foreign-owned firms. Of the firms that participate in Research Centres, one-third were large (>250 employees), and two in five (42%) small (<50 employees). The evaluation, however, emphasised the need to increase the transfer of skills from research centres to enterprises, notably through increasing the number of Master's graduates (which fell short of target).

The SFI Research Centres Spokes programme is a complementary measure which aims to attract new partners to work with the SFI Research Centres, based on a co-funding requirement (EUR 21 495 000 grant commitment in 2017). The Spokes programme also provides a vehicle to link together, in a meaningful and relevant way, different Research Centres.

SFI also supports co-operation with industry through specific funding programmes, namely: SFI Partnership (grant commitment in 2017 of EUR 6 190 000), TIDA (EUR 4 595 000) and Industry Fellowships (EUR 1 903 000). In total in 2016, 1 603 industry collaborations were supported by SFI awards involving 399 MNEs and 491 SMEs.

The SFI Partnership programme is a flexible programme that enables companies to work with academic researchers through a joint research programme funded 50% by the company (cash) and 50% by SFI. Three awards were made in 2017. The Industry Fellowships Programme supports a post-doctoral researcher or member of staff in an Irish research organisation to go from academia to industry or an industrial researcher to spend time in an academic laboratory (full or part-time for up to 24 months). A maximum grant of EUR 100 000 is available to fund the salary and other costs of the researchers in a company. Since the launch in 2013, 145 SFI industry fellowships have been awarded (SFI, annual review 2017).

The SFI TIDA programme aims to support the commercialisation of research by enabling researchers to focus on the first steps of an applied research project which may have a commercial benefit if further developed (patents, licences or spin-out companies). A 2016 evaluation (Frontline, 2016) concluded that TIDA was an important programme as it plugged a gap in the commercialisation pipeline at the early technology readiness levels. If successful, the TIDA projects can benefit from support from other agencies, such as the EI Commercialisation Fund. This supports researchers in HEIs and research organisations to take research outputs with commercial potential to the stage where they can either be transferred to industry through a license or used to develop a new start-up company. Some observers point to a bridging gap for companies bringing technology to next level, requiring market/customer/technology validation (solving the right problem at the right price for customers) over 1-2 years and requiring funding of between EUR 500 000 and EUR 3 million.

Technology Centres

EI and IDA sponsored Technology Centres have as a mission to introduce companies to the research expertise in Irish higher education institutions with the aim of generating innovative technologies leading to job creation. The Technology Centres are collaborative entities established and led by industry enabling Irish companies and multinationals to work together with qualified researchers associated with the research institutions. Technology Centres are operating in fields such as energy research, composites, dairy processing, data analytics, manufacturing research, etc.

A Technology Centre receives, on average, State funding of the order of EUR 1 million per year over a five-year period. Continued funding depends upon a range of metrics such as increasing industry research funding, growing the numbers of companies involved, licences and the revenue from them and spin-offs, new products and processes leading to increased export sales. At the beginning of 2017, more than 420 companies (165 EI clients, 120 IDA clients and 135 other companies) were benefiting from this industry-led research programme. In total, 785 companies were involved in the Technology Centres programme at the end of 2017, of which 525 held full membership.

Technology Gateways

EI coordinates a national network of 15 Technology Gateways in partnership with 11 Institutes of Technology. It may be argued that the Institutes of Technology level of expertise is better suited to indigenous SMEs in less technologically advanced sectors. The Technology Gateways are expected to deliver technology solutions for Irish industry (all sizes) close to market needs and act as local access points to the resources available in the wider network of Irish research and innovation infrastructures. According to EI, the Gateways have completed more than 2 750 industrial projects since 2013 with a total value in excess of EUR 15 million (of which 46% from industry). In 2017, 436 projects were approved with 462 companies working on 700 projects during the year (EI annual report 2017).

The Gateways' projects are funded through the direct funding programmes of EI and directly from companies (the funding share from companies is one of the primary metrics for the Gateways) and range from between EUR 5 000 and EUR 10 000 (e.g. innovation voucher type support) to EUR 200 000 (e.g. funded by the Innovation Partnership Programme). To optimise the potential of the network, three sector-specific clusters have been established in engineering, materials and design (six Gateways), applied internet of things (five Gateways) and food and beverage technologies (seven). A new round of the Programme involves a Government investment of EUR 26.75 million over for the period 2018-22.

InterTradeIreland support for collaboration

The **FUSION Programme** develops and facilitates strategic partnerships. Each project is initiated by a company which has a specific technology need. Through FUSION, the company is matched with a college or university in the opposite cross border jurisdiction that can provide the necessary expertise. A high-calibre graduate is then employed by the company to deliver the agreed project. The graduate acts as the link-agent in transferring and embedding technology and knowledge transfer from the academic into the company. This transfer of knowledge is always on a cross-border basis, with the ultimate aim of increasing overall levels of technological innovation, research and development within the participating enterprises.

FUSION has assisted over 700 partnerships since establishment in 2001. Projects can be supported for 18 months to a maximum of EUR 67 900. These are typically in new product, service or process development. 12 month projects which are typically focussed on process improvement can be supported up to EUR 47 400.

The US-Ireland R&D Partnership is a tri-jurisdictional innovation funding alliance which was officially launched in 2006. Its aim is to promote collaborative innovative research projects which create value above and beyond individual efforts. To date a total of 43 projects have been awarded funding which represents a combined investment value of EUR 67 million. The Centre to Centre funding activity is focussed on supporting industry and academic collaboration on a tri-jurisdictional scale. This element has been particularly successful at attracting the involvement of SMEs.

Disruptive Technologies Innovation Fund

To complement these existing initiatives and to support private investment in emerging and enabling technologies, in 2018 the government announced the launch of a Disruptive Technologies Innovation Fund (DTIF) which will invest EUR 500 million over 10 years. The DTIF is being implemented by the DBEI and its agencies and will seek applications for funding on a competitive bid basis. The projects selected should last up to three years and be large-scale projects in the range of EUR 5 to 10 million total cost, inclusive of enterprise co-funding, and should fit within the research priorities for 2018-23 (for the first phase of funded projects to 2022). Collaboration is an essential requirement (MNEs, research organisations, etc.), as is the participation of at least one SME and the project proposals must demonstrate they will be sufficiently "disruptive" and benefit the Irish economy (all consortium participants must be based in Ireland to receive funding, but non-Irish based organisations may participate). A first call was launched in June 2018 and 27 collaborative projects were successful with over EUR 70 million awarded up to 2021. A second call was launched in June 2019.

Innovation challenges and policy options

Innovation 2020 provides an overall policy framework for boosting the innovation potential of Irish SMEs but the traceability of progress toward objectives and readability of the Irish policy framework is reduced by the multiplicity of closely related and often inter-dependent plans (Action Plans for Jobs, Investing in Business Enterprise and Innovation 2018-2027, STEM education plan, Enterprise 2025, etc.). In addition, agency level strategies, while necessary, further diffuse the link between the stated objectives in terms of enhancing business innovation (and ultimately productivity), the existing (or planned) programmes and actual progress towards these objectives. The current progress reports are more akin to activity reports than a tracking of progress towards objectives. Overall, it would be advisable to develop a more detailed 'theory of change' or 'impact pathway' that illustrates how government interventions are expected to lead to expected objectives notably in terms of increasing indigenous SME R&D and innovation activity and outcomes.

There is a need to rebalance financial support (notably the R&D tax credits) for R&D and innovation from larger (MNE) firms towards indigenous SMEs. A stronger emphasis (in both R&D tax credits and direct funding) should be given to collaborative (beyond bilateral co-operation) projects involving groups of smaller firms working together on technology adoption as well as product development or process improvement.

It is recommended to review the R&D tax credit with a view to enhancing the share of non-R&D or 'sporadic' R&D active SMEs benefiting from the scheme. A 2016 evaluation noted

that the "R&D tax credit demonstrates reasonable additionality, but the deadweight indicates that there may be scope to increase the "bang for buck" without materially damaging business incentives to invest in R&D". An appropriate response would be to adjust the R&D tax credit rates so that 'intensive collaboration' is rewarded while a reduced rate for non-collaborative R&D would be applied. It is also recommended to introduce a pre-approval process for R&D projects of SMEs to reduce uncertainty about whether planned R&D will be eligible for a tax credit.

Internationalisation programmes

The Brexit challenge

Internationalisation is viewed as an increasingly critical issue given the uncertainty over the outcome of the UK's Brexit process. As the United Kingdom is a major export market for many Irish companies, notably smaller indigenous firms which are exporting for the first time, the need to reduce "exposure" to the UK market and drive diversification of Irish exports to new markets has been given high prominence. The evidence available and most informed observers consider that there is a major threat for Brexit in terms of disruption of supply chains and loss of markets – Cross-border Trade with Northern Ireland plays a particularly important role for many Irish SMEs. For over half (51%) of Irish exporters, Northern Ireland is the destination for more than 50% of their exports, while for 26% of Irish firms, Northern Ireland is the destination for approximately 100% of their exports (InterTradeIreland, 2018).

Nevertheless, Brexit may be an opportunity for Ireland. For instance, a survey of the EOY Alumni community found that 58% think that Brexit will result in the relocation of business to Ireland (from the United Kingdom) and 32% considered that it will force their business to look at new export opportunities outside of the United Kingdom.

Main internationalisation programmes

In June 2018, the Irish Government announced the **Global Ireland** – Ireland's Global Footprint to 2025 initiative, which includes a number of objectives related to exporting and internationalisation of Ireland in terms of culture, aid, etc. The exporting objectives by 2025 are aimed at accelerating diversification of exports by Enterprise Ireland clients so as to double the total value of exports of EI clients outside the UK from the 2015 baseline, double Eurozone exports and increase diversification with at least 70% of exports going beyond the UK. These targets are similar to those set for the "Expand Reach" objective of Enterprise Ireland's 2017-20 strategy.

SBCI, a state-owned bank, launched the **Brexit Loan Scheme** together with the Department of Finance, Department of Business, Enterprise and Innovation (DBEI) and the Department of Agriculture, Food and the Marine at the end of Q1 March 2018. The scheme was designed to support internationalising companies and is particularly well suited for young exporters needing working capital. The programme is described in Section one of this Chapter (Strategic Banking Corporation of Ireland (SBCI)).

In the field of internationalisation, Enterprise Ireland (EI) has the main remit to support and develop Irish indigenous firms with export activities. Other agencies are also active in promoting specific sectors such as Bord Bia for the food sector.

Enterprise Ireland's suite of activities in support of exporting firms include:

- **Brexit Be Prepared Service**. The advisory service and grant (up to EUR 5 000) is intended to enable exporters to hire consultants to support companies in how they can respond to threats and opportunities arising from Brexit.
- **Market Discovery Grants**, launched in January 2018 by EI, provides support towards internal and external costs incurred when researching new markets for products and services. Support under the Market Discovery Fund applies when eligible companies are either looking at a new geographic market for an existing product/service or an existing geographic market for a new product/service. Support can be provided over an 18-month period from project start date to project end date with a maximum grant of EUR 150 000. 157 Market Diversification grants were awarded in 2017.
- **The Market Research Centre** through which EI makes available to its clients market research reports purchased from leading providers. Companies can view these reports at the Market Research Centre in the Dublin office or via the LEOs. EI also produces a range of market access guides which provide companies with key information on specific markets that are of significant importance to Irish exporters;
- **EI International Offices Network**. In line with Global Ireland, EI's and Bord Bia's current network of overseas offices will be reinforced with expended presence in several EU cities;
- **Trade missions & events** (57 ministerial led trade events in 2017);
- Supporting export selling capabilities through three main initiatives: Graduates for International Growth (G4IG); the International Selling Programme and Excel at Export Selling workshops.

The **International Selling Programme** is the flagship programme designed to equip Irish companies with the necessary capability to deepen their presence in an existing international market or enter a new international market. Delivered in partnership with Dublin Institute of Technology (DIT) this practical programmes aim to improve participating companies' ability to access new markets and grow export sales. **Graduates for International Growth** (**G4IG)** helps ambitious internationally trading companies recruit graduates with the potential to be the next generation of business development executives. **Excel at Export Selling** aims at rapidly embedding the proven tools of good international selling practice into the sales teams of Irish companies across all industry sectors.

In terms of outcomes, in 2017, EI reported 1 391 new overseas contracts in supported firms, 350 new overseas presences and 51 first-time exporters outside the United Kingdom. In 2017, exports in EI client companies were up by 7% on 2016 levels.

InterTradeIreland provides a suite of supports to support Irish SMEs in exporting across the border with Northern Ireland and with preparations for Brexit. InterTradeIreland supports include: sales supports and services such as the **Trade Accelerator Voucher** worth up to GBP 1 000 or EUR equivalents for professional cross-border advice; and **Acumen** which provides financial assistance to source and fund the right sales and marketing employee to help develop cross-border sales (funding of up to EUR 18 750 available). InterTradeIrelands **Brexit Advisory Service** has been operational since May 2017 and provides supports to businesses trading across the border including dedicated

events, a tariff checker tool and the Brexit Start to Plan Voucher for professional advice in relation to Brexit.

The agro-food sector's special position within the Irish economy and the potential for the sector to grow further, as well as its particular vulnerability to Brexit, is reflected in the adoption of the **Food Wise 2025 Strategy**, a 10 year plan for the sector. The Strategy reflects the importance of a deep understanding of what consumers, often in distant markets, really want, and ensuring Irish farmers and food companies are aware of those needs. The Strategy also highlights the importance of communicating key messages about what makes Irish food unique to the international market. Food Wise 2025 has identified ambitious and challenging growth projections for the industry over ten years.

The LEOs also offer support for exporters through the **Technical Assistance for Micro Exporters** grant, The grant covers 50% of eligible costs up to a maximum of EUR 2 500 for micro enterprises to explore and develop new market opportunities, for example by researching export markets, exhibiting at trade fairs, preparing marketing material, and developing websites specifically targeting overseas markets.

Internationalisation challenges and policy options

A key challenge facing Irish SMEs is to diversify their export bases in the face of increasing global competition and an impending "Brexit shock." As the UK market is the first step on the export road for may smaller Irish-owned firms, and in many cases the main or only export market, the urgency to diversify their overseas market is evident. The Government and Enterprise Ireland (as well as Bord Bia for the food sector) have taken a number of measures to help businesses anticipate and prepare for Brexit. It is too early to assess whether the various initiatives launched in the last two years will be sufficient to help smaller companies export further afield.

The range of funding and advisory programmes provided to SME exporting firms are similar to those of other advanced north-western European countries (e.g. Business Finland's suite of assistance). However, there remains a challenge related to raising ambition in the management teams of smaller firms to begin exporting (first-time exporters) or to move beyond the UK market. Expanding programmes in favour of enhanced management skills, notably in second tier management, through coaching and training support would help to increase the number of 'export-capable' firms amongst Irish SMEs.

Entrepreneurship education and skills programmes

The DBEI and other Government departments provide significant support for entrepreneurship education.[4] Ireland's National Skills Strategy 2025, published by the Department of Education and Skills (DES) in January 2016, includes a commitment to develop an Entrepreneurship Education Policy Statement, which will inform the development of entrepreneurship guidelines for schools. In Ireland, at primary level, it is possible for entrepreneurship education to be incorporated directly as part of discretionary curriculum time or indirectly in areas such as drama, art, oral language, creative writing, project/group activity or art. Similarly, at secondary level, entrepreneurship education may be incorporated into business subjects or transition year projects.

The DES supports enterprise in schools through the development of a basic understanding of the principles and methods of business. It also encourages active and collaborative learning, the development of ICT skills and good arts education, all of which foster

creativity, innovation, risk-taking and other key elements in entrepreneurial thinking and action.

Skills underpinning entrepreneurship are also central to the new Framework for Junior Cycle and there are many examples of good work being undertaken in many schools at transition year in mini-company formation and other projects designed to foster entrepreneurship.

In addition, the local enterprise offices (LEOs) and various non-governmental bodies run pupil/student entrepreneurship initiatives. At primary level, the Junior Entrepreneur Programme is a non-governmental (business sponsored) initiative to promote entrepreneurial skills for primary 5th and 6th class pupils over a 12 week period leading to the creation and production of a product/service. Similarly, in the South Dublin LEO area, Bí Gnóthach is an education programme that introduces 5th and 6th class students to many aspects of setting up and running a business. In addition, the Junior Achiever (JA) programme runs a range of inspirational activity-based learning sessions with primary pupils at all ages. Although not solely focused on entrepreneurship skills, the programme is delivered by business volunteers in schools.

At secondary level, the Student Enterprise Programme (SEP)[5], run by the LEOs, introduces students to the practical experience of setting up a business. The SEP is Ireland's largest student enterprise competition with over 23 000 students from 480 schools taking part. The programme provides free teacher resource packs including student workbooks, sample student business reports and videos of successful entrepreneurs. Other initiatives supporting student entrepreneurship education and learning include the Fóroige NFTE Youth Entrepreneurship programme[6], which operates in and out of school activities and the All Island Youth Entrepreneurship awards. In the same vein, JA runs a range of activities promoting STEM and career success courses as well as Enterprise in Action (for 15-18 year olds) which encourages students to examine the role of an entrepreneur in today's society.

An OECD/European Commission review of Entrepreneurship and Innovation in Higher Education in Ireland was published in 2017[7] and provides an detailed assessment of the situation based on the HEInnovate assessment framework (including a survey of all universities and Institutes of Technology). The report concluded that the Irish higher education system plays 'a fundamental role in fostering entrepreneurial career paths' for students and staff. A wide range of initiatives were identified including undergraduate and postgraduate courses, work-based learning, business start-up and incubation programmes, mentoring and coaching and national competitions such as the All-Ireland Business Plan Competition. These activities are driven by senior management in higher education institutions (HEIs), usually by a combination of the vice-president for research and the heads of faculty. An issue that the report raised was that the HEIs were heavily and in some cases totally dependent on temporary project funding, putting into question the sustainability of their entrepreneurship education initiatives. The report recommended that entrepreneurship education should be expanded across all disciplines, that there should be an increase in the number of interdisciplinary education activities and boost the number of places available on venture creation programmes.

The report noted that to support entrepreneurship and innovation, HEIs need to be entrepreneurial and innovative themselves in how they organise education, research and engagement with business and the wider world. This requires introducing supportive frameworks at national and HEI level for resource allocations, staff incentives, training for entrepreneurship educators, strategic partnerships and so on. A strong emphasis is placed on supporting teachers to teach entrepreneurship with continuous professional development

activities supported by CEEN, the Campus Entrepreneurship Enterprise Network[8] and the National Forum for the Enhancement for Teaching and Learning in Higher Education[9]. CEEN, the national network for promoting and developing entrepreneurship and enterprise at third level, runs a number of projects such as the Entrepreneurship Scholarship Scheme which was initiated in order to provide a pathway for entrepreneurial second level students (that have benefitted from NFTE support) into an entrepreneur-ready third level educational environment. In addition, Springboard+, which provides free and subsidised higher education courses in areas of identified skills needs, has provided a range of entrepreneurship courses around the country since it commenced in 2011.[10]

In terms of life-long learning and training focused on entrepreneurship skills, Enterprise Ireland, Science Foundation Ireland and local enterprise offices (LEOs) and a number of other government agencies support various initiatives aimed at incubation, early-stage entrepreneurship and high growth firms. The major initiatives including Enterprise Ireland's entrepreneurial training activities linked to its equity financing, the boot camp programme in collaboration with the US National Science Foundation (NSF), and New Frontiers, Ireland's national entrepreneur development programme, delivered at local level by Institutes of Technology and funded by Enterprise Ireland.

Overall, a broad range of entrepreneurship education and skills programmes have been developed in Ireland, reflecting a broadly held view that entrepreneurship education should become part of the core curricula at all levels. The initiatives are funded by government departments and agencies, in some cases in partnership with business, and delivered by educational institutes and not-for-profits and businesses. The main scope for improvement concerns shifting away from project based funding and further embedding and broadening entrepreneurial education at primary and secondary education levels. An opportunity also exists to adopt a more challenging approach to entrepreneurship education in the transition year, which could even provide credits into Business Studies in the third-level cycle. The on-going reform and merger of institutes of technology into technology universities may also provide an opportunity to strengthen entrepreneurial education related to specific vocational skills.

Workforce skills development programmes

Chapter 3 of this report highlights that skills shortages are becoming more prevalent, especially among SMEs competing with multinationals on the labour market, which is compounded by issues such as cost of living (in Dublin) and infrastructure (in the regions).

The Irish Government's Action Plan for Jobs 2018 (the 7th in an annual series of plans) outlines a cross-departmental approach to maximising employment. A regional dimension is provided through eight regional action plans. The 2018 plan focuses on four objectives including preparing for Brexit, stimulating regional development through job creation, boosting participation and ensuring a growing talent pool and meeting skills needs, and boosting productivity.

A new National Skills Strategy to 2025 (NSS) was published in January 2016 and implementation of the Strategy is ongoing. The Strategy, which comprises over 125 measures and engages over 50 different stakeholders, provides a framework for skills development that will help drive Ireland's growth both economically and societally over the next decade. A key element of the NSS is the development of a new skills architecture to foster closer collaboration between relevant government departments and agencies and

strengthen engagement between the education and training system and enterprise. The implementation of the NSS is structured around the elements illustrated below.

Box 5.3. Ireland's National Skills Strategy Architecture

National Skills Council (NSC)	High level advisory body on current and future skills needs.
Expert Group on Future Skills Needs (EGFSN)	Provides research and analysis on a sectorial basis.
Skills and Labour Market Research Unit (SLMRU)	Publishes research and reports that facilitates development and review of policy and practice in the further and higher education sectors as well as other related sectors. Supplies research information to the National Skills Council.
Regional Skills Fora	Provides a regional view of skills needs, and facilitates the creation of responses by the education and training system.

The National Skills Council (NSC) and the nine Regional Skills Fora were launched in 2017. The Secretariat of the NSC is provided by the Department of Education and Skills and its members are drawn from senior levels in the public and private sector. It is an advisory and non-statutory body under the remit of the Department of Education and Skills (DES). The NSC's remit is to oversee research; advise on prioritisation of skills needs and on how to secure delivery of needs; play a key role in promoting and reporting on the delivery of responses by education and training providers to those priorities.

The discussions in the NSC are informed by the Regional Skills Fora, the Expert Group on Future Skills Needs (EGFSN), established in 1997, as well as by the Skills and Labour Market Research Unit (SLMRU) of SOLAS (Ireland's Further Education and Training Authority). The SLMRU provides the NSC with data, analysis and research and manages the National Skills Database. The DBEI provides the EGFSN with research and secretariat support and manages the group's work programme. The EGFSN's budget comes from the National Training Fund.

The purpose of the nine Regional Skills Fora is to provide more structured engagement on the skills agenda. This includes:

- A single contact point in each region to help employers connect with the range of services and supports available across the training and education system;
- Provision of robust labour market information and analysis of employer needs in the region;
- Improved collaboration and use of resources across the research and education system;
- A voice for employers to articulate labour market needs.

A team of nine Regional Skills Fora Managers has been put in place to be the key contact points and lead the work of the Forum in each region.

Whilst capacity and engagement of the Regional Skills Fora has been more apparent in some of the region, the Fora provide in principle an excellent opportunity to strengthen Irish indigenous companies by supporting the infusion of new skills and provision of adequate training and education opportunities.

During 2018, over 1 000 engagements were recorded by the nine Regional Skills Fora underlining the interest of stakeholders in skills. The nine Regional Skills Fora aim to support regional partners and sectors (manufacturing, ICT, construction) at different sizes

(micro, small, medium enterprises) to create tailored solutions for their skills needs. Each Forum identifies its own work programme taking into account differences across regions and sectors, and ensuring that the regional actions be evidence based and data driven.

Major programmes in Ireland

The National Training Fund (NTF)

The National Training Fund (NTF) was established by the National Training Fund Act (2000) to raise the skills of those in employment, to give jobseekers relevant skills and to facilitate lifelong learning. In 2018, EUR 415 million (up by EUR 49 million since 2017) was invested in programmes to meet the skill need of the economy and assist those in employment to acquire new skills. This includes the expansion of the apprenticeship and traineeship schemes, additional investment in Springboard courses and additional support to increase skills for those in employment through Skillnet Ireland. In line with the NSS, the 2018 NTF allocations to higher education, further education and training represented a major shift in the focus of expenditure, requiring programmes to be tightly focused on the skills and competencies needed for the future. In terms of workplace skills EUR 122 million was allocated for apprenticeships and EUR 21.7 million to support Skillnet Ireland in meeting skills gaps in the economy.

Following a consultation process, the government, as part of Budget 2018, decided to raise the rate of the National Training Fund levy by 0.1% in 2018 to 0.8% and by a further 0.1% in both 2019 and 2020 on the basis of the implementation of planned reforms. The independent review of the National Training Fund, undertaken by Indecon Consulting, examined the existing operation of the NTF and provided recommendations to inform its future direction. There are 14 recommendations across the following 4 key areas:

- Reform of the future direction of the NTF;
- Utilising the NTF to support investment in Higher Education;
- Enhancing enterprise engagement and input to NTF priorities;
- Improvements in monitoring/evaluation of the NTF.

Skillnet Ireland

Skillnet Ireland (established in 1999) complements traditional training programmes with tailored training for groups of firms (co-funded on equal footing by business and public funds). In 2018, Skillnet Ireland collaborated with over 50 enterprise groups across a broad range of sectors, supporting 65 learning networks (Skillnet, 2018). In total, just over EUR 36 million was invested, with businesses and Skillnet Ireland providing around half of the funding each. Some 56 000 people were trained through some 6 800 training courses. Of the 16 500 member companies, 95% are SMEs. SkillNet runs four programmes:

- Training Networks Programme (TNP): Flagship Skillnet Ireland programme supporting enterprise led learning and development and skills supply responses through 65 Skillnet learning networks;
- Employment Activation Programme (EAP): Enabling transitions to work from unemployment, transitions from education to employment, and transitions from home care giving to employment. In addition to training supports, EAP trainees receive a work placement in areas of high employment potential. EAP has recorded

exceptionally high employment outcomes (52%) and cited by both the EU and the OECD as a best practice example;

- Future Skills Programme (FSP): Supporting industry led responses that address new or future skills. Skillnet Ireland provides seed funding for enterprise groups to develop new programmes in collaboration with both HEIs and private training providers. Programmes must be highly innovative and enterprise led, and must also address gaps in existing provisions. Recently the FSP was expanded to include enterprise led research proposals that advance understanding of future skills and the future of work at sectoral and regional levels;
- Management Development: A bespoke Management Development offering for SME owner/ managers, designed through consultation with small businesses, and underpinned by a SME management competency framework.

Skillnet Ireland is considered as a successful public-private co-operation and has gained international recognition as a good practice (e.g. OECD, ILO). This is backed up by evidence from the 2017 evaluation that 43% of companies reported increased business turnover after involvement in a Skillnet Ireland programme (Indecon, 2017).

SOLAS

SOLAS supports the development of further education and training programmes and curricula and the sourcing of further education and training interventions from the private, public and not for profit sector. Solas also manages the national apprenticeship system which provides support for apprenticeships in a wide range of sectors. Increasing attention is given to apprenticeship schemes as a means to tackle specific skills gaps with 6 000 apprenticeship places planned for 2018. Apprenticeships in Ireland are industry-led by consortia of industry and education partners, lead to National Framework of Qualifications (NFQ) awards, are between 2-4 years in duration with minimum 50% on-the-job learning.

In the longer-run, the focus is on developing advanced skills sets notably through boosting science, technology, engineering and mathematics (STEM) studies, with a focus on boosting female participation in STEM studies. A STEM Education Policy Statement was published in November 2017 which aims to increase by 20% the total students taking Chemistry, Physics, Technology and Engineering for Leaving Certificate and increase by 40% the number of females taking STEM subjects for Leaving Certificate.

Related to the STEM objectives, Innovation 2020 commits to increasing the number of research masters and PhD enrolments. It also sets a target of increasing the share of PhD researchers transferring from SFI research teams to industry from 25% in 2014 to 35% by 2020. It would be advisable to further refine this objective to ensure that indigenous SMEs are assisted to recruit many of such highly skilled staff.

The Marie Curie Enterprise Ireland Co-Fund programme addresses the skills gap by sourcing the best international researchers for industry. It provides an opportunity for experienced researchers to develop their careers in market focused applied research in Ireland's Technology Centres, with an enterprise secondment during the Fellowship. They will carry out research in Ireland and will gain inter-sectoral and interdisciplinary exposure through the programme. By 2018, 50 international researchers have been approved to take part on this programme.

Conclusions and recommendations

In conclusion, despite a trend toward full employment (although there remain regional and sectoral variations) and while labour force participation rates have improved between 2016 and 2018, there are still groups and areas where there remains a need for further improvement. Ireland's gradual transformation into a service-based economy and the challenges posed by Brexit increase the importance of skills needs anticipation, workforce skills development and training.

Regional variations in skills availability mean that MNEs considering locating or expanding in Ireland are concerned about available skills and proven capacity in the host regions, including in the Irish-owned SMEs that form part of MNEs' supply chains. For Irish-owned SMEs that are oriented towards international markets and value chains, specific skills shortages, notably digital and industrial automation skills which are critical for a shift to Industry 4.0, remain the key challenge.

In this context, it is worth considering launching a dedicated initiative to support Irish SMEs in the transition to 'factories of the future' (Industry 4.0). This could be modelled on Belgian (MadeDifferent), Austrian (Plattform Industrie 4.0) or German (Mittelstand 4.0) examples where industry led platforms support awareness raising, coaching and application of digital technologies, human centred production, networked factories, circular economy, etc. The July 2018 Innovation 2020 progress report notes that DBEI, EI, NSAI, IDA Ireland, and SFI are working on the development of a new National Industry 4.0 Strategy.

The Institutes of Technology also possibly produce more work-ready graduates than the universities (whose graduates tend to be still 3-4 months from being work ready). This observation underlines the needs to get the balance right between increasing investment in specific advanced skills sets (e.g. STEM graduates) that may not fit with the needs of the broader business base (notably SMEs) versus more emphasis on industrial apprentices[11] who acquire skills sets better suited to the needs of small businesses; including in management fields such as sales & marketing (with a view to enhancing export intensity of Irish-owned SMEs).

Programmes to stimulate enterprise-led networks and clustering

The relevance of enterprise-led networks

There is evidence that integration into networks can help SMEs to remain competitive at a time of accelerating digitalisation and shortened product life cycles. Networks can allow SMEs to tackle projects that otherwise might bind too many resources for a single enterprise and firms can benefit from peers' experience for challenges related to innovation and internationalisation, among others. These networks can be of formal or informal nature and are typically coordinated and managed by their members. Clusters are closely related to enterprise-led networks, which are more regionally focused or specific to a certain topic or sector, and can offer similar advantages. The difference between clusters and enterprise-led networks is fluid and, in practice, these terms are often used in an interchangeable manner. Against this background, this section discusses existing supporting measures for enterprise-led networks in selected European countries (Denmark and Germany in particular) and whether similar measures should be implemented in Ireland.

The Irish approach to enterprise-led networks

Chapter 4 provides an overview of actors in Ireland providing business support. The main actors are the LEOs (on a wide range of topics), InterTradeIreland (concerning cross-border trade), Skillnet Ireland, and the Technology Centres.

The high utilisation of networks to deliver support to SMEs can be considered a strength of the Irish approach. However, the direct support of enterprise-led networks and clusters plays only a minor role on a national policy level (van Egeraat/Doyle 2018). Existing policies focus mainly on financial incentives. In this regard, the Regional Enterprise Development Fund (REDF) offers funding to major collaborative and innovative initiatives and has a dedicated clustering stream to support emerging and already established formal clusters. The REDF is a competitive scheme with applicants subject to an assessment and selection process. DBEI has also introduced through Enterprise Ireland, an Institute of Technology Clustering scheme. Previously Enterprise Ireland initiated a Pilot Clustering Programme in 2016, with the goal to support industry-led groups to undertake time-limited clustering initiatives.

While Ireland thus has taken initiatives to foster enterprise-led networks, it has not yet implemented a coherent national cluster policy, which could be a means to engage SMEs more intensively in economic development projects (Cork Chamber of Commerce 2018; Ivory 2012; van Egeraat/Doyle 2018). There is scope to learn from other countries that have introduced more forceful national policies in this respect. Canada, for instance, introduced an Innovation Superclusters Initiative (ISI) in 2017 as a way to streamline and strengthen its collaborations with enterprises, research and education. The five Superclusters are the Digital Technology Supercluster, the Protein Industries Supercluster, the Advanced Manufacturing Supercluster, SCALE.AI (AI-Powered Supply Chains Supercluster), and Canada's Ocean Supercluster.

The German experience

A broad range of public programmes at national and regional levels in Germany promote enterprise networking through cluster initiatives, with the aim of strengthening enterprise collaborations and enterprise involvement in skills and innovation initiatives. Some of these initiatives provide funding to promote collective R&D projects, while others provide collective consulting to professionalise the enterprise management or assist in increasing the visibility and effectiveness of existing networks, for example in terms of their market visibility.

Go-cluster

The Federal Ministry for Economic Affairs and Energy (BMWi) initiated the national "go-cluster" programme in 2012 with the aim of professionalising cluster management across the country, following on from an earlier initiative called "*Initiative Kompetenznetze Deutschland*". It support clusters by offering a communication platform, applying European standards for cluster management, and offering funding for cluster management development and cluster initiatives (see Box 5.4).

Box 5.4. Go-cluster, Germany

Description of the approach

The "go-cluster" programme features a multi-layered approach to support cluster management organisations in further developing their innovation clusters. It targets clusters that are vanguards of German innovation and competences across different industries and technological sectors. All members of the programme are allowed to use the trademark "*go-cluster – exzellent vernetzt*".

The services of the programme are offered as four different modules. The **first module** concentrates on national and international networking. Therefore, the programme organises and takes part in various national and international events, trade fairs and cluster policy meetings, creates printed and online publications, and supports matchmaking activities. Besides, there is intensive cooperation with other national programmes in order to take advantage of synergies.

In the **second module**, the programme offers targeted measures and services to raise clusters' level of excellence. Members can profit from formats such as seminars and individual consulting in order to enhance their performance and/or to promote lifelong learning. Another component of this module is the labelling process according to the quality standards of the European Cluster Excellence Initiative (ECEI). Since 2016, it is obligatory for all members to participate in the Silver Label-Process of the European Secretariat for Cluster Analysis (ESCA), which not just shows the cluster's degree of excellence but also functions as a system to ensure a high level of quality within the "go-cluster" programme. In consequence, the costs for the certification process are covered by the programme. Not attending or failing the Silver Label-Process initiates a validation process to examine, if the cluster still matches the criteria of the programme. This validation process has led to a reduction in the number of active clusters participating in the programme in recent years, but the overall quality has increased.

The "Clusterplattform Deutschland" is the key element of the **third module** and the main information portal offering an overview of the German cluster landscape. The "Clusterplattform Deutschland" is a joint website by the Federal Ministry for Economic Affairs and Energy and the Federal Ministry of Education and Research. It aims to increase the visibility of German clusters, the accessibility of relevant information, as well as contact persons. Thereby, it provides information about participating clusters and the various regional, national as well as international support programmes for clusters. Two newsletters, which inform about news, events and developments concerning clusters and cluster policy, are sent out regularly.

In the **fourth module**, the "go-cluster" programme regularly supports pilot projects on the basis of calls exclusively provided to "go-cluster"-members. Until now, three funding opportunities were offered to the members. In 2013 and 2014, for example, the development of new innovative cluster management services was supported. Cross-clustering projects have been the subject of the second funding round in 2014/2015 and a third round of funding took place in 2017/2018, focusing on concepts regarding international cross-clustering, education and training formats for cluster participants as well as digitisation services for cluster participants.

In order to become a member of the programme "go-cluster," applicants have to undergo a thorough application process. Several criteria, which correlate strongly with the ECEI

criteria, have to be met. The criteria can be classified into four different categories. A key aspect for eligibility is the structure of the member base. That is, the participating clusters need to consist of at least 30 members, out of which half need to be SMEs. Additionally, the member base should reflect the regional aspect of the clusters; at least 60% should be in the vicinity of the cluster management organisation. Regarding the second category, the cluster management should prove an adequate level of professionalisation, i.e. an adequate number of employees, a sound cluster strategy and solid finances. Third, cluster managements should offer an adequate range of services and communication structures to their member base. Finally, visibility and impact of the cluster management is an important aspect for eligibility as well, as the management has to prove adequate public relations activities and provide evidence of their positive impact on the innovation potential of their member base.

As of April 2019, "go-cluster" encompasses 87 cluster initiatives. Their reach is notable, as they comprise a total of approximately 15 500 actors, containing more than 10 400 SMEs, almost 2 000 larger enterprises as well as around 1 500 research institutions and universities. The ten most frequent sectors and technology fields of the "go-cluster" members are digitisation, automotive and industry 4.0, electrical engineering incl. metrology and sensor technology, production technologies, medical technology, services and ICT technologies, materials technologies, biotechnology, optical technologies/photonics and health care as well as resource efficiency.

Factors for success

The implementation of the support programme was facilitated by relying on an experienced project executing organization. VDI/VDE Innovation + Technik had already supervised the preceding support programme "*Initiative Kompetenznetze Deutschland*". A majority of the members of go-cluster were already participating in *Initiative Kompetenznetze Deutschland*.

Regular meetings between major policy makers and agencies allow for a cohesive approach towards supporting clusters based on current trends. Going beyond a purely monetary approach, members can be supported individually in various different ways, improving the effectiveness of cluster structures in the long-term. Regular benchmarking and enabling cluster management organisations to participate successfully in the labelling process of ECEI strengthen their competitiveness and visibility on a national and international level.

Relevance for Ireland

Clusters can act as multipliers for diffusing information on relevant support programmes and offer support to their members. Go-cluster could offer a template for a strategic framework on how to further utilise and expand network and cluster structures, as it offers support to clusters and networks in a variety of ways. In addition, it offers a central representation of the cluster landscape, supporting the public relations activities of the cluster management. An evaluation of the inivative demonstrated that it is effective, while the comparatively low cost of EUR 1.1 million per year, i.e. around EUR 80 per participating enterprise, suggests cost-efficiency.

Central Innovation Programme Mittelstand

Other approaches focus mainly on the financial aspect of enterprise-led networks.The most notable and prominent one is the "Central Innovation Programme Mittelstand" (*Zentrales Innovationsprogramm Mittelstand, ZIM*). It provides R&D projects for new products, processes or technical services of SMEs in enterprise-led networks with additional funding. While not specifically tailored towards networks, ZIM includes funding for individual enterprises as well as national and international cooperative efforts and networks. Its goal is to strengthen cooperation between SMEs and research institutions and to encourage technology transfer. The funding is only available to SMEs with less than 500 employees and an annual turnover of less than EUR 50 million or an annual balance up to EUR 43 million. To be eligible, the projects need to fulfil several requirements, e.g. the developed products need to surpass existing products and improve the long-term competitiveness of the enterprise. An eligible network consists of at least six independent enterprises. Research institutions are welcome to take part. R&D projects that are already supported by another programme or third-party projects are not eligible. The funding is a non-repayable grant; its amount is proportional to the total sum of expenses – restricted to human resources and third-party commissions.

In the period from 2008 to 2014, ZIM supported more than 25 000 projects. Among them, the most frequently supported enterprises were in the fields of machinery, computers and electronics and metalworking. Around 300 projects were managed by enterprise-led networks (Wallisch et al. 2014). On average, each network consisted of just over ten individual partners, mostly enterprises. A budget of EUR 555 million is allocated for 2019 (Bundesministerium für Wirtschaft und Energie 2018a).

KMU-NetC

More recently, the catalogue of measures to support German SMEs presented in 2016 (Bundesministerium für Bildung und Forschung 2016) led to the implementation of the "KMU-NetC" as a pilot programme for 2017-21 with a total budget of about EUR 48 million. Similar to ZIM, KMU-NetC offers additional funding for innovative projects with high prospects of realisation. Like ZIM, its goal is to enable and motivate SMEs to innovate more strongly. However, it was designed specifically with networks of SMEs and clusters in mind and to strengthen the market position of participating SMEs. The programme targets demanding industrial R&D projects that are characterised by high scientific-technical/economic risks. Only clusters and networks with at least two SMEs are eligible for KMU-NetC. In total, at least half of the participating enterprises need to be SMEs. Only expenses specifically related to the innovation project are covered. In addition, a small share of the allocated funding (5 %) is designated for expenses of the project management.

It is also intended to encourage SMEs that do not or do not regularly innovate to participate in networks (Bundesministerium für Bildung und Forschung 2017). Therefore, it differs in several key aspects from ZIM. First, while ZIM funding is available to enterprise-led networks, only KMU-NetC aims to develop the management skills of existing networks and clusters in regard R&D projects. Second, KMU-NetC allows for a broader range of projects – beyond technological innovations – to be eligible for funding, e.g. the development of new business models. Third, a small share of the grant money is explicitly designated for the network management. Networks or clusters already supported by another programme, such as ZIM, are explicitly eligible for support by KMU-NetC. Therefore, the programme can be considered a complementary measure to ZIM, with a more accentuated focus on networks (Posselt et al. 2018).

To date, KMU-NetC has supported 30 different projects, with a total of 102 participating enterprises. Projects within the field of biotechnology and life science only account for about 20% of all funded projects.

Initiatives at the regional level

While the aforementioned programmes are all implemented at the national level, there are several other initiatives, which take a more regional approach. One example is "*Unternehmen Region*", an overarching programme aiming at supporting enterprises in the eastern federal states and encouraging the formation of clusters (Bundesministerium für Bildung und Forschung). In addition, the individual federal states support regional networks and clusters as well. These regional support programmes cover a broad range of different approaches, from financial support to consulting or joint public relation activities (Bundesministerium für Wirtschaft und Energie 2018b).

The Association of German Chambers of Commerce and Industry (*Deutscher Industrie- und Handelskammertag, DIHK*) offers German SMEs the platform "*IHK-Netzwerk Mittelstand*". Participating entrepreneurs can discuss and promote their needs with policy makers, are available for interviews or organize entrepreneurship events. Active exchange between the different regional German Chambers of Commerce and Industry (IHKs) is supported – their members exchange best practice examples regarding activities within their respective IHK. While it is not a support programme for enterprise-led networks, it facilitates the exchange and communication between enterprises and the creation of informal and formal networks. *Netzwerk Mittelstand* is a nationl platform, but several regional IHKs (Hamburg, Berlin, Kassel and Cologne) have developed their own versions of the network as complementation (Deutscher Industrie- und Handelskammertag, 2018 a).

In addition, the various IHKs serve as a one-stop-shop for entrepreneurial questions, e.g. regarding starting a business, qualification and training, taxes and legal questions. Every enterprise – with the exception of enterprises in the field of craftsmanship or agriculture and the liberal professions – are obliged to join an IHK. The advantage of this approach is the equal representation of all economy sectors. The compulsory member fee is based on the individual situation of the enterprise, ensuring the independence of the IHKs (Deutscher Industrie- und Handelskammertag, 2018b).

The Danish experience

In 2013, Denmark initiated their first overarching network and cluster strategy, aiming to provide a framework for innovation and growth in enterprise networks (The Danish Ministry of Science 2013). This strategy was reviewed in 2016 and the updated version was presented as "Cluster Strategy 2.0".

A central part of the Danish approach is the "Cluster Forum", which was established to ensure a coordinated approach of national, regional and local policy makers and government institutions to supporting clusters and networks.[12] This is realised by annual meetings. A key result of this collaboration has been the support programme "Cluster Excellence Denmark", aiming to professionalise the management of Danish clusters to foster innovation. Participating clusters get access to e.g. thematic workshops or facilitated cross-cluster exchange through knowledge exchange groups consisting of members from different clusters. The clusters host matchmaking events themselves as well. Similar to the German go-cluster initiative, participating clusters are supported to achieve ECEI quality labels via benchmarks and trained assessors. As of 2018, 41 clusters were part of Cluster Excellence Denmark.

As a whole, these clusters comprise 60 500 individual enterprises. Notable clusters with gold label according to the ECEI standards are mainly technology intensive and located in the fields of energy and environment, life sciences and robotics.

There are multiple options for clusters to receive funding on a local, regional or national level. The most notable contact for enterprises are the Innovation Networks Denmark" as they provide assistance to contact and apply for relevant funding sources. These Innovation networks are required to be a non-profit organisation (The Danish Ministry of Science 2013) and offer a broad, nationwide available range of support aimed to stimulate collaboration between SMEs and knowledge institutions.

Recommendations for Ireland

While there are several agencies available that support Irish companies through enterprise networks in different manners, only a few selected support programmes are designed to help enterprises to establish and maintain enterprise-led networks. Those that do are mainly restricted to financial incentives. In other words, Irish companies (and in consequence thereof the Irish economy) could utilise the advantages of enterprise-led networks – especially their multiplicative characteristics – to a larger degree if (further) support programmes would be initiated, following good practices from Denmark, Germany and other countries.

A **national cluster strategy** would help to further strengthen network structures in Ireland and to ensure a coordinated approach regarding transparency, standard quality criteria and standard funding allocations. As network organisations keep their member enterprises updated with relevant support programmes, valuable synergies could be created, for example by increasing the visibility and accessibility of already existing initiatives, such as the Regional Skills Fora and Skillnet Ireland. A key aspect should be the integration of national and regional policy makers and stakeholders as regional characteristics are a vital element of clusters. Therefore, a national cluster policy should be developed via a long-term collaborative process of national and regional policy makers, including the Department of Business, Enterprise and Innovation, Enterprise Ireland, Local Enterprise Offices, Skillnet Ireland, InterTradeIreland, company representatives (e.g. Chambers) and so on.

A **central communication platform** should be a key aspect as well. This platform should provide an overview about support programmes in general and existing enterprise-led networks and clusters in the immediate surroundings (see, for example, www.clusterplattform.de). At the same time, this platform increases the (inter-)national visibility of existing initiatives.

Irish policy makers could also stimulate the **professionalisation** of network and cluster management, as it is a key aspect to increase the capacities and effectiveness of network structures through long-term support programmes with a focus on strengthening management skills of the network and cluster organisations. Network and cluster organisations could be incentivised to aspire towards the quality label of **European Cluster Excellence Initiative** (ECEI). Aside from the professionalisation benefits this entails, adherence to ECEI would increase their international visibility, which in turn could strengthen international activities of the network members or initiate (international) cross-cluster collaborations. ECEI offers a proven benchmarking system, training materials and comparability within Europe.

Another takeaway for Ireland is that both go-cluster and Cluster Excellence Denmark have been able to provide effective support to foster **collaboration between large enterprises and indigenous SMEs**, for example via online platforms and matchmaking events and increasing the visiblity of clusters. They facilitate matchmaking within clusters and enable participating entrepreneurs to become familiar with each other's strengths and business models. They have helped establish to to support clusters and networks with large numbers of participating businesses, including both large enterprises and SMEs (Go-cluster: 87 clusters, 10 500 SMEs, nearly 200 larger enterprises; Cluster Excellence Denmark: 60 500 individual participating enterprises of all sizes). This helps to support cooperation among small and large enterprises for mutual gains –small companies can overcome resource restrictions, while large enterprises can harness specific solutions and/or innovative product ideas.

Beyond increasing the quality of enterprise-led networks, easier access to and support for **formalising network structures** could also facilitate enterprise cooperation. Network contracts that define the governance, goals and liabilities of an enterprise network can reduce the perceived risks of involvement for enterprises and increase business cooperation in general. Italy, for instance, introduced network contracts in its legislation in 2010. Their approach could serve as a model for Ireland (see Box 5.5).

Box 5.5. Network contracts in Italy

Description of the approach

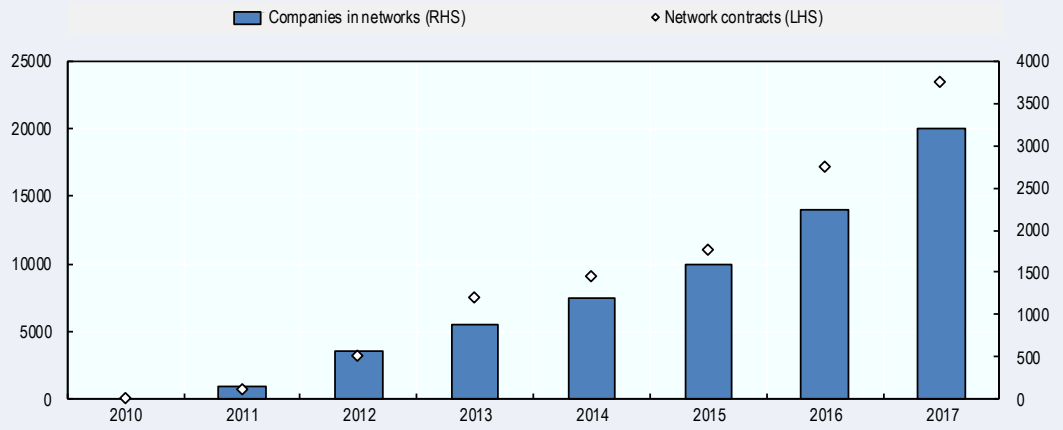
In 2010, Law 30.07.2010 was passed, whereby the Italian legislator allows the formalisation of business networks, called "network contracts." It is defined as "the contract by which two or more firms pursue the goal to increase, individually and collectively, their innovative capacity and market competitiveness. On the basis of a shared programme, the firms mutually undertake to collaborate, to exchange industrial, commercial, technical or technological information or services, or to jointly perform one or more activities."

This provides a legal basis for companies to establish collaborations. In addition, it allows its members to apply to tax credits (suspended since 2012), get cheaper loans and become eligible for simplified administrative procedures, and to request public tenders. Network contracts have to include the strategic and operative objective of the network, specify its governance and provide performance measures. All companies are eligible, irrespecitive of their size, geographical location or sector (Tiscini and Martiniello, 2014).

The impact of the approach

Network contracts proved popular with more than 600 contracts signed between more than 3 300 firms within the first two years. By the end of 2017, more than 3 000 contracts were signed, covering around 20 000 companies in total (see Figure 5.3). 40% of participating enterprises are micro and another 44% small.

Figure 5.3. Network contracts in Italy



Source: (RetImpresa, 2018).

StatLink http://dx.doi.org/10.1787/888934005226

Evidence indicates that firms that have networked perform better than a control group in terms of turnover growth, R&D activities and export status, although further research is necessary to establish a firm causal link (OECD, 2014). More recent evidence from the Italian National Institute of Statistics (ISTAT) confirms this picture. Firms that sign a network contract grow, on average, 14.4% more in terms of turnover and 12.2% more in terms of employment than the control group (RetImpresa, 2018).

Obstacles encountered

Questions can be raised about the additionality of the approach. Most of the networks have been established in the north of Italy, where businesses have a long tradition of forming networks and cooperating. Indeed, the majority of network contracts were signed by (relatively larger and profitable) companies that were part of pre-existing networks or local clusters, according to a 2013 study by the Central Bank of Italy (Bentivogli, Quintilliani and Sabbatini, 2013). A more rigourous evaluation is needed to shed light on the question of additionality, i.e. how many enterprise collaborations are created that would not have taken place otherwise.

In addition, the positive effects of entering a network vary significantly. In particular, no positive impact on firm performance could be identified for firms that are active in the construction sector, are located in the south of Italy and that were relatively unproductive when signing the network contract (RetImpresa, 2018).

Relevance for Ireland

Irish SMEs, and hence the overall economy, would benefit from stronger enterprise-led networks, especially in the area of innovation. A legal framework similar to the Italian model would benefit the creation and expansion of these networks in a cost-effective manner. In addition, these networks could be further encouraged by the provision of targeted policies, such as business advisory services, tax incentives, financial support and so on, thereby realising economies of scale in business support.

Public procurement programmes

The overall annual procurement spending in Ireland is estimated at EUR 12 billion, of which EUR 8.5 billion is for contracts for goods and services[13]. The 2015 Public Service Spend and Tendering Analysis report (latest available data, published in 2017) indicates that 94% of expenditure is with firms with an Irish base and that 52% of spend is with SMEs. Ireland has made considerable progress in the development of a pro-active policy to support the take-up of public procurement opportunities by SMEs. Prior to 2014, Ireland had a highly decentralised procurement system where contracting authorities managed procurement operations on their own. In 2015, over 86 public service bodies (PSBs) were spending on procurement.

The establishment of the Office of Government Procurement

To improve efficiency and strengthen control of public procurement, the **Office of Government Procurement** (OGP) was established in 2014 in order to coordinate, together with four key sectors which retain a procurement function (Health, Defence, Education and Local Government), the sourcing of all goods and services on behalf of Irish PSBs. The sourcing model is broken down into 16 categories of expenditure, eight categories of common goods and services are procured by the OGP, the eight others by the four specialist' sectors. The OGP and its sector partners have put in place framework agreements and contracts through which public sector bodies can buy goods and services. The OGP considers that the frameworks reduce the time and cost associated with procurement by offering facilities that have already been competitively and compliantly tendered.

The OGP reports to the Department of Public Expenditure and Reform (DPER). The aim of the DPER in establishing the OGP was to create "one voice" to the market for each category of expenditure, eliminating duplication and taking advantage of the scale of public procurement to best effect. In addition, the OGP also has responsibility for procurement policy and procedures. The total value of frameworks is estimated at EUR 4 billion annually or 50% of the contract values for goods and services. The OGP's current direct share of total procurement volume is about 4-5% or EUR 450 million per year. This corresponds to the share of central procurement bodies in other EU countries. The trend is to towards a further in increase in the use of framework agreements, with a preference for multi-supplier agreements with 'mini-tenders. Pre-commercial consultations are frequently carried out in preparation for the tenders. In 2015, 390 awards above the EU thresholds involved the establishment of framework agreements, the OGP managed 150 of these agreements across the 16 categories.

Recent improvements in public procurement policies

Circular 10/2014 (published in April 2014) sets out a set of initiatives to assist SMEs in public procurement and fast-tracked many of the measures of the EU's Public Sector Procurement Directive, which was subsequently fully transposed into Irish law in May 2016 (the procurement regulation covers contracts above EU thresholds). The actions set out in the circular included **open tendering, breaking contracts into lots, lower financial criteria** (turnover thresholds, etc.), **supporting SMEs to create consortia bids and requiring lower levels of insurance**. For contracts below EU thresholds (approximately 76% of all contract notices, but only 11.6% by value in 2015), the national policy and guidance requires buyers to advertise goods and services contracts with an estimated value of EUR 25 000 (excluding VAT) and over on the government's electronic tendering portal e-Tenders[14]. Moreover, the OGP provides guidance to buyers to encourage positive

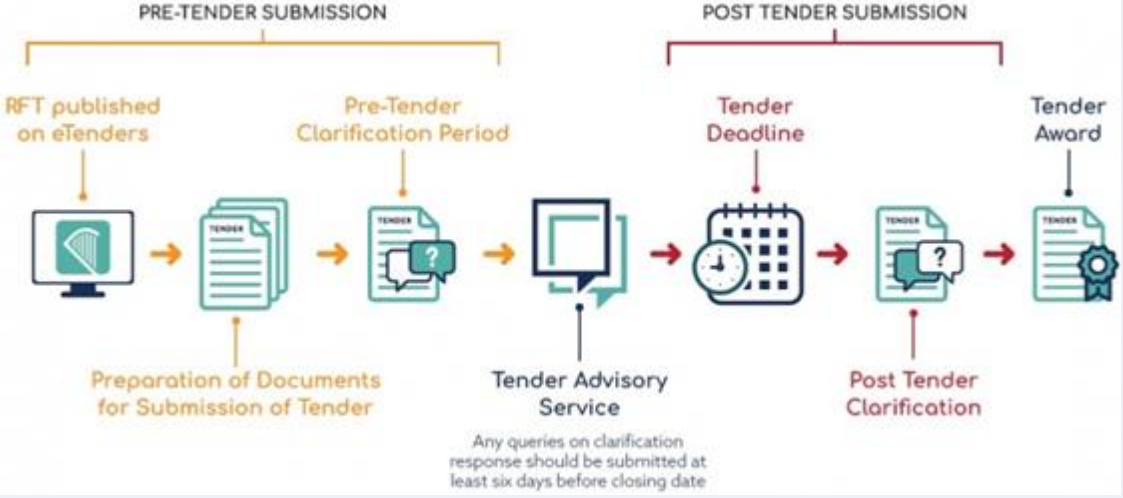
measures in favour of SMEs including prior market analysis to improve understanding of the capabilities of SMEs to respond to a tender.

All suppliers, including SMEs, are encouraged to fully utilise **e-Tenders** and make use of the facilities in relation to registration, e-tendering and automatic alerts. Evidence shows that, in 2015, Ireland had the highest business take-up of electronic procurement in Europe (OECD, 2015).

SMEs are encouraged to form consortia to ensure the scale or scope of services required to secure a tender. In addition, a **tender advisory service** providers support to SME suppliers during tendering procedures (see Box 5.6).

Box 5.6. Ireland's Tender Advisory Service for SMEs

The Tender Advisory Service is an informal review mechanism that can be used by suppliers free of charge to raise concerns during a live procurement process. TAS was developed in consultation with representatives of SMEs to address issues that impact on SMEs participating in the public procurement process. It forms part of a number of initiatives designed to ensure that Irish SMEs have full access to public procurement opportunities.



TAS operated on a pilot basis from 2015 and was subject to a review process which showed that it was a positive development and should be continued. The service was formally re-launched in July 2018 to raise the profile of TAS to ensure that SMEs are fully aware of the service and what it has to offer. TAS is managed by the Policy Unit within OGP with assistance from a panel of external procurement experts.

In addition to these measures, in 2014, the OGP set up a **high-level group** with the aim to develop and monitor strategies for SME access to public procurement.[15] The group is also part of the Government's Action Plan for Jobs and specifically reviews actions aimed at maximising procurement opportunities for SMEs. The advisory group's work has notably focused on devising a communication strategy to increase understanding amongst SME managers of the opportunities offered by public procurement.

A number of initiatives to **improve business uptake** of public procurement have been launched including web-based videos on public procurement topics, case studies of

successful tenderers and industry/regional breakfast briefings delivered by InterTradeIreland through the Go-2-Tender Programme.[16]

In addition to OGP and Enterprise Ireland support to assist SMEs to access public procurement, **InterTradeIreland provides support** at all-Island level to facilitate access for SMEs to the combined public procurement markets of the south and north[17] through a suite of Tendering Supports and Mentoring. The Go-2-Tender Programme, now in its 7th phase offers participants a comprehensive 2-day training programme which aims to give SMEs the confidence, knowledge and practical skills to tender successfully for public sector contracts across the island. This training is supported by up to five days mentoring; covering assistance for companies in live tenders, strategies for accessing larger contracts, operational issues, pricing and joint ventures/consortia building.[18] InterTradeIreland also works closely with the public sector buyers to deliver Meet the Buyer events, Supplier Engagement events and Category specific briefings.

According to the 2015 Public Service Spend and Tendering report, 11 of the 16 procurement spend categories are supplied predominantly by SMEs (from 96% in plant hire to 52% in professional services); while five categories tend to be served by larger firms (utilities, 92%, defence 90%, managed services, 74%, medical surgical and pharmaceutical supplies, 71% and ICT and office equipment, 58%). The relative penetration of the various categories by larger or smaller firms reflect the supplier base. As this data refers to the year after the creation of the OGP and the introduction of new measures, it will be interesting to compare the outcomes in subsequent years to understand if the enhanced focus on SMEs has led to them gaining greater shares in other categories.

Additional efforts could be made

Flynn (2018) reports on the results of a survey of procurement officials in Ireland carried out in 2015 (hence shortly after the creation of the OGP and the publication of Circular 10/14). He concluded that the policy measures requiring least exertion on the part of public buyers have the highest implementation rates e.g. specifying correct level of insurance cover. By contrast, measures requiring greater application have lower implementation rates e.g. conducting pre-tender market analysis or accepting reasonable variants to specifications. It would seem public buyers are targeting the "low hanging fruit" of SME-friendly policy while sidestepping measures that ask more time and effort.

Monitoring of the impact of measures such as prior market analysis and the leverage effect they have on assisting SMEs to tender will be important as the risk remains that with the broad application of framework contracts that SMEs with limited public tendering experience but with novel products or service are locked out of markets.

There remains work to be done on **enhanced guidance on green public procurement** (notably to drive innovation and encourage the development of green products and services) along with reinforcing the understanding across procurement services of the potential for innovative public procurement, so as to enhance the percentage of products or services procured that are of a 'new to market' nature.

In addition, to the OGP driven efforts to improve access for SMEs to public procurement markets, Enterprise Ireland manages a Small Business Innovation Research (SBIR) initiative[19], a pre-commercial public procurement (PCP). A PCP is undertaken with the objective of stimulating innovation that the contracting authority or some other party may benefit from at a later stage, when goods or services are not currently available or developed from the outcomes of the research. SBIR Ireland enables public sector bodies to connect

with innovative ideas and technology businesses, to provide innovative solutions for specific public sector challenges and needs.

A first pilot challenge was launched in 2014 by Enterprise Ireland in collaboration with the Sustainable Energy Authority and the Electricity Supply Board concerning smart solutions for vehicle charging. Following two further pilots, in 2017, SBIR Ireland launched seven challenges in partnership with Irish Public Sector bodies and in 2018 a further 11 challenges have been launched. Public sector partners include Irish Rail, Dublin and Cork airports, the County Councils of Cork, Dun Laoghaire Rathdown, Clare, Fingal, Limerick and Dublin City Council, Smart Dublin, the Department of Public Expenditure & Reform, the Office of Public Works and the Health Service Executive. Hence, the SBIR initiative appears to be generating interest from both national and regional/city authorities to attract SMEs to develop innovative solutions to identified needs.

Further deployment of the SBIR initiative to encourage additional counties, cities and other public agencies to make use of this method of innovative public procurement method is to be encouraged. It would be pertinent to consider an evaluation of the results, following the completion of the new round of 11 challenges, to facilitate learning within the Irish public sector on how to optimise the impact of such an initiative.

Entrepreneurship programmes for under-represented social groups

Countries often have specific dedicated programmes in place to encourage business activities among groups in society that are underrepresented in entrepreneurial activities such as women, youth (18-29), people with disabilities and seniors. This section provides an overview of the main policies in this area.

Female entrepreneurship

In Ireland, women are less likely than men to start a business. In 2016, men were three times as likely to be self-employed as women. This gap is more pronounced than in most other OECD countries (see Chapter 2). In addition, women entrepreneurs typically have less growth ambitions than their male counterparts. In response to the identified lower growth ambitions/outcomes of female run businesses, a suite of complementary initiatives has been launched to promote women entrepreneurship and growth of female managed businesses. This section provides an overview of these main policies in place, which comprise network opportunities, peer-to-peer support, training and coaching support.

ACORNS

The ACORNS programme, funded by the Department of Agriculture, Food and the Marine through the Rural Innovation and Development Fund, has been designed to support early-stage female entrepreneurs living in rural Ireland. The ACORNS initiative is centred on interactive round table sessions, which are led by "Lead Entrepreneurs," i.e. female entrepreneurs based in rural areas who have been successful, and can serve as role models. The programme commences with a two day development Forum where participants meet each other, their Acorns Lead Entrepreneur and their round table group for the first time. The Lead Entrepreneur and their group of eight peers meet subsequently in separate round tables focused on thematic topics on six occasions and the programme concludes with a second two day development Forum. In addition, past participants are invited to join the "ACORN community" and can enter the Further Development phase, which includes:

- Two round table sessions with their ACORNS Lead Entrepreneur;

- An opportunity to attend topic based workshops relevant to their development;
- Further networking opportunities;
- Development of individual participant profiles;
- Tracking of progress against agreed goals and milestones.

There are almost 160 early stage female entrepreneurs currently being supported through ACORNS. The initiative was the runner -up in the European Enterprise Awards 2018. Investing in Entrepreneurial Skills and was specifically mentioned by the SME Assembly in the Manifesto for the Development of an Innovative Europe.

Businesswomen 4 International Growth

This umbrella of several programmes represents one of the main drivers to support women entrepreneurship and was initiated by Enterprise Ireland. These programmes were kick-started by the observation that, in 2012, less than 10 percent of high-potential start-ups in which the agency invested were held by women. Funds were ring-fenced and set apart for female entrepreneurs, special calls were made to them, targets were assigned, and a manager with specific responsibility was appointed. The Competitive Feasibility Fund for Female Entrepreneurs was created to assist the creation of high-potential ventures led by a female entrepreneur. The following initiatives were created under this umbrella:

- The Female High Fliers programme: a prestigious 13-week programme supporting Ireland's most promising female-led start-ups. The tailored course, organised by DCU Ryan Academy, is supported by Enterprise Ireland and attracts around 130 female entrepreneurs per year;
- Competitive Start Fund for Female Entrepreneurs: the aim of this fund is to provide support to firms with high growth potential beyond the very early stages of their life cycle that can break into foreign markets. The application is perceived as stronger the closer the firm is to generating sustainable revenues. Enterprise Ireland will invest EUR 50 000 for a 10% ordinary equity stake in the start-up company, which will be released in two equal tranches. It also includes a business development programme for early stage companies;
- Starting Strong is designed for female entrepreneurs running an early revenue or pre-revenue stage business. It is aimed at ambitious female entrepreneurs, whose pre-revenue development, degree of innovation and growth potential are all greater than the norm.

The above approaches, among other initiatives, has been successful (OECD and European Commission, 2017) and led to an increase of the proportion of women-owned businesses receiving investments from Enterprise Ireland from 9% in 2012 to 34% in 2018.

Enterprising Women Network

Enterprising Women is a peer-to-peer business support network for female-run businesses with monthly meetings on practical business topics, workshops and member-led discussions giving them the opportunity to network, exchange ideas and share experiences.

Irishwomeninbusiness.ie

Irishwomeninbusiness is a voluntary organisation that provides women entrepreneurs and business owners with a platform facilitating networking, seminars and events.

Going for Growth

The Going for Growth initiative is sponsored by Enterprise Ireland and KPMG, a consultancy company. It is designed to encourage more women to be ambitious in respect of their business and supports them to achieve their growth aspirations. It was first launched in 2008 and more than 600 women have participated so far. The initiative aims to use the 'power of the role model', with successful women entrepreneurs recruited as *Lead Entrepreneurs*. Centred on round tables it harnesses the power of collaborative peer support to reduce psychological isolation and increase confidence and motivation. The *Lead Entrepreneurs* facilitate the round tables, build a circle of trust and encourage the participants to achieve the goals and milestones, which they have set for themselves. The programme management reports that participants achieve strong turnover growth and recruit additional staff during and after attending the cycle. Following the successful completion of a cycle, participants are offered the opportunity to join a Going for Growth Community and continue to be support through their entrepreneurial growth journey. The programme has won awards at the European level.

Entrepreneurship promotion

Ireland also has a number of key awards and events to identify, celebrate and promote success stories of female entrepreneurs such as:

- Women Mean Business: The business website organises an annual event and awards outstanding female business leaders in Ireland in different categories;
- The Irish Country Magazine has a Made in Ireland Award for female entrepreneurs, and Image and Irish Tatler, two women magazines, have similar awards;
- National Women's Enterprise Day: The Local Enterprise Offices organise the National Women's Enterprise Day once a year with events in different regions throughout Ireland;
- Network Ireland: Network Ireland brings together female entrepreneurs and business owners, as well as a plurality of other stakeholders with around 1 000 members in 15 branches across Ireland. They organise events to collaborate, share ideas, knowledge and support. One of their pillar events is the International Women's Day Celebration and the Annual Conference and Business Awards;
- Women's Executive Network Awards: Every year, WXN launches its Top 25 Awards, which celebrates the successes of Ireland's highest achieving women at a ceremony.

While Ireland has introduced a multitude of policies to promote entrepreneurship among women, the share of women that are self-employed has remained broadly constant at 7% over the 2012-16 period, indicating little overall progress in recent years (OECD, 2017a), although the number of female-owned high-growth enterprises apparently increased. This observation may warrant closer scrutiny of the impact of current policies in place. In addition, the argument for an assessment of the impact of current initiatives is more powerful when analysing data that excludes the (relatively large) agriculture sector. When

doing so, 7% (of total employment) of women are self-employed versus 17% of men in Q1 2018, according to the CSO Labour Force Survey.

Programmes for the unemployed

The "Back to Work Enterprise Allowance (BTWEA)" represents the main policy focused to assist (long-term) unemployed in setting up a business. Under this scheme, beneficiaries receive their full unemployment benefit during the 12 first months after the establishment of a business and 75% in the second year, irrespective of the performance of their business (in order to not penalise success). BTWEA can be combined with employment grants from a Local Enterprise Office (LEO) or a Local Development Company. Participants are also exempt from the requirement to satisfy the condition of genuinely seeking work to receive their weekly allowance. 23% of MFI customers were on BTWEA when loan was granted and 19% of all MFI loans are to "Non-Irish" passport holders.

In addition to income support, beneficiaries can also apply for financial support to set up business under the Enterprise Support Grant (ESG) up to a total amount of EUR 2 500 over a period of no more than 24 months and retain access to support, advice and mentoring by the DSP Case Officer and/or an Enterprise Officer in a Local Development Company (LDC).

To be eligible, one has to be:

- Setting up as self-employed in a new business that has been approved in advance in writing by a DEASP Case Officer and a Local Development Company;
- Getting Jobseeker's Benefit (JB) or Jobseeker's Allowance (JA) continuously for at least 9 months (234 days).[20]

This scheme has been in place since the 1993 and revised in 2009. In December 2016, there were 11 386 participants on the BTWEA and 2016 expenditure on the scheme was EUR 126.2 million. Both numbers have remained roughly stable between 2012 and 2016 (Department of social protection, 2017).

A recent review of this programme was broadly favourable. A self-assessment showed that a clear majority of surveyed beneficiaries stated that the application process was clear and they were given sufficient information. Moreover, the scheme gave beneficiaries sufficient security to set up business. A counterfactual study revealed that participants in the BTWEA scheme are much more likely to be in employment than a matched group of individuals with similar characteristics, both 6 and 18 after the payments have ceased. Relatively few thus return to welfare (Department of social protection, 2017).

Migrant entrepreneurship

Ireland has a strong entrepreneurship support system with an appropriate range of different supports for entrepreneurs in general. However, there is only a modest offering of dedicated inclusive entrepreneurship policies and programmes aimed at specific social groups and their distinct needs and delivery preferences. These dedicated supports tend to focus on women and, to a lesser extent, older people, youth and the unemployed. One of the groups that receives relatively little dedicated supports is migrants (OECD, 2017b). The Irish Naturalisation and Immigration Service facilitates attainment of residency status in Ireland for migrants who commit to creating a high potential start-up business in Ireland and connects them to Enterprise Ireland's range of support programmes for high potential start-ups available to all types of entrepreneurs. However, this does not constitute a dedicated

support programme designed to support migrants specifically in setting up their businesses and it also focuses only on migrant entrepreneurs seeking to develop high potential businesses. Some LEOs have also occasionally provided targeted training programmes to migrants, for example by working together with foreign embassies or places of worship. Laois LEO is an example of a LEO offering dedicated support for migrants, refugees and prisoners through its Start Your Own Business programmes, and was a runner up in the European Enterprise Programme Awards in 2018 in this respect. However, these types of dedicated activities appear less common across Ireland as a whole in recent years (OECD and European Commission, 2017)..

Dedicated and nation-wide entrepreneurship support programmes for migrants is common in other OECD countries. In a 2016 report, the European Commission identified 193 effective support schemes for migrant entrepreneurship throughout the European Union and beyond, with 38 selected as good examples for other countries to draw inspiration from (European Commission, 2016). Box 5.7 provides an overview of the most salient results of this study.[21] As another example, the Business Development Bank of Canada provides a repayable loan of up to CAD 50 000 to eligible immigrant entrepreneurs under the New Canadian Entrepreneur Loan.

Similar tailored support programmes could be considered in Ireland. This seems especially relevant for the Irish context as migrants in Ireland show a lower propensity to be self-employed (at 18.3%) than in most other countries (22.7% as the OECD average).

Box 5.7. Support for migrant entrepreneurs: Lessons learned

Migrants, although often more entrepreneurial than the native population, face a number of specific and interlinked challenges, ranging from difficulties in raising finance, unfamiliarity with the regulatory framework and the functioning of the labour market, and insufficient links with the local (non-migrant) business community. The specificity of these challenges implies a need for a tailored policy response, ideally holistic and multidimensional and likely spanning several service providers. This box provides an overview of lessons learned from a number of case studies conducted by the European Commission in 2016.

Many good practices have in common that, rather than designing new policy instruments and service providers, they instead build on existing structures and support packages, tailoring them to tackle the specific hurdles faced by many migrants. One suggestion is to leverage volunteering and corporate sponsorship, potentially targeting successful migrant entrepreneurs who can function as role models.

Another suggestion, although not entirely specific to migrant communities, is to use plain and easy to understand language as much as possible. In a similar vein, translation tools for online information and services and the provision of multilingual information can lower the barrier for migrants to make us of government services. The use of social media and initiatives among migrant communities, ethnic media, networks and grass-roots initiatives can raise awareness about the entrepreneurship support available and is therefore considered a good practice.

Mentoring schemes appear especially helpful in supporting migrants, whose success crucially hinges on the match between the mentor and the entrepreneur. Possibly, mentors share similar backgrounds or experiences as migrant entrepreneurs they are collaborating with. Finally, the study points to weak evidence base and a need to collect qualitative and quantitative data to assess the outcome of initiatives to support migrant entrepreneurship (European Commission, 2016[6]).

Policy recommendations

Key recommendations on SME and entrepreneurship programmes

Financing

- Review the effectiveness of the recently revised credit guarantee scheme and awareness of it among possible beneficiaries and consider scaling up its activities.
- Consider more direct lending activities to segments in the population of SMEs and entrepreneurs that face particular challenges to access credit, such as micro-enterprises and start-ups.
- Closely scrutinise the economic impact and return on investment of ISIF in light of its innovative features.

Innovation

- Set a clear objective to increase the intensity of R&D and innovation activity by smaller Irish-owned enterprises, including additional measures to improve their knowledge absorption capacities (innovation and technological management skills, etc.).
- Enhance co-operation between enterprises for R&D and innovation, notably smaller firms with other enterprises (clients and customers) and with the research base and other innovation relevant players (consultants, commercial labs, and so on).
- Adapt the R&D tax credit instrument to encourage innovation collaborations by SMEs by increasing the share of subsidies that flow to smaller firms involved in outsourcing R&D tasks to research and technology organisations, and considering shifting resources to large firms for R&D undertaken with SMEs and Irish technology centres.
- Introduce a pre-approval procedure of R&D tax credits to help reduce uncertainty for SMEs.
- Further develop strategic collaborative R&D and innovation programmes in specific sectors through the Technology Centres programme covering strategic sectors for the Irish economy where R&D and innovation intensity is lower than could be expected, such as the food industry and the bioeconomy.
- Consider additional targeted support for the technology validation phase for SMEs to fill a gap in the pipeline from concept to exportable product or service.
- Assess the potential for launching a dedicated initiative to support SMEs in the transition to ‘factories of the future’ (Industry 4.0).

Workforce skills development programmes

- Further embed and broaden entrepreneurial education curricula at primary and secondary education levels. This could be done by generalising good practice examples within the mainstream educational system.

Enterprise-led networks

- Place a stronger emphasis on supporting and utilising enterprise network structures in SME and entrepreneurship policy.
- Develop a national cluster policy via a long-term collaborative process involving national and regional policy makers.
- Create a central communication platform for the roll-out and development of a national cluster policy.
- Support the professionalisation of network and cluster organisations, including achieving the award of the quality label of the European Cluster Excellence Initiative.
- Promote matchmaking services and network events, crucially involving larger enterprises.
- Establish a legal framework for enterprise networks.

Public procurement

- Further develop guidance on green public procurement and reinforce the understanding across procurement services of the potential for innovative public procurement.
- Encourage more public sector bodies to participate in SBIR Ireland innovation challenges for pre-commercial public procurement..

Under-represented social groups

- Expand dedicated programme support to assist migrants to start businesses across the country.

Notes

[1] Because of the potential for issues related to displacement of existing businesses, LEOs are not allowed to provide financial grants to firms in retail, personal services, local professional services, construction/local building services.

[2] https://www.localenterprise.ie/Documents-and-Publications/Impact-Report-2017-/Impact-Report-2017.pdf

[3] https://ec.europa.eu/taxation_customs/sites/taxation/files/resources/documents/taxation/gen_info/economic_analysis/tax_papers/good_practice_cases.pdf

[4] https://dbei.gov.ie/en/What-We-Do/Business-Sectoral-Initiatives/Entrepreneurship-/Entrepreneurship-Education/

[5] See: http://www.studententerprise.ie/

[6] See: https://www.foroige.ie/our-work/youth-entrepreneurship

[7] https://www.oecd-ilibrary.org/industry-and-services/supporting-entrepreneurship-and-innovation-in-higher-education-in-ireland_9789264270893-en

[8] http://www.ceen.ie/ceen-about-us

[9] https://www.teachingandlearning.ie

[10] https://springboardcourses.ie/

[11] A national Apprenticeship and Training Plan (2016-20) was adopted in December 2016. See http://www.solas.ie/SolasPdfLibrary/ActionPlanDec16.pdf and http://www.apprenticeship.ie/en/about/Pages/About.aspx

[12] Consisting of the Ministry of Science, Innovation and Higher Education (chairman), the Ministry of Business and Growth, the Ministry of Foreign Affairs, the Ministry of Housing, Urban and Rural Affairs and the Ministry of Food, Agriculture and Fisheries, the Danish Ministry of Climate, Energy and Building, the Danish Ministry of the Environment, The Ministry of Health and the six regional growth fora and Local Government Denmark (The Danish Ministry of Science 2013).

[13] Sourced from https://ogp.gov.ie/.

[14] http://www.etenders.gov.ie/

[15] The members are: the OGP, ISME, Ibec, Construction Industry Federation, Chambers Ireland, and Small Firms Association as well as Enterprise Ireland, InterTradeIreland, the DBEI and the Competition and Consumer Protection Commission.

[16] https://intertradeireland.com/sales-growth/tender-successfully/go-2-tender/

[17] https://intertradeireland.com/news/new-supports-for-smes-to-access-public-spending-worth-e12-billion/

[18] https://intertradeireland.com/news/new-supports-for-smes-to-access-public-spending-worth-e12-billion/

[19] https://www.enterprise-ireland.com/en/About-Us/Services/Procurement/SBIR-Ireland-/

[20] This design feature potentially discourages individuals to set up a business before they have been less than 9 months of unemployment, and should therefore be carefully reviewed.

[21] Note that potential programmes in this area are typically distinct from initiatives to target returned and returning emigrants of Irish descent. The Department of Foreign Affairs and Trade, in particular, is very innovative in seeking to foster their entrepreneurial potential.

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Chapter 6. The local dimension of SME and entrepreneurship policy in Ireland

This chapter presents information on the local dimension of SME and entrepreneurship policy in Ireland. Despite its small size, Ireland's economic geography is characterised by significant differences in the vitality of the local entrepreneurship ecosystems underpinning SME and entrepreneurship development across the country. It points to the importance of an increased local focus in SME and entrepreneurship policy with the aim of promoting local entrepreneurship, innovation and industrial diversification based on existing local strengths. It also discusses mechanisms for reinforcing the vertical and horizontal alignment of SME and entrepreneurship policy in Ireland.

Spatial variations in the local context for SME and entrepreneurship activity

Chapter 2 identified important local variations in numbers of SMEs, SME innovation rates and new firm formation rates within Ireland. In respect of SME innovation and new firm formation rates, these differences exacerbate rather than reduce core-periphery differences in the country. They are affected by important differences within Ireland in terms of the local entrepreneurship ecosystem conditions for SME and entrepreneurship development. These include local differences in areas including industry composition, worker skills, and presence of foreign firms. There are also a number of local concentrations of activities in key sectors across regions in Ireland, such as Medical Devices in Galway, Pharmaceuticals in Cork and Information and Communication Technology (ICT) in Dublin, which form a potential basis for further enterprise development at the local level.

The spatial variation in employment and output

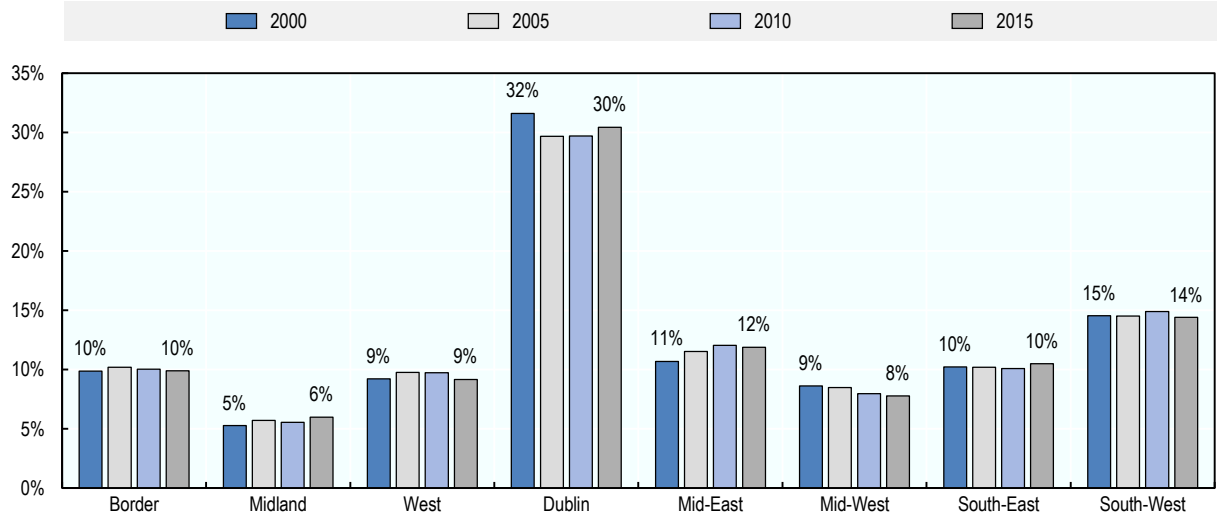
Spatial variations in employment

Ireland is a small country with a population below 5 million with large variations in regional employment and GVA in terms of both volume and composition. The Dublin region clearly dominates a large part of the economy. The South-West of the country with Cork also represents an important economic centre. About 30% of the country's employees reside in Dublin, and another 14 % in the South-West region (see Figure 6.1). In addition, a significant number of people live outside Dublin and Cork but commutes into these cities for work. For example, in 2016 over 130 000 people living outside Dublin commuted into the city and its suburbs for work. The corresponding figure for Cork was over 40 000.[1]

Regional shares of employees have been relatively stable since the beginning of the 2000. Over a longer time horizon, the Mid-East has grown considerably in terms of residents with employment due to the expansion of the commuter belt around the Dublin region (Morgenroth 2018).

Figure 6.1. Share of persons at work by NUTS 3 region, 2000-15

Percentage share of the total number of persons at work



Source: CSO

StatLink http://dx.doi.org/10.1787/888934005245

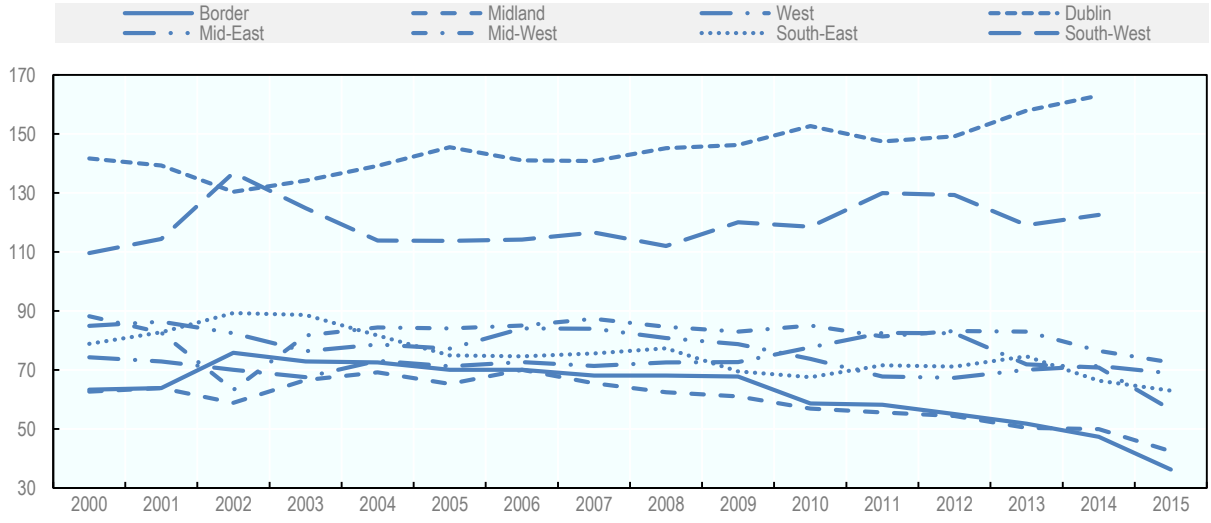
The National Planning Framework (NPF) as part of Project Ireland 2040, aims to guide the future development of Ireland to 2040 and to influence the spatial patterns of a projected 1 million increase in Ireland's population over this period[2]. The NPF and the National Development Plan have been developed in conjunction to link spatial planning policy and infrastructure capital investment.

Figure 6.5 and Figure 6.4 present data on disposable income per person by NUTS 3 region.[3] Figure 6.3 shows the percentage deviation from the state average by region whereas Figure 6.4 presents indices of the same variable from 2007-15 (state = 100). Disposable income data include total household income plus social transfers minus taxes and is useful as a complement data on GVA to illustrate regional variations in economic activity and income.

Also on this indicator, Dublin is far above the state level (15%) and has consistently developed better than Ireland as a whole since 2007 (see Figure 6.4). The South-West is 3% below the state average in 2015 and also shows a weaker development in recent years. The Mid-West and Mid-East are on par with the state average, although it is clear from Figure 6.4 that the development in the Mid-West is also relatively weak. Border, Midland and West are over 10% below the state average. The data on disposable income per person thus show similar patterns as the data on GVA per capita, with the possible exception that the performance of the South-West is somewhat lower whereas Mid-East and Mid-West perform somewhat better when looking at disposable income data.

Figure 6.2. GDP per capita across Irish NUTS 3 regions, 2000-15

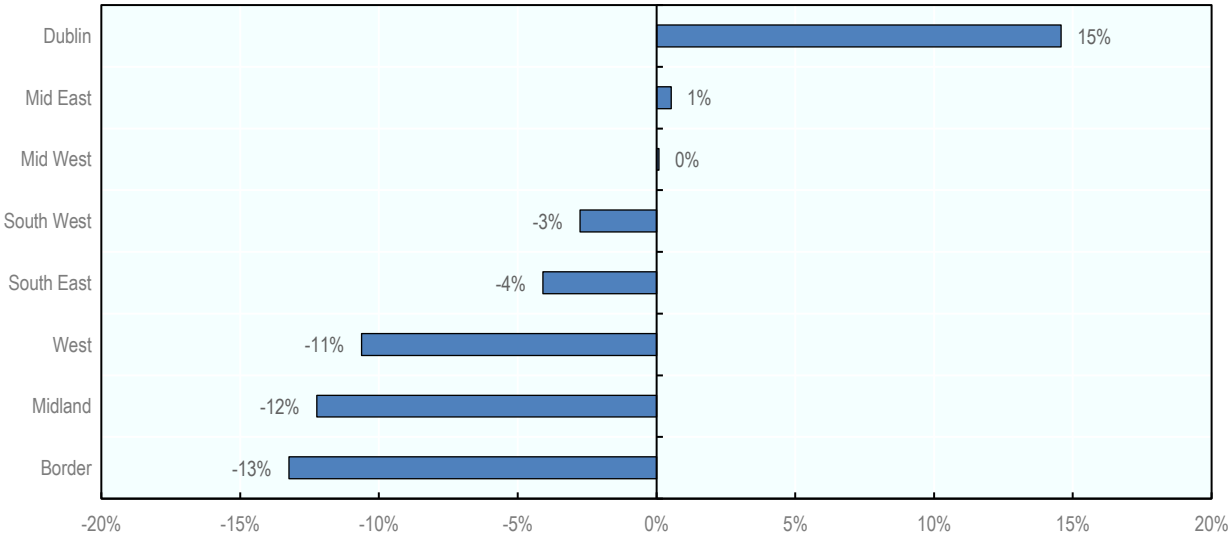
Indices of GVA per person at Basic Prices (State=100) by region and year



Source: CSO

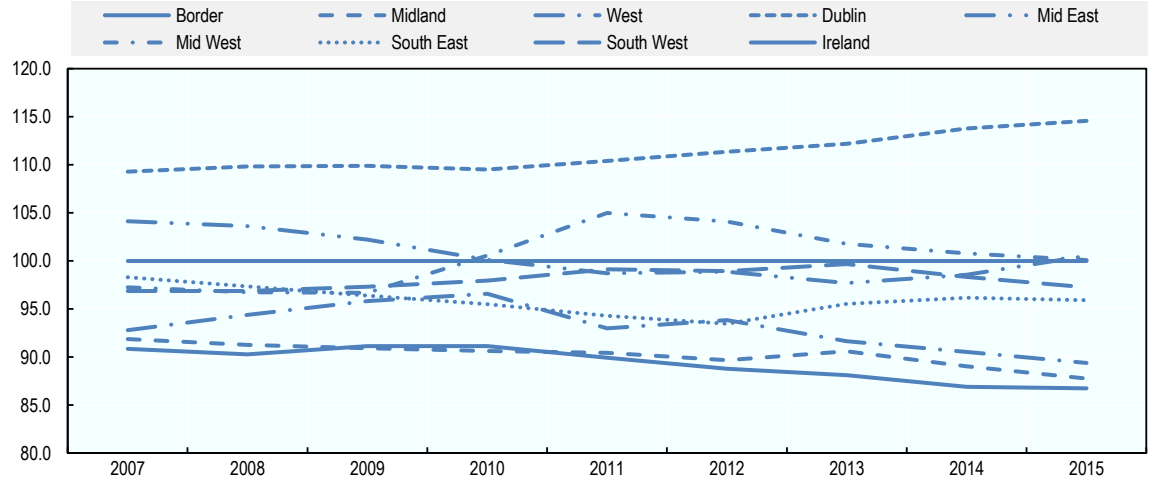
StatLink http://dx.doi.org/10.1787/888934005264

Figure 6.3. Disposable income per person by NUTS 3 region, percentage deviation from state average 2015



StatLink http://dx.doi.org/10.1787/888934004523

Figure 6.4. Indices of disposable income per person by NUTS 3 region 2007-2015 (state=100)



StatLink http://dx.doi.org/10.1787/888934005283

The role of agglomerations

The performance of Dublin and the South-West region reflects the importance of agglomeration in the Irish economy (see Box 6.1). The two major urban areas are particularly attractive for productive activities and skilled workers. Available data show for example that a significant fraction of multinational activity in the country occur in Dublin and South-West (Whittle, 2018). Morgenroth (2018) cites data from 2012, which illustrates

that, these regions together account for over 60 % of the total output produced by multinationals in industry in the whole of Ireland. Foreign multinational firms in high-value added and innovative industries have also been shown to prefer to locate in urban centres in Ireland (Barrios et al 2006).

In addition, there is recent evidence that agglomeration factors are important in explaining innovation outcomes in Irish firms. Crowley and McCann (2015) find that firms located outside Dublin are less likely to introduce product or service innovations as well as organisational innovations. This result holds even after controlling for many other possible reasons for a firm's innovation outcomes, such as its innovation efforts, size and age and whether it is domestic or foreign. Regional disparities between regions in Ireland are among the highest in the OECD (OECD, 2016) and have been growing since 2000 (Figure 6.2). The regions with the two largest urban centres, i.e. Dublin and the South-West, perform significantly better than other regions. In recent years, the Dublin and South-West regions show levels of GDP per capita of the order of 60% and 20% respectively above state-level. At the same time, the Border and Midland regions display less than half of the overall GDP per capita in Ireland.

Box 6.1. The role of agglomeration for SME and entrepreneurship

Agglomerated areas with high density of people and economic activity offer several productivity gains for workers and firms located within them. These effects are often categorised into matching, learning, and sharing. Matching implies that the density of firms and workers imply thick markets for skills and thereby matching efficiency in the labour market. Sharing means that agglomerated areas can sustain indivisible public goods that can be shared by firms and workers in the city, such as marketplaces, production facilities and advisory services. Learning is facilitated by the large number of people and firms supporting the generation, diffusion, and accumulation of knowledge, ideas, and information (Duranton and Piga, 2004).

Existing research shows that these types of benefits dissipate rather quickly with distance and thus operate within the confines of city regions. For example, Rice et al (2006) study the relationship between proximity to economic mass and productivity in the United Kingdom and find that proximity to an area with a large population of working age is beneficial for productivity. However, the positive effects decline rapidly with travel time and cease to be important beyond about 80 minutes of travel time. This means that even in small countries such as Ireland, in which major urban centres may be reached within a daytime business trip, proximity and agglomeration are issues of importance in the context of the overall supply- and demand-side conditions for innovation and growth of SMEs and entrepreneurship activity.

Investments in physical infrastructure that reduce travel times and increase the connectivity between small and rural regions and larger agglomerations is therefore also relevant from the viewpoint of local conditions for SME and entrepreneurship activity. The role of high-quality infrastructure for the competitiveness of businesses all over Ireland is for example emphasised by the National Competitiveness Council.

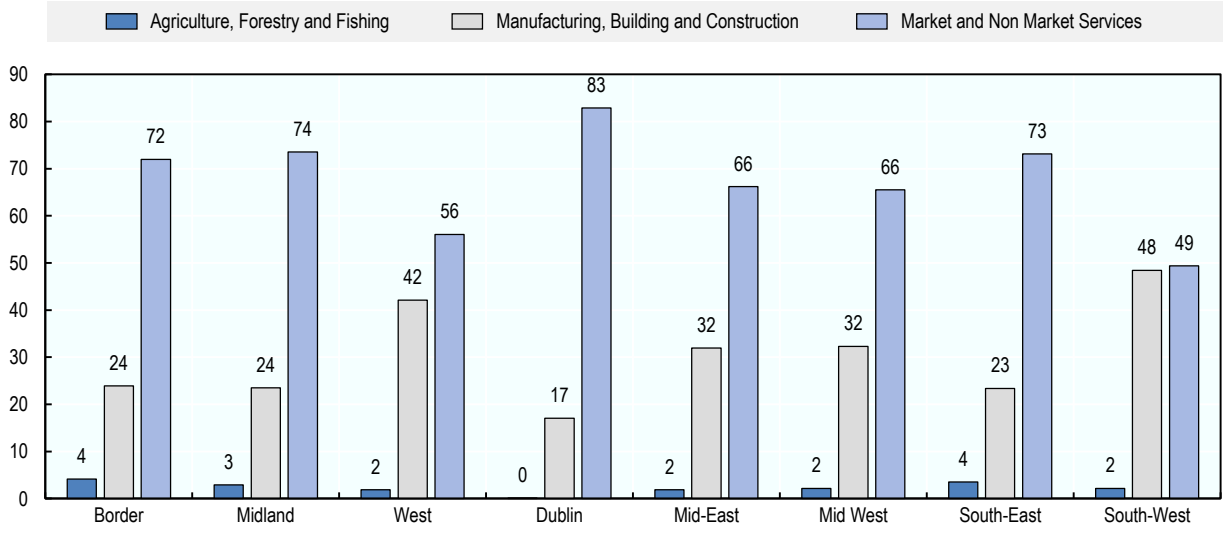
Spatial variations in industry and skill structures

Spatial variations exist also in the overall composition of GVA between regions. Figure 6.5 reports the fraction of GVA attributed to (i) agriculture, forestry and fishing, (ii) manufacturing, building and construction and (iii) market and non-market services by NUTS 3 region. Although the majority of the regional GVA is attributed to market and non-market services in all regions, there are still substantial difference between regions: Dublin and the South-West, the two regions with the highest GVA per capita, differ for example markedly in the composition of their GVA. Over 80 % of Dublin's GVA comes from services, whereas in the South-West, the contribution of manufacturing and building and construction to total GVA is almost as large as the contribution of services. This reflects South-West's concentration of manufacturing activity, such as in pharmaceuticals and chemicals (see e.g. InterTradeIreland 2015).

The Border, Midland and South-East regions show a rather similar composition of GVA with 3-4% attributed to agriculture, about a quarter (24%) to manufacturing, building and construction and 72-74% to services. The Mid-East and Mid-West have also a similar structure with a contribution of services in the order of 66% and relative high contribution of manufacturing, building and construction (32%). The West has a relatively low contribution of services (56%) and a contribution of manufacturing, building and construction of over 40%.

Figure 6.5. GVA by industry and NUTS 3 region, 2014

GVA at basic prices by industry category (in percent of regional total) by NUTS 3 region



Source: CSO.

StatLink http://dx.doi.org/10.1787/888934005302

The industry composition of Irish regions' employment also varies markedly. Table 6.1 shows how important different industries are across NUTS 3 regions in Ireland. For each region, as well as Ireland as a whole, the table reports the fraction of employment by industry based on data for 2016. There are rather clear differences between regions in terms of the importance of various industries in employment.

In the Border and Mid-West regions 7% of employment is in Agriculture while Agriculture is of very minor importance in Dublin. Extraction and Mining is unimportant in all regions, though about 1% of the employment in Midland is in extraction and mining. Manufacturing is relatively important in the South-West, West and Mid-West regions, although as many as five regions have an employment share in manufacturing that is higher than it is for Ireland as a whole.

Many basic services industries, like Accommodation and Food, Retail, Wholesale, Personal services and Health and Social Work, are of similar importance across regions. The employment in these sectors is in principle proportional to the size of the regional economies. On the other hand, more advanced services like Information and Communication, Finance and Insurance as well as Professional services are of significantly greater importance in the Dublin region than in other regions in Ireland. Dublin's fraction of Ireland's total employment in Information and Communication as well as Finance and Insurance is for example in the order of over 50%.

The table also reports the fraction of the people in the labour force that is unemployed. The Border and Midland regions show the highest fraction of unemployed (16%) whereas the fraction of unemployed is lowest in the South-West (11%) and Dublin (12%) regions.

Table 6.1. Sectoral employment by NUTS 3 region

Share of regional labour force 2016, in percent

	Border	Midland	West	Dublin	Mid-East	Mid-West	South-East	South-West	Ireland
Agriculture	7%	6%	6%	0%	3%	7%	6%	5%	4%
Extraction and mining	0%	1%	0%	0%	0%	0%	0%	0%	0%
Manufacturing	9%	10%	12%	5%	8%	11%	10%	12%	9%
Energy, repair, waste and motor services	3%	3%	3%	2%	3%	3%	3%	3%	3%
Construction	5%	5%	5%	3%	5%	4%	5%	5%	4%
Wholesale	3%	3%	3%	3%	4%	3%	3%	3%	3%
Retail	7%	7%	7%	7%	7%	7%	7%	7%	7%
Transport services	3%	3%	2%	4%	4%	3%	3%	3%	4%
Accommodation and Food	5%	4%	6%	5%	4%	5%	5%	6%	5%
Information and communication services	2%	2%	3%	7%	4%	2%	2%	3%	4%
Financial, insurance, etc.	2%	2%	2%	7%	4%	2%	3%	2%	4%
Professional services	3%	3%	4%	7%	5%	4%	4%	5%	5%
Administration and support*	2%	2%	2%	4%	3%	3%	3%	3%	3%
Public administration and defence	5%	6%	5%	5%	5%	4%	4%	4%	5%
Education	8%	7%	8%	7%	8%	8%	8%	8%	8%
Health and social work	12%	11%	12%	11%	11%	11%	11%	11%	11%
Personal services	2%	2%	2%	2%	2%	2%	2%	2%	2%
Industry not stated	6%	7%	6%	9%	6%	6%	6%	6%	7%
Unemployed	16%	16%	13%	12%	13%	14%	15%	11%	13%
Share of total state labour force	**8%**	**6%**	**9%**	**30%**	**14%**	**10%**	**9%**	**14%**	**100%**

Note: *Including veterinary services, renting and employment activities. Calculations based on CSO data on population aged 15 years and over in the labour force 2016 by regional authority and detailed industrial group.
Source: CSO Statbank.

Even though manufacturing is rather important in many regions in Ireland, there are sharp regional variations in terms of which manufacturing industries they are specialised in. Table 6.2 shows, for each region, the main specialisations in manufacturing by region. Specialisation is measured by comparing each industry's employment share in a region

with the same industry's employment share in Ireland as a whole. The Dublin region is not included in the table because the regions has no particular specialisation in any manufacturing industry.

The table shows that the different regions in Ireland are specialised in different types of manufacturing activity. For instance, the West is specialised in Medical and dental instruments, Mid-East in Paper, paper products and furniture, the Border region in Fish, Meat and Electrical equipment and the South-West in Computers and peripheral equipment. The specialisation index is presented within brackets. It shows for example that in the South-West region, the share of employment in Computers and peripheral equipment is over three times higher in the South-West that it is in Ireland as a whole.

Table 6.2. Main specialisation in manufacturing by NUTS 3 region, based on 2016 labour force data by industry

Border	Midland	West	Mid-East	Mid-West	South-East	South-West
Fish, crustaceans and molluscs (4.3)	Prepared animal feeds (4.2)	Medical and dental instruments and supplies (3.9)	Paper and paper products (2.1)	Glass and glass products (3.5)	Machinery and equipment n.e.c. (2.1)	Computers and peripheral equipment (3.3)
Meat and meat products (2.1)	Articles of concrete, cement and plaster (3.3)	Motor vehicles, trailers and semi-trailers (2.3)	Furniture (1.7)	Electronic components and boards (2.7)	Glass and glass products (2.0)	Dairy products (2.3)
Electrical equipment (2.2)	Meat and meat products (2.0)			Basic metals (2.6)		Plastics products (2.0)

Note: The table reports the manufacturing industries with the highest specialisation coefficients among manufacturing industries with at least 1 000 employees in Ireland as a whole. The specialisation coefficient is calculated as a given industry's employment share in a region divided by that industry's overall employment share in Ireland. A specialisation coefficient of 2 implies that an industry's employment share in a region is two times higher than the industry's overall employment share in the country as a whole. The specialisation coefficients are reported within brackets.

The geographic concentration of sectors in Ireland has also been noted in recent research papers. For example, O'Connor et al (2017) identify 10 main globally competitive groups of traded activities in Ireland by export values in 2012.

They further show that there are distinct patterns in the spatial concentration of activities across NUTS 3 regions in Ireland. For example, the Dublin region stands out with a unique concentration in some of the most productive clusters in Ireland, like Business Services.[4]

A consequence of regional industry specialisations is that there are spatial variations in the local availability of skills, resources, and experiences associated with very different industries. Industries represent structures that facilitate and stimulate the development and accumulation of knowledge, technology and knowhow, for example embodied in workers that may be pertinent for a range of related industries (Boschma 2017, Xiao et al 2018).

The concept of industry "relatedness"

A growing body of empirical work finds that relatedness is important in explaining patterns of industry dynamics across regions. Industries are for example more likely to enter and develop in a region when they are related to pre-existing industries in that region (Neffke et al. 2011). Likewise, new technologies are more likely to occur in regions with an already established presence of related technologies (Kogler et al. 2013, Rigby 2015). This illustrates that there is an industry-component in the local conditions for development and growth of SMEs and entrepreneurship, and that the existing local industry structure is one determinant of the nature of entrepreneurship and industry dynamics in a region.

Chapter 5 provides recommendations on the establishment of cluster policies in Ireland. The Norwegian Cluster model in Box 6.2 provides an example of how such clusters can be strengthened, even without rolling out a fully-fledged cluster policy.

Box 6.2. The Norwegian Cluster model

Description of the approach

Norwegian Innovation Clusters is a government-supported cluster programme that aims to support clusters with a growth potential. Cluster goals are to increase innovation capability and value creation in different clusters. The programme is organised by Innovation Norway in joint effort with SIVA (the Industrial Development Co-operation of Norway) and the Norwegian Research Council.

Through annual open calls clusters compete to be part of the programme. Strict criteria exist to take part in the programme. These include cluster resources; potential for growth and position in the industry but also that the initiative is founded on the participation and leadership of the enterprises' common interest and their common ownership to the cluster project. Cluster collaboration must be organised in a way to ensure participants' co-operation patterns.

Clusters are supported on three levels:

- Arena: Clusters that are in an early phase of organised cluster collaboration. The support period is 3-5 years with EUR 200 000 – 300 000 and currently 19 supported clusters;
- Norwegian Centres of Expertise: These are mature clusters with national position. The support period is 5-10 years with EUR 500 000 – 600 000 and currently 14 supported clusters;
- Global Centres of Expertise: These are mature clusters in global positions. The support period is up to ten years with EUR 1 million and currently 3 supported clusters in the blue maritime, subsea and node area.

Support is provided in the form of co-funding (50%) of basic cluster activities through a cluster facilitator and targeted support schemes on cluster sustainability, entrepreneurship, innovation and the support of "change agents." Networking and advisory services are also part of the package.

Success factors

First, clusters are based on a strategic collaboration between companies, knowledge providers and the public sector. An evaluation from Technopolis (2017) has shown that participation in a cluster project had significant effects on collaboration between firms. When comparing collaboration links before and after enrolment in a cluster, collaboration between cluster firms in the same cluster doubled in the Arena projects. Similar collaboration had more than doubled in the NCE projects. There has also been a significant increase in collaboration between cluster firms and R&D institutions in the same cluster.

Second, a broad array of areas of collaboration has been established, ranging from branding and communication to joint infrastructure, building attractiveness, new educational programmes, partner search and collaborative innovation. Often, cluster resources are combined with external knowledge through strategic alliances.

Third, different policies from the Ministry of Trade and Fisheries and the Ministry of Local Government and Modernisation have been linked and implemented in strategic co-operation with the innovation agency Innovate Norway and the Research Council of Norway. Linking roles and resources has been key to secure successful implementation.

Obstacles and responses

During the implementation of the programme, it has been realised that the organisation and functioning of the program could be improved through organisational changes. As a result, an advisory board has been introduced to select clusters into the programme and regional account managers have been installed. Whilst advisory services were initially targeting individual clusters, they now incorporate several clusters at once to support linkage building between the clusters.

Relevance to Ireland

Ireland is a world leader in key innovative sectors and that the fact that Ireland has a number of strong geographic clusters concentrations has been noted in recent research papers (see for example O'Connor et al (2017)) despite the absence of a dedicated national cluster policy. Whilst Ireland might not want to roll out a fully-fledged national cluster programme, there are reasons for the government to consider enhancing collaborative innovation projects, internationalisation projects as well as cluster-to-cluster projects to support cross-fertilisation between clusters. Building on "related diversification" by bringing together complementary skills of different industry strengths to create new activities across sectors and technologies can and should be facilitated at all levels of government, including federal, regional assembly level and local government levelsauthorities, who have an important role to play as "agents of change".

Further Information

Norwegian Innovation Clusters: http://www.innovationclusters.no/english.

The regional skill structure

The spatial variations in employment by industries leave footprints in the composition of skills across regions. Table 6.3 shows employment by four occupational categories across the eight NUTS 3 regions in Ireland. The figures show each region's share of the total employees in Ireland by each occupation category. The table also reports each region's share of the total number of employees in Ireland as a point of reference.

In relative terms, Dublin has the largest concentration of people working as Business and Legal professionals, followed by the Mid-East and this reflects the concentration of knowledge-intensive and advanced business services and various headquarter activities, The vast majority of workers with skills and experiences that pertains to business services, marketing, finance, management consulting, advertising and business analysis are concentrated in these two regions. The same applies to workers with occupations related to ICT, confirming Dublin's status as the main economic hub in Ireland.

Regions where manufacturing is relatively important, like the South-West, West and Mid-West, have a rather high fraction of Engineers and Technicians relative to total employees. This illustrates the role of engineers and technicians in manufacturing activity.

Table 6.3. Employment by NUTS 3 region in occupational categories

Share of state total, Q4 2015, in percent

	Border	Dublin	Mid-East	Mid-West	Midland	South-East	South-West	West
Business and legal professionals, consultants, accountants	4	47	15	7	4	6	12	6
Engineers and Technicians	7	25	14	12	5	7	18	12
ICT (specialists, programmers, designers, technicians)	4	49	14	6	3	4	13	7
Scientists and R&D	5	34	13	8	4	7	18	11
Share of total employees	**8**	**30**	**14**	**10**	**6**	**9**	**14**	**9**

Note: Calculations based on data reported in Table 9 in Regional Labour Markets Bulletin 2016 published by the Export Group on Future Skills Needs.
Source: CSO

Mechanisms for tailoring and alignment of local and national SME and entrepreneurship policy

Key actors for SME and entrepreneurship policy at sub-national level

Ireland is the second least decentralised country in the OECD with regard to public spending. About 10 % of the public expenditure is conducted by subnational governments (OECD 2016). However, national government departments and agencies have important regional presence and a number of locally differentiated programmes for SME and entrepreneurship development.

Enterprise Ireland regional offices

Enterprise Ireland operates a network of nine regional offices in Ireland. This supports its collaborations with LEOs and regional functions of other agencies as well as providing a local presence to deliver services and events to SMEs. Enterprise Ireland has also recently launched a Regional Plan called Powering the Regions within the context of its Build Scale, Expand Reach 2017-20 corporate strategy. It includes nine specific regional plans building on local sector strengths and regional research and education assets. It also includes six national initiatives to strengthen regional enterprise development infastructures and supports – including a target of achieving a 30% increase in company uptake of EI productivity and resilience programmes, nationwide support for entrepreneurship, an action plan for enterprise growth in cities, rural and urban centres, supporting additional co-working and incubation spaces in regional locations, supporting second-site locations of Irish companies in the regions, and developing food FDI in the regions.[5]

Local Enterprise Offices (LEO)

The key policy actors for regional and local SME and entrepreneurship policy are the Local Enterprise Offices (LEO), whose main mission is to provide local enterprise supports to start-ups and small businesses employing fewer than 10 employees. Chapter 5 provides more information regarding the main activities of the LEOs.

IDA Ireland offices

IDA is the investment promotion agency and plays a key role in attracting high value investments and R&D activities to Ireland by working with industry, academia,

government agencies and regulatory authorities. The agency funds in-company R&D and identifies support opportunities from other funding organisations. The R&D fund provides grant-aid to clients establishing new R&D facilities, expanding existing ones, or embarking on R&D projects. IDA and EI have a joint initiative called "Global Sourcing Initiative" that aims to link up Irish SMEs to foreign MNEs as a way to integrate them into the global value chains of MNEs and strengthen their exports. LEOs provide IDA and EI with information about potential local partner firms.

Network of Regional Skills Fora

DES has also developed a Regional Skills Forum with nine regional skills managers in the different regions of Ireland. Their role is to facilitate collaboration between local firms and the education training to address skills. Enterprise Ireland collaborates with the Department of Education and Skills (DES) to organise workshops throughout Ireland focusing on identifying the skills firms need to support their business growth plans, engaging with DES's Regional Skills Managers to address the critical skill needs of their business. The Spotlight on Skills programme aims to link SMEs more closely to regional education providers.

Programmes

In addition to the main actors, there are several programmes designed to promote and strengthen the SMEs and start-up ecosystem locally in Ireland. Examples are the previously mentioned Micro Finance Institution, the Western Development Commission (WDC), the Regional Enterprise Development Fund (REDF), elaborated in earlier sections of this publication and LEADER.

LEADER is a multi-annual programme which provides a EUR 250 million contribution over the period 2014-20 towards promoting the social and economic development of rural areas. LEADER funding is provided through Local Action Groups (LAGs) based on Local Development Strategies produced for each area and in line with horizontal funding themes developed at a national level. So far, EUR 220 million of the available funding has been allocated to the 28 LEADER sub-regional areas. Each LAG is responsible for deciding how this allocation is distributed to LEADER projects over the duration of the Programme based on the objectives in their Local Development Strategy. Funding under LEADER is available for a range of defined themes and sub-themes, which include enterprise development, rural tourism and job creation. This funding theme focuses on driving continued local economic development, including diversification of the rural economy and the creation of employment opportunities. Support to SMEs is delivered through this theme and actions funded include investment support, sector specific training programmes for aspiring entrepreneurs, start-up businesses and established SMEs, marketing initiatives and feasibility studies to explore business ideas.

Coordination and tailoring mechanisms to align local and national policies

Alignment and tailoring in the LEO system

In the current institutional set-up and policy logic, one of the key tasks of LEOs is to identify in every local authority indigenous firms who show a potential for export and can be channelled up to Enterprise Ireland for further assistance on internationalisation efforts. Focus is placed on the identification of local export potential and ambition.

Each LEO has quantitative targets on the number of local firms that are expected to qualify for Enterprise Ireland programmes. Enterprise Ireland then engages with established client companies through teams of sectoral focused development advisors using what is referred to as a company-led diagnostic approach. The agency works with established clients throughout the country on a one-on-one basis and has a network of market and sector advisers from ten offices located throughout the country. The idea of this network is that is should enable the agency to connect and collaborate at a local level with enterprise development partners.

Data on employment in Irish-owned firms assisted by EI or Udarás na Gaeltachta by region in 2017 (see Table 6.4) show that the spatial distribution of employees in indigenous firms that are assisted by EI, or Udarás na Gaeltachta follow the overall distribution of total employment in Ireland very closely.

Table 6.4. Employment in Irish-owned firms assisted by EI, or Udarás na Gaeltachta by region, 2017

		Share of total	Share of state employment (2015)
Border	23 788	12%	10%
Midlands	11 307	6%	6%
West	17 450	9%	9%
Dublin	68 574	33%	30%
Mid-East	19 724	10%	12%
Mid-West	14 299	7%	8%
South-East	20 594	10%	10%
South-West	29 147	14%	14%
Total	**204 883**		

Source: Annual Employment Survey 2017, Department of Business, Enterprise and Innovation (DBEI).

Nonetheless, the main model for the local dimension of SME and entrepreneurship policy, the system of LEOs, is first and foremost a model for the delivery of national policy in different local areas, rather than a model for adapting and tailoring policy for varying local conditions.

Given the significant heterogeneity in local conditions for SME and entrepreneurship activity and the overall divide between the major urban regions (Dublin and South-West) and the rest of the country, the relatively downplayed role of local tailoring in the LEO system is surprising. In part, this may be a reflection of the centralised structure in Ireland. Other countries, even relatively small ones have developed more tailored policy approaches, as the example from Denmark illustrates (see Box 6.3).

Box 6.3. International good practice: Rural Growth Pilots, Denmark

Description of the approach

The Rural Growth Pilot (RGP) is a recent programme under the public Danish Innovation Fund (*Innovationsfonden*). It is built on experience from previous projects that suggests that the recruitment of graduates (individuals with a university Master's degree) generally has a positive impact on the growth of SMEs that do not already employ graduates. In the RGP programme, this idea is extended to SMEs in rural areas that tend to have relatively low growth and innovation levels.

The programme supports businesses by providing financial support over a one to two-year period to hire a graduate. The support amounts to DKK 150 000 (EUR 20 000) per year for a maximum of two years (EUR 5.3 million total over a four-year period). The support is premised on an application where the firm provides an idea for a new product, market, production method or service, as well as a description of the role of the graduate in its development. It is a requirement that the graduate employee has a different skillset from the current employees.

Success factors

The design of the RGP programme follows a set of policy goals that are considered important in the current Danish political arena, i.e. job creation in rural areas to counter urbanisation, the creation of jobs for graduates, and stimulating SME growth. The programme design is based on solid experiences from previous programmes and a theory of change that sees the infusion of new skills and knowledge into SMEs as a driver of innovation and growth. Firms self-select into the programme. If few companies apply, the programme resources are released for other business support interventions.

Obstacles and responses

A critical factor in the success of the programme has been to raise awareness among rural companies regarding the existence of the programme and its application. Both regional universities as well as municipalities have been influential in promoting the programme locally to companies. Successful examples of hired graduated have been showcased locally to provide companies with an idea of how an innovation project can look like.

Relevance to Ireland

Lack of skills as well as skills mismatch are high on the policy agenda across Irish regions. The Irish network of Regional Skills Fora created as part of the national Government's National Skills Strategy would provide an excellent platform to communicate local skills needs to universities and help employers to utilise resources in the region to develop innovation projects.

Further Information

Innovation Fund Denmark: https://innovationsfonden.dk/en

The *Limerick for Engineering* group is a good example of how partnering between local industry, LEOs, IDA, Regional Skills Forum, local universities and other organisations in a region can breed a local initiative to solve skills shortages of firms in a region, in this case the local availability of engineering talent.

Regional Enterprise Plans

A key mechanism to tailor SME and entrepreneurship policy to local conditions in Ireland is the system of Regional Enterprise Plans (REPs). The current REPs were launched by DBEI in early 2019 and are a continuation and refresh of the previous *Regional Action Plans for Jobs* (RAPJ) 2015-2017/8 developed for each of the eight NUTS 3 regions in Ireland. These regional plans are published by DBEI and as, a 'bottom-up' initiative, are designed to complement national level policies and programmes emanating from the top-down. In particular, there is strong alignment with Ireland's national enterprise policy, Enterprise 2025 Renewed and the Future Jobs Ireland 2019 framework. Each region has a Steering Committee, composed of representatives from the private sector, as well as the local authorities, enterprise agencies (including LEOs) and other public bodies. Each REP contains a small number of high level "Strategic Objectives" and sets out actions under each of the objectives for the two years to 2020 that should be implemented to strengthen the ecosystem for enterprise development, including SMEs and entrepreneurship, so as to create jobs in the regions. As the REPs cover NUTS 3 regions that in themselves comprise several local authorities, LEOs and other actors, design and implementation requires co-ordination among a rather large number of organisations. Collaboration is a key principle of the REPs, so as to derive added value in actions undertaken and derive economies of scale through pooling of scarce resources

The system of REPs provides an institutional setting to address local tailoring and to align national policy with local needs and preconditions.

The Regional Enterprise Development Fund

Another way in which tailoring does occur in the SME and entrepreneurship policy system is through the formation of local projects in response to the Regional Development Enterprise Fund (RDEF), which was launched by the Irish government in 2015 to support the ambition and implementation of the REPs (and previously the RAPJ). The third Call under the Fund was launched in June 2019. This competitive fund has three streams that support major strategic change projects, regional strengthening projects and enterprise clustering initiatives. The programme documentation states that their goal is to support "*significant regional initiatives to build on sectoral strengths and/or to better leverage identified resources to improve enterprise capability.*"[6]

The implementation and development of the original fund of up to EUR 60 million was managed by EI with support from DBEI. The third competitive call of EUR 45 million is also managed by EI. Furthermore, in 2016, EI awarded EUR 5 million in funding for regional projects under a LEO Fund and a Community Enterprise Initiative (ended in 2017). The latter had as one of its goals to support "*Establishment of hubs, accelerators, networks and clusters or other partnerships based on regional strengths, opportunities and uniqueness.*"[7] Several of the awarded projects were projects in which LEOs in different local authorities collaborated to draw on regional strengths. For example, the LEOs in Westmeath, Laois, Offaly and Longford were granted project funds to work on a *Midlands Engineering Cluster Programme* aiming to create a new synergy between engineering enterprises, educational institutions and support agencies in the region.

Conclusions and policy recommendations

The following suggestions could develop and strengthen the local dimension of SME and entrepreneurship policy.

Develop data infrastructure

A prerequisite for tailoring and adaption of policy to local conditions is that local conditions are analysed and assessed. This in turn requires access to data infrastructure concerning the frequency as well as nature of local SME and entrepreneurship activity. Current data availability of local SME and entrepreneurship activity is limited. There is a particular need to better understand spatial heterogeneity in characteristics and performance of start-ups and SMEs, as well as the linkages between local firms through e.g. local labour flows.

Reduce complexity and identifiy of tailoring mechanisms

Currently, there is a wide variety of programmes, agencies, departments and funds involved in the development and delivery of measures and actions at the local dimension. One recommendation is to undertake a mapping and assessment of the complexity of the support system and explicate the functions and roles of the various agencies/organisation. The objective of such an exercise would to be to first identify possibilities to reduce complexity and possible overlaps in the support system, and second to develop design mechanisms for co-ordination and horizontal alignment between the policy actions of the various agencies, organisations and departments that bear on the local dimension.

Connect rural SMEs and entrepreneurs to urban ecosystems

A characteristic of the Irish economic geography is that many urban centres outside Dublin, Cork and other larger agglomeration in Ireland are small in size. In addition, a large part of the country is remote from even small urban centres. Against this backdrop, local SME and entrepreneurship policy in small and remote local areas may benefit from a combination of inward and outward looking policy strategies. One strategy is to compensate remoteness and a possible lack of local resources by connecting local entrepreneurs to resources and strategic actors in larger cities or urban areas. An example of a policy initiative with such element is the Startup Sweden which is initiated and managed by the Swedish Agency for Economic and Regional Growth. In essence, this is a bootcamp programme for promising digital start-ups, in part to get practical advice know-how in business development from other startups as well as from experts in various fields. Although the policy initiative is not developed specifically for firms in remote locations, it is an example of a policy logic that aims to leverage networks and connect firms to a broader ecosystem across the country. Such a policy initiative could complement Enterprise Ireland's regular programmes for high-potential firms, and expand the number of high-potential firms throughout the Irish economy.

Improve coordination and horizontal alignment

An example where improved co-ordination would offer additional benefits is the Global Sourcing initiative of EI and IDA, which aims to link up indigenous firms with global value chains of foreign MNEs. It seems natural that there is also an alignment with the National Standards Authority of Ireland (NSAI), which works with certification of production and production system, to help local SMEs to meet the requirements to become potential suppliers to MNEs. This is further discussed in Chapter 7.

Recognise the broader role of local SME and entrepreneurship activity

The Regional Enterprise Plans puts forward a focus on SMEs and entrepreneurship almost exclusively from the perspective of the role of growth of SMEs and entrepreneurship in creating jobs and export revenues. This follows the overall focus of Enterprise Ireland on fostering new indigenous export firms and high-potential startups. However, SMEs and entrepreneurship have a broader role in local development than jobs and exports, and this could be reflected more in policy making, including by recognising more explicitly that all forms of SME and entrepreneurship play an important role in shaping the local economy, even firms where the direct job contribution or growth potential is limited.

In addition, entrepreneurial activity can be a relevant "spillover mechanism" that operate at the local level. For example, employee spinoff from established firms have been shown to be an important source of new high-growth firms in many countries and regions. Regions hosting resourceful and entrepreneurial incumbents act as indirect training grounds for new entrepreneurs. In the Irish context, entrepreneurship in the form of employee spinoffs constitute one type of potentially relevant "spillover mechanism" from foreign firms, feeding new successful indigenous ventures.

The local dimension of SME and entrepreneurship policy in Ireland could be expanded by a stronger focus on supporting local SME and entrepreneurship activity to expand and to diversify around core regional strengths, for example by supporting businesses that experiment with new commercial applications of a core technology. There is a strong case for supporting local SME and entrepreneurship activity that build on local strengths to experiment with new business niches, technologies and markets (McCann and Ortega-Argiles 2011). Such a focus expands on the traditional cluster argument by linking it with industry dynamics and innovation through the emphasis on diversification driven by SME and entrepreneurship activity. In the current system the selection mechanism by which local firms' progress to the regular support programmes of Enterprise Ireland focuses largely on the quality of the firms' business plan and potential for growth, with limited recognition of perspectives related to the regional embeddedness and relatedness to the regional industry structure.

Key recommendations on the local dimension

- Improve data and information on local entrepreneurship ecosystem conditions particularly with respect to constraints to cluster development.
- Map and assess the functions and roles of the various agencies and organisations in the local enterprise support system and identify possibilities to reduce complexity, enhance coordination and increase opportunities for local tailoring.
- Create a mechanism to involve the Regional Skills Fora and LEOs in new collaborations to address the challenge of raising SME innovation capacity at a regional level.
- Set up a collaboration between LEOs, Enterprise Ireland, education providers, IDA and NSAI to organise training and awareness building of local SMEs on the role of standards and certification in growth and internationalisation.
- Include a focus within SME and entrepreneurship policy on the further development and diversification of local and regional enterprise specialisations and capabilities.
- Develop approaches to connect SMEs and entrepreneurs in remote regions with broader entrepreneurship ecosystems in urban centres and larger cities.

Note: There are key recommendations in other chapters that are important to consider in the context of addressing spatial disparities and SME and entrepreneurship development in the regions. These include: Regional competence centres (Chapter 7); Ecosystem support hubs (Chapter 4); Rebalancing of expenditure (Chapter 4) and Networks and cluster policy (Chapter 5).

Notes

[1] https://www.cso.ie/en/releasesandpublications/ep/p-cp6ci/p6cii/p6www/

[2] http://npf.ie/

[3] https://www.cso.ie/en/releasesandpublications/er/cirgdp/countyincomesandregionalgdp2015/

[4] Using an alternative methodology, Whittle (2018) found similar results demonstrating the majority of complex technologies are produced in the greater Dublin region.

[5] See https://www.enterprise-ireland.com/en/Publications/Reports-Published-Strategies/Enterprise-Ireland-Regional-Plan.pdf

[6] https://www.enterprise-ireland.com/en/start-a-business-in-ireland/information-store-for-start-ups/regional-enterprise-development-fund.html

[7] https://www.enterprise-ireland.com/en/start-a-business-in-ireland/information-store-for-start-ups/community-enterprise-centre-manager-grant-call-for-applications.html

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Chapter 7. SME productivity in Ireland

This chapter tackles the SME productivity problem in Ireland. Aggregate statistics point to a productivity gap in Ireland. Analysis of microdata reveals that there is a wide dispersion in the productivity of SMEs. The long tail of low productivity SMEs suggests that there is scope for Ireland to boost its productivity by enhancing the diffusion of best practices to laggard SMEs. The causes of low SME productivity in Ireland are discussed, in particular the prolonged use of low-productivity techniques, the potential to improve management practices, and the need to modernise to prepare for challenges such as the digital revolution and entry into export markets. Suggestions are made for the role of policy with regards to several areas pertaining to SME productivity. The Chapter then presents some inspiring policy practice examples from a set of comparator countries, before closing with some policy recommendations.

What is the issue?

The long-term prosperity of Ireland requires continued efforts to increase the productivity of the employees in its firms. Indeed, the Enterprise 2025 Renewed emphasises productivity growth as a key driver of living standards and quality of life (DBEI, 2018). This Chapter focuses on the productivity of Irish SMEs, illustrating, based on aggregate data their relatively low productivity levels, discussing the heterogeneity of SME productivity, and in particular the long tail of low productivity SMEs. The Chapter then comments on the possible causes of the Irish SME productivity problem and discusses some possible policy responses.

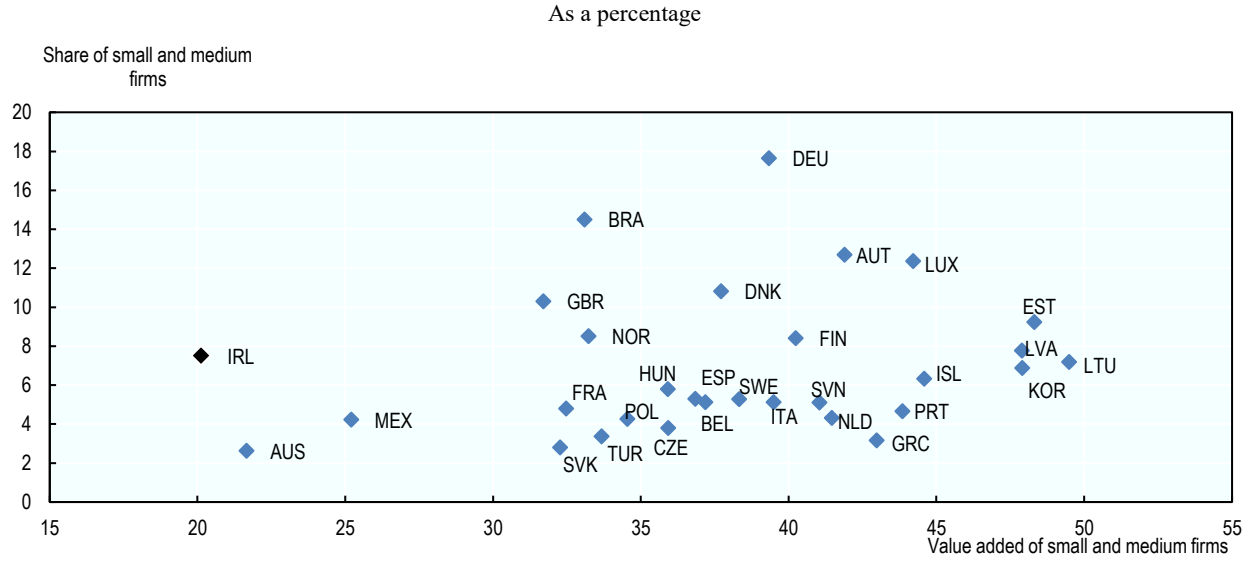
Firms between 10 to 249 account for a relatively low share of output

SMEs are generally less productive than large firms for many reasons. They are less capital intensive, have limited scope for economies of scale, have a more precarious customer base, and lack the market power to increase their prices. It also takes time for new firms to become established and legitimised in a market (Foster et al., 2016).

The SME productivity gap between SMEs and large firms is particularly pronounced in Ireland, however. In terms of value added, Irish SMEs punch below their weight. Irish SMEs account for 99.8% of enterprises (the same proportion as in the EU28 as a whole), but they only account for 36.6% of value added in 2015 (European Commission, 2018). This figure is strikingly lower than the average 56.8% share of value added by SMEs in the EU-28. The existence of extremely high-productivity foreign-owned multinationals headquartered in Ireland can account for some – but not all – of the relatively low share of value added contributed by Irish SMEs. A closer analysis of the SME population shows that the problem does not lie with micro-enterprises, but with small-sized and medium-sized enterprises, that have a particularly low productivity in a comparison of OECD countries.

Figure 7.1 illustrates that firms with 10 to 249 employees account for less than 20% of overall output in Ireland. That is the lowest of all OECD countries, even though the relative proportion of firms in that size class, at around 7% of the overall enterprise population, is rather high in an international context.

Figure 7.1. Share of small and medium firms and contribution to value added

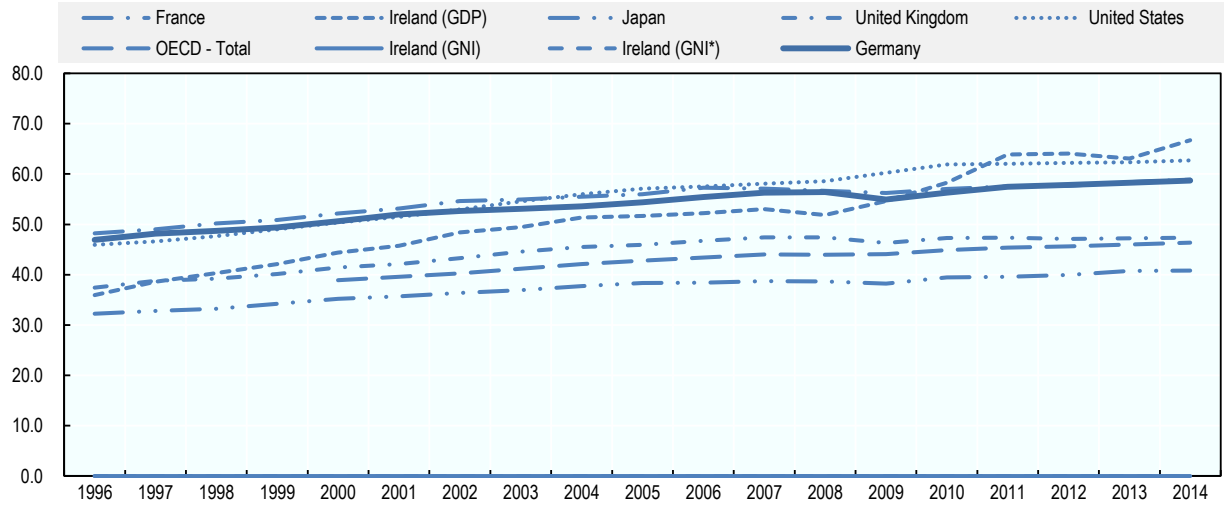


Note: Small and medium firms refer to businesses employing between 10 and 249 employees. Micro firms (1-9 employees) are excluded.
Source: OECD SDBS database.

StatLink http://dx.doi.org/10.1787/888934004542

Figure 7.2 presents trends in the evolution of labour productivity, for Ireland as well as selected OECD countries. Looking first at Irish labour productivity using GDP statistics, Ireland has surged ahead to become the most productive country in this sample. However, much of this productivity surge is due to the ability of Ireland's FDI policy to attract foreign-owned multinationals to become headquartered in Ireland. Looking instead at the trend in GNI (Gross National Income)[1]the increase in Irish labour productivity is more modest. Ireland has higher productivity than Japan and the United Kingdom, but lags behind France, Germany and the United States. However, even the GNI statistics are potentially misleading, because they emphasise the contributions to productivity of a small number of large firms. To better understand the evolution of productivity for SMEs, and to think about possible policy recommendations, we need to complement the aggregate level statistics with firm-level microdata.

Figure 7.2. Evolution of Labour Productivity, Ireland vs OECD countries

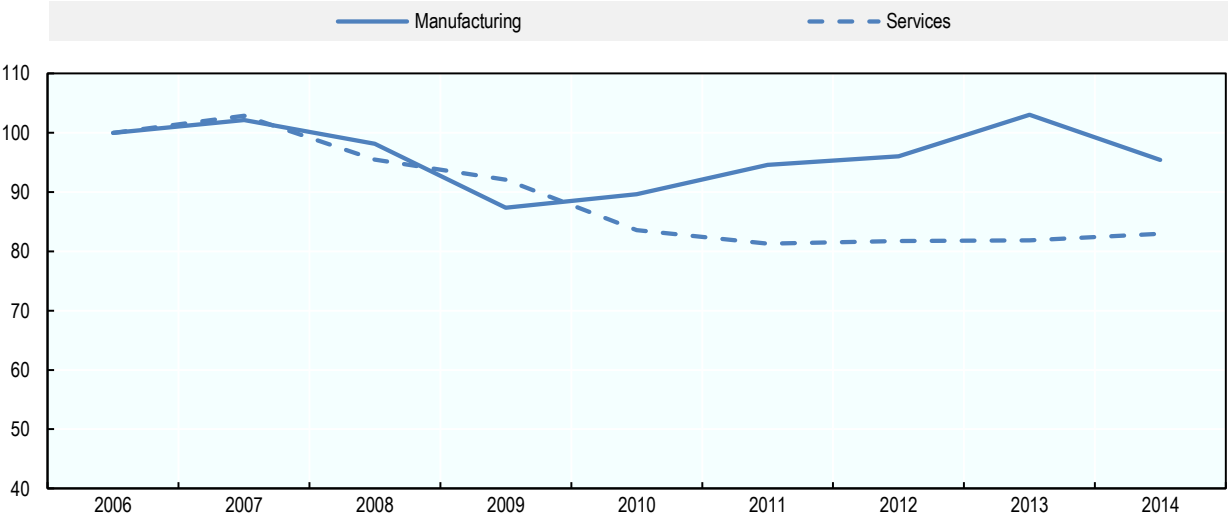


Note: Productivity for Ireland in terms of GDP and GNI Per Hour Worked (USD - 2010 PPPs).
Source: OECD Productivity Statistics, cited in Papa et al. (2018).

StatLink http://dx.doi.org/10.1787/888934005321

The median firm productivity is in decline

Figure 7.3. Median firm productivity (Index 2006 = 100)



Notes: The firm level analysis uses OECD MultiProd. 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: OECD Economic Surveys: Ireland 2018, p70. StatLink: http://dx.doi.org/10.1787/888933683193

StatLink http://dx.doi.org/10.1787/888934004295

Figure 7.3 presents the evolution of (multifactor) productivity for the median firm in Ireland. It shows that the majority of firms have in fact experienced declining multifactor productivity in the years 2006 to 2014. This contrasts with the observed overall strong productivity growth and indicates a widening productivity gap between firms at the technology frontier and others. In other words, aggregate productivity growth seems to be driven by a minority of large high-performing firms. Falling productivity is particularly pronounced in the services sector.

Further analysis suggests there to be a relatively long tail of low-productivity firms at the bottom end of the productivity distribution (Belingieri et al. 2017 and Papa et al, 2018), with firms lagging behind having ample scope to catch up. In Ireland, the productivity dispersion between firms at the 90th percentile and firms at the 10th percentile of the labour productivity distribution is higher than in the OECD average, both for firms active in services and in manufacturing. Please note that this indicator largely excludes large multinational firms that are typically even more productive than enteprises at the 90th percentile (and the productivity gap roughly doubles when comparing with firms at the 97th productivity percentile). In addition, within-sector dispersion accounts for nearly all of the overall labour productivity dispersion (Papa et al, 2018).

The challenge to reduce the productivity gap, therefore, involves encouraging low productivity firms to enhance their productivity, not necessarily by the adoption of cutting-edge technological innovations, although some firms indeed make big steps on the productivity ladder, but often by more modest steps such as adopting existing good management practices, for example applying Enterprise Resource Planning (ERP) as mentioned in Chapter 2) and replacing existing production techniques with (possibly more capital intensive) modern processes. Box 7.1 presents a unifying framework for developing the capabilities in SMEs to boost productivity and innovation potential. Rather than a binary distinction between high-productivity and low-productivity firms, instead SMEs can be placed along a continuum.

Box 7.1. Developing innovation capabilities: a "capabilities ladder" perspective

The binary distinction between innovators and non-innovators is a simplistic representation of firm heterogeneity. More useful would be to consider innovation capabilities as being positioned along a continuum. At the lower end, where the innovation probability is around 0%, low-productivity firms use traditional techniques, apply inefficient routines and managerial practices, and use an outdated capital stock. These firms could make a series of modest changes to improve their capabilities. Managerial skills and practices could be improved, to increase the coordination and effectiveness of employees. Financial management skills could lead to better strategic decision-making. The capital stock could be renewed with recent vintages, and modern production techniques such as lean production and digitalisation could further lift productivity. The adoption of standards (and a fortiori the development of new standards) could improve internal processes, enable outsourcing, enhance collaboration with suppliers and clients, and facilitate scaling up, exporting, and climbing up global value chains. Growing firms may implement organisational innovations to obtain a more efficient organisation of labour (Cruz et al., 2018). Exporting could improve productivity via scale economies and feedbacks in product design (Altomonte et al., 2014).

Small steps and improvements therefore constitute the path to the other end of the continuum. Recognition of the productivity gains from improved management, together with familiarity with advanced machines and equipment, a larger market, and capabilities for learning and applying new techniques, all enhance absorptive capacity and raise the probability that a firm will recognise and successfully exploit innovation opportunities.

Notes: This "capabilities ladder" concept is similar to the "capabilities escalator" approach in Cirera and Maloney (2017).

Data limitations

Further data would be useful to better understand the scale and nature of the SME productivity problem. The Central Statistical Office (CSO), government departments and other partners are seeking to provide more detailed productivity information, including for example through the Productivity Statistics Liaison Group. Efforts should be continued to support the availability of high-quality micro-data for the analysis of the productivity issue in Ireland. At present, CSO only grants access to databases (i.e. Research Microdata Files, RMFs) to approved researchers with pre-arranged appointments who must appear on-site with photo ID every time they wish to access the data.[2] In other countries (for example, in the case of Statistics Denmark or the Office for National Statistics, United Kingdom)[3], approved researchers can access sensitive microdata through secure internet portals, from their offices.

Some countries have gone even further to provide data for economic analysis – INEGI (National Institute of Statistics and Geography, Mexico) have made some census data freely available and downloadable, while Chile has put its innovation survey data freely available online. CSO should also consider setting up a special survey on Irish firms regarding firm business processes and digitalisation, management skills, financial literacy, adoption and development of standards, use of modern business practices, age of the capital stock, and attitudes to exporting, which would be useful to better monitor the very large dispersion in productivity among Irish SMEs.

Causes of the SME productivity problem in Ireland

Productivity is essentially a technical term, a ratio of outputs (such as sales or value added) over inputs (such as number of employees, hours worked, perhaps also including capital inputs and other materials). However, productivity has a clear everyday meaning because it corresponds to the efficiency of economic activity. A multitude of factors affect SME productivity including skills and human capital, the capital stock of SMEs, access to markets, infrastructure, networks and clusters, economic dynamism, the regulatory environment, and FDI, including business linkages and labour mobility from large to small firms.

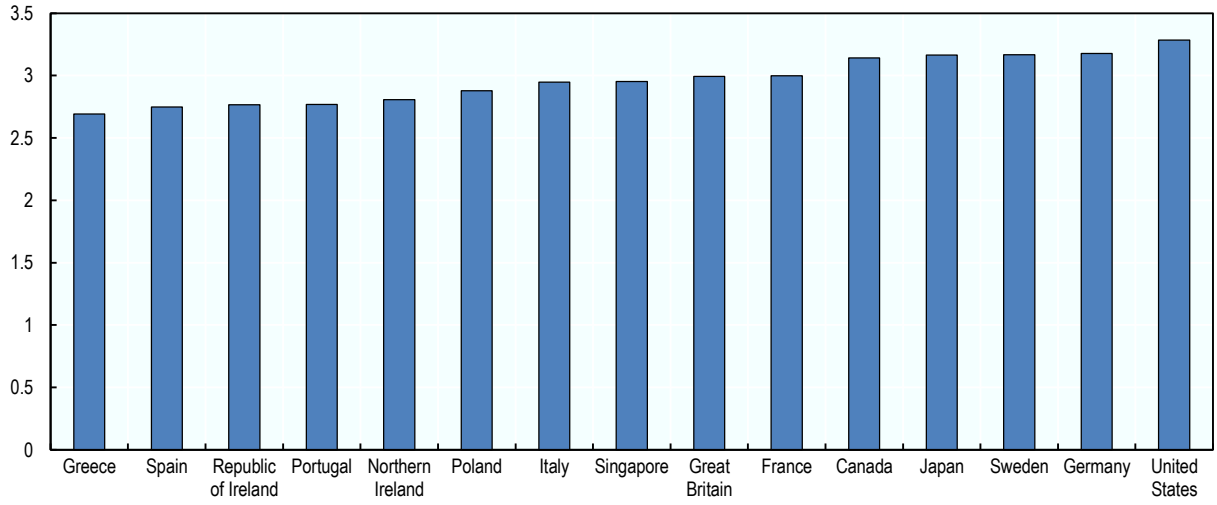
This Chapter on the Irish case will focus primarily on management practices, modernising the capital stock, enhancing access to export markets, favouring spillovers from productivity leaders such as foreign-owned multinationals, enhancing innovation capabilities and innovation performance, and stimulating economic dynamism such as entry and post-entry growth of viable young challengers. This Chapter does not address in much depth themes relating to infrastructure or regulation, as these do not represent primary challenges in Ireland as Chapter 3.

Human capital

Managerial skills appear weak

Data from the World Management Survey indicate that Irish managerial skills are weak, when compared to other high-income countries such as Germany, Sweden and the United Kingdom. Figure 7.4 shows that Irish firms, on average, have the third worst management score in a comparison of 15 countries.

Figure 7.4. Average management skills of sampled firms in different countries, according to the World Management Survey, 2014



Note: The World Management Survey measures the quality of management practices in establishments across multiple dimensions, creating a management score from responses to questions regarding use of short-term targets, provision of incentives for high performance, monitoring performance data, and so on. Graph prepared using the manufacturing 2004-2014 combined survey data. See Bloom et al., (2014) for details.
Source: World Management Survey, worldmanagementsurvey.org.

StatLink http://dx.doi.org/10.1787/888934004561

To address the shortfall in management skills and practices, a network of enterprises was set up in 1999, which has recently been rebranded into Skillnet Ireland. Although Skillnet Ireland's schemes have had positive feedback, the take-up among SMEs has been relatively low and could be scaled up, in particular its management development programmes.[4]

In addition, the Irish food board, Bord Bia, works with young firms and entrepreneurs to develop sales and marketing capabilities, with branding initiatives such as superbrands, consumer understanding initiatives though the consumer lifestyle trends, capability building through retailer programmes and meet the buyer events such as "Marketplace International" and industry information events such as the annual small business open day.

The LEOs are geared towards start-ups and small firms. The financial support that they provide is limited to small firms with potential to export and thus to progress to Enterprise Ireland's regular programmes. Most of the support from LEOs is directed to local start-ups (or nascent entrepreneurs) and micro- firms, and this support is limited predominately to training unless they have export potential. In other words, there may be a gap in policy making for established firms with 10 to 249 employees with limited or no export potential,

even though these firms arguably benefit most from productivity-boosting business development services.

Even if training events and other types of policy measures are in principle open to any local firm, there is a question whether LEO are incentivised to reach out to these firms, as their remit is to primarily focus on firms with less than 10 employees. One way in which LEOs could be incentivised to reach out to local medium-sized companies when it comes to training and other activities is to develop specific performance indicators that relate to activities that involve and are geared towards these types of firms.

Lifelong learning activities

Finally, lifelong learning would benefit managerial skills as well. Increasing participation in lifelong learning in Ireland is a key focus under Pillar 3 of Future Jobs Ireland, which sets a participation rate target of 18% of adults by 2025. It will be crucial to fully implement and monitor progress.

Physical capital and technology adoption

Irish firms underinvest

Investment in physical capital plays an important role for Irish SMEs, because more recent vintages of capital improve the productivity of workers, reduce defect rates and accidents, improve working conditions, and put SMEs in a better position for subsequent innovation and productivity growth by familiarising them with current best practice. In contrast, firms with an outdated capital stock will be badly positioned to anticipate industry developments or to contribute innovative products and processes.

A recent study based on survey data found that Irish SMEs have an estimated underinvestment of about 30% (Lawless et al., 2018). Lawless et al. (2018) find that financial market failures explain only part of this investment gap. On the other hand, underinvestment could be because Irish SMEs are reluctant to seek finance, they may be risk averse and lack an appetite for debt, and may instead prefer to finance investment out of retained earnings and internal funds. Survey evidence from 2016 on Irish SMEs offers some support to this alternative interpretation that a sluggish appetite for borrowing is due to the demand side (Gargan et al., 2018). These authors observe that most SMEs are satisfied with their investment levels: 63% of SMEs stated that their current capacity was adequate. Within the subset of 37% of SMEs who were unsatisfied with their investment, only 11.2% reported "the unavailability of external finance as the reason behind their unsatisfactory investment activities" (Gargan et al., 2018, page 17).

The uptake of digital technologies is average

Digitalisation of business processes can provide a significant boost to SME productivity. Table 7.1 below shows Ireland's performance in a number of dimensions compared to comparator countries. Irish small firms have an average performance in a number of dimensions, such as use of computers in the workplace, and use of digitalised processes such as RFID (radio frequency identification technology) and CRM (Customer Relationship Management software). This implies that there is scope for improvement on these areas. However, the adoption of social media by Irish small firms is relatively high – far higher than the EU28 average (CSO, 2018).

Table 7.1. ICT access and usage by small firms in 2017: Ireland and comparator countries

	use computer	website	cloud*	use RFID	use CRM	social media
Austria	..	84.12	15.65	14.76	39.17	50.88
Belgium	56.51	80.56	25.10	17.27	39.76	55.83
Czech Republic	45.94	80.38	16.58	4.78	15.10	32.71
Denmark	100.00	94.37	39.52	6.50	30.99	65.39
Estonia	47.40	75.19	20.80	8.92	21.61	37.19
Finland	67.26	95.62	53.36	19.41	34.18	59.61
France	50.95	62.59	14.53	7.78	24.38	38.83
Germany	..	85.91	14.62	10.77	43.35	41.26
Greece	40.31	62.01	7.43	5.12	17.30	48.08
Hungary	43.87	66.52	10.51	4.63	11.88	36.10
Iceland	..	78.43	..	..	12.79	77.02
** IRELAND **	55.63	70.88	32.45	8.55	29.25	65.25
Italy	47.85	70.44	19.97	10.22	29.13	42.82
Latvia	..	58.31	6.93	5.19	13.66	26.84
Lithuania	45.46	74.04	13.94	6.94	29.61	48.16
Luxembourg	..	79.77	16.72	13.78	36.97	51.45
Netherlands	71.68	83.63	32.08	12.52	43.09	65.25
Norway	68.46	77.66	37.12	8.21	31.73	71.06
Poland	39.92	62.57	6.30	5.60	18.69	24.20
Portugal	41.04	60.90	15.65	7.85	20.54	43.54
Slovak Republic	50.09	76.83	16.71	12.67	20.19	36.60
Slovenia	55.26	80.66	20.03	9.79	20.53	44.65
Spain	55.13	74.30	15.17	11.73	34.22	48.83
Sweden	72.36	90.04	45.53	8.70	30.83	62.50
Turkey	..	70.53	9.11		16.92	44.53
United Kingdom	59.27	81.36	31.96	4.56	27.98	60.63

Note: Small firms are firms with 10-49 employees. Key to column labels: "Use computer": A1: Persons employed regularly using a computer in their work (%). "Website": B1: Businesses with a website or home page (%). "Cloud": G3: Businesses purchasing cloud computing services (%). "Use RFID": C3D: Businesses using RFID (Radio Frequency Identification) technology (%). "Use CRM": C3B: Businesses using CRM (Customer Relationship Management) software (%). "Social media": K1: Businesses using social media (%). * Data for cloud were not available for Ireland for 2017, hence 2016 numbers are reported for all countries.
Source: https://stats.oecd.org/

The use of Enterprise Resource Planning and industrial robots is below average

In particular, Irish SMEs are less likely than large firms to use Enterprise Resource Planning (ERP, a software platform that integrates core business processes in real-time), with Irish small firms (10-49 employees) about one-third as likely as large firms (250+ employees) to apply ERP.[5] This magnitude of difference between SMEs and large firms is not unusual among OECD countries. However, Irish firms are overall towards the bottom end of the list of ERP adopters, ranking in 22nd place among a group of 30 OECD countries (plus Brazil) in terms of use of ERP in 2015.

Ireland's performance with regards to investment in industrial robots is relatively disappointing, however. According to 2017 data, Ireland has the second lowest density of industrial robots in the EU-15 (excluding Luxembourg, where data is not available). The prevalence of industrial robots is strongly linked to productivity gains and a central feature of industry 4.0 strategies in many countries.

Ireland faces a digital skills deficit

Ireland's National Digital Strategy emphasises the importance of strengthening Ireland's digital skills and contains a specific pillar on digital skills[6]. Ireland's 2017-20 e-government strategy[7] could help familiarise individuals with the digital realm, lowering the costs for government, and affording broad-based development of national digital skills. In comparison with the EU average, the proportion of adults with basic digital skills is low in Ireland, and relatively few people actively use the internet (OECD, 2018). This is especially problematic for small enterprises who often are at a disadvantage in the labour marked compared to multinationals. Hence, Ireland could increase the share of funding dedicated to training for those in employment, and financial support to workers undertaking postgraduate courses (as the skills gap is likely greatest among older cohorts of the population) (Jin and Westmore, 2018). Box 7.2 describes the Danish "Digital Growth Panel" as a good practice in this regard.

Box 7.2. Digital Growth Panel, Denmark

Description of the approach

The Danish Government has instituted "growth panels" formed of invited representatives from trade and industry and professional organisations to formulate strategic recommendations for economic growth and development within significant industrial sectors and clusters. One such growth panel focuses on the maritime cluster, and the development of test facilities for shipbuilding and autonomous ships, and the exploitation of seafood. This box focuses specifically on the Digital Growth Panel, formed of 15 enterprise and business CEOs and experts, led by the CEO of Danfoss.

The Digital Growth Panel seeks to influence investment decisions of national strategic importance, to identify the areas where companies face challenges, and to make proposals for possible remedies. In June 2016, the Danish Government asked the panel to prepare a digital growth plan, in order to create the conditions for exploiting the opportunities of industrial digitalisation.

In May 2017, the recommendations of the Digital Growth Panel in its report "Denmark as a Digital Frontrunner" fed into the Strategy for Denmark's Digital Growth (Ministry of Industry, Business and Financial Affairs, 2018). The Digital Growth Panel address all aspects of social digitalisation, and their recommendations include appointing a senior minister to lead the digitalisation process, introducing new education technology, supporting SME digitalisation through the provision of both capital and contacts, promoting innovative business models, and engaging in international cooperation on the digital economy. With regards to manufacturing, the report focuses on digital R&D, digitalisation of production technologies, and supply chain management.

Factors for success

In the context of the challenges of the new industrial revolution and the digitalisation of manufacturing processes, the Digital Growth Panel raises awareness on the opportunities provided by the digital transformation of the economy, and provides expert advice on the government's "Industry 4.0" investment decisions.

The Digital Growth Panel provides a comprehensive set of policy recommendations to address initiatives that can help unleash Denmark's digital potential. These recommendations are a central input to the Danish government's digital strategy.

Involvement of industry in policy making can ensure that the business perspective on national investment plans is heard. For example, the Danish telecoms operator TDC praised the 2017 Digital Growth Panel report because of its awareness of the shortage of IT experts and digital skills specialists, and the need to invest in the skills that are sought by industry.

Obstacles encountered

One of the challenges affecting the effectiveness of the Digital Growth panel is the assembling of a group of business leaders. Furthermore, efforts should be made to ensure that the government internalises and acts upon the panel's recommendations, for example through the development of a roadmap for the possible implementation of the recommendations.

Relevance for Ireland

Setting up an equivalent "Digital Growth Panel" in Ireland would be valuable to formally recognise the importance of digitalisation in Ireland, to formulate a strategy for investing in future challenges of SME digitalisation, and to be attentive to the requirement of industry regarding areas such as investment, infrastructure, and skills gaps. Furthermore, depending upon the composition of the panel, it could be a mechanism for the transfer of best practice from foreign-owned multinationals to indigenous Irish companies and SMEs.

Sources of further information

http://em.dk/nyheder/2016/16-06-01-produktionspanel-4
http://em.dk/~/media/files/2017/05-09-digipanel/276403-digitalt-vækstpanel-web.ashx?la=da
Ministry of Industry, Business and Financial Affairs (2018). Strategy for Denmark's Digital Growth. Ministry of Industry, Business and Financial Affairs. Copenhagen: Danish Government. https://em.dk/english/publications/2018/strategy-for-denmarks-digital-growth.

There is a role for digital technology adoption support especially for larger SMEs

A European Investment Bank[8] report for the Department of Business, Enterprise and Innovation on Developing Financing Models for SME Digitalisation shows market failures exist that constrain the implementation of digital projects in Ireland. The report found incidences of a lack of awareness of digital offerings and their benefits (knowledge gap) and barriers to accessing traditional bank finance for technological projects (financing gap). The latter is in line with international evidence indicating that firms face particular difficulties to raise credit for intangible assets such as investments in knowledge-based capital (see for instance, Brassell and Boschmans, 2019). The report recommended the Irish government adopt measures to address these market failures and involve various grants, funds and loans. For larger SMEs, where financial barriers appear to represent a barrier in many instances, the report recommends income contingent and preferential loans.

Box 7.3 describes a French scheme to provide loans for the potentially large investments that SMEs need to make in order to introduce modern production processes. Such a scheme could be introduced in Ireland to galvanise Irish SMEs to the challenges of digitalisation, possibly in the context of the planned DBEI National Industry 4.0 Strategy.

Box 7.3. Prêt Industrie du Futur – Technologies et usages du futur. Banque publique d'investissements – Bpifrance, France

Description of the approach

The programme "*Prêt Industrie du Futur – Technologies et usages du futur*" ("Industry of the Future Loan - Technologies and uses of the future"), recently introduced by the French public investment bank, Bpifrance, explicitly targets the modernisation of productivity capacity in French SMEs. The Bpifrance programme offers co-financing for investment projects that will modernise the industrial capacity, and result in new products brought about by the adoption of modern technologies and processes. It is important to note that the scheme aims to invest in technologies new to the firms, not just any expansion of capital. The support may incentivise firms to adopt unfamiliar production technologies, which is often considered daunting.

The programme consists of five themes:

- Production and control technology: including nanomaterials, nanotechnologies, 3D printing, and robotisation;
- Augmented humans: including virtual reality and intelligent cooperative human-machine interfaces;
- Connected, piloted, and optimised company: including cloud computing, big-data, artificial intelligence, deep learning, and simulation and optimisation of products;
- Innovative digital technologies: including flashcodes, RFID (Radio-frequency identification), and cybersecurity;
- Customer relations, suppliers, and the supply chain: including data exchange tools such as electronic billing.

Factors for success

The strict eligibility criteria of the programme can be expected to bolster its effectiveness in reaching its goals of modernising the capital stock of French SMEs. The programme is targeted to a specific group of firms: SMEs of over three years of age that are in good financial health. The loan has a duration of 7 years, of an amount between EUR 100 000 and EUR 5 million. The loan must be co-financed, on a one-to-one basis, with bank credit (for a period of 5 years minimum) or capital contributions from shareholders or private equity companies. Administrative fees amount to 0.40% of the loan amount.

Relevance for Ireland

The BPI initiative, if implemented in Ireland, could prepare Irish SMEs for the challenges of Industry 4.0 and the digital revolution. It may be relevant given the underinvestment in capital and digital technoligies, especially with respect to Enterprise Resource Planning and the use industrial robots. The eligibility criteria could be set to mainly target established, larger SMEs that have experienced limited or negative productivity growth.

Sources of further information:

https://www.bpifrance.fr/Toutes-nos-solutions/Prets/Prets-sans-garantie/Pret-industrie-du-futur-Technologies-et-usages-du-futur.

Box 7.4 presents a German scheme according to which a relatively large number of regional centres seek to support SMEs in digitising, networking and introducing Industry 4.0 applications. This provides another potential model to be implemented in Ireland, involving the LEOs, to provide support to indigenous SMEs preparing for Industry 4.0.

Box 7.4. Mittelstand-Digital, Germany

Description of the approach

Germany has 3.6 million small and medium-sized enterprises (SMEs – many of which are skilled craft workshops) that are confronted with the challenges of remaining competitive amidst the digital revolution. To enhance their productivity growth, "Mittelstand-Digital" is an initiative of the German Federal Ministry of Economic Affairs and Energy (Bundesministerium für Wirtschaft und Energie, BMWi) that seeks to support SMEs in digitising, networking and introducing Industry 4.0 applications.

In total, there are 25 Mittelstand 4.0 Competence Centres nationwide which have learning and demonstration factories that offer opportunities to learn about how digital technologies can transform a business, and provide information sessions and practical examples. Their aim is to assist SMEs in different areas of digitisation. Of these Competence Centres, 18 are regional and support SMEs of all branches in numerous digitisation issues, such as cloud computing, communication, trade, and processes. In addition to such regional centres, there are also dedicated Competence Centres for Digital Crafts, Planning and Construction, eStandards, Usability, Textiles Network, IT Industry, and Communication. These seven specialised centres are supported by regional contact points and offer their support to companies all over Germany. A Competence Centre for Trade is currently being set up and will open in summer 2019.

Factors for success

SMEs and skilled craft workshops usually do not have dedicated IT departments, and lack the financial resources to use external IT support companies. However, they stand to gain a lot from the efficiency gains brought about by modernising their business processes, e.g. through new software solutions, internet applications, and standardised e-business processes. Mittelstand-Digital can help SMEs to overcome the barriers such as a lack of awareness, knowledge, and competence, to support SMEs in the implementation of modern businesses practices.

Lessons learned

During the implementation of programmes such as the Mittelstand-Digital programme, a number of aspects need to be taken into account (OECD, 2016b). First, Competence Centres have to translate information into the "language of SMEs" in order to have sufficient outreach. Second, the challenges of digitisation vary across regions (e.g., with regard to learning cultures), such that the formats of events (e.g. webinars, entrepreneurs' breakfasts, weekend meetings) and publications need to be tailored to the recipient SMEs. Third, in the context of the programme and advice being offered for free, SMEs may harbour the beliefs that "what costs nothing is worth nothing," which needs to be overcome by proving that the information provided is actually of value and helpful. However, Mittelstand-Digital can use to its advantage that trust is an important aspect for SMEs. This makes them more willing to accept the official and unbiased information provided by the

German federal government as opposed to that provided by private consultants. Mittelstand-Digital further augments the benefits of the programme by enabling and leveraging peer-learning, whereby networked SME participants learn from each other.

Relevance for Ireland

The Mittelstand-Digital scheme, if implemented in Ireland, could assist SMEs with the implementation of productivity-enhancing investments and help them invest for the digital revolution. The model allows for tailoring to regional and local circumstances through 18 regional competence centres nationwide. In Ireland, the LEOs could play a similar role, with the support of regional "competence centres" such as the EI Technology Gateways, EI/IDA Technology Centres and SFI Centres (including Confirm/Smart Manufacturing and I-Form) who have relevant "industry 4.0 / digital manufacturing" expertise. It is also worth considering that these RDI centres also have multinationals as collaborators. The various national RDI Centres mentioned above could help SMEs to identify and implement the relevant industry 4.0 standards, and NSAI could support this process by providing access to international standards development committees via its "national mirror committees." 3 to 4 of such centres may allow for some regional adaptation, while ensuring critical mass.

Sources of further information

OECD, (2016b). Stimulating digital innovation for growth and inclusiveness: The role of policies for the successful diffusion of ICT. OECD Digital Economy Papers, No. 256, OECD Publishing, Paris. https://doi.org/10.1787/5jlwqvhg3l31-en; https://www.mittelstand-digital.de.

Access to foreign markets

"Across a wide range of countries and industries, exporters have been shown to be larger, more productive, more skill- and capital-intensive, and to pay higher wages than non-exporting firms" (Bernard et al., 2007, p105). This is also the case in Ireland, according to a recent report by InterTradeIreland. Exporting firms are larger (in terms of turnover and employment) and more productive. The productivity gains from exporting are larger for firms that export to more distant export markets (but far from negligible for firms that export into nearby Northern Ireland and the rest of the United Kingdom), and are larger for Irish goods firms than for Irish service firms.[9] A 2013 study by InterTradeIreland shows that exporters are more likely to innovate according to a variety of indicators (including product and process innovation), and that the innovation premium is larger for experienced exporters than for inexperienced exporters.[10]

Chapter 2 illustrates that export activities are highly concentrated in Ireland with 50 firms accounting for more than two-thirds of the value of exports. It also shows that Ireland has one of the lowest ratios of exporters in the EU. Hence, there is a clear need for Irish firms to improve their export performance, and there may be a role for policy to provide assistance to potential exporters. Given the uncertainties surrounding Brexit, as well as the development of the Digital Single Market in Europe, it is also a priority to look to continental Europe – and beyond – as an export market. According to the EY Entrepreneur of the Year Alumni Survey, 32% of entrepreneurs believe Brexit will force them to explore new export markets. Exporting could require complementary investments by SMEs, upgrades of the capital stock, and standardisation.

Most exporting firms in Ireland export into Northern Ireland, and this first step in internationalisation can be seen as a "stepping stone" towards broader international exporting to markets further afield for many small firms.[11] Furthermore, the first steps of exporting into Northern Ireland are accompanied by further productivity increases (InterTradeIreland, 2018). Stimulating greater cross-border collaboration on trade can therefore be a relatively gentle and low-risk means to encourage productivity increases, and to stimulate the appetite for further export activity.

Support for growth and internationalisation of Irish SMEs is provided both by Local Enterprise Offices (LEOs) and Enterprise Ireland (EI), and InterTradeIreland discussed in Chapter 4 of this report.

Ireland provides small-scale exploratory grants to help with the search for export opportunities (e.g. trade fairs, gathering information), and InterTtrade Ireland can facilitate trade across the Irish border, and EI provides advisory support for exporting through its "Exporter Development" section,[12] and specifically its "Market Discovery Fund"[13], but there is limited assistance provided to would-be exporters. This could potentially be an area for improvement, spreading assistance to a wider cohort of SMEs, as well as working more closely with SMEs on longer-term exporting strategies, if new initiatives can be developed that comply with EU State aid rules, specifically, the GBER, or General Block Exemption Regulation.[14]

There may also be need for a more detailed mapping and targeting of export-capable firms by Enterprise Ireland, which could lead to both export and productivity gains for the economy.

Productivity externalities and spillovers

Within sectors, foreign-owned firms tend to be more productive than indigenous firms (Papa et al., 2018). These "superstar" firms can be many times more productive than lagging firms, in terms of output per worker. Moreover, the productivity gap between top-performers and laggards seems to be increasing in recent years. Given the prominent role of foreign-owned multinationals in the Irish economy, and their superior productivity, multinational-SME linkages could be strengthened, for example in terms of upstream or downstream linkages, or perhaps through industry-wide horizontal collaborative activities. The challenge, therefore, is to encourage the diffusion of their superior management practices and organisational capabilities such that they can be adopted by indigenous firms, in order to stimulate the latter's productivity growth.

Productivity spillovers from multinationals have been hard to detect, however. Indeed, cooperation between SMEs and multinationals have proved difficult to foster, and supply chains do not automatically include local SMEs.

A 2018 OECD study using micro-level firm data from Ireland confirms this picture. The evidence confirms that indigenous firms raise their productivity levels by supplying inputs to foreign large firms. These knowledge and technology transfers from foreign direct investments do not occur automatically, however and heavily depend on the absorptive capacity of domestic suppliers. In addition, the study demonstrates that spill-over effects to non-suppliers are limited at best. In fact, the data point to a negative link between the presence of foreign-owned firms in the same industry and the performance of domestic firms at large, while no evidence could be found for intra-region productivity spillovers (Di Ubaldo, Lawless and Siedschlag, 2018[7]).

The role of standards remains largely untapped

Productivity spillovers from multinationals to indigenous Irish SMEs could be supported in different ways. First, compliance with industry standards could help SMEs to meet quality requirements and to overcome trust barriers, thus facilitating their insertion into supply chains. Standards are a powerful, yet overlooked, tool for enhancing productivity in Irish SMEs. Standards are the requirements, guidelines, specifications or characteristics that are consistently applied to ensure that products, processes, materials, and services are fit for purpose. Standards play a key role for quality assurance, enhancing interoperability and technology adoption, and facilitating the division of labour.

Standards could be a valuable platform to facilitate the interactions of SMEs and foreign-owned multinationals, thus enhancing productivity spillovers. Standards also facilitate process innovations, can improve the quality of products, can facilitate entry into global value chains, and can facilitate outsourcing. Standards can also lead to the development of Intellectual Property (IP) and innovation. They can also support and enable e-commerce, as illustrated by the example of the European standard on e-invoicing.[15]

There seems to be a lack of awareness of the benefits of standards for Irish SMEs, however. The NSAI (National Standards Authority of Ireland) could therefore collaborate more closely with the DBEI (Department of Business, Enterprise and Innovation), and also with Enterprise Ireland (EI) in order to better support SMEs with international aspirations. To a lesser extent, the LEOs (who may currently lack awareness of the importance of standards for SMEs) could also benefit from closer collaboration with the NSAI. In addition, support grants, compliant with EU State aid rules, could be explored.

This may improve the business processes of lagging SMEs in the long tail of the productivity distribution. On the other hand, SMEs could be encouraged to engage not only in standards adoption, but also standards *development*, in order to help them influence new standards and to get "ahead of the curve" by developing first (or early) market standards – thus offering informed new products and services, and exporting to international markets that trust standards-based innovative products.

Enterprise-led networks including large firms

In addition, clustering and cooperative activity between SMEs is an opportunity for peer-based learning, knowledge diffusion, and productivity growth. While chambers of commerce have important roles in several European countries, such as Germany and Italy, chambers of commerce are less prominent in Ireland. While Ireland does have industry-led networks (such as the Foodwise 2025 strategy for the agriculture industry), there is scope to augment Irish industry-led business networks. Clustering and inter-firm business relationships could allow Irish SMEs to collaborate on common problems, and could enhance the diffusion of best practices. Box 7.5 presents a Chinese initiative to promote business meetings among SMEs, with clearly-identified performance benefits. Such a scheme could potentially be adopted in Ireland to boost SME productivity via peer-based learning.

Box 7.5. Business meetings and firm performance: CIIT in Nanchang, China

Description of the approach

The intervention reported in Cai and Szeidl (2018) is an elaborate policy experiment that allocates willing participant firms into business association groups, and allows to clearly identify the causal effects of interfirm relationships on firm performance.

The experimental site was Nanchang, the capital city of Jiangxi province in southeastern China (a large city that ranked 19th among the 32 capital cities in China). The intervention was conducted by the Commission of Industry and Information Technology (CIIT), one of the main government departments for private sector development, in collaboration with the authors. In Summer 2013, all microenterprises and SMEs established in the previous three years in Nanchang were invited to participate in business associations. Of the 5 400 firms that expressed interest, 2 820 firms were randomly selected as the study sample. 1 500 of these were randomised into meetings groups with about 10 firms each, and the remaining 1 320 firms were taken as the control group (they were informed that there was no room for them in the meetings).

The SME managers from each meeting group were expected to meet once a month, every month, for one year. Each meeting was attended by a representative of the author team. To provide incentives to participate, managers were offered a CIIT certificate stating that the firm was selected to be in the official Nanchang city database on SMEs, which was valued by the participants because it provided recognition to the SMEs and allows for improved access to government funding and admission to training programmes. Typical meetings involved taking a tour of a group member's firm, which lasted for about half a day. Participants discussed topics such as borrowing, management, suppliers and clients, hiring, recent government policies, and marketing.

Additional interventions built into the experimental design allowed to investigate the relevance of peer effects, information diffusion within the group, and the role of meeting frequency.

Factors for success

Organising the meetings was a relatively cost-effective way to bring together SMEs into a series of business meetings, which were a platform for peer-to-peer learning. For the average firm, the profit gains from the meetings were estimated to be twice as high as the costs of organising and attending. Firms often underestimate the productivity gains that come from incorporating external knowledge into their business practices (Bruhn et al, 2018), or business support more generally (OECD, 2017; Jin and Westmore, 2018). Cao and Szeidl (2018) also show that they underestimate the gains from business associations or from changing business practices.

Quantitative analysis provides significant, robust, large and persistent effects of the meetings on sales, profits, efficient use of inputs, number of partners, borrowing, innovation, and improved management practices. For example, firm revenue increased by 8.1%, while firms randomised to have better peers exhibited higher growth. There is also direct causal evidence that the meetings diffused information that was initially only given to a randomly-selected subset of managers. Peers provided more business referrals, and continued to do so after the conclusion of the meetings. Managers exhibited significantly

more trusting behaviour towards their peers, half-way through and also at the end of the intervention. The meetings therefore reduced the costs of referrals and partnerships.

Obstacles encountered and responses

To address the risk that firms might hold contempt for business association meetings that are offered for free, a competitive element was introduced (in that only a subset of interested SMEs were invited to participate), and mild incentives were given to firms, such as being officially registered in the Nanchang administrative database, and receiving information about relatively unknown financial products (a government funding opportunity for firms, and an attractive savings opportunity for the manager). This helped foster a receptive mindset among participants. Average attendance at the meetings was quite satisfactory at a level of 87%.

Relevance for Ireland

Business associations and chambers of commerce do not play a prominent role in Ireland as they do in many other EU countries. The organisation of business meetings and SME associations could therefore be a useful mechanism for helping lagging Irish SMEs to reduce search costs and overcome trust barriers, to adopt superior management skills and practices, and to reduce their gap with respect to the productivity frontier.

Source:

Cai and Szeidl (2018). Interfirm relationships and business performance. Quarterly Journal of Economics, 133(3), 1229-1282.

Impediments to the flow of labour

Another potential barrier to productivity spillovers is the limited role for the labour flows channel of spillovers (Holm et al., 2017), which is potentially due to non-compete clauses in employment contracts. The extent to which non-compete agreements are constraining workers moving to local firms could be evaluated (Jin and Westmore, 2018).

Infrastructure

The installation of high-speed broadband internet across Ireland should be a priority. McCoy et al. (2018) observe that the availability of broadband infrastructure across Ireland is a significant determinant of the location of new business establishments, especially in areas of high human capital. Ireland has a national broadband plan, but the rollout of broadband access throughout Ireland has been delayed.

Economic dynamism

The Irish economy lacks dynamism in the sense of having relatively low levels of business entry and exit, and a relatively high survival rate (see Chapter 2 for more information). A low start-up rate (for example, due to credit market imperfections) could hold back productivity growth if vigorous entrants with modern business processes are few in number. A low exit rate (for example, if personal guarantees and bankruptcy law are unfavourable to exit) could result in entrepreneurs (and employees) being trapped in low-productivity employment rather than having the freedom to pursue more attractive opportunities. Hence, increasing economic dynamism and Schumpeterian creative-

destruction could contribute to productivity growth. According to the EY Entrepreneur of the Year Alumni survey, 90% of entrepreneurs who have exited a business have reinvested in another. Increasing the incentive to exit, could help to alleviate some of the issues around funding for start-ups.

A 2017 study from the European Central Bank estimated that around 5% of Irish firms (of all sizes) can be classified as "zombies," i.e. they have negative returns, negative investment, and debt servicing capacity (EBITDA/financial debt) below 5% for at least two consecutive years in 2014, the most recent year for which data are available. This is below the percentage in Italy, Portugal and Spain, but well above levels observed in France and Germany (Storz et al., 2017[8]). A 2018 study from the European Commission, using a different methodology, indicates that Ireland has a higher incidence of "zombie firms" than any other of the 19 euro zone countries under investigation, bar Greece and Spain. It should be noted that these firms are generally small in Ireland, and do not account for much capital, and that their share is decreasing over time (Hallak, Harasztosi and Schich, 2018[9]).

Firms that are categorised as zombies typically have below-average productivity growth. In addition, there is a risk that they negatively affect the performance of other firms indirectly, for example by competing for scarce talent and access to finance, driving up overall costs. (Hallak, Harasztosi and Schich, 2018[9]).

This issue merits further research, so as to better understand the drivers, the possibility of these firms to return to financial health and policy measures that have the unintended consequence of keeping unviable afloat. It is worth exploring, for example, whether a reduction in the Capital Gains Tax, which is relatively high in Ireland among OECD countries (see Chapter 3), would have a causal effect on increasing business dynamism large enough to offset the foregone tax revenues. This effect could operate via encouraging more entrepreneurs to start a business venture, by stimulating the post-entry growth of these ventures, and also by accelerating entrepreneurial exit from these ventures in terms of business sales.

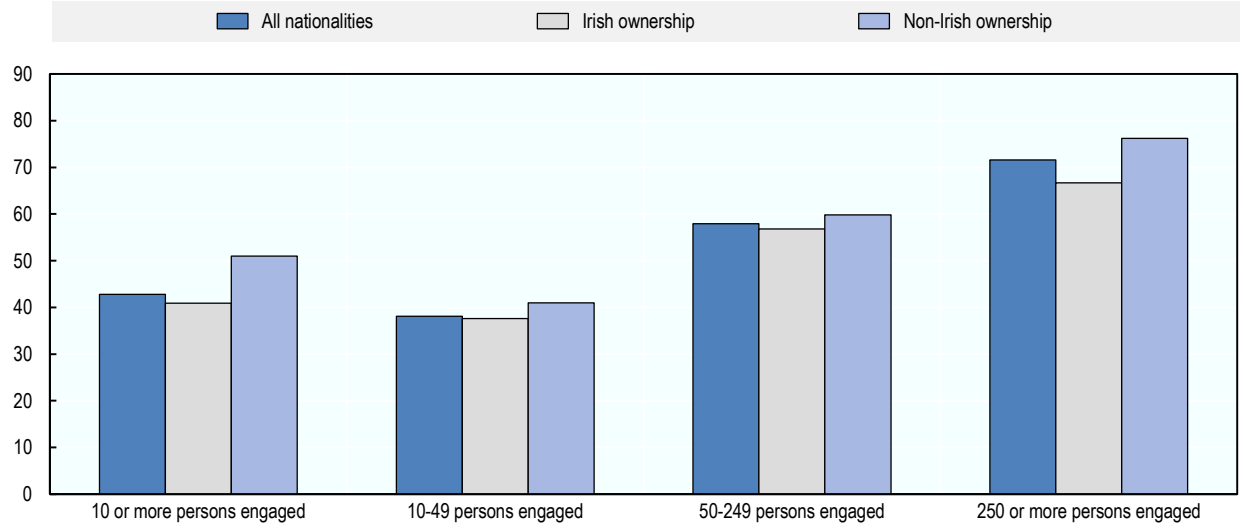
Innovation

In their analysis of Irish firms, Di Ubaldo and Siedschlag (2017) note that innovation is positively linked to labour productivity. This result holds for all types of innovation. The strongest link between innovation and productivity is found for firms with R&D spending and with product innovation." For Irish SMEs, an additional benefit is that innovative activity can enhance the absorptive capacity needed to benefit from productivity spillovers with MNEs. A study of productivity spillovers into Irish firms from foreign-owned multinationals found that the strongest evidence of productivity spillovers was among R&D investing indigenous firms (Di Ubaldo et al., 2018), presumably because these firms have developed the absorptive capacity to be more receptive to, and to better internalise, productivity spillovers from foreign MNEs. Hence, these spillovers that are enjoyed by R&D investing SMEs emphasise the need to boost the numbers of R&D investing SMEs.

Innovation activities are positively correlated with firm size and lower among indigenous businesses

Chapter two illustrates that the innovation performance of Irish SMEs is solid. Nonetheless, Ireland's innovation performance is skewed by the presence of non-indigenous (foreign-owned) firms. Foreign-owned enterprises based in Ireland are involved in technological innovation activities on average more than Irish-owned firms across all size classes, notably in the small (10-49 employees) and large categories (see Figure 7.5).

Figure 7.5. Enterprises with technological innovation activities (% of total) by size class and ownership



Source: www.cso.ie, graph by author.

StatLink http://dx.doi.org/10.1787/888934005340

The share of total turnover of industrial and selected service sectors generated by the technological innovation active enterprises was on average 69%, but in the 10-49 size class this figure drops to 46% and to only 30% for Irish-owned firms compared to 66% of non-Irish-owned small firms. There is almost no gap in terms of the medium-sized Irish/non-Irish firms (58.6% of turnover produced by technologically active Irish-owned firms compared to 60% for non-Irish).

During 2014-16, 36% of Irish-owned enterprises (all size classes) had innovation expenditure compared to 43% of foreignowned enterprises (all size classes); while 23% of Irish-owned enterprises performed in-house R&D relating to innovation activities compared to 30% of foreign-owned enterprises. The differential in innovation investment between indigenous and foreign-owned firms is reflected in outcomes, as 21% of the turnover of foreign-owned enterprises was the result of new to firm or new to market innovations compared to only 11% of the turnover of Irish-owned enterprises. In terms of type of innovation carried out by technological active innovation firms, there is a noticeable gap between Irish-owned and non-Irish-owned in terms of firms engaged in both product and process innovation and product innovation. The gap is less important for firms only engaged in process innovation.

The largest 50 enterprises with innovation expenditure, representing 0.7% of all enterprises, accounted for 72% of total innovation expenditure. Only 20% of small firms were engaged in in-house R&D (34% medium and 52% large) and only 7.4% purchased external R&D (14% and 25.6% for medium and large firms respectively). Hence, there is an innovation under-investment in small Irish enterprises.

The **"innovation gap"** is confirmed by **business expenditure on R&D (BERD) data** which points to a significant gap between foreign and indigenous firms in terms of R&D expenditure and activity. In 2015, foreign-owned enterprises accounted for 64% of all R&D expenditure, with EUR 1.36 billion spent on R&D; Irish-owned enterprises in comparison

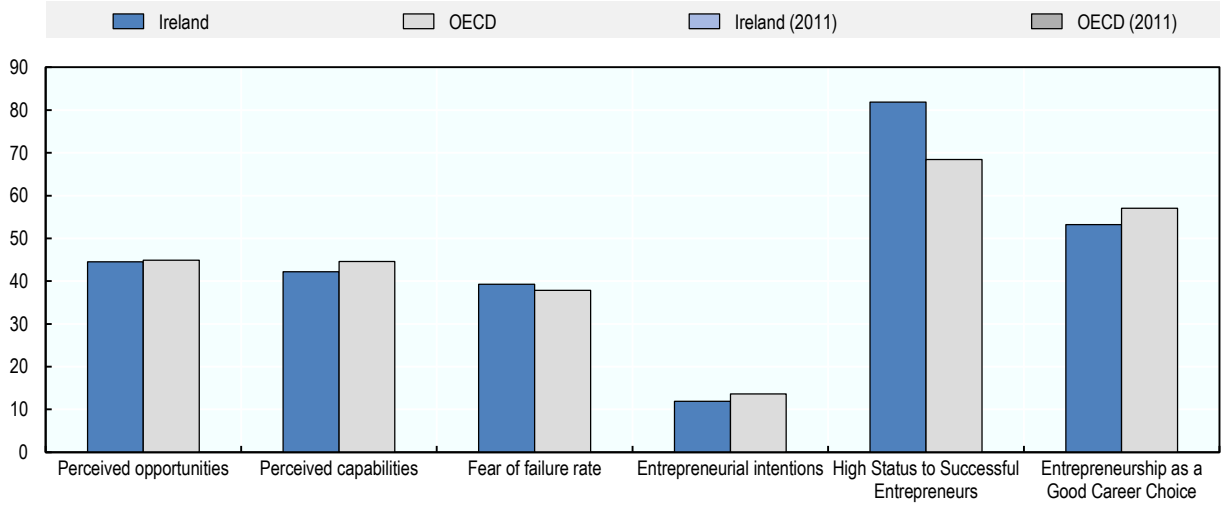
spent over EUR 800 million on R&D. In comparison, on average about 40% of business R&D expenditures in the EU28 is made by foreign affiliates (EIS 2018). In the United Kingdom, for instance, the proportion of R&D performed by UK-owned businesses was marginally greater than that performed by foreign-owned businesses, at 50.1% in 2016.

Considering innovation cooperation, 25.7% of Irish-owned technologically innovative firms reported co-operation compared to 46.5% of non-Irish-owned; while the rate of co-operation with Universities and third level institutions was 11.2% for Irish-owned technologically innovative firms and 19.5% for non-Irish-owned. Similar differences in co-operation patterns are visible between small firms and medium and large firms, with on average 24% of small technological active innovative enterprises engaged in co-operation compared to 39% of medium and 64% of large. Only 10.5% of small firms reported co-operation with universities or third-level institutes compared to 14% of medium and 35% of large firms.

The hampering factors for innovation

Small firms (10-49 employees) report much higher rates of importance for all factors, notably lack of funds (41% of firms), innovation costs (36%), too much competition (31%) and lack of skilled employees (27%). Medium and large firms (by number of employees) main concerns are lack of skilled employees (16%) and uncertain demand for innovative goods (15%) respectively. By ownership, the differences are as important with 37% of Irish-owned firms reporting lack of funds as a hampering factor compared to only 14% of non-Irish-owned firms. For non-Irish-owned firms, the most important hampering factor is lack of skilled employees (16%) (see Figure 7.6).

Figure 7.6. Hampering factors for innovation, by ownership (2014-16)



Source: www.cso.ie, graph by authors.

StatLink http://dx.doi.org/10.1787/888934004580

The above information indicates that there is scope to improve the innovation potential of Irish indigenous enterprises, especially in the 10-49 size class. Even though grant aid exists, innovation policy in Ireland emphasises tax credits to stimulate firm-level R&D investments as judged from expenditure (OECD, 2018). These tax credits seem to have been effective in stimulating R&D investment, and should be continued. However, tax

incentives may favour less dynamic incumbents at the expense of young innovative challengers (Jin and Westmore, 2018).

Innovative young firms in emerging sectors might benefit more from other innovation policy instruments, such as risk finance (Brown et al., 2017), especially since a lack of funds is often identified as a major obstacle to innovative for indigenous SMEs. The development of grants, loans and loan guarantees, in addition to risk finance instruments – which are not well developed in Ireland may therefore be valuable tools. The recommendation is therefore to maintain R&D tax credits, while exploring avenues to increase their take-up by smaller enterprises. At the same time, the role R&D grants, loans, and loan guarantees could be strengthened. Finally, innovation capabilities could also be enhanced by broad-based upskilling, perhaps targeting skilled workers whose skills are in need of updating.

Policy recommendations

Key recommendations for boosting SME productivity

- Continue efforts to facilitate researcher access to Central Statistics Office (CSO) micro data on SME productivity to support evidence-based policymaking.
- Encourage a wider take-up of Skillnet Ireland programmes to develop management capabilities in Irish SMEs, and consider a further push to target firms that are not at the technological frontier.
- Consider the establishment of a national panel comprising industry representatives that feeds into government decision-making and strategy formulation.
- Further support digitalisation of business processes in SMEs, for example through targeted loans or vouchers and creation of a small number of regional competence centres.
- Introduce policy initiatives to encourage the adoption of productivity-enhancing techniques such as ERP and industrial robots. A twin track approach to accelerate digital transformation via e-invoicing in Irish SMEs could be adopted, by educating via Skillnet Ireland as well as by designing appropriate Enterprise Ireland and/or LEO grant schemes.
- Increase policy attention to the role that adopting and developing international standards can play in enhancing SME productivity. This could include increased collaborations between NSAI and SFI, EI, and IDA on incorporating standards adhesion in company SME programmes and enhanced treatment of standards in Skillnet Ireland management development programmes.
- Increase export assistance for SMEs, for example through grants to complement existing initiatives by LEOs and EI to support would-be exporters.
- Augment Irish industry-led business networks involving both SMEs and large firms, to support collaboration on common issues such as training and innovation and the diffusion of good practice management approaches.

- Roll out broadband infrastructure across Ireland, in keeping with the National Broadband Plan.
- Maintain R&D tax credits, while trying to increase their take-up by smaller enterprises by design changes and awareness raising.
- Strengthen the offer of grants, vouchers, loans, and loan guarantees for R&D and innovation in SMEs as well as measures to facilitate risk capital markets.

Notes

[1] This is an alternative indicator that adjusts GDP for MNE's outflow of profits, to better represent the output and income produced in Ireland that is available to benefit those living in Ireland (see FitzGerald, 2018),

[2]https://www.cso.ie/en/aboutus/lgdp/csodatapolicies/dataforresearchers/researchmicrodatafilesrmfs/

[3] https://www.ukdataservice.ac.uk/get-data/how-to-access/accesssecurelab

[4] https://www.skillnetireland.ie/management-development/.

[5]http://www.oecd.org/cfe/smes/ministerial/documents/2018-SME-Ministerial-Conference-Parallel-Session-4.pdf

[6] National Digital Strategy (2019)

[7] See https://egovstrategy.gov.ie/ Ireland's 2017-2020 eGovernment strategy builds upon Ireland's first eGovernment Strategy (eGovernment 2012-2015).

[8] European Investment Bank (2018), "Investigation into Development of Financial Models for the Digitalisation of SMEs" Luxembourg (forthcoming)

[9]https://intertradeireland.com/insights/publications/export-participation-and-performance-of-firms-across-the-island-of-ireland/

[10] https://intertradeireland.com/insights/publications/analysis-of-the-key-features-of-an-exporting-sme-on-the-island-of-ireland/

[11] https://intertradeireland.com/insights/publications/analysis-of-the-key-features-of-an-exporting-sme-on-the-island-of-ireland/

[12] EI's Exporter Development section has a structured approach to supporting potential exporters – including one-to-many and other more tailored supports. These companies are eligible for many of Enterprise Ireland's grants and advisory supports. See: https://www.enterprise-ireland.com/en/export-assistance/exporter-development/

[13] EI's "Market Discovery Fund" provides 50% grant funding, up to a maximum grant of EUR150'000, to incentivise companies to research viable and sustainable market entry strategies in new geographic markets. EI's network of overseas offices also provide in-market support to exporters: e.g. help with customs procedures/tariffs, and introductions to distributors.

[14] This legislation specifies certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty. More information can be found here: http://ec.europa.eu/competition/state_aid/legislation/block.html

[15] The European standard on e-invoicing (EN16931) has been developed to make it possible for companies including SMEs to send invoices to many customers by using a single e-invoicing format. The resultant automated e-invoicing process will deliver cost savings of 60-80% in most cases for SMEs (Billentis, 2017; see https://www.billentis.com/e-invoicing-businesscase.pdf). Currently the Scandinavian countries are leading on the implementation of e-invoicing standards, and - in the experience of the NSAI e-invoicing committee experts - Ireland is lagging behind, with the only initiatives undertaken being those enforced by the EU. It is now mandated for all public bodies throughout Europe to be capable of processing invoices in this new standard format. This represents an opportunity for Irish SMEs to increase their digital sales/e-commerce capabilities and productivity, giving them a strategic advantage in the EU market post Brexit. The fact that e-invoicing is now based on an EU standard will bestow legitimacy upon this innovation, and enable resources to be deployed to speed up its implementation. However, NSAI e-invoicing committee experts have observed that awareness of these standards is still at a very low level in Ireland. A twin track approach to accelerate digital transformation via e-invoicing in Irish SMEs could be adopted: by educating via Skillnet Ireland and implementing using appropriate Enterprise Ireland and/or LEO grant schemes.

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Chapter 8. Business advisory and support services in Ireland – approach and programmes

This chapter describes the current institutions providing business advisory services and support services to small and medium enterprises (SMEs) and entrepreneurs in Ireland, such as enterprise centres and business incubators and accelerators, the support services and programmes offered, and the targeted approaches to attracting and serving specific types of enterprises and their needs. The business support services covered include information, advice, consultancy, and mentoring. It also highlights issues of demand and supply for business advisory and consultancy services and potential gaps in service provision and the methods of ensuring quality in their delivery. The Chapter concludes with recommendations for improving the business advisory and consultancy support system and offered services, including building capacity, and addressing gaps in service to particular types of SMEs.

The institutional structure and supply of business advisory and support (BAS) services in Ireland

Business advisory and support (BAS) services includes a wide range of services, such as information and referral, training, advisory, mentoring and consultancy services. Evidence indicates that BAS contributes to an improvement in the performance of the beneficiaries; helps create jobs, and has a positive effect on labour productivity, exports and firms' investment (Piza et al., 2016). This is confirmed in the case of Ireland through various evaluations of business support programmes (Forfás, 2012; Forfás, 2014; DJEI, 2015; Indecon, 2018; Moloney, 2018).

The government of Ireland uses a mixed approach in delivering BAS nationwide. It works through government-operated centres, primarily the network of 31 Local Enterprise Offices (LEOs), Enterprise Ireland (EI), InterTradeIreland and the Industrial Development Authority (IDA) Ireland, under the umbrella of the Department of Business, Enterprise and Innovation (DBEI), but as well through Fáilte Ireland (National Tourism Development Agency) and Bord Bia (Irish Food Board).

Ireland segments the MSME sector with respect to BAS provision. Chapter 5 provides an overview of the policy delivery arrangements. It is important to note that each of these agencies draws heavily on the expertise of private consultants and mentors to provide support to start-ups and MSMEs.

EI Development Advisors, for example, work directly with client companies on their business development needs, but many of the programmatic BAS services are contracted out to private sector providers, such as private consultants, the Irish Management Institute, Institutes of Technology, and universities, and Technology Centres.

There is a well-developed network of incubators and accelerators, which are important providers of BAS to high-potential start-ups. All of the universities and Institutes of Technology host EI-funded campus-based incubators, totalling 30 in 2018.[1] Incubators and accelerators provide the full range of advisory, mentoring and networking/linkage services to start-ups and early-stage growth potential enterprises, albeit vary considerably in the number of incubator spaces and incubating start-ups, some much larger than others.

Challenges with respect to the BAS delivery system in Ireland

There is substantial data collected on the activities of the publicly-funded incubators and accelerators. Standardised and detailed measurement and reporting frameworks are currently part of all the EI directly funded incubators and accelerators including twice-yearly key performance indicators. Furthermore, the longer established EI funded incubators have been evaluated regularly.

However, there are some gaps in the availability of data to assess public policy performance across certain incubator and accelerate providers, and to compare performance of incubators across different providers. There are also difficulties in tracking companies once they graduate from incubators. This was identified in an evaluation of the campus incubators programme (Frontline, 2014). The introduction of a Uniform Business Identifier could be very helpful in helping such tracking.

To improve information on the impacts of publicly-funded incubators and accelerators in Canada, the government department Innovation, Science and Economic Development (ISED) Canada created an initiative in 2016 to develop a national performance management framework (PMF) in collaboration with key stakeholders. The draft framework was

published in 2018 (Deep Centre, 2018) and is being piloted for national roll-out[2] (see Box 8.1).

There is no national incubator policy in Ireland and given the disparate range of funding and types, it could be useful to develop such a policy to provide guidance for administrative structures, funding, and performance outcomes across the system. This could focus on a performance management system for incubators and accelerators with public funding (either at the level of the incubation facility or of the incubating enterprises), along with a data-sharing platform for reporting on relevant indicators and performance outcomes.

Also, although common in many OECD countries, Ireland does not have a national association of business incubators that could be responsible for collecting and reporting on such data at the individual level, as well as for promoting good practice in incubator management and the provision of advisory supports and networks. While there is a partial network for the campus incubator managers in Ireland, the level of participation is variable (Frontline, 2014). EI could work with this informal network of incubator managers to facilitate the formation of such an association.

Box 8.1. Development of a Performance Measurement Framework for Business Accelerators and Incubators - Canada

Description of the approach

There are growing number of business accelerators and incubators (BAIs) in Canada, estimated at around 150 in 2017, many of them recently established. They vary considerably according to operational formulas, organisational structures, partnership models, programme design, and targeting of start-ups clients, as well as in size, length of acceleration/incubation cycle, and funding models (DEEP Centre, 2015). To a great extent, many BAIs in Canada and their various public funding bodies lack sufficient data on the performance and economic impact of BAI activity. Even among the BAIs currently measuring their performance, a diverse and inconsistent range of metrics are being used, with widely varying levels of success in obtaining data from their clients, and inadequate tools for compiling and analysing this data. This has hampered the ability to accurately assess the economic benefits produced by BAIs and to compare the competitive performance of BAIs in the Canadian network.

The Canadian Government has made significant investments in the development of BAIs to drive the growth of innovative start-ups. This includes a budget allocation in 2013 and 2014 for a 5-year matching-contribution CAD 100 million Canadian Accelerator and Incubator Programme (CAIP) fund to support the growth and sustainability of BAI programmes across the country. CAIP recognised the need for improved BAI systems at a time when there is growing and strong global competition for start-up supports and that to compete Canada needs to be able to promote highly effective BAI institutions to attract high-potential start-up teams.

Committed in principle to defining outcomes and success measures of its programmes and activities, in 2016, the Government of Canada announced that it would dedicate resources to work with BAI organisations on development of a performance measurement framework (PMF) that, through the sharing and standardisation of data, could be used across the network to evaluate and improve the BAI services available to entrepreneurs and businesses in Canada and better quantify the role of BAIs in empowering innovation and

economic growth in the country. The case was made that a PMF would enable evidence-based identification of gaps, opportunities, and impact of BAI programmes and inform Canada's ability to encourage and scale the next generation of globally competitive Canadian companies, improve their chances of scaling over global competitors, and track high-growth firms.

In the fall of 2016, Innovation, Science and Economic Development (ISED) Canada initiated an informal consultation process with BAI stakeholders to seek input on the viability of the PMF project and discuss how government, entrepreneurs, investors, educators, and industry could collaborate on establishing the national PMF for BAIs and the potential willingness of BAIs to share their performance measurement data to enable analysis of how various BAI programmes influence start-up performance with a view to implementing the project across the country for use by all BAIs. Topics covered included the goals and benefits of a shared PMF, principles to be applied, what metrics, data points and definitions should be considered to enable reliable data aggregation and comparison across Canada's BAI ecosystem, mechanisms to support collection of data, sharing and exchange, and how to best secure buy-in of the BAI network. Stakeholders were primarily representatives of publicly-funded incubators and funding bodies.

Following the initial consultation, ISED supported the formation of an industry-led working group of business accelerators and incubators mandated to lead the process of framing a national solution for data collection and performance reporting. After eight months of work, the industry-led BAI Steering Committee produced a BAI PMF document, based on a pilot collection of data in a set of BAIs in 2018 (DEEP Centre, 2018). The PMF document, including the BAI Questionnaire and the Company (incubating/incubated enterprise) Questionnaire, presents the rationale and development process for a national PMF, a simple logic model that guides the design of the PMF, clear definitions for the metrics to be used, and describes the approach for collecting, analysing and reporting the data, the methodology to produce the descriptive statistics and econometric analyses that will determine the relationship between BAI programmes and the economic performance of client firms, and details the administration of the performance measurement platform. The PMF is being piloted with a number of BAIs across Canada prior to national roll-out.

Linking the data collected through the PMF pilot with additional Statistics Canada datasets enables improved understanding of the economic impact of BAIs, assessment of the effectiveness of national funding programmes and the identification of policy gaps.

Success factors

The process is not yet completed but to this date, there are a number of factors that have led to the success of the project. It was very important to carry out preliminary and national consultations with BAIs and a variety of stakeholder groups, which ISED did over a period to time, to discuss and provide input on a number of complex issues and questions. Preparing discussion documents and articulating key discussion questions was helpful in this regard.

Making use of industry-led working groups and steering committees, such as the BAI Steering Committee, was an essential factor of success, as this provided leadership in designing a standardised measurement and reporting framework and overseeing the pilot process to give BAIs an opportunity to test and refine the framework before rolling it out on a national basis.

The successful collection and aggregation of consistent data from multiple business accelerators and incubators to measure the impact of business accelerator and incubator programmes on firm performance makes it possible to generate a wide range of descriptive statistics that will foster a better understanding of the role BAI programmes play in firm growth as well as in the overall growth in the economy. ISED and Statistics Canada will assume responsibility for the preparation of descriptive statistics and official reports for public consumption.

Obstacles and responses

Securing buy-in from BAIs was initially a challenge. This was addressed in the beginning of the project through national consultation processes on the proposed PMF facilitated by ISED, followed by establishing working groups and steering committees represented by leading BAIs and related stakeholders. This ensured engagement with the industry to put the message out and to solicit informed as well as consensus-based input on development of key performance measures. As the pilot progresses, BAIs will continue to be consulted on how to govern and manage the PMF and reporting process.

Implications for Ireland

Enterprise Ireland has provided significant funding for the establishment and operation of business incubators and accelerator programmes in Ireland. Most of them have been on in place for a number of years, however, they vary in size, sector emphasis, capacity, etc. There is no formal association of BAIs in the country and no co-ordinated approach to collecting performance data from the accelerator and incubators at the level of the facility or incubating enterprises. A performance management framework initiative, such as the one initiated and supported by ISED in Canada, might be an appropriate approach for DBEI to adopt for its own purposes in evaluating and improving the performance of the BAI system in Ireland.

To facilitate monitoring of the performance trajectory of early stage start-ups availing of BAI services could be to have a unique business identifier (UBI) shared by the Central Statistics Office (CSO), government departments, agencies, etc. This would enable more systematic tracking of which supports companies avail of across the entire spectrum of State initiatives, including incubator programmes. If the UBI system were in place, EI or other agencies/departments could plug into CSO/Revenue data collected on a statutory basis and perform similar analysis being targeted by the Canadian PMF for BAIs.

For more information

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Enhancing the "Supporting SMEs Online" tool as an entry point to information, an important component of basic BAS services

In many countries, the first point of accessible information for entrepreneurs and MSMEs is through an online service. An online SME information portal is a very effective vehicle for reaching out to anyone thinking about or starting a business, as well as to owners/managers of existing enterprises of any size in any sector. It allows an entrepreneur or existing MSME to reduce the time and cost of search for institutional sources of support and programmes that may meet their self-professed needs as well as guidance on issues to consider in starting and growing a business.

The government's launch of the "Supporting SMEs Online" portal in 2014 was an important innovation in the Ireland context and, the outcome of the DBEI mapping of as many as 170 government and non-state business supports available to start-ups and small businesses from 27 different government departments, agencies and initiatives. These include access to finance, management development, mentoring, business development programmes, market supports, trade promotion, incubation, and networking opportunities. It does not however obliquely provide information on R&D supports through SFI funding programmes which are relevant for R&D, business development and growth (e.g. SFI Research Centres, SFI Industry Fellowship Programme, SFI Strategic Partnership Programme). The portal could be updated to address this gap by including information on industry-facing collaborative R&D programmes from SFI.

By answering eight questions on the portal, start-ups and MSMEs can be directed to the kind of support they are seeking and discover which institutions and support programmes, by sector, stage of development, and location, might best fit their needs and from whom it is available.

However the portal does not include the scope and breadth of information present on the government. SME sites in many countries, such as the "canadabusiness.ca" website hosted by Innovation, Science and Economic Development Canada, include information tips on starting, planning, managing, and growing a business. As well as the online portal, "innovation.canada.ca" provides Canadian businesses with a wide range of information on services, programmes, regulations and financing options from across the federal, provincial and territorial governments in Canada.

Artificial intelligence also offers opportunities to offer more tailored and specific support to SMEs and entrepreneurs on a needs basis. www.business.govt.nz, the New Zealand business advisory website, offers a potential model to draw inspiration from (see Box 8.2).

With some improvements, Ireland's "Supporting SME Online" website could well serve as a first-stop information source for all MSMEs and compensate for service offerings to all segments of the SME population falling between the cracks of the LEOs and EI. This improvement could be made by integrating general "how-to" information that currently exists on the EI and LEO websites[3], with links to, for example, the Founders Institute website which presents the "Startup Ecosystem Canvas in Ireland" that organises supports by Idea Stage, Launch Stage and Growth Stage.[4]

Box 8.2. Using artificial intelligence for business advisory websites: The experience from New Zealand

New Zealand strives to improve and streamline the interactions between its businesses and government bodies through the "Better for Business" initiative. It encompasses the 10 government agencies that are collectively responsible for about 83% of the interactions that a business normally has with government in the country. Among its achievements is the development of a unique business number, thereby removing the need for companies to supply the same information several times.

In addition, the government developed a "digital assistant, Tai." Its main purpose is to make it easier for businesses to navigate across several government agencies by using artificial intelligence (AI) technology. The proof of concept has been developed by the Ministry for Primary Industries (MPI), Customs New Zealand and the developers, Datacom and rolled out in July 2018.

After the proof of concept, the 10 partner organisations will further explore how to harness AI to further improve the user experience of its main online portal, www.business.govt.nz.

In addition, the portal could be improved by including online assessment instruments and modularised training materials, making advisory services available to MSMEs through the online platform (e.g. question and answer sessions with advisors and mentors) and referrals to sources of advice from accountants, lawyers, and other professional bodies often consulted by MSMEs.

General business advisory services provision

LEOs have business advisors on staff who can respond to questions from micro and small enterprises on a walk-in basis and make referrals to other sources of assistance, as required. They host Group Business Information Sessions on a weekly basis that are open to anyone, each one facilitated by LEO business mentors and designed to share information on issues to be considered when starting up in business with signposting to the variety of supports on offer from enterprise-supporting agencies.

LEOs also organise one-to-one Business Advice Clinics for start-ups and existing micro-enterprises on an appointment basis. In some LEOs, clients are charged a modest fee for these advice sessions (but the fee structure is not consistent across the LEOs) and set a limit on the number of sessions a start-up or micro-enterprise client can participate in during the year. Micro-enterprises can also apply for one-on-one mentoring sessions with external experts on an appointment basis, which could also carry a client fee, with clients restricted to a certain number of mentor meetings in a calendar year. This could possibly indicate that the supply of mentoring sessions to individual clients is limited, regardless of their

needs and the benefits to be derived. However, there is no restriction on mentoring once a clear need is identified. The number of sessions is managed at a local level to ensure appropriate management of the mentoring assignment. In the application for mentoring session, the micro-enterprise must indicate the three main issues where they need mentoring. This assumes the client is aware of their specific needs, which may not be the case. Identification of these needs (e.g. critical business issues to be addressed) is further clarified in a discussion with LEO staff before the mentor is assigned.

To be more effective in building the capacity of existing micro and small enterprises for performance improvements, including mentorship, the LEOs should consider a more integrated approach to support by first helping the enterprise complete a diagnostic of its current strengths and weaknesses, indicating the areas in greatest need of improvement. With exception of the use of a diagnostic tool for micro and small enterprises applying to the Lean for Micro Programme, this self-assessment approach is not largely in use by the LEOs. There are, however, plans to introduce a formal client engagement model with the appropriate diagnostics in order to improve the client interface and facilitate a system whereby the client needs, journey and outcomes are captured and feed into an enhanced reportage platform.

With information from a simple diagnostic assessment, the advisory and mentoring services could be better tailored to the individual needs of the enterprises, including referrals to consultancy advice and technical assistance in areas not covered by the LEOs. This tailoring of services is one the greatest benefits to using a diagnostic tool – its efficiency in enabling the identification of the support services best matched to the needs of each enterprise, whether it be quality improvement, better market access, or financial controls, and linking them to the most appropriate assistance programmes and consultancy services.

EI's main target is high-growth start-ups and SMEs in manufacturing and tradeable services sectors, although works with a broad range of companies, many of which are not high-growth. However, it is more targeted in its provision of BAS services than the LEOs, focusing on the enterprises meeting the eligibility criteria for participation in its specific programmes. Employing a number of Development Advisors in its offices who have always played a specific advisory role with start-ups, it has recently introduced a client engagement model for start-ups (targeted supports based on agreed needs and scaling milestones) and for existing SMEs, many with high-growth potential (market expansion and exporting milestones) (EI, 2017a) (also see Box 8.3).

Box 8.3. Enterprise Ireland's New Client Engagement Model (CEM)

The new CEM provides a more standardised approach and differs from the Development Advisor approach. Through the process, the CEM enables EI to match supports more closely to a client's need and to bring internal teams together to focus on particular stages of the company's development cycle according to agreed-on action plans and scaling milestones. In the CEM, client companies are divided into three service tracks, each with a defined process for engagement with companies.

- **Start Engagement**: Aims to help high-potential start-ups (HPSUs) to scale more quickly by targeting supports at pre- and post-investment stage, moving from an introductory meeting to a diagnostic process to identify priority areas to agreement on an action plan and its implementation. The model consists of regular business plan meeting, overseas market reviews, and a focused development programme with interactive masterclasses on product-market fit, international sales, finance and leadership. This engagement normally lasts over two years, at which time the client transitions to Advance or Accelerate engagement programmes.
- **Advance Engagement**: Targets clients who have export potential and the capability to grow internationally. Its diagnostic process identifies: 1) barriers to growth ambitions; 2) level of existing capability; 3) future capability needs, and 4) areas for priority support. The clients and EI agree to clear timelines for actions to be taken.
- **Accelerate Engagement**: Targets clients with a clear ambition to scale and have already demonstrated a high level of exports and job growth. It is a team approach involving the client company's management team and an EI team who work together on achieving growth and scaling ambitions following a diagnostic of the company's capability needs and areas for priority support based on six pillars: strategy, sales and marketing, finance, operations, innovation, and people and management. Focused support services, both financial and non-financial, are delivered by EI to the client's entire senior management team and according to clear agreed-to timelines. The engagement process is subject to quarterly and a final review.

Source: Information supplied by Enterprise Ireland.

In terms of diagnostic tools, EI implements a Company Health Check to support clients in benchmarking themselves against competitors across business functions and performance. This is used particularly within the context of the Lean offer, an operational excellence model that includes Lean Start, Lean Plus and Lean Transform, with the assessment results forming the basis of an action plan for improvement activities. In employing this tool, EI engages Competitiveness Benchmark Facilitators who have been trained in the methodology and approved by EI to work with the enterprise to gather the benchmarking data. EI sets out the guidance requirements for service providers (e.g. what they are to do and cover) that along with the reporting template requirements provide a measure of quality control on delivery of the Lean programmes.

Within each enterprise network funded by Skillnet Ireland, a dedicated Network Manager supports MSMEs to diagnose skills requirements and co-ordinate the development, design and delivery of programmes that address both current and future skills needs.

In addition, the government launched the Workplace Innovation Toolkit in 2018 to help companies and their workforces identify where there is scope to improve their businesses and workforces, including questions about the company's employee engagement, innovation, productivity and training approaches.

Start-up and management training supports

The LEOs are main providers of start-up training (Start your Own Business programme), training on functional areas of business[5], and Management Development Training Programmes to support the building of management capacity of their clients to achieve business sustainability and growth). They also facilitate half-day digital literacy training to help micro-enterprises trade online reaching over 10 000 micro-enterprises since 2014, and the delivery of intensive "Entrepreneur Bootcamp" training and mentoring for young entrepreneurs accepted into the Ireland Best Young Entrepreneur (IBYE) programme. Over the past four years, the programme has attracted over 5 700 applicants.

The focus of EI is on tailored management development training, with several programmes geared to the needs of client SMEs (e.g. Excel at Growth, Innovation4Growth, Leadership4Growth, LeanStart, Leadership Masterclass, and the International Selling Programme). EI supports client companies to implement training projects that are generally contracted out to private trainers expert in the respective areas.[6]

22.33. SkillnNet Ireland is also a major provider of management training for MSMEs as discussed in various chapters of this report (Chapters, 3, 5 and 7), with specific emphasis on the Management Works Programme (e.g. training in strategic business planning, business leadership, business growth, management team alignment) where the demand is deemed low among SMEs. It comprises only 2% of learners in the Training Networks Programmes in 2017 (Indecon, 2018), with the consequent recommendation to expand/scale-up this Programme offer to SMEs (see Chapter 7). In addition to the Management Works Programme, 49% of firms trained within the broader Training Networks Programme during 2017 indicated that the training included a focus on management development.

Use of incentives to encourage SMEs to avail of external consultancy services

In addition to providing basic BAS, the government employs mechanisms to incentivise micro-enterprises and SMEs to make use of external consultants. These include vouchers and various grant programmes to encourage SMEs to seek professional guidance on online trading, export development, innovation activity, and lean business and production practices, areas consistent with desired government goals for the productivity and growth directions of SMEs.

Vouchers are an increasingly common instrument to encourage SMEs to seek professional expertise. In Ireland, voucher schemes are offered by EI, the LEOs, and InterTradeIreland. Each of these voucher schemes offer small grants that the micro-enterprises or SMEs (depending on the eligibility criteria) can use to acquire professional expertise from external consultants or approved service providers.

The Trading Online Voucher (TOV) is financed by the Department of Communications, Climate Action and Environment with a link to micro firms through the LEOs. The scheme

has achieved very favourable results and is an effective tool for exposing more micro and small enterprises to larger market captions, including export markets. The TOV has nevertheless been criticised for being too low in value (matched grant of up to EUR 2 500) considering the amount of professional assistance that even micro businesses may require. The option of increasing the size of the voucher offering businesses the chance of obtaining a second voucher to further develop their e-commerce capability should therefore be considered.

In September 2018, the DBEI launched a new pilot Online Retail Scheme for SMEs with 10 or more full-time employees. This supports eligible retailers with an existing online web presence to develop a more competitive online offer. It is a competitive fund administered by EI with a total fund size of EUR 1.25 million. Successful applicants will be awarded funding to support a maximum of 50% of the project eligible costs with a grant of between EUR 10 000 and EUR 25 000. Typical elements involved in developing a sophisticated and transactional online presence include research, consultancy costs for strategy development / implementation and training costs.

Innovation vouchers, managed by EI, are open to all SMEs from all sectors (except agriculture) and come out of DeMinimis support for companies. With the EUR 5 000 voucher, SMEs can acquire professional expertise from one of Ireland's 38 registered public knowledge providers (i.e. higher education institutes, Technology Centres, public research bodies) (see description in Chapter 5). The vouchers are accessible to IDA and EI clients, plus others and are actively promoted by the LEOs to their clients. Since 2007, 5 600 vouchers have been redeemed, with about 30% of these by EI clients. In 2017, this amounted to 544 vouchers (EI, 2017b) and to 558 in 2018. The programme is highly successful, with previous impact evaluations showing an increase of EUR 7 for every Euro invested in the scheme.

The InterTradeIreland Trade Accelerator Voucher Scheme is offered to micro-enterprises in manufacturing and tradeable services to acquire professional cross-border trading advice from expert providers in Ireland and Northern Ireland. The EUR 2 250 Brexit Start to Plan Voucher targets SMEs (with 250 employees or less) to engage professional advice related to Brexit matters. LEO's actively promote these voucher schemes to their clients.

A number of other programmes provide funding to encourage micro-enterprises or SMEs to avail of professional consultancy services that they would otherwise not likely pursue. These include grant-based consultancy programmes offered by EI (consultancy grants for feasibility studies, market research and internationalisation, innovation activity, strategic initiatives consulting, productivity and business improvement, and digital road mapping); InterTradeIreland (consultancy grants to help solve cross-border trading issues, such as the Acumen programme for SMEs and Elevate programme for micro-enterprises); and LEOs (e.g. Lean For Micro). In many cases, eligible enterprises must be in manufacturing or tradeable services, so micro-enterprises and SMEs in other sectors cannot avail of these programmes. The exception is the Lean For Micro programme which is available to all micro and small enterprises meeting the eligibility criteria.

Since 2017, a number of advisory and consultancy services have been made available to assist SMEs in preparing for Brexit, a critical policy issues for Ireland. This includes the provision of teams of trainers who go into the business to carry out quality assessments, and links with Brexit experts who engage with SME clients on a one-on-one basis to help them assess their exposure to Brexit and determine actions to deal with the impact on their strategy and performance (e.g. LEO Brexit Mentor Programme[7]; EI "Be Prepared for Brexit Grant" and Brexit Advisory Clinics [8]; ; InterTradeIreland "Brexit Advisory Service"

for cross-border MSMEs;[9] and Fáilte Ireland "Get Brexit Programme" targeting tourism enterprises. The demand for these programmes has been high.

Services related to vouchers and grant-based consultancy programmes are all delivered to eligible micro-enterprises and SMEs by external consultants. In this respect, Ireland has a well-developed network of private sector consultancy companies and individuals to invoke by the government agencies and many of the private consultancy firms compete for various government contracts to provide training, consultancy and mentoring services to MSMEs.

Mentoring - a widely used BAS service in Ireland

Mentoring as a service is widely employed in the Ireland BAS system. The LEOs and EI have dedicated mentor programmes (targeting their respective client bases) and mentoring is a component of MSME programmes offered by EI, the LEOs, InterTradeIreland, the Food Advisory Service, Fáilte Ireland, and Skillnet Ireland, as well as all business incubator and accelerator programmes. On a professional basis, a number of associations, such as Engineers Ireland, and private sector consultancy firms, such as Mentors.ie[10] and DCM Learning (based in Cork) promote mentoring services, including training and professional development for mentors.

The DBEI Mapping of Supports (to December 2017) listed 22 public and private organisations offering mentoring as a specific service.[11] This does not include the mentoring services offered as part of most of the other support and grant consultancy programmes, such as the Lean programmes, incubator and accelerator programmes, EI management development programmes (e.g. New Frontiers Programme, Innovation For Growth Programme, and Female Founders Programme, Lean For Growth, Competitive Start Fund), LEO Leadership For Growth and Accelerate Management Development Training Programmes, and InterTradeIreland's Acumen and Elevate programmes. The main public providers are EI, LEOs, and Skillnet Ireland.

The 2014 review of business mentoring services in Ireland reported there were 3 000 mentors providing services to businesses, two-thirds on a paid basis and one-third as volunteers (Forfás, 2014). In 2014, Forfás estimated the annual value of business mentoring in Ireland to be more than EUR 9 million with state funding accounting for EUR 5.3 million, and EUR 0.8 million attributed to the value of volunteer mentors' time.

The Enterprise Ireland Mentor Network Panel exceeds 400 highly-experienced business people, consisting of entrepreneurs, founders and senior executives with international commercial business development experience. The role of the mentor panel is to offer practical one-to-one guidance and advice to start-ups and existing MSMEs based on their own business experience and relevant to the business needs and goals of the client. However, the demands will differ for start-ups, micro-enterprises, and growth-oriented SMEs due to the differing levels of sophistication, growth ambition, and innovation and internationalisation goals, so the make-up of the mentor panel must demonstrate diversity.

New mentors are recruited into the Mentor Network throughout the year by way of an application and assessment review process. When a client firm applies for a mentor indicating the specific guidance sought, the EI Mentor Network team matches the client with a shortlist of mentors who are experienced in the sector or issue, in collaboration with the EI Development Advisor.. Depending on the client's needs, the client and mentor agree to meet 3, 5, or 10 times (in 1-3-hour sessions) over a period of 3, 6 or 12 months.[12] The cost of the mentoring service is covered by an EI grant to the client not exceeding EUR 1 750 for up to 10 sessions which EI pays directly to the mentor. Most EI mentor

services are paid for in this manner. However, in cases where mentors volunteer to advise an EI client, EI pays them a per diem of EUR 175 per meeting and reimburses them for any travel expenses.

Fáilte Ireland offers mentoring, along with training to tourism-related SMEs, the objective being to improve their performance and competitiveness. Mentors are engaged to provide 1-3-day interventions with tourism SMEs (e.g. looking at financing, strategy, planning, sales and marketing, digitisation, etc.), all of which is offered free to the client.

Ireland's publicly-funded mentoring programmes have not been formally evaluated since 2014, but, at that time, an online survey revealed that 64% of EI mentored clients felt mentoring had been beneficial to the business, 46% that the mentoring help had accelerated the growth of the business, 67% that mentoring had better prepared them to face challenges, and 78% that mentorship was helpful in enabling them to achieve their objectives (Forfás, 2014). The mentoring to micro-enterprises provided by the LEO-precursor organisation received even higher assessments by the clients; 86% of surveyed clients reported that the mentoring support met their needs; 82% that the mentoring help had better prepared them to face challenges; 79% that the mentor support was the appropriate support for the needs of their business; 61% that the business had grown due to the mentor support; and 41% that it had led to increased confidence, focus and direction and enhanced their business management capabilities (as reported in Moloney, 2018, p. 67-68).

However, the EI Mentor Network reviews all assignments that were formally completed each year. In 2017, the feedback was even more favourable:

- 98% of companies said their mentor was well matched;
- 91% of companies stated that they would stay in touch with their mentor after the formal assignments ends;
- 76% said their business grew because of the mentor's intervention;
- 86% said the program was excellent.

The demand for business advisory and mentoring services

There is limited available quantifiable data on the demand for BAS and mentoring services in Ireland and no recent studies or surveys attempting to quantify the demand. Data is available on the take-up of existing BAS services and programmes (see Table 8.1), but is insufficient in providing insight on the penetration rate among all MSMEs and the potential demand for these and perhaps other services, as well as the deterrents to availing of BAS services.

Table 8.1. Take-up of selected public BAS services

Institution/agency	Programme Indicator	Take-up of service in 2017
Local Enterprise Centres (LEOs)	Total number of LEO-supported clients	7 132
	Participants in Start You Own Business Training Programme	3 755
	Participants in various other business training programmes	26 618 across 1 611 training sessions
	Participants availing of Group Business Information Sessions	No data readily available
	Participants in Business Advice Clinics	No data readily available
	Number of one-on-one sessions with mentors in the Mentor Programme*	8 393
	Clients supported with Trading Online Vouchers	1 187
	Participant companies in Lean For Micro Programme	179 micro clients
	Number of LEO client companies approved for Technical Assistance for Micro Exports Grants	289 micro-enterprises
	Young entrepreneurs participating in the Ireland Best Young Entrepreneurs (IBYE) Programme business bootcamp training and one-to-one mentoring	1 472 applicants in 2017
	Number of early stage food businesses participating in the Food Academy supplier training programmes in partnership with Bord Biá and SuperValu	329 Food Academy suppliers
Enterprise Ireland	Companies receiving mentorship	443 (402 EI clients; 31 EI mentors to LEO clients ; and 10 to Udaras and IDA clients)
	Innovation Voucher for small and medium enterprise clients	557 vouchers redeemed
	Start-ups in the New Frontiers Programme, delivered through Institutes of Technology; training, support and mentoring to entrepreneurs with a good business idea (Phase 1)	500 participants per year
	Start-ups in the New Frontiers Programme that wish to accelerate the development of their new business (Phase 2)	160 in 2016
	Participants in the Leadership Management Development Programme (delivered by the Dublin Institute of Technology)	1 598 CEOs and managers trained
	Lean and Competitiveness business supports to improve productivity, profitability and environmental best practice	170 Enterprise Ireland-client companies
	Pilot Online Retail Scheme supports retailers to improve their online web presence	11 applicants funded in Call 1 2018-19.
InterTradeIreland	Companies supported through Brexit Advisory Service (including the Brexit Start to Plan Voucher)	2 350
	Participants in ACUMEN Programme to stimulate cross-border business for SMEs	100 SMEs
	Participants in ELEVATE Programme for micro-enterprises (manufacturing and tradeable services)	72 micro-enterprises
Fáilte Ireland	Get Brexit Ready Programme	600 tourism enterprises
Skillnet Ireland	SME managers trained in the revised Management Development programme to upskill and develop their leadership skills	776 learners

Note: *This does not reflect the number of micro and small enterprises receiving mentoring as some will have more than one mentor and mentoring assignment.
Source: Figures for 2017 from EI (2018), "Enterprise Ireland: Annual Report & Accounts 2017"; LEO (2017) "Impact Report 2017: Measuring the impact of Local Enterprise Office supports during 2017"; ITI (2017), "InterTradeIreland 2017: Annual Review of Activities and Annual Accounts"; Fáilte Ireland 2017 Annual Report; Skillnet Ireland Annual Report 2017.

The general demand for mentoring services in Ireland appears significant. The review of business mentoring in Ireland (Forfás, 2014) reported that around 21 000 businesses take advantage of business mentoring services annually, with a much stronger demand penetration of mentoring provision to businesses in the pre-start and start-up stages (14 000 mentoring assignments) than to established enterprises, and that about 15% of mentored businesses benefit from more than one mentoring source, suggesting that they seek expertise to fit the different business challenges they face.

The LEOs are the largest public provider of mentoring services (making use of external mentors), reporting almost 8 400 mentoring sessions in 2017 with a budget of EUR 1.6 million (LEO, 2017). However, there may, in fact, be greater latent demand for LEO mentoring services than supply, given that the LEOs limit the number of mentoring sessions per individual client. More useful than data on the number of mentoring sessions would be data on the number of entrepreneurs/micro-enterprises who benefited, since a percentage would be assigned more than one mentor and more than one session. This would provide more adequate data on the number of mentored clients. The new Customer Relationship Management System (CRMS) being developed by the DBEI for the LEOs will capture details of the client journey and thereby allow better reporting. In 2017, Enterprise Ireland assigned 443 business mentors (EI, 2018), of which 402 were to EI client companies, and the remainder to LEO clients and Údarás and IDA clients.

While LEOs may draw on the Enterprise Ireland Mentor Network database for mentors, the supply of 400 may not be sufficient to service all LEOs on a local demand basis. Consequently, each LEO maintains its own local panel which can and is regularly shared across the LEO Network. An option to provide mentoring resources not immediately available in the local area may be to consider greater use of virtual mentor sessions. For example, the US Small Business Administration (SBA)-supported SCORE mentor service, making use of SCORE-certified mentors, provides mentoring access to start-ups and SMEs through in-person face-to-face sessions or through virtual media (e.g. email, video chat, Google Hangouts, Skype, Facetime).[13] The EI Mentor Network does allow a limited number of Skype interactions per assignment. This is determined at the time of the formal assignment being put into place and is normally based on the geographical distance between the mentor and the company. Skype interactions are limited to one or two interactions for a standard 10-visit assignment. While it may be easier to assign a mentor that is geographically closer to the company, a greater emphasis is placed on ensuring the assignment of a mentor with the most relevant industry experience to meet the company's request.

For many of the grant-based consultancy programmes, the supply of spaces and budget allocations may in some cases limit the number of clients who can be serviced, and not sufficient to meet the potential demand. This may be particularly the case with EI programmes. On the other hand, EI does make special efforts to build demand for its programmes. For example, to build a pipeline of new clients (meeting its eligibility criteria), LEOs are committed to annually develop and progress 100 LEO clients into Enterprise Ireland, enabling these businesses to avail of further support programmes and services. To develop a pipeline of clients for its High-Growth Start-Up (HPSU) Programme, EI funds the New Frontier Entrepreneurship Development Programme, a pre-incubation training and advisory programme delivered by Institutes of Technology, to prepare start-ups for admission. New Frontiers supports over 500 participants per year in the establishment of a new business (Stage 1) with the expectation that close to 130 will progress to Stage 2, many of whom may later be able to receive investment funds from the LEOs or EI. The demand for places in the New Frontiers Programme often exceeds the supply. There is also a pipeline of HPSUs from the research system (15 per annum); a pipeline of female entrepreneurs; and a pipeline from the Competitive Start programme and from overseas entrepreneurs.

There appear to be a small number of SMEs in management development programmes, considering that the level of general management skills in Irish businesses is deemed relatively poor, particularly in skills such as human resources, marketing and finance, forward planning and strategic management (NCC, 2018, p. 99). The National

Competitiveness Council (NCC) points to the need to broaden the reach of existing management development programmes with the aim of increasing the take-up by locally-trading SMEs, in particular, reporting that some of the LEOs have established management development networks in response to an identified need among former participants of the Management Development Programme for a regular forum to interact with peers, exchange ideas, share best practice and develop sales leads (NCC, 2018, p 100).

The NCC recommends the development of mechanisms for tailoring and extension of relevant management development programme modules to cohorts of firms currently not engaging in programmes offered by EI and the LEOs, further suggesting that the National Training Fund (NTF) could be sourced for additional funding support for management development training to boost enterprise participation (NCC, 2018, p. 100).

A key remaining question is whether the supply of BAS meets demand. In order to provide top-quality business support to new entrepreneurs and MSMEs, it is necessary to systematically and regularly analyse the demand side of the market for these services. This can be done by examining the level of awareness entrepreneurs and MSMEs have of the existence and availability of support services, their needs with respect to the content, conditions and design of support services, their level of participation in support services (take-up) over the past three years, including the take-up of public versus private sources, as well as on the general attitude of entrepreneurs and MSME owners towards support services (why they have or have not considered participation in or availed of BAS services).

In this context, the DBEI could work with the Central Statistics Office or an independent research organisation to update its knowledge on the demand side of BAS services and the penetration rate among all MSMEs. This would involve carrying out a representative survey of the MSME population, including new start-ups, to determine the take-up of existing BAS services by type, by enterprise size (employees and turnover), stage of development, age, and sector, the reasons why MSMEs have not availed of public BAS services, the desired BAS services of the two cohorts of survey respondents (those who have and who have not used BAS services), and their level of satisfaction with the BAS provision. Guidance in design of the survey questionnaire can be found in the European Commission survey of support services to micro and small businesses (see IfGH, 2002, Annex II). Considering that most of the business surveys conducted by the DBEI focus on EI, IDA and Udaras clients only, a more viable option for collecting data on BAS usage issues of all MSMEs may be to add relevant questions to an existing CSO business survey, which would require collaboration with the CSO. The challenge of selecting the survey population would be a key part of the process and would need input from the EI, IDA, Údarás, the LEOs and the CSO.

The results of such a demand survey could produce factual evidence of gaps in public service provision to segments of the MSME population, particularly small enterprises falling outside of the parameters for BAS support from the LEOs (primarily under 10 employees) and the eligibility for EI support (primary focus on high-potential start-ups in manufacturing and tradeable services and high-ambition enterprises in the same sectors with more than 10 employees). As well, it could point to gaps in meeting the specific BAS needs of entrepreneurs and MSMEs, given the current supply.

Quality of service provision by business advisors, consultants and mentors

In terms of quality and competency of business advisors, external advisors and mentors, the first line of focus is on staff in the LEOs since they are likely the initial point of contact

of many micro and small enterprises to the public business support system. Through Service Level Agreements with the Local Authorities, EI undertakes performance evaluations and develops and delivers core competency business training to LEO staff to drive service consistency and quality for their clients nationally.

Of considerable importance is ensuring that front line staff and internal business advisors are fully aware of all of the available MSME supports so they can do the appropriate signposting. Essential to LEO staff in performing this function is comprehensive knowledge of the information on the Supporting SMEs Online web portal, but even more useful could be the "Mapping of Supports" excel sheet produced by the DBEI, which lists, categorises and provides a brief description of both State and non-State supports for entrepreneurs and SMEs.[14] Updated and amended regularly by the DBEI, this is a useful tool in ensuring LEO staff are knowledgeable about its contents on an ongoing basis. The new CRMS system will also aid in the knowledge sharing with intelligence to assist in the signposting of clients to the supports available.

The EI Business Development Advisors need a more comprehensive set of knowledge and competences since their work is more focused on delivering development and business advisory services according to a tailored and more intensive client engagement model. Their skill needs span a range of diagnosing developmental opportunities over six pillars: finance, innovation, market, operations, strategy and people, with a view to agreeing on developmental plans with companies some of which include specific EI programme offers and some of which do not. Thus, EI seeks employees matching competencies in these areas.

The second priority is ensuring the quality and competency of the network of private sector consultants contracted by public agencies, including EI and the LEOs, to deliver consultancy services to MSMEs as part of the various business support and specialised programmes. Consultants listed in the EI database (Enterprise Ireland Directory of Lean, Green and Specialist Service Providers) are selected on the basis of their curriculum vitae (i.e. qualifications and experience), a proven track record in providing business development consultancy services, and demonstrated expert knowledge in their field of competence. The performance of service providers is tracked and monitored, providing a degree of quality assurance.

To further ensure the quality level of external service provision, it is common for the government in many countries to provide capacity building to the external consultants. For example, the Mexican Ministry of Economy has trained and certified hundreds of consultants in its comprehensive care methodology and approach. In Ireland, this capacity building is most evident when dealing with the expert consultants delivering the Lean and Green Programmes. In this case, EI and the LEOs provide the consultants with national guides on the methodologies for delivering the programmes (e.g. Lean SWIFT guide, Driving Competitiveness using Lean) which ensures a standard level of consistency and quality in service provision. In addition, the EI hosts two meetings a year with the directory members to discuss the programmes and identify areas for development within the Service Provider cohort. Similar competency approaches should be applied in other consultancy areas where EI requires consistency in the approach according to an EI-standard.

The third priority is assuring the quality and consistency of services provided by external business mentors participating in publicly-funded mentoring programmes. Past evaluations of publicly-funded mentoring services in Ireland indicated highly favourable results, assessed as making a value contribution to clients and their businesses, but also revealed certain weaknesses: lack of a universal approach to mentor training; limitations in terms of mentor capability; inconsistent approach to note-taking and reporting on session outcomes;

lack of consistency in feedback on the mentor's performance; lack of signposting clients to other business supports (possibly due to lack of awareness and knowledge); and lack of data for impact evaluation of mentoring support (Forfás, 2014).

The 2014 Forfás evaluation report recommended improvements be made to the service quality, consistency, and professionalism of service provision; increasing the scope of mentoring for established micro and small enterprises (versus start-ups); and establishing appropriate metrics and capability in measuring the impact of business mentoring. Some of these recommendations have since been addressed, such as development of a Code of Conduct and Best Practice Guide (Terms and Conditions) for business mentors that sets out the minimum standards for relationship management, intervention approaches, reporting on mentor sessions, and providing feedback on service performance. When new mentors join the Enterprise Ireland Mentor Network Panel, EI provides them with the guide on best practice mentoring approaches. Mentors can attend the bi-annual EI-organised Mentor Networking events and share experiences and knowledge with other mentors on the Mentor Panel, as well as participate in regularly-run mentoring Best Practice Masterclass training events.

The standard of quality of mentoring services provided through EI and the LEOs is currently monitored by requiring mentors to submit reports on the mentoring sessions. The mentored clients are also asked for their feedback on the mentor, the value of the mentoring and level of satisfaction with the mentor service. While EI provides some training of mentors in its Mentor Network Panel, and the LEO Centre of Excellence undertakes evaluations of the LEO-supported mentoring relationships, not all public entities, incubators, and other programmes draw on the Enterprise Ireland Mentor Network Panel for their mentors. Thus, there may be inconsistencies in the delivery of mentoring services, which could be addressed by developing a consistent approach to the training and professional development of business mentors based on international best practice, including opportunities for enhanced professional learning that would contribute to a higher degree of professionalisation of mentoring practice.

Considering the widespread use of mentoring, the diversity of mentoring approaches, and the need for capacity building of the mentors, the quality of mentoring services could be enhanced by implementing more elaborate orientation and training of mentors on the mentor role and approaches, with an eventual path towards mentor certification. This would be consistent with the approaches taken in many countries where mentors receive initial training to ensure they understand the role of the mentor and the relationship with the mentee (including practice sessions) so they are able to play their role more effectively, plus professional development opportunities for enhanced learning and the potential for becoming a certified or accredited mentor.

The example of the Business Mentors New Zealand Service may provide an inspirational model for Ireland (Box 8.4), even though the delivery of mentor services differs from the approach employed by Ireland's public institutions.

Another example is from the US SBA-SCORE programme, in which new volunteer mentors must complete the Mentoring Methodology Training programme during a 3-month probationary period. During this period, the mentor completes 2-3 online training modules based on five key components to be applied in mentoring sessions, reads and agrees to the standard operating manual and code of ethics, shadows an experienced mentor, and takes part in team mentoring.[15]

Box 8.4. Business Mentors New Zealand Service - Competency development of mentors

Description of the approach

New Zealand Trade and Enterprise (NZTE) builds the management capacity of SMEs by providing access to effective information, assessment, advice, training, and mentoring. Established by the NZTE, the Regional Business Partner Network (RBPN), which includes local chambers of commerce and councils, development agencies, and innovation parks, delivers the NZTE business support programmes. Working with Business Mentors New Zealand (BMNZ), a not-for-profit organisation of volunteer mentors, the RBPNs employ Mentor Managers as the local network contacts for SMEs in their area and bridge to the BMNZ mentoring services.

BMNZ works collaboratively with the RBPNs to provide mentoring services to start-ups and SMEs. The services are delivered at no cost to start-ups and existing SMEs with funding from the Ministry of Business, Innovation and Employment (MBIE) through NZTE, sponsorship from SME-supportive private sector companies and other organisations, and a one-off client registration fee (AUD 225 to AUD 300). This registration fee entitles the clients to free mentoring services for up to12 months.

Mentoring is provided by over 2 000 volunteer BMNZ mentors. The Start-up Business Mentoring Programme provides 6 months of accelerated mentoring to entrepreneurs with a new business idea or needing help starting a new business, while the Business Mentoring Programme provides 12 months of mentoring advice to owners of currently trading SMEs who want to grow or need help with a specific problem they are trying to solve.

During the initial 1-2 sessions, the mentor will work with the client on a business assessment and define the mentoring requirements and objectives. Using the assessment and the goals or objectives the client wants to attain, subsequent sessions focus on the action steps to be supported, with the mentor acting as a sounding board for the client in the implementation of the plan. In 2017/2018, 1 758 start-ups and small businesses were matched with business mentors (NZTE, 2018).

Factors of success

The most important key to success is having a network of experienced and successful business people who are passionate about sharing their experience and knowledge with SME owners to help them succeed and grow the economy. However, the government recognises that mentoring is a specialised skill, even among experienced businesspeople and entrepreneurs, which often requires further development of mentor skills, e.g. effective relationship management and skill/knowledge transfer, communication and learning styles, and the delegation and techniques employed by mentors to support the mentoring relationship and client motivation and commitment.

Thus, all of the BMNZ mentors contractually agree to attend the Mentor Accreditation Programme Seminar, a one-day orientation and introduction to the mentoring role that is facilitated by mentoring experts who are also active mentors in their own business communities. The purpose of the seminar is to encourage professional standards in the field of business mentoring. It covers the principles and practical application of the mentoring role and involves each mentor in completing a client case study that is submitted for assessment. Upon completion of the seminar, the mentor becomes certified as an "Accredited Mentor of Business Mentors New Zealand". The training seminar also enables

Mentor Managers to gain a better understanding of the mentors' personalities and skills that improves the matching of clients with mentors.

Another success factor is communicating clearly to new entrepreneurs and currently-trading SMEs what mentoring is, how they will be mentored, what is expected of them, and the benefit they will experience. This is achieved by making information public on the BMNZ and RBPN websites: FAQ sheets, testimonials from mentored clients, and case studies. The RBPN Mentor Managers also promote the mentoring service as a business support service of NZTE.

Obstacles and responses

Initially BMNZ did not accept start-ups as clients into the mentoring programme, a decision considered a "blind spot" in the organisation. In 2015, it changed its policies after the realisation that start-ups who often failed within the first 12 to 18 months did so because they lacked guidance from an expert.

One of the big challenges for BMNZ was measuring the quality, consistency and impact of business mentoring. Three times a year, the BMNZ now carries out an independent survey of mentored clients 120 days from the mentor match in order to measure satisfaction rates on a number of key factors and evaluate the mentor service. The survey consists of eight statements designed to evaluate the mentor service (scale of 1-5) and makes use of the Net Promotion Score to obtain rated (scale of 1-10) feedback from the mentored clients on the likelihood of recommending the service to others (customer engagement, advocacy levels, etc.), along with the reasons for the rating. Another benchmark for evaluating the impact of the service is an increase in the number of clients reporting a positive impact on their business due to the implemented changes agreed to with the mentor.

Relevance for Ireland

There appears to be an adequate supply of people who want to become a mentor to Enterprise Island and LEO clients. In most of the mentoring matches, the mentors receive payment, unlike the New Zealand case where the mentors are volunteers. The BMNZ commits to ensuring that mentors are seasoned business professionals and adequately trained in the mentoring role before being matched with a client, which includes a case study practicum and accreditation as a mentor. Because many mentors in Ireland are paid for their services, which may be one of their motivations for applying to be mentor, it is even more critical for Enterprise Ireland and the LEOs to provide adequate training to them before assigning them to a project and to ensure the ongoing quality and impact of their services.

Ireland also has challenges in measuring the impact of mentoring services. The BMNZ example may provide guidance on an approach to this challenge in Ireland.

For more information

BMNZ (Business Mentors New Zealand) (2018), "Business Mentors Annual Report 2018", Business Mentors New Zealand, Auckland, New Zealand.
National Office, Business Mentors New Zealand, Auckland, *https://www.businessmentors.org.nz/:* http://www.businessmentors.org.nz/About-Us/About-Business-Mentors.aspx/.

Ireland has a base of expertise for training of business mentors that could perhaps be more fully utilised in the training and professional development of business mentors by Enterprise Ireland, the LEOs, Skillnet Ireland, InterTradeIreland, and other entities employing mentoring services to start-ups and SMEs. For example, Engineers Ireland has a fully developed mentoring professional development programme entailing a one-day training that provides mentors with the latest knowledge in best practice mentoring techniques and also supplies reading resources on the essentials of mentoring training and the key factors in successful mentoring. DCM Learning also offers one-day mentoring training workshops throughout Ireland to introduce the essential skills and techniques required to be a successful mentor.

In addition, the Association of Business Mentors (ABM), the trade body for business mentors in the United Kingdom and Ireland, offers a full range of mentor training and good practice information.[16] This includes a Mentoring Accreditation Programme that aims to professionalise the mentoring role and enable the supply of well-trained and experienced business mentors. The accreditation programme makes use of web tools for delivery of an action learning methodology that requires 12-16 hours of study time over a 3-month period, plus journaling and opportunities for practice mentoring. Accreditation is confirmed following the assessment of a recorded mentoring session and completed statements of reflection by the mentor on the mentoring experience. The ABM also publishes detailed guidance on the process to be qualified as an ABM Professional Coach Mentor.

These are examples of the types of mentor development programmes that could be made more available to business mentors in Ireland and enhance the level of professionalism and consistency in the provision of mentoring services.

Conclusions and policy recommendations

Many small and medium enterprises may be falling between the cracks of eligibility for either LEO or EI services. While the LEOs are the dedicated first stop shop for those starting a business or already in business and accessible to all MSMEs for information and signposting, only micro and some small enterprises are eligible for certain support programmes and particularly subjected to eligibility restrictions for financial assistance/grant aid. One way of addressing this gap is to expand the information offering on the Supporting SMEs Online tool by adding more how-to information dealing with developing a business idea, starting a business, growing a business, financing a business, etc., with links to support providers who can help. Potentially, more interactivity, such as diagnostic tools, an online Q and A capability and virtual mentoring, complemented with an inquiry call centre, could be added. Another notable example worthy of being extended to help scale access to expertise efficiently is the frequent filming of EI workshops which are made available to non-attendees as an online product.

On the other hand, some of the LEO programmes, such as the Trading Online Voucher, could be extended to small enterprises, as these are critical in helping small enterprises improve their productivity and grow their markets.

Irish agencies make considerable use of external consultants and mentors to provide BAS services to client companies (e.g. training, pre-incubation, technical assistance). This is a good practice that does not crowd-out private sector advice/consultancy and introduces MSMEs to the use of external advisory/consultancy services.

Although EI and the LEO Centre of Excellence undertake evaluations of the mentoring relationships, in many OECD countries, mentors receive an enhanced level of orientation

and training before being assigned to a mentoring relationship to ensure they are prepared to effectively play their role. The quality of Ireland's mentoring services could potentially be improved by developing a more systematic mentor orientation and training package for all contracted mentors delivering mentoring services for public agencies, ideally leading to accreditation as a business mentor. As well, MSMEs receiving mentoring should be well briefed on how the mentoring relationship will work and what to expect. In these regards, a review of the mentoring guidelines could be undertaken.

It also appears that the demand for some services from micro and small enterprises is greater than the supply. Ireland has not performed an assessment of the supply and demand for BAS services for quite some time. In order to assess the current demand for BAS services, conducting an annual or bi-annual survey of SMEs could be considered, in concert with the Central Statistics Office. This would assist the DBEI in taking stock of the demand for and usage of its BAS offerings and identifying any service gaps, by sector, size of enterprise, stage of development, region, and priority issues.

The Irish Government is effective in undertaking impact evaluations of many of the BAS support programmes and taking the results under consideration for programme adjustments and refinements. Management of the business incubator network, however, could be strengthened by developing a national incubator policy and seeking to set national standards for their operation and performance outcome. Developing a performance management framework and consistent methodology for collecting and reporting on key performance indicators (of publicly-funded incubators and accelerators) would enhance Ireland's ability to measure the impact of incubation programmes and their contribution to economic growth factors.

Based on this analysis, the following recommendation are made to strengthen the provision of BAS services.

Key recommendations on business advisory and support services

- Expand the information content on the Supporting SMEs Online portal to improve its capacity to serve as a first-stop information source for all SMEs.
- Expand the use of online business diagnostic tools for SMEs and entrepreneurs to help them identify their challenges and provide basic guidance. Explore how to use the diagnostic results to help match the offer of business advice with the needs of individual enterprises.
- Encourage the LEOs to collect and report information on the take-up of group information sessions, business advisory clinics and mentoring services disaggregated by type of client and enterprise and type of advice requested.
- Make enhanced use of virtual tools to improve SME access to specialised mentors who may not reside in the local area of the LEO.
- Increase the level of awareness and take-up by SMEs in the Skillnet Ireland training initiatives, particularly in relation to management development training in micro and small enterprises.
- Consider the use of a voucher scheme to incentivise more micro and small enterprises to participate in management development training programmes.

- Develop mechanisms for the tailoring and extension of relevant management development programme modules to cohorts of SMEs not currently engaging in such programmes offered by the LEOs and EI.
- Scale up the Trading Online Voucher system by increasing the amount of the voucher or allowing micro-enterprises to apply for a second follow-on voucher.
- Hold regular information and awareness sessions with staff and business advisors of the LEOs to ensure they are updated on the programmes and support services and act as an effective signpost. This could make use of regularly amended versions of the "Mapping of Supports" that has been produced by the DBEI.
- Increase opportunities for business mentors to acquire professional qualifications and accreditation.
- Develop a national incubator and accelerator policy to encourage the systematic sharing of key performance indicator data on Ireland's publicly-funded business incubator and accelerators and to offer opportunities for sharing good practice across different incubator and accelerator providers.
- Include information and advice on good corporate social responsibility practices in business development services offers, focused on how Irish SMEs can remain competitive and sustainable in response to global megatrends.

Notes

[1] See: https://www.enterprise-ireland.com/en/Researchers/Spin-Outs/Incubation-Centers-Maps-and-Contacts.html/

[2] See: https://www.ic.gc.ca/eic/site/061.nsf/eng/03065.html/.

[3] Such as the "Information Store for Start-ups" on the EI website (see: www.enterprise-ireland.com/en/Start-a-Business-in-Ireland/Information-Store-for-Start-ups/), the Dublin City LEO "Knowledge Centre (www.localenterprise.ie/DublinCity/Start-or-Grow-your-Business/Knowledge-Centre/).

[4] See: https://fi.co/insight/ireland-startup-resource-list-250-accelerators-incubators-advisors-and-more/.

[5] In 2017, the LEOs trained 3 755 participants in the Start Your Own Business (SYOB) training programme (through 280 training sessions) among the 30 373 people trained in other business areas across 1 891 different programmes (LEO, 2017).

[6] Some of the training, for example, is provided by the Irish Management Institute (e.g. Innovation4Growth), Institutes of Technology (e.g. New Frontiers Entrepreneurship Development Programme), and Business Innovation Centres (Enterprise Start and High-Potential Start-ups SPRINT training).

[7] In order to access the mentor programme, clients must complete the Brexit SME Scorecard to assess their key needs and the most critical mentoring objectives.

[8] The EI Brexit supports include Brexit clinics where any companies (not just EI clients) can meet with specialist advisors on currency exposure, supply chains, and other issues affecting export development.

[9] From May to the end of 2017, 2 350 SMEs had availed of the Brexit Advisory Service (ITI, 2017, p. 24).

[10] Mentor.ie is an alliance of mature, experienced, and capable professional business leaders with passion and willingness for sharing their expertise and knowledge with SME leaders in Ireland.

[11] https://dbei.gov.ie/en/What-We-Do/Business-Sectoral-Initiatives/Entrepreneurship-/Mapping-of-supports/.

[12] https://www.enterprise-ireland.com/en/Management/Develop-export-selling-capability/Mentor-Grant.shortcut.html/.

[13] https://www.score.org/find-mentor/.

[14] The list is categorised by: online resources, state support schemes by agency, mentorship service providers and programmes, networking initiatives, hubs and co-working spaces, Enterprise Centres by location, accelerators, food incubators, support initiatives by academic institutions, female entrepreneurship programmes and supports, training courses, etc. (see: https://dbei.gov.ie/en/What-We-Do/Business-Sectoral-Initiatives/Entrepreneurship-/Mapping-of-supports/).

[15] https://www.score.org/frequently-asked-questions-about-score/.

[16] https://www.associationofbusinessmentors.org/.

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