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COMMISSION STAFF WORKING DOCUMENT

Country Report Ireland 2020

Accompanying the document

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN CENTRAL BANK AND THE EUROGROUP

2020 European Semester: Assessment of progress on structural reforms, prevention and correction of macroeconomic imbalances, and results of in-depth reviews under Regulation (EU) No 1176/2011

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EXECUTIVE SUMMARY

Ireland has enjoyed robust economic growth over the past years, also helped by significant progress in reforms, but a number of challenges remain ([1]). Since 2014, Ireland has made remarkable progress in strengthening its financial sector and improving employability. Completing reforms in other areas will help underpin Ireland's robust economic growth. Closing employment-related skill gaps and encouraging key social, environmental and productive investment could provide the foundations for sustainable and inclusive growth. Reducing public and private debt would increase the economy´s resilience to external shocks. Broadening the tax base and reducing the reliance on volatile corporate taxes would buttress the long-term sustainability of public finances.

Ireland is experiencing strong economic growth. In 2018, real GDP grew by 8.2%, a very high rate for an advanced economy but to a significant extent boosted by the activities of multinational companies operating in Ireland. Meanwhile, domestic activity also remained robust, driven by private consumption and investment in construction.

Real GDP growth is slowing, affected by uncertainties linked to the UK's withdrawal from the EU, and a worsening of the global trade environment. GDP is nevertheless estimated to have grown strongly in 2019 (5.6%) and is expected to grow above 3% this year and the next. Ireland's outlook depends heavily on the future relationship between the EU and UK, while risks stemming from potential changes to the international taxation environment have not abated. Consumer price inflation remains modest.

Public finances have been improving but risks to their sustainability remain. The government balance has turned to a surplus and is expected to further improve. Risks to government finances are tilted to the downside, mainly reflecting uncertainty as regards the economic outlook, the sustainability of the current level of corporate tax receipts, the ongoing review of the international corporate tax system, and over-spending within some sectors, particularly health.

Given the major economic challenges ahead, (especially digitisation and climate transition), it is crucial for workers to acquire the right skills. Job creation has continued to progress strongly in most sectors. The employment rate reached its pre-crisis peak and the unemployment rate fell below 5% in 2019, its lowest level in a decade. Against this background, shortages of skilled-labour have become more pressing, especially in fast growing sectors.

Providing workers with the skills required, including digital and those for a smooth and just transition to a climate neutral economy, would require investing more in education and training. Ireland has also scope to address labour shortages by further facilitating the access of women and vulnerable groups to the labour market, which although improving, remain relatively low.

There remain significant investment needs in various areas. The transition to a climate-neutral and clean economy would require substantial private and public investment in skills, clean energy, water and in decarbonising sectors with high emissions. More investment in R&D, digital infrastructure and skills would address the lagging productivity of domestic firms and would increase the resilience of the economy to external shocks. Substantial investment is also required to address rising homelessness and improving access to employment for women and disadvantage groups.

Overall, Ireland has made some progress ([2]) in addressing the 2019 country-specific recommendations.

There has been **substantial progress** in the following areas:

- Increasing access to affordable and quality childcare.

([1]) This report assesses Ireland's economy in light of the European Commission's Annual Sustainable Growth Strategy published on 17 December 2019. In this document, Commission sets out a new strategy on how to address not only the short-term economic challenges but also the economy's longer-term challenges. This new economic agenda of competitive sustainability rests on four dimensions: environmental sustainability, productivity gains, fairness and macroeconomic stability.

([2]) Information on the level of progress and actions taken to address the policy advice in each respective subpart of a country-specific recommendation is presented in the overview table in Annex A.

There has been **some progress** in the following areas:

- Providing personalised active integration support and facilitating upskilling, in particular for vulnerable groups and people living in households with low work intensity.

- Focusing investment policy on the low carbon and energy transition and the reduction of greenhouse gas emissions. Investing in water management, sustainable transport, digital infrastructure, affordable and social housing.

- Implementing measures, including those in the Future Jobs strategy, to diversify the economy and improve the productivity of Irish firms — small and medium firms in particular — by using more direct funding instruments to stimulate research and innovation.

- Improving the business environment by reducing regulatory barriers to entrepreneurship.

There has been **limited progress** in the following areas:

- Limiting tax expenditure and broadening the tax base.

- Addressing features of the tax system that may facilitate aggressive tax planning, where the effectiveness of the measures taken remains to be seen.

- Addressing the expected increase in age-related expenditure, where the full implementation of some measures remains endangered by issues such as recurrent overspending in healthcare.

The indicators of the Social Scoreboard supporting the European Pillar of Social Rights point to a relatively good performance, but challenges remain. While employment continues to grow strongly, some population groups have yet to reap the benefits of the economic upturn. Households' real disposable income per head continues to grow, but remains slightly below pre-crisis levels. A still relative low percentage of the population has basic digital skills, which might hinder their active participation in a society increasingly reliant on digital tools. While the Irish tax and benefit system continues to be effective in reducing inequalities, a high share of jobless households, especially with children, still face challenges. Although increasing, the employment rate for people with disabilities remains below the EU average. The rising number of homeless people as a result of rent increases and insufficient social and affordable housing is still a concern.

Regarding progress towards its national targets under the Europe 2020 strategy, Ireland has met or is very close to its targets for employment, early school leaving, and the reduction of poverty and social exclusion. However, there is scope for improvement in the areas of R&D investment, reducing greenhouse emissions, increasing the share of renewables, energy efficiency and poverty reduction.

Ireland made significant progress in addressing the United Nation's sustainable development goals (SDG) ([3]) related to 'no poverty' and 'decent work and economic growth' but faces challenges in climate action (SDG13). In the five years to 2018, Ireland surpassed the EU average level in almost all dimensions related to SDG1 ('No poverty') and SDG8 ('Decent work and economic growth').

The main findings of the in-depth review contained in this report and the related policy challenges are as follows:

- **Government debt remains high, which limits the room for responding to economic shocks.** The public debt-to-GDP ratio fell to 63.5% in 2018 on the back of strong GDP growth. But other indicators suggest that the public debt burden remains high by historical and international standards.

- **Private sector debt remains high in relation to GDP, but has declined in both household and corporate sectors.** Private debt was 223%

([3]) Within the scope of its legal basis, the European Semester can help drive national economic and employment policies towards the achievement of the United Nations Sustainable Development Goals (SDGs) by monitoring progress and ensuring closer coordination of national efforts. The present report contains reinforced analysis and monitoring on the SDGs. A new annex (ANNEX E) presents a statistical assessment of trends in relation to SDGs in Ireland during the past five years, based on Eurostat's EU SDG indicator set of GDP in 2018, largely due to debt held by non-financial corporations (182% of GDP), which includes intra-company liabilities of multinationals (who have a strong presence in Ireland). Household debt appears high when compared to disposable income. Moreover, long-term mortgage arrears remain a persistent challenge for some households, despite a number of existing schemes to help resolve them.

- **Banks' asset quality has improved in recent quarters following further sales and securitisations of bad loans (non-performing loan) portfolios.** The ratio of bad loans as a share of all banks' loans declined to 4.2% in the second quarter of 2019, down from 8.5% a year earlier, reflecting sales by all major retail banks. The majority (72%) of remaining bad loans relate to mortgages.

- **Ireland's net international investment position remains highly negative (its external liabilities are higher than its external assets).** This has changed little in recent years, though the domestic component has shrunk and is set to shrink further on the back of current account surpluses.

- **This negative position is largely due to the liabilities of multinational corporations registered in Ireland and the International Financial Services Centre.** But the associated risks are smaller than taken at face value because links with the domestic economy are restricted.

- **The risks are also lessened by the long maturity and low interest rates on loans disbursed by official creditors during the economic adjustment programme following the 2008 financial crisis**, which comprise the substantial share of the general government's external liabilities. Nevertheless, the full extent of the risk is difficult to gauge.

- **House price growth has slowed but affordability remains a concern.** The fall in house prices at the top end of the market has brought annual residential price inflation down to levels not seen since 2013. Prices in the rental sector are still growing fast, due to insufficient, though increasing, housing supply.

- **Macro-prudential mortgage measures (designed to mitigate risks to the financial system as a whole) are helping to strengthen the resilience of both households and banks.** Combined with measures supporting housing supply, they might also improve affordability for buyers and tenants, which remains a challenge.

Other key structural issues analysed in this report, which point to particular challenges for Ireland's economy, are the following:

- **Uncertainty over the sustainability of the current high level of corporate tax revenue is a risk to public finances.** Receipts from corporation tax remain concentrated among a small number of companies. Furthermore, its share of total tax revenue has been increasing. Continued reliance on this potentially transient revenue for funding permanent current expenditure remains a concern.

- **Evidence suggests that Ireland's tax rules are used for aggressive tax planning purposes.** Specifically, rules such as the limited application of withholding taxes are cause for concern. In addition to implementing European and internationally agreed initiatives, Ireland has taken some unilateral measures, including the extension of transfer pricing rules to non-trading transactions and to small and medium-sized firms.

- **Ireland has taken a number of steps to strengthen its anti-money laundering framework.** But challenges remain given the Irish economy's exposure to foreign direct investment and the presence of complex legal structures. A register of beneficial ownership was set up in 2019, which records who is benefiting from owning assets held in other parties' names. If secrecy is to be genuinely limited, it is vital that this register functions as intended. Professionals providing services to companies and trusts show an incomplete understanding of their risk exposure to money laundering. This could be remedied by reviewing the national risk assessment of the organisations and arrangements in this field, and by a more effective, risk-based supervision. Such supervision would require statistics to be collected on professionals in this sector.

- **Challenges remain to the long-term fiscal sustainability of the healthcare, long-term care and the pension systems.** Expenditure on healthcare and long-term care is relatively high by EU standards. Difficulties in budget management managing healthcare have led to recurrent overspending, endangering the implementation of the ambitious Sláintecare reform. The reform of the state pension system currently being implemented aims to improve its long-term sustainability.

- **Increasing the productivity of domestic firms may help make the economy less vulnerable to sector-specific shocks.** The high productivity of the Irish economy is based on the performance of a small number of multinational firms, concentrated in few sectors, which invest large amounts in research and development. As a result, Ireland's export share in global trade keeps increasing. In contrast, investments by domestic firms is much lower. This holds back their productivity growth and widens the dichotomy between them and foreign-owned firms. Domestic sourcing by foreign companies, which could lead to knowledge and skills spillover, remains limited. The high cost of credit, commercial properties and legal and insurance services also impair the competitiveness of domestic firms.

  The Climate Action Plan represents a much-needed breakthrough and a stepping stone in the transition to a climate neutral and circular economy. Ireland has lagged behind so far in tackling climate change. Greenhouse emissions in the transport, building and agriculture sectors are high and on a rising trend. There is scope for improving energy efficiency, renewables provision and material recycling. The Climate Action Plan 2019 constitutes an important step to address these challenges, though its success will depend on the implementation of public measures that could trigger additional private investments. Recent reforms encouraging the repair of water leaks and rational water usage, combined with investment in water and wastewater facilities, could contribute to a more efficient and sustainable use of water resources.

- **The EU Just Transition Mechanism will contribute to a fair transition towards climate neutrality.** The Commission's proposal under the next multi-annual financial framework for the period 2021-2027 for a 'Just Transition Mechanism' includes a 'Just Transition Fund', a dedicated scheme under InvestEU, and a new public sector loan facility with the EIB. It is designed to ensure that the transition towards EU climate neutrality is fair by helping the most affected regions in Ireland address the accompanying social and economic consequences. Key priorities for support by the Just Transition Fund, set up as part of the Just Transition Mechanism, are identified in Annex D, building on the analysis of the transition challenges outlined in this report.

- **Regional disparities are among the highest in the EU and increasing.** Economic growth follows a distinct geographic pattern with particularly dynamic developments around Cork and Dublin, the location of highly competitive multinational companies. In terms of gross value added per capita, the difference between the richest and the poorest region in Ireland has doubled between 2000 and 2016. While Dublin had a per capita regional gross value added of 248% of the EU average in 2016, the poorest region bordering Northern Ireland stood only at 66%. Productivity growth, attractive and sustainable business environments and disposable income follow a similar pattern of geographic distribution.

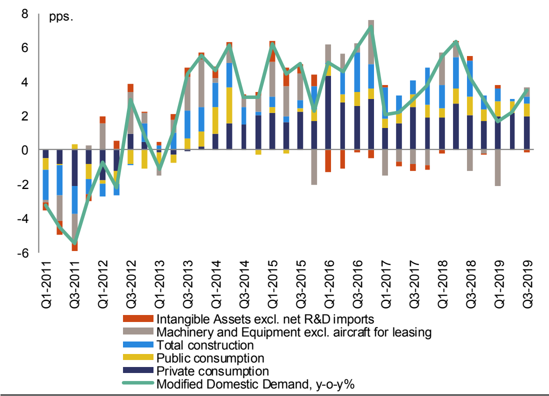
1. ECONOMIC SITUATION AND OUTLOOK

GDP growth

Economic activity remains strong, although it is slowing. GDP grew by 6.6% year-on-year (y-o-y) in the first half of 2019, well above the eurozone average. Real GDP is expected to have grown by 5.7%[4] in 2019 and to expand further by 3.6% in 2020 and 3.2% in 2021 (European Commission, 2019). These headline figures remain inflated by the activities of multinational companies operating in Ireland.

Domestic economic activity has been driven by private consumption and investment in construction. Modified domestic demand, a measure of domestic activity that strips out some of the effects of multinationals, grew by 2.3% y-o-y in the first half of 2019 (Graph 1.1), after growing by 4.7% in 2018. It is expected to expand above 3% on average between 2019 and 2021. Private consumption, sustained by increasing disposable income amid strongly rising employment, and investment in housing have been the main drivers of domestic demand. Household savings, meanwhile, remain high, likely reflecting caution on the part of consumers.

Graph 1.1: **Modified domestic demand and contributions**

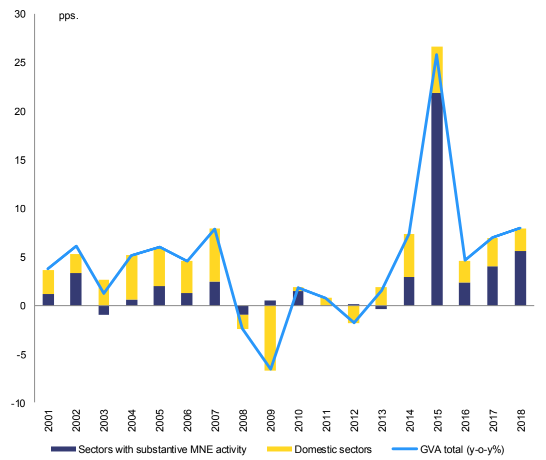


Source: CSO

The value added in the domestic sector provides further evidence of robust underlying activity. Gross value added (GVA) in the sectors not dominated by multinationals grew by 3.9% in 2018, after 4.8% in 2017, contributing substantially to the total GVA (Graph 1.2). Amongst these sectors, legal, accounting, and engineering activities grew the most (17.7%) in 2018, followed by the construction sector (11.0%).

The economic outlook remains clouded by heightened uncertainty. External risks mainly relate to the UK's withdrawal from the EU, changes in the international taxation environment and the slowdown in global trade. The UK is one of the main trading partners for Ireland and acts as a land bridge to the continent. Thus, depending on the final negotiations, Ireland is likely to experience disruption of its supply chains and a hit on final demand after the UK's exit. This negative impact might be amplified by a fall in Irish consumer and business confidence, job losses and sterling depreciation. In addition, a large degree of unpredictability, linked to the activities of multinationals, could drive headline growth in any direction. At the same time, the tight labour market and diminishing spare capacity point to an economy operating at or above its potential. Against this background, signs of overheating could become more apparent if adverse external shocks do not materialise.

Graph 1.2: **Gross value added and contributions**



Source: CSO

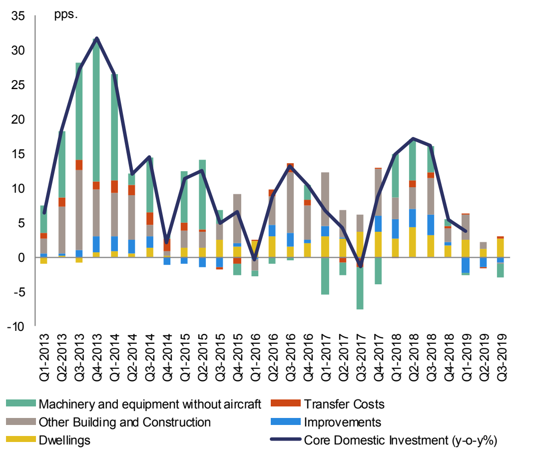
Investment

Investment in Ireland continues to be driven by volatile investment by foreign multinational corporations. In the first half of 2019, headline investment increased by 112% y-o-y, because of a surge in intellectual property investment in the second quarter of 2019. This surge was matched by a rise in intellectual property imports. These

(4) The figures in square brackets will be updated at a later stage, following the publication of the winter forecast.

two impacts are largely offsetting and therefore have a broadly neutral impact on GDP. Modified investment, which excludes the volatile components related to the activities of multinationals (such as aircraft and intangible assets) and better reflects domestic investment, decreased by -4.1% y-o-y in the first half of 2019 (Graph 1.3). Investment in construction increased by 3.6% y-o-y in the first half of 2019 and is expected to remain strong as housing supply is still catching up with demand and is supported by various government measures. By contrast, investment in machinery and equipment has been weak in recent quarters, likely reflecting heightened external uncertainty.

Graph 1.3: Core domestic investment and contributions



(1) Statistics on machinery and equipment without aircraft for Q2-2019 have been omitted by the CSO due to confidentiality
Source: CSO

Public investment continues to increase. Capital spending has been on an upward path since 2014 after significant cuts in the aftermath of the crisis. Ireland's 2020 Budget estimates an annual increase in public capital investment above 10% y-o-y in 2020, at 4.4% of modified GNI (GNI*)([5]). Capital expenditure is expected to increase at an average annual rate of 5.8% until 2024, and a ratio of 4.3% of GNI* to be maintained in the medium term. Investment so far has centred on key areas such as infrastructure, particularly in housing, transport, education and health.

Regional disparities

Regional disparities in Ireland remain significant and are increasing. The difference between the richest and the poorest NUTS3 ([6]) area in Ireland in terms of GVA per capita has doubled between 2000 and 2016. Productivity (GVA per worker) in the Southern region corresponds to 240% of the EU average, while the Northern and Western region stands at 98% of the EU average. The share of employment in high-technology sectors is twice as high in the Eastern and Midland, as in the Northern and Western region (see sections 4.4.1., 4.4.4. and 4.4.6.).

Differences in regional competitiveness are also sizeable. With the location of globally competitive multinational companies around Dublin and Cork, these areas offer increasingly favourable business and innovation environments while areas in the Northern and Western region - predominantly rural and remote - increasingly lag behind. Eastern and Midland region, hosting Dublin, performs well in the Regional Competitiveness Index (89th place in the EU), providing particularly favourable conditions in terms of technological readiness, higher education and lifelong learning and health. The Northern and Western region ranks only 177th, due to below-average results for infrastructure, market size and efficiency.

Inflation

Wage pressures have not yet passed through to inflation. Consumer price inflation remains subdued, with the harmonised index of consumer prices rising by 0.9% on average in 2019. Core inflation remains contained by low price pressure from non-energy industrial goods, which reflects both low import prices due to the appreciation of

([5]) Modified Gross National Income (GNI*) reflects more accurately the income standards of Irish residents than GDP. It differs from actual GNI in that it excludes, inter alia, the depreciation of foreign-owned, but Irish-resident, capital assets (notably intellectual property and assets associated with aircraft for leasing) and the undistributed profits of firms that have re-domiciled to Ireland. For more details on the computation of GNI*, see CSO, National Income and Expenditure 2018 https://www.cso.ie/en/releasesandpublications/ep/p-nie/nie2018/mgni/

([6]) NUTS (Nomenclature of Territorial Units for Statistics) is a geocode standard for referencing the subdivisions of countries for statistical purposes. There are three NUTS2 regions (Northern and Western, Southern and Eastern and Midland) and eight NUTS3 areas in Ireland (Border, West, Mid-West, South-East, South-West, Dublin, Mid-East and Midlands).

the euro real exchange rate towards sterling and a downward bias related to quality adjustments methods (Keating et al., 2018). Services prices continue to be bolstered by rents and catering services and are expected to remain the main driver of inflation, in line with robust domestic demand.

House price developments

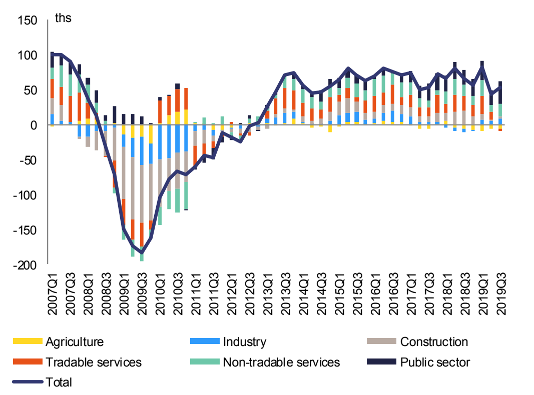
While residential price inflation has slowed down to levels not seen since 2013, prices at the bottom-end of the market are still increasing briskly. Annual residential price inflation was 1.4% in November 2019, down from a 13.3% peak in April 2018. The decline was driven by the top-end of the market (see Box 3.2) Despite its rapid growth in recent years, overall house prices do not seem overvalued (see Section 3.1). However, affordability remains a concern.

Housing rental inflation is still high. Rents for new or renewed tenancies increased by 6.6% in Dublin and 9.2% outside Dublin in the third quarter of 2019. This represents a change in growth of respectively -3 pps and +2.3 pps compared with the same period last year. The evolution of rental inflation seems to reflect changes in the stock of houses available for rent with supply in Dublin increasing by 10% to 1,500 units in the year to August while availability was falling nationwide. (see Box 3.3.1)

Labour market

The labour market continues to improve. The economic expansion has spurred job creation across most sectors (Graph 1.3). In 2018, the overall employment rate (20-64) reached 74.1%, and the unemployment rate continued to decline steadily to 5%, the lowest rate since 2007 (seasonally adjusted).

Graph 1.4: **Change in employment by sector**



Source: Eurostat

There is scope for increasing the labour supply through greater labour force participation and workforce attachment, in particular for women. Ireland's activity rate (15-64) hovers around 72% since 2013, below the EU average (73.7% in 2018). The female activity rate was 67.1% in 2018, 11.7 pps below that of men, and the gender employment gap (20-64) stood at 12.2 pps. This indicates that women are still at a disadvantage to men in the jobs market. Evidence from the International Labour Organisation (2017) suggests that closing the gender activity rate gap by 25% would boost GDP per capita by 2% (a total GDP increase of some € 6.5 billion in current prices in 2018). In 2019, the government launched measures to tackle the specific challenges in the childcare system and foster greater female labour participation - these require close monitoring. Similarly, gains from the economic upturn have not trickled down to all population groups, such as the low skilled or those with disabilities (see section 4.3.1).

Skilled-labour shortages are becoming more pressing. While the aggregate job vacancy rate remains stable (1% in the second quarter of 2019), it is trending upwards in some fast-growing sectors and those dominated by multinational companies, such as information and communication technologies, construction, and professional, scientific and technical activities (see section 4.3.1). With a large majority of jobs requiring strong digital skills, the relatively low level of basic digital skills in the workforce is a barrier for greater uptake of innovation.

Wages have become more aligned with labour market conditions, with further acceleration over the past year. Nominal wage growth has been contained since 2014 (1.5% on average from 2014 to 2017), and often lower than what could be expected from labour market conditions, in particular from productivity growth (7.9% on average in the period). However, the rate of increase of nominal compensation per employee accelerated to 2.1% in 2018, and it is set to reach 3.2% in 2019 and 3.5% in 2020, closing the gap with the predicted growth based on economic fundamentals. ([7])

The labour market tightening points to an economy operating at or above its potential. Strong employment growth and decreasing rates for both part-time employment (-9.3% year on year in the first half of 2019) and long-term unemployment, suggest increasing constraints on the labour supply. As the domestic labour market is close or at full employment, high net inward migration helps alleviate these constraints.

Social developments

Housing scarcity remains a pressing issue, including rising homelessness due to shortages of social housing. In November 2019, over 10,000 people were counted as homeless, including 3,752 children.

The share of people at risk of poverty or social exclusion is decreasing, but challenges remain for some groups. The share of people at-risk of poverty or social exclusion has been declining since 2012, closing the gap with the EU average. However, it remains particularly high for children, largely due to impact of joblessness at household level (see Section 4.3.3).

Income inequality after social transfers is below the EU average, but challenges remain. The income of the richest 20% of the population relative to the poorest 20% increased from 4.23 in 2017 to 4.63 in 2018, but remain below the EU average (5.17). Market income inequality is among the highest in the EU (0.543 in 2016). ([8]) However, tax and social transfers in Ireland have strong poverty reducing effects, disposable income inequality (0.296) is below the EU average (0.308). ([9])

Competitiveness

The Irish economy has maintained its competitiveness. In 2018, the real effective exchange rate based on unit labour costs remained broadly unchanged with respect to 2017. Sterling depreciation vis-à-vis the euro continued to negatively affect competitiveness in 2018, but was offset by weak consumer price inflation and the reduction in unit labour costs. The underlying trade balance also shows that the country has maintained its external competitiveness. However, wage pressures in a tightening labour market may affect competitiveness over the medium term. The activities of multinationals continue to inflate overall productivity figures with significant productivity gaps between low-productivity domestic firms and high-productivity foreign companies (see Section 4.4.1.).

External position

Headline current account figures remain volatile, and net external liabilities largely unchanged. ([10]) The headline current account surplus increased dramatically, from 0.5% of GDP in 2017 to 10.6% in 2018, driven by the activities of multinationals. This volatility highlights the importance of alternative indicators that better capture the resources generated by domestic residents. For instance, the modified current account ([11]) increased only moderately from 2.3% of GDP in 2017 to 4.0% in 2018. Ireland's external position remains difficult to grasp by standard value metrics. The high level of net external liabilities is largely due to the operations of some multinationals, including their intragroup liabilities, and the negative net position of the International Financial Services Centre (IFSC), to which domestic sectors have only limited

([7]) Benchmark for wage growth predicted based on changes in labour productivity, prices and unemployment. European Commission (2015).
([8]) Measured by the GINI coefficient for income before taxes and transfers. For incomes, the coefficient is bounded by 0 (no inequality) and 1 (maximum inequality). Source: OECD Income Distribution Database.
([9]) Source: EU-SILC database. Data on income refers to the previous year for all Member States except IE and UK.
([10]) The net external liabilities (NIIP) is defined as the stock of a country's external assets minus its external liabilities.
([11]) The current account, which to a large degree strips out the effects of multinational corporations.

exposure. However, although the external position of the domestic institutional sectors (such as the Central bank, commercial banks and general government) has improved in recent years, the stock of external liabilities remains elevated, even when adjusting for the activity of multinationals and the IFSC (see Section 3).

Financial sector

Overall, Irish banks are well capitalised and liquid, but their profitability is under increasing pressure as the external outlook remains challenging. Balance sheet repair is well underway, particularly reflecting sales of non-performing loans (NPLs). At the end of the second quarter of 2019, NPLs accounted for 4.2% of gross loans by the banking sector, down from 8.5% a year earlier. A significant proportion of the NPL stock continues to be comprised of residential mortgages, a large proportion of which is in deep arrears.

The central bank of Ireland continues to make active use of its macro-prudential policy toolkit to strengthen financial stability. A countercyclical capital buffer at a rate of 1% has been put in place in July 2019. The mortgage measures were maintained in view of increasing the resilience of both the banking and household sectors to adverse shocks.

Public finances

The government balance is in surplus and further improving, but risks remain. The general government balance is expected to have improved in 2019. Including measures announced in the 2020 Draft Budget Plan, the surplus is expected to further increase to 0.3% in 2020, based on Commission 2019 Autumn forecast (European Commission, 2019l)([12]). Ireland's fiscal position continues to be supported by strong corporate tax revenue and low interest rates (see Section 4.1). Risks to the fiscal outlook remain skewed to the downside, mainly reflecting uncertainty as regards the economic outlook, the sustainability of the current level of some sources of government revenue (notably corporate tax), the ongoing review of the international corporate tax system and over-spending within some sectors, particularly health.

Ireland is still running high levels of public debt, which limits its room to respond to negative economic shocks. The general government debt ratio further declined in 2018 to 63.6% of GDP, on the back of strong GDP growth. It is projected to fall further to around 54% in 2020, contingent on continued robust growth and positive primary balances. The absolute level of debt increased during 2018 by around €5 billion, despite a modest general government surplus. It is projected to remain at the current level over the medium term (Department of Finance, 2019a). A range of alternative metrics show that Ireland's stock of public debt remains high by international and historical standards (Section 3). In 2019, the government plans to direct estimated receipts of €0.7 billion from the return of funds deployed for the resolution of the financial crisis towards reducing debt. Over 2020-2021, additional €4.0 billion from the winding down of the National Asset Management Agency are expected to be used for debt reduction. While debt sustainability has improved, long-term fiscal sustainability risks related to the cost of ageing remain, including in healthcare, pensions and long-term care (Section 4.1.1).

Climate

Ireland has not been able so far to decouple fully greenhouse gas emissions and economic growth. While real GDP growth has outpaced the increase in gross inland energy consumption since the start of the recovery, rising output continues to translate into higher energy demand in transport, industry and housing ([13]). While the share of renewable sources in electricity generation has increased to about 33% in 2018, the reliance on fossil fuels remains high, which has led to rising CO2 emissions in the past few years. In turn, energy efficiency gains have been rather limited. Continued growth in agriculture has also contributed to rising emissions of non-CO2 greenhouse gases. Sustained real GDP growth in

([12]) The estimates do not take into account the latest Exchequer out-turn for 2019.

([13]) Real GDP increased by 65% between 2013 and 2018 while gross inland energy consumption rose by 9.1% in the same period. However, a substantial part of the GDP increase in 2015-2018 was due to multinational companies operating in Ireland without substantial real activity affecting energy consumption.

the near term and a rising population mean that reducing greenhouse gas emissions in absolute terms will be a significant challenge and that decoupling could only be achieved via sustained and additional policy efforts.

United Nations' Sustainable Development Goals

Ireland made significant progress in addressing the United Nation's sustainable development goals (SDG) related to 'no poverty' and 'decent work and economic growth' but faces challenges in climate-related goals. In the five years to 2018, Ireland surpassed the EU average level in almost all dimensions related to the SDG1 — No poverty and SDG8 — Decent work and economic growth. Ireland also performed above the EU average in SDG4— Quality education. Performance in addressing SDG5— Gender equality was good on education but below EU average for leadership positions and in most employment dimensions. Additional effort is still required in addressing climate-related sustainable development goals (SDG13), in particular in reducing greenhouse gas emissions and increasing energy efficiency and the share of renewable energy (see Section 4.5.1). While Ireland performed well in SDG11 — Sustainable Cities and Communities, housing affordability is still a concern. Ireland performed well in the water quality dimension of SDG6 — Clean Water and Sanitation. However, the share of population connected to at least secondary wastewater treatment was among the lowest in Europe (see Section 4.5.3)

Table 1.1: **Key economic and financial indicators - Ireland**

	2004-07	2008-12	2013-16	2017	2018	forecast 2019	2020	2021
Real GDP (y-o-y)	5.7	-1.5	9.3	8.1	8.2	5.7	3.6	3.2
Potential growth (y-o-y)	4.4	-0.3	8.1	8.6	8.9	5.0	4.3	3.9
Private consumption (y-o-y)	6.0	-1.4	2.8	3.1	3.4	.	.	.
Public consumption (y-o-y)	4.4	-2.0	2.1	3.5	4.4	.	.	.
Gross fixed capital formation (y-o-y)	8.3	-6.3	27.2	-6.7	-21.1	.	.	.
Exports of goods and services (y-o-y)	6.7	1.8	14.4	9.2	10.4	.	.	.
Imports of goods and services (y-o-y)	8.2	-0.5	16.2	1.1	-2.9	.	.	.
Contribution to GDP growth:								
Domestic demand (y-o-y)	5.6	-2.7	7.7	-0.9	-5.0	.	.	.
Inventories (y-o-y)	0.0	0.0	0.5	0.4	-1.6	.	.	.
Net exports (y-o-y)	-0.3	2.0	1.0	10.0	15.4	.	.	.
Contribution to potential GDP growth:								
Total Labour (hours) (y-o-y)	1.3	-1.8	1.6	2.5	2.4	2.1	1.4	1.0
Capital accumulation (y-o-y)	2.2	0.8	5.0	0.8	0.0	1.2	1.3	1.3
Total factor productivity (y-o-y)	0.9	0.7	1.4	5.3	6.5	1.7	1.7	1.6
Output gap	1.7	-2.8	1.5	2.0	1.3	2.0	1.2	0.5
Unemployment rate	4.8	13.0	11.0	6.7	5.8	5.0	4.8	4.8
GDP deflator (y-o-y)	2.1	-0.9	2.1	1.1	0.8	0.8	1.5	1.5
Harmonised index of consumer prices (HICP, y-o-y)	2.5	0.6	0.1	0.3	0.7	0.9	1.0	1.3
Nominal compensation per employee (y-o-y)	5.1	0.3	1.1	2.5	2.1	3.5	3.7	3.8
Labour productivity (real, person employed, y-o-y)	1.3	1.7	5.9	5.0	4.8	.	.	.
Unit labour costs (ULC, whole economy, y-o-y)	3.8	-1.3	-4.5	-2.3	-2.6	0.4	1.8	2.0
Real unit labour costs (y-o-y)	1.7	-0.5	-6.5	-3.4	-3.4	-0.4	0.4	0.4
Real effective exchange rate (ULC, y-o-y)	3.4	-3.4	-6.1	-1.8	-2.3	-4.1	-1.0	0.2
Real effective exchange rate (HICP, y-o-y)	1.4	-2.3	-1.3	0.2	1.3	-2.7	-1.5	-0.5
Net savings rate of households (net saving as percentage of net disposable income)	0.2	6.8	4.2	6.6	.	.	.	.
Private credit flow, consolidated (% of GDP)	30.7	7.1	-4.2	0.2	-7.8	.	.	.
Private sector debt, consolidated (% of GDP)	177.1	260.6	283.8	250.5	223.2	.	.	.
of which household debt, consolidated (% of GDP)	85.7	107.5	70.7	46.8	41.7	.	.	.
of which non-financial corporate debt, consolidated (% of GDP)	91.4	153.1	213.1	203.7	181.5	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (2)	.	.	14.1	8.1	4.6	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	2.3	8.2	2.0	-0.9	-6.0	-14.8	-13.2	-11.9
Corporations, gross operating surplus (% of GDP)	34.4	34.6	47.0	53.5	54.5	54.2	54.3	54.3
Households, net lending (+) or net borrowing (-) (% of GDP)	-9.0	1.6	1.7	2.0	0.4	0.1	-0.4	-0.8
Deflated house price index (y-o-y)	8.3	-13.3	11.0	9.7	8.3	.	.	.
Residential investment (% of GDP)	12.3	3.9	1.7	2.1	2.4	.	.	.
Current account balance (% of GDP), balance of payments	-3.9	-3.4	0.7	0.5	10.6	0.8	1.3	1.7
Trade balance (% of GDP), balance of payments	10.4	15.0	20.3	22.1	.	.	.	.
Terms of trade of goods and services (y-o-y)	-1.1	-0.7	0.5	-1.4	-1.3	-1.1	-0.5	-0.4
Capital account balance (% of GDP)	0.2	0.1	-1.5	-8.7	-16.4	.	.	.
Net international investment position (% of GDP)	-31.4	-120.3	-167.1	-167.2	-165.0	.	.	.
NENDI - NIIP excluding non-defaultable instruments (% of GDP) (1)	1.3	-224.9	-288.4	-264.5	-251.7	.	.	.
IIP liabilities excluding non-defaultable instruments (% of GDP) (1)	951.0	1384.7	1458.5	1294.9	1237.7	.	.	.
Export performance vs. advanced countries (% change over 5 years)	9.9	-1.8	20.4	66.6	73.8	.	.	.
Export market share, goods and services (y-o-y)	-2.8	-4.0	14.0	1.6	5.6	10.0	1.0	0.5
Net FDI flows (% of GDP)	11.2	-4.0	-7.9	-16.4	7.5	.	.	.
General government balance (% of GDP)	1.5	-14.8	-3.1	-0.3	0.1	0.2	0.3	0.6
Structural budget balance (% of GDP)	.	.	-3.8	-1.4	-0.6	-0.8	-0.3	0.3
General government gross debt (% of GDP)	25.5	84.2	93.7	67.8	63.6	59.0	53.9	52.6
Tax-to-GDP ratio (%) (3)	31.8	29.2	26.8	23.2	22.9	22.9	22.9	22.8
Tax rate for a single person earning the average wage (%) (4)	22.1	23.5	26.3	25.3	25.6	.	.	.
Tax rate for a single person earning 50% of the average wage (%) (4)	7.1	8.3	12.2	11.4	11.8	.	.	.

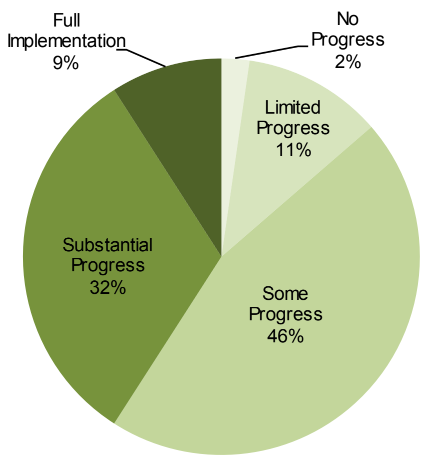
(1) NIIP excluding direct investment and portfolio equity shares
(2) domestic banking groups and stand-alone banks, EU and non-EU foreign-controlled subsidiaries and EU and non-EU foreign-controlled branches
(3) The tax-to-GDP indicator includes imputed social contributions and hence differs from the tax-to-GDP indicator used in the section on taxation
(4) Defined as the income tax on gross wage earnings plus the employee's social security contributions less universal cash benefits, expressed as a percentage of gross wage earnings

Source: Eurostat and ECB as of 4-2-2020, where available; European Commission for forecast figures (Winter forecast 2020 for real GDP and HICP, Autumn forecast 2019 otherwise)

2. PROGRESS WITH COUNTRY-SPECIFIC RECOMMENDATIONS

Progress implementing recommendations addressed to Ireland since 2014 is substantial. Looking at the multiannual assessment of the implementation of the Country-Specific Recommendations (CSRs) since these were first adopted, at least 'some progress' was noted for 87% of all the CSRs addressed to Ireland and 'limited' or 'no progress' for 13% of these CSRs (Graph 2.1). Policies supporting the financial and employment sector have been among the most successful.

Graph 2.1: **Ireland – Current implementation level of 2014-19 CSRs**



(1) The overall assessment of the country-specific recommendations related to fiscal policy excludes compliance with the Stability and Growth Pact
(2) 2011 annual assessment: Different CSR assessment categories
(3) The multiannual CSR assessment looks at the implementation until 2020 Country Report since the CSRs were first adopted.
Source: European Commission

The implementation of country specific recommendations since 2014 has contributed to the improvement in the fiscal position. Since 2014, the public finances have been stabilised to a significant extent and public capital investment has been revamped. Efforts to limit tax expenditures and broaden the tax base have been mixed. Measures to address the expected increase in age-related expenditure are underway but risks to their full implementation still remain. Aside from the transposition of EU Directives, Ireland has taken some additional reforms to address aggressive tax planning, however their effectiveness in addressing the issue remains to be seen.

A number of labour market reforms addressing country specific recommendations have been implemented since 2014. Ireland has taken steps to make quality childcare more affordable with the universal free preschool programme 'Early Childhood Care and Education' and the Affordable Childcare Scheme. Recent reform efforts have tried to tackle the problem of weak work incentives for low-income groups. Ireland has also revised its activation framework, with a particular focus on improving the progression to employment of vulnerable, inactive individuals. The launching of the Social Inclusion and Community Activation Programme (2018 – 2022) will provide funding to tackle poverty and social exclusion. Measures have been taken to increase basic and advanced levels of digital skills, but further efforts are needed. Policy measures to increase the supply of social housing are in place but their effectiveness is still limited.

Progress has been made since 2014 in implementing the country-specific recommendations for the financial sector. The steady pace of reduction in non-performing loans by banks has been maintained, helped by a combination of portfolio sales and restructuring activities. The supervisor is closely monitoring the banks' non-performing loan reduction strategies and restructuring practices. Long-term mortgage arrears have proven to be the most difficult to restructure, but they have also fallen, although at a slower pace than the overall stock of non-performing loans. Several policy measures have been introduced to support debtors in distress and increase the number of personal insolvency arrangements, but take-up of these measures is only slowly gaining traction. The credit register has been fully operational since 2019.

Ireland has made some ([14]) progress in addressing the 2019 country-specific recommendations (see table 2.1).

Ireland has made limited progress in addressing the 2019 country-specific recommendation on fiscal issues. Recent

([14]) Information on the level of progress and actions taken to address the policy advice in each respective subpart of a country specific recommendation is presented in the Overview Table in Annex A. This overall assessment does not include an assessment of compliance with the Stability and Growth Pact.

measures are not meaningfully contributing to broadening the tax base and some increase the scope for tax expenditure. Ireland has not yet fully implemented the envisaged measures to accelerate the reduction of public debt or address the expected increase in age-related expenditure. The effectiveness of the measures taken to address the issue of aggressive tax planning remains to be seen. This means that limited progress has been made on country specific recommendation 1, which reflects euro area recommendation 2.

Some progress has been made in addressing the 2019 country-specific recommendation aiming to address skills and social challenges. Some progress has been made in providing personalised active integration support and facilitating upskilling, in particular for vulnerable groups and people living in households with low work intensity. However, further investment in education and training would be still needed to provide workers with the skills required, including digital and those for a smooth and just transition to a climate neutral economy. Substantial progress has been made in increasing access to affordable and quality childcare. Programmes recently launched in this area require appropriate funding and monitoring to ensure their effective implementation Hence the overall assessment of country specific recommendation 2 is 'some progress'.

Ireland has made some progress in addressing the 2019 country-specific recommendation on investment and productivity. Some progress has been made in facilitating investment related to climate change, energy transition, sustainable transport, water, digital infrastructure and affordable and social housing. Measures aiming to diversify the economy and improve the productivity of Irish firms have also recorded some progress. While the bulk of public support for research and innovation is still provided through the Research and Development tax credit, rather than direct support, the 2020 Budget targets more specifically micro and small companies. Some progress has been made to improve the business environment by reducing regulatory barriers to entrepreneurship. As a result, some progress has been made on country-specific recommendation 3, which reflects euro area recommendations 1 and 2.

On request from a Member State, the Commission can provide tailor-made expertise via the Structural Reform Support Programme to help design and implement growth-enhancing reforms. Since 2018, such support has been provided to Ireland for 15 projects, most of which started in 2019. Work has begun, for example, on supporting a public sector energy efficiency investment programme, developing a new automatic enrolment retirement savings system, improving management development standards for small and medium-sized firms, assessing the performance of the health system and setting up a supervisory framework for complex investment firms.

Table 2.1: **Annual assessment of the 2019 CSRs (1)**

Ireland	**Overall assessment of progress with 2019 CSRs: Some progress**
CSR 1: *Achieve the medium-term budgetary objective in 2020. Use windfall gains to accelerate the reduction of the general government debt ratio. Limit the scope and number of tax expenditures, and broaden the tax base. Continue to address features of the tax system that may facilitate aggressive tax planning, and focus in particular on outbound payments. Address the expected increase in age-related expenditure by making the healthcare system more cost-effective and by fully implementing pension reform plans. (MIP relevant)*	**Limited progress*** • Limited progress in reducing the debt-to-GDP ratio. • Limited progress in limiting tax expenditure and broadening the tax base. • Limited progress in addressing features of the tax system that may facilitate aggressive tax planning. • Limited progress in addressing the expected increase in age-related expenditure.
CSR 2: *Provide personalised active integration support and facilitate upskilling, in particular for vulnerable groups and people living in households with low work intensity. Increase access to affordable and quality childcare.*	**Some progress** • Some progress in providing personalised active integration support and facilitating upskilling, in particular for vulnerable groups and people living in households with low work intensity. • Substantial progress in increasing access to affordable and quality childcare.
CSR 3: *Focus investment-related economic policy on low carbon and energy transition, the reduction of greenhouse gas emissions, sustainable transport, water, digital infrastructure and affordable and social housing, taking into account regional disparities. Implement measures, including those in the Future Jobs strategy, to diversify the economy and improve the productivity of Irish firms – small and medium enterprises in particular - by using more direct funding instruments to stimulate research and innovation and by reducing regulatory barriers to entrepreneurship.*	**Some progress** • Some progress focused on facilitating investments related to climate change, energy transition, sustainable transport, water, digital infrastructure, affordable and social housing. • Some progress in implementing measures aiming to diversify the economy and improve the productivity of Irish firms. • Some progress in improving the business environment by reducing regulatory barriers to entrepreneurship.

(*) This overall assessment of CSR1 does not include an assessment of compliance with the Stability and Growth Pact.
(1) The assessment of CSR 3 does not take into account the contribution of the EU 2021-2027 cohesion policy funds. The regulatory framework underpinning the programming of the 2021-2027 EU cohesion policy funds has not yet been adopted by the co-legislators, pending inter alia an agreement on the multiannual financial framework (MFF).
Source: European Commission

Box 2.1: EU funds and programmes to address structural challenges and to foster growth and competitiveness in Ireland

Ireland is benefiting from EU support. The financial allocation from EU cohesion policy programmes ([1]) for Ireland amounts to €1.97 billion in the current Multiannual Financial Framework 2014-2020, equivalent to around 0.1% of the GDP annually. As of the end of 2019, some €2.2 billion (more than around 97 % of the total amount planned) was allocated to specific projects, while and €783 million was spent by the selected projects ([2]) showing a level of project implementation in line with the EU average.

EU Cohesion policy funding contributes to addressing structural challenges in Ireland. The cohesion policy funds for Ireland have allocated EU funding of €282 million for smart growth, €125 million for sustainable growth and sustainable transport and €603 million for inclusive growth. In 2019 following a performance review ([3]) additional €58 million have been made available within performing priorities.

EU cohesion policy is contributing to major transformations of the Irish economy by promoting growth and employment via investments, among others, in research, technological development and innovation, competitiveness of enterprises, sustainable transport, employment and labour mobility. Since 2014, over 55,000 enterprises have been granted support, including over 1,800 start-ups, generating over 5,600 new jobs. European Structural Investment (ESI) Funds contributed to research and innovation in Ireland, supporting over 1,000 researchers and 350 companies cooperating with research institutes. More than 12,000 households are receiving support to improve the energy performance of their homes, leading to a reduction of greenhouse gas emissions by more than 57,000 tons of CO2eq. Under the Rural Development Programme 23 European innovation partnerships (EIP) have been financed and 93,000 beneficiaries have received training. Furthermore, rural development funding supported farming that promoted biodiversity, reduced greenhouse gas emissions, and improved the quality of water, air and soil on 1.5 million hectares.

The European Social Fund has significantly contributed to increasing employment and social inclusion in Ireland. It focuses on the activation of the unemployed, improving social and labour market inclusion, enhancing education attainment and tackling youth unemployment. Since 2014, over 160 operations have supported nearly 112,000 unemployed persons, 28,000 persons with disabilities and 1 200 homeless persons. In total over 330,000 participants have been registered and benefitted from upskilling so far.

Agricultural and fisheries funds and other EU programmes also contribute to addressing the investment needs in Ireland. The European Agricultural Fund for Rural Development (EARDF) makes available in total 3.92 billion EUR, and the European Maritime and Fisheries Fund (EMFF) in total €239 million (including the national co-funding for both). Ireland benefits also from other EU programmes, such as the Connecting Europe Facility, which allocated EU funding of €107 million to specific projects on strategic transport networks, or Horizon 2020, which allocated EU funding of €812 million (including €202 million for 299 small and medium enterprises).

EU funds already invest substantial amounts on actions in line with the Sustainable Development Goals (SDGs). In Ireland, European Structural and Investment Funds support 10 out the 17 SDGs and up to 99% of the expenditure is contributing to those.

([1]) European Regional Development Fund, European Social Fund, Youth Employment Initiative. Amounts include national co-funding.
([2]) https://cohesiondata.ec.europa.eu/countries/IE
([3]) The performance review is regulated by Article 22 of the Regulation (EU) No 1303/2013, whereby 5-7 % of overall resources allocated are released to performing priority axes of the operational programmes, the amount includes national co-financing.

3. SUMMARY OF THE MAIN FINDINGS FROM THE MIP IN-DEPTH REVIEW

The 2019 Alert Mechanism Report concluded that a new in-depth review should be undertaken for Ireland to assess the persistence or unwinding of imbalances. (European Commission, 2019f) In February 2019, Ireland was identified as having macroeconomic imbalances (European Commission, 2019g). The imbalances identified relate in particular to large stocks of public and private debt and net external liabilities. High stock of non-performing loans and rapidly rising house prices also warrant close monitoring. This chapter summarises the findings of the analyses in the context of the Macroeconomic Imbalance Procedure (MIP) In-depth Review that is contained in various sections in this report.

1.1. IMBALANCES AND THEIR GRAVITY

The public debt-to-GDP ratio has been declining but the stock of debt remains high. Public debt as a share of GDP fell to 63.6% in 2018, from 67.8% in 2017. The improvement was entirely due to strong GDP growth, whereas the stock of debt increased by around €5 billion over the same period. At 104.4% of GNI* in 2018, the debt burden is *de facto* among the highest in the EU. Financial market perceptions of sovereign risk remain favourable, as reflected in low sovereign bond yields and credit default swap spreads (Section 4.4.1).

Still high, private debt relative to GDP is declining on the back of active deleveraging by both firms and households. In 2018, private debt amounted to 223.2% of GDP and so was well above the EU average (137.5%) and the MIP threshold (133%). It has declined for a third consecutive year from its 2015 peak (305.1% of GDP), reflecting a combination of particularly strong GDP growth and deleveraging by both households and businesses. However, the assessment of the risks associated with these high debt levels needs to take account of how the heavy presence of multinational companies in Ireland affects both corporate debt and GDP. Some two thirds of corporate debt was concentrated in foreign-controlled firms, while domestically-controlled firms' debt stock was equivalent to 61.7% of GDP or 101.3% of modified gross national income in 2018. About 40% of the latter is held by redomiciled firms, who have very few linkages to the domestic economy. Also, only about one fifth of the debt of non-financial corporations was held by Irish counterparties. So overall, the links between the corporates that account for the high debt and the Irish financial system is weaker than headline figures would suggest. Households have actively been deleveraging since 2009. While household debt in proportion to GDP (41.7%) is below the EU average (60.8%), it nonetheless appears substantial when compared to modified gross national income (68.4%).

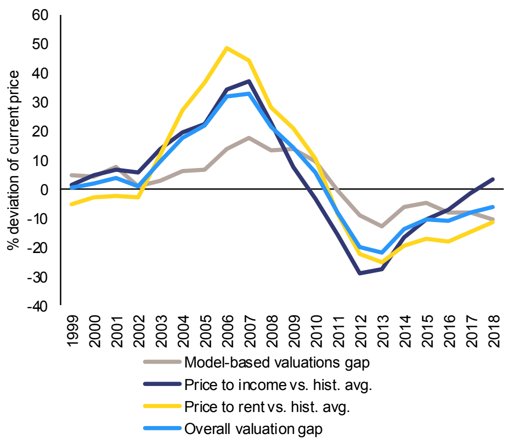
The net international investment position remains highly negative, even when taking into account the distorting impact of multinational companies operating in Ireland. The highly negative net international investment position (NIIP) of -166% of GDP in the second quarter of 2019 is largely due to the activities of multinational companies and the large net position of a financial offshore centre with limited connections to the domestic economy. Although the net external positions of some domestic institutional sectors such as the general government, commercial banks and the central bank have improved over the last two years, the NIIP remains negative even when adjusting for the impact of multinational companies. Commission estimates of Ireland's domestic net international investment, net of multinational firms and offshore activity, suggest a much lower external liability position, although still elevated compared to other Member States and exceeding MIP thresholds (European Commission, 2019c).

The current account balance remains highly volatile and heavily influenced by the activity of some large multinationals. The current account swung from a broadly balanced position in 2017 (0.5% of GDP) to a large surplus in 2018 (10.6% of GDP). The modified current account balance ([15]), which better reflects domestic

([15]) The modified current balance (CA*), developed by the Irish Central Statistics Office (CSO), is adjusted for the main following globalisation-related distortions: intellectual property imports, imports of aircraft related to leasing, the depreciation of capital assets owned by Irish resident foreign-owned firms and the repatriated global economic activity, suggests that the Irish economy appears to have maintained its external competitiveness.

While annual house price inflation has moderated, affordability is still a concern. From 13.3% in April 2018, annual house price inflation has moderated to 1.1% in September 2019, a level well below the 6% prudential threshold of the MIP scoreboard. Increasing housing supply, coupled with more binding macro-prudential rules, seem to have supported this sharp slowdown (see Box 3.1.1). Although overall prices do not seem overvalued, affordability is still a concern: the price-to-income ratio, although slightly declining in the first half of 2019, is still above its fundamental value (see Graph 3.1).

Graph 3.1: **Overvaluation gap in housing**



(1) Overvaluation gap estimated as an average of the price/income, price/rent and fundamental model valuation gaps. Long-term values are computed over 1995-2016.
Source: European Commission calculations

1.2. EVOLUTION, PROSPECTS AND POLICY RESPONSE

Ireland's public debt-to-GDP ratio is projected to continue declining. It is expected to have fallen to 59.0% of GDP in 2019 and to fall further to 53.9% in 2020. This is contingent on continued robust economic growth and positive primary balances. However, the stock of debt is estimated to remain around its current level in the medium-term (Section 1). The government intends to use the proceeds from the return of funds set aside for resolving the financial crisis (notably the winding down of the National Asset Management Agency) to further reduce debt.

The continuous decline in household debt masks some structural challenges, such as high mortgage arrears. Long-term mortgage arrears remain a major issue for many households, despite the existence of a number of schemes that help resolve those arrears. These deep arrears are particularly persistent and use of some of those schemes has been low. On the other hand, the mortgage measures put in place by the Central Bank of Ireland are helping limit the share of risky mortgages and safeguard the resilience of both households and banks. The completion of the central credit register in mid-2019 will ensure safer lending and a better monitoring of financial stability risks.

Ireland's highly negative NIIP has changed little, but its domestic component is set to reduce further. The NIIP relative to GDP fluctuated around the same level in recent years, shifting from -167% at end-2017 to -165% at end-2018 and -166% in Q2 2019. While its domestic component is projected to contract further on the back of continued current account surpluses, the evolution of volatile corporate external liabilities (in particular of multinational corporations and the International Financial Services Centre), which comprise the largest share, is hard to predict. The links of these corporations to the domestic economy are limited, which in turn limits the domestic exposure. The general government also accounts for a substantial part of the negative NIIP but its share has diminished over time and is expected to continue shrinking. The risks associated with general government's external liabilities are lessened by the fact that part of them are loans disbursed by official creditors during the economic adjustment programme. These loans have long maturity and low interest rates, thus posing little risk in the short and medium term. Ireland has recently repaid some of these loans in full, notably bilateral loans to Scandinavian lenders. The net external position of the central bank is marginally positive and has gradually improved over recent years.

The current account is positive, although very volatile due to the presence of multinationals. It

income of companies that moved their headquarters to Ireland.

has changed from 0.5% of GDP in 2017 to 10.6% in 2018 and is expected to fall back to 0.8% in 2019. Stripping out the activities of the multinationals, the current account is more stable and increasingly positive. The modified current account surplus rose from 2.3% of GDP in 2017 to 4.0% in 2018.

Policies implemented in recent years seem to have been effective in curbing house price growth, but some challenges remain. The government has implemented various measures to support housing supply, which have contributed to increasing annual housing completions by almost 40% in the two years to September 2019 (see Table 3.3). Combined with effective macroprudential tools, this seems to have helped curb house price inflation. However, there is a risk that any slowdown in housing completions could reignite inflationary pressures in the house and rental sector. Housing affordability is a problem for many households and inflation in the rental sector is persistently high (see Section 1). Further addressing capacity constraints in the construction sector and solving administrative deficiencies in the vacant site levy might ultimately help improve housing affordability in the medium-term. (see Box 3.1). Better targeting the Help-to-Buy incentive to lower-income first time buyers might increase its effectiveness while reducing inflationary pressures in the housing sector. (see Table 3.3)

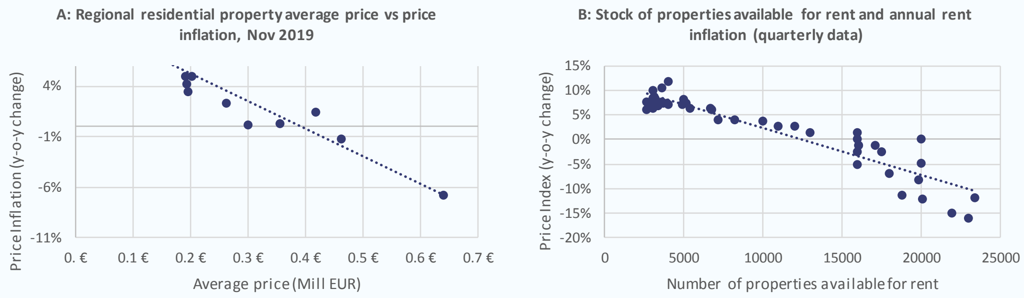
1.3. OVERALL ASSESSMENT

Macroeconomic imbalances continue to unwind, but vulnerabilities related to the high stocks of public, private and external debt remain. The stock of public debt remains high, which limits the capacity to respond to negative economic shocks. The reduction of banks' non-performing loans has continued in 2019, supported by sales and targeted policies. Despite the active deleveraging, the high level of private sector debt suggests continued sustainability risks, notably in the household sector. The high level of net external liabilities, to which domestic sectors have only limited exposure, has hardly changed. By contrast, the net external position of some domestic institutional sectors has improved over the last two years. Overall, risks to the domestic economy continue to abate somewhat. House price growth has moderated and is now below the scoreboard threshold.

Box 3.1: Drivers of house and rental prices

House price growth has moderated sharply, despite persistent housing shortages. Annual housing completions in September 2019 (20,249 units) were still 16% below the lower demand estimates. While year-on-year growth in annual completions (19%) was still high, it moderated significantly compared with the same period in 2018 (33%). House price inflation also fell sharply from 13.3% in April 2018 to 1.4% in November 2019, which has improved affordability for house buyers. The slowdown was driven by the decline in house prices at the high end of the market (see Graph 3.2.A), where macroprudential rules ([1]) have become more binding ([2]).

Graph 3.2: **Housing prices developments**



Source: CSO, daft and European Commission calculations

Designed to ensure financial stability, macroprudential rules may also have contributed to the slowdown in overall house price growth. Simulations with the European Commission's QUEST model, calibrated for Ireland, ([3]) show that setting a 10% tightening of the loan-to-value (LTV) ratio on mortgages granted to credit-constrained households (CCH) could help curb land and house price inflation. Not taking into account potential second round effects from increased financial stability, such as lower mortgage rates, the simulations suggest that stricter LTV limits could also reduce aggregate housing investment and thus the housing stock (see Table 3.1). These results are consistent with findings of other reports (Duffy et al., 2016).

Increasing housing construction might help ease inflation in the rental sector. Contrary to the trend of deceleration in overall house prices (see above), rental price inflation for new and renewed tenancies is still high (8.2% in the third quarter of 2019) and seems to be largely driven by the number of properties available for rent. A supply of 12,000 units per quarter, i.e. four times the supply reported in the first quarter of 2019, would be consistent with constant rental prices (see Graph 3.2.B). If the downward trend in house completion growth persisted, it might lead to an increase in rental inflation.

Table 3.1: **Macroeconomic effects of loan-to-value ratio reduction**

	Y1	Y2	Y3	Y4	Y5
House price	-0.5	-0.6	-0.6	-0.6	-0.5
Housing investment	-2.3	-2.2	-1.9	-1.7	-1.6
Housing stock	0	-0.1	-0.2	-0.3	-0.3
Land price	-1.1	-0.9	-0.8	-0.8	-0.9

(1) Table compares a baseline scenario with no measures to an alternative scenario with a 10% tightening of the LTV. The LTV applies only to credit-constrained households, who represent 50% of total households. This is an approximation to reality: 1) the LTV for first time buyers is 90% but for second and subsequent buyers is higher (80%) and 2) banks are allowed to grant part of the mortgages (20% for second and subsequent buyers and 5% for first time buyers above these limits.

(2) Results are expressed in %. A negative value does not mean that the variable in question will decrease in absolute terms, but rather that it will be lower in the scenario with the structural measure than in the baseline scenario.

Source: European Commission

The combination of macroprudential rules with policies boosting land availability could curb both house and rental price inflation. QUEST simulations of jointly applying a 10% tightening of the LTV ratio and a vacant site levy of 10% show that the levy could lead to higher land availability and lower land prices, thereby reducing the costs of housing supply and thus compensating for the potentially contractionary effects of stricter macroprudential measures (see Table 3.2).

Table 3.2: **Macroeconomic effects of loan-to-value ratio reduction combined with a 10% vacant site levy**

	Y1	Y2	Y3	Y4	Y5
House price	-2.9	-2.7	-2.1	-1.6	-1.1
Housing investment	-1.2	0.1	0.5	0.3	0
Housing stock	0	0	0	-0.1	0
Land price	-10	-8	-6.1	-4.3	-3.1

(1) See also the Notes under Table 3.1 to interpret this table.

(2) Given that the value of the LTV is an approximation of reality, the size of the vacant site levy required to neutralise the effect of macroprudential policies in housing stock might be more or less than 10%.

Source: European Commission

The vacant site levy, due in Ireland since January 2019, might require some refinement to increase its effectiveness. Sites registered as vacant in 2018, were subject to a 3% levy on their market value in January 2019, unless works had been activated in the interim. This levy is set to increase to 7% as of January 2020. In April 2019, 360 vacant sites were registered, 162 of them in Dublin. A number of local authorities reported difficulties in interpreting the law and identifying vacant sites, which might have left out of the register vacant sites with potential for housing development. Around 10% of the sites identified have already come off the register and started construction, which might indicate that the levy has the potential to incentivise housing supply, as suggested by the results of our QUEST model.

([1]) Macroprudential measures were introduced in Ireland in 2015 and consist of loan-to-value (LTV) and loan-to-income (LTI) ceilings. The end goal of macroprudential policies is to ensure financial stability. This box does not assess how effective these policies have been in meeting this objective.
([2]) Central Bank of Ireland (2018) Review of Residential Mortgage Lending Requirements. Mortgage Measures 2018.
([3]) QUEST is the global macroeconomic model DG ECFIN uses for macroeconomic policy analysis and research The version used in this paper comprises tradable goods, non-tradable goods and housing sectors. Detailed information on the QUEST model and its applications are available at: http://ec.europa.eu/economy_finance/research/macroeconomic_models_en.htm.

Table 3.3: **MIP Scoreboard**

	Severity of the challenge	Change and prospects	Policy response
	Imbalances (unsustainable trends, vulnerabilities and associated risks)		
Private debt	Private sector consolidated debt stood at 223.2 % of GDP in 2018, down from 250.5 % in 2017. It was still among the highest in the EU, mainly due to high liabilities of multinational companies located in Ireland. The combined debt of households and non-financial companies with an Irish parent, which is a better metric for comparison, stood at 103.4 % of GDP or 169.7 % of modified gross national income (GNI* [1]) and is thus still relatively elevated. Corporate debt (181.5 % of GDP at the end of 2018) is strongly influenced by the activities of multinationals. Debt of domestically-controlled firms stood at 61.7 % of GDP (or 101 % of GNI*) Household debt fell to 41.7 % of GDP in 2018. While declining, household debt relative to gross disposable income was still among the highest in the EU (123.2 % of disposable income at the end of 2018, albeit down from 211 % in 2009). Mortgage arrears however remain an important challenge for many borrowers.	The steady decline in household debt relative to GDP observed since 2008, continued to decrease in 2018, supported by active deleveraging and GDP growth. The economic recovery facilitated debt repayment and supported the recovery in collateral value. Macro-prudential borrowing limits and behavioural changes (increasing share of mortgages with fixed interest rates) limit risks of a reversal of this trend. Deleveraging in the corporate sector was concentrated in the SME segment. Despite the decline in borrowing costs, SMEs continued to reduce their debts and used retained earnings to fund spending and investment.	A number of schemes are in place to support households in mortgage arrears. This includes the *Abhaile* scheme, which provides independent expert financial and legal advice, and the *Mortgage-to-Rent* scheme, which allows defaulted borrower to remain in their home as tenants subject to certain conditions. The Central Bank of Ireland has finalised its examination of practices regarding Tracker mortgages, which has resulted in the compensation of affected borrowers. Moreover, macro-prudential measures are in place (mortgage measures and a countercyclical capital buffer), which will incentivise more prudent economy-wide lending standards and thereby strengthen the resilience of both lenders and borrowers.
Public debt	Gross general government debt remained high at 63.6% of GDP in 2018. A range of alternative metrics, including the interest-to-revenue ratio, shows that Ireland's stock of public debt remains high by international and historical standards. At 104.3 % of GNI* in 2018, the debt burden is *de facto* among the highest in the EU.	Gross general government debt fell by 4.2 percentage points in 2018, on the back of strong nominal GDP growth. It is expected to have fallen below 60% of GDP in 2019. While the general government position registered a small surplus in 2018, the pace of fiscal consolidation has been less positive in recent years, following several in-year expenditure increases. The general government balance is expected to have increased in 2019 and is projected to further improve in 2020. The structural balance is expected to have decrease to around -0.8 % of GDP in 2019 from -0.6 % in 2018, and it is projected to further decline to -0.3 % in 2020. Based on the Commission 2019 autumn forecast, Ireland is expected to be compliant with the recommended structural adjustment towards the medium-term objective in 2019 and meet its medium-term budgetary objective in 2020. Risks to the fiscal outlook remain skewed to the downside, mainly reflecting uncertainty as regards the economic outlook, the sustainability of the current level of some sources of government revenue, notably corporate tax, the ongoing review of the global tax system and over spending within some sectors, particularly in health.	In 2019, the National Treasury Management Agency (NTMA) purchased a further EUR 3 billion of floating rate notes linked to the Irish Bank Resolution Corporation from the Central Bank of Ireland and subsequently cancelled them. The outstanding balance remains at around EUR 8.5 billion from an initial EUR 25.0 billion in 2013. In 2019, the government plans to direct estimated receipts of EUR 0.7 billion (0.2% of GDP) from the return of funds from the resolution of the financial crisis towards reducing debt. Over 2020-2021, additional EUR 4.0 billion from the winding down of the National Asset Management Agency are expected to be used for debt reduction. The rainy day fund could contribute to prudent management of public finances. The Minister for Finance announced in December 2019 a new target for the debt-to-GNI* ratio of 60% (around 37% of GDP based on 2018 values), including an interim target of 85% by 2025.
Financial sector challenges	The non-performing loan (NPL) ratio continued its steady downward trend, falling to 5.5 % at end-2018, down from 9.9 % at end-2017. There are nonetheless significant differences in asset quality among banks, and aggregate provisioning levels appear low relative to the EU average, rendering banks more vulnerable to adverse shocks. The stock of long-term arrears in the financial system remains significant, suggesting a number of obstacles to their resolution. The number of repossessions remains low, while there has been some increase in the number of insolvency procedures initiated (although from a low base).	The sale of non-performing loans has contributed to the cleaning of banks' balance sheets, bringing the NPL ratio down to 4.2% in the second quarter of 2019. Additional non-performing loans transactions concluded or announced after that date, in a context of high investor appetite, will lower) even further. Bank profitability has weakened and potential spillovers related to the decision of the UK to leave the EU make the outlook uncertain. However, banks remain well capitalised, with an average common equity tier 1 (CET1) ratio of 22.9 % at the end of 2018 and liquid.	The central credit register has become fully operational in 2019. The Central Bank of Ireland (CBI) has maintained its set of activated macro-prudential measures (mortgage measures and the countercyclical capital buffer), which strengthen the resilience of the financial system and borrowers. The CBI's finalisation of the tracker mortgage examination, should contribute to improve trust in bank conduct.

[1] Modified gross national income is published by the Irish Central Statistics Office and excludes from the standard gross national income the globalisation effects that are disproportionally impacting the measurement of the size of the Irish economy.

(Continued on the next page)

Table (continued)

External sustainability	Ireland had a negative net international investment position (NIIP) of 165% of GDP at the end of 2018. This is linked to the very sizeable on-shoring of intellectual property assets to Ireland, arising from the tax optimisation strategies of a small number of multinational enterprises. On top, the net position of the International Financial Services Centre's (IFSC) was negative at 47.6% of GDP. The riskier instruments of the NIIP belong largely to multinationals and IFSC sector, to which domestic sector has little exposure. The incurrence of these liabilities hence have only limited implications for the external sustainability of the domestic economy. The NIIP without non-defaultable instruments (NENDI) is negative, but were the IFSC sector excluded, the NENDI would turn positive. Net equity position is positive. The underlying, domestically relevant, NIIP remains hard to gauge. COM estimates indicate an underlying NIIP (NIIP*) to be between -80% to -110% of GNI*.	The NIIP changed little in recent years and quarters, as the bulk of it is associated with the MNE activities. The external position of the domestic sectors, such as the Central bank, commercial banks and general government, has improved in recent years. The current account increased from 0.5% of GDP in 2017 to 10.6% in 2018, mainly reflecting the activity of MNEs. The modified current account[1] balance developed by the CSO to capture the resources generated by domestic residents, is smaller, less volatile, but consistently positive. It increased from 2.3% to 4% of GDP between 2017 and 2018 (and from 3.7% to 6.5% of GNI*). The maturity profile of external debt is generally favourable, in particular for external liabilities vis-a-vis official creditors. Approximately 40 % of medium/long-term external debt will mature from 2026 onwards.	
Property market	Residential property prices increased by 10.2 % in 2018. However, the annual figure masks a significant within-the-year slowdown in house price increases (from 13.4% y-o-y in April 2018 down to 6.3% in December 2018) which has continued in 2019, leading to a y-o-y inflation of 1.1% in September 2019. While rent inflation has slightly moderated in 2019, rental price levels are still high. At this stage, average national housing prices do not look overvalued according to standard measures, but some indicators, such as the price-to-income (affordability) index have been above their long-term average since 2017. If not addressed, constraints limiting the supply of housing could contribute to imbalances building up.	The steep increase in construction coupled with more binding macroprudential rules, seem to have contributed to the slowdown in house price inflation. Despite improvements, housing supply still falls short of demand. Moreover, in a context of high uncertainty and less dynamic house prices, the growth in construction permits might be losing momentum. This may fuel again property and rent prices.	In recent years, the government has actively intervened to address housing supply constraints. The impact of these measures is positive but requires continued monitoring. The recently approved legislative reforms to regulate the short term letting sector in areas of high housing demand may reduce the use of residential homes for short-term tourism and in turn increase the rental stock. The impact of recent reforms to protect tenants and provide greater housing security should be monitored to ensure that they fulfil their goals of having a positive social impact without discouraging landlords to rent their houses. The vacant site levy seems to have been effective in supporting land development but legal provisions may need some refinement to increase its effectiveness. (see Box 3.3.1) The 2020 Budget has announced the extension of the Help-to-Buy (HTB) scheme to 2021. This scheme provides first time buyers (FTBs) a refund of 5% of the property value under certain conditions. A recent evaluation showed that 26% of applicants bought their new home with a deposit of between 20 and 30%, which might indicate that the HTB incentive was unnecesary. Better targeting this scheme to lower-income FTBs might increase its effectiveness while reducing the risks of creating inflationary pressures.

Conclusions from IDR analysis

- While both NPLs and indebtedness have declined over time, large stocks of public, private and external debt still make Ireland vulnerable to adverse shocks.
- Although Ireland's highly negative NIIP is distorted by the impact of MNE activities and a large financial offshore centre, vulnerabilities on this front persist. Likewise, high NFC debt is to a large extent due to significant inter-company loans of MNEs. Nonetheless, adjusting for footloose companies and their debt results in a still-elevated NFC debt position relative to GNI*. Household debt also decreased but, while low in share of GDP, it remains high in relation to household income. As a result, private debt remains elevated. The public debt to GDP ratio remains on a downward trajectory, but the debt level remains high as a proportion of GNI*. Substantial NPL reduction supports the strengthening of the banking sector. House price growth was dynamic in 2018, although it has moderated significantly since April 2018. At this stage, there are no consistent signs of overvaluation, but housing affordability is a concern.
- Comprehensive policy measures have been taken in recent years to address the vulnerabilities highlighted above. These include measures to reduce the amount of non-performing loans. Some windfall revenue is planned to be used to reduce government debt. The government has repeatedly intervened to tackle the undersupply of housing, while macro-prudential policies have been tightened to ensure the resilience of households and banks. However, as a small and very open economy, Ireland remains highly sensitive to external shocks. Any adverse economic shock, such as a disorderly withdrawal of the UK from the EU, could be amplified by remaining legacy stock imbalances.

[1] The modified current balance (CA*) is the current account balance adjusted for the depreciation of capital assets sometimes held outside Ireland and owned by Irish resident foreign owned firms, e.g. intellectual property (IP) and leased aircraft, alongside the repatriated global income of companies that moved their headquarters to Ireland (e.g. redomiciled firms). CA* excludes the depreciation of foreign-owned domestic capital (such as net imports of IP and imports of research and development (R&D) services). The depreciation on the foreign-owned capital is borne by foreign investors; consequently, it does not affect CA*, which is intended to capture the resources generated by domestic residents. The retained earnings of firms that are predominantly owned by foreign portfolio investors are not taken into account by CA* either. Since the choice between paying a dividend versus retaining earnings only affects timing of the pay-out to the ultimate foreign owners, CA* is not affected by this decision.

Source: European Commission

4. REFORM PRIORITIES

4.1. PUBLIC FINANCES AND TAXATION

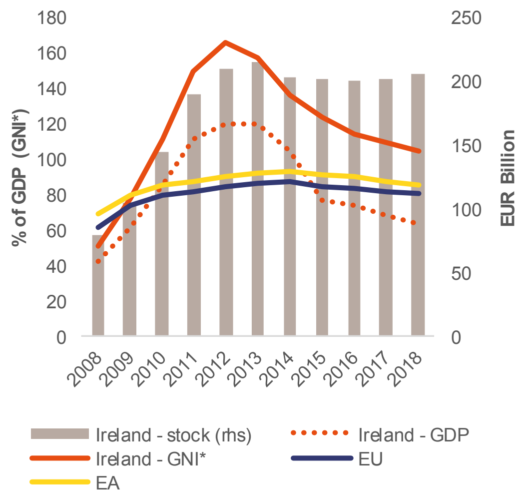
4.1.1. FISCAL POLICY* (GOVERNMENT BALANCE AND DEBT DEVELOPMENTS)

Public finances continue to improve. The headline government position turned from a deficit of 0.3% in 2017 to a small surplus of 0.1% of GDP in 2018. The general government balance is expected to have increased in 2019 to 0.2% of GDP, based on the Commission 2019 autumn forecast, and is estimated to further improve in 2020.([16]) A continued fall in the interest burden has contributed to the deficit reduction. The development in the non-interest budget balance since 2015 has been weaker, as pointed out by the Irish Fiscal Advisory Council (Irish Fiscal Advisory Council, 2019b).

The improvement in Ireland's fiscal position is partly driven by corporate tax revenue. In 2019, tax receipts performed strongly, exceeding expectations by 2.4%. This was almost entirely due to receipts from corporate taxes, which were 14.9% above expectations at the end of 2019. Expenditure was ahead of Exchequer target by 1.2%, largely driven by the health sector, as it was the case in recent years. Overall, an Exchequer surplus of €647 million was recorded at the end of December 2019, compared with a surplus of €99 million in the same period last year.

Uncertainty over the sustainability of the current high level of corporate tax receipts puts public finances at risk. The high level of corporate taxes, volatile and potentially transient in nature, and the dependence on a small number of multinationals represents a risk to public finances (see Section 4.1.3). A preliminary assessment by the Department of Finance indicates that implementation of OECD's Base Erosion and Profit Shifting initiative could reduce corporation tax receipts by €0.5 billion per annum from 2022.([17]) The risks of relying too much on corporate tax receipts are even more evident as windfalls from these taxes have been used in recent years to cover permanent spending overruns in various departments, notably in health. This has repeatedly been criticised by the Irish Fiscal Council (Irish Fiscal Advisory Council, 2019a).

Graph 4.1.1: **General government debt development**



Source: European Commission

Public debt remains high, which limits the room to respond to negative economic shocks. The debt-to-GDP ratio has been declining on the back of strong growth in GDP (Graph 4.1.1). However, Irish GDP remains inflated by the activities of multinationals. Alternative metrics highlight that debt remains high in Ireland. As a proportion of GNI*, which more accurately captures the underlying economic activity by eliminating some of the impact of multinationals, debt stood at 104.3% in 2018 and is expected to have declined to 100.2% in 2019 (Department of Finance, 2019b). Another metric is the interest-to-revenue ratio, which shows the burden of public debt in terms of the annual obligations on debt (interest) as a proportion of government revenue. This stood at 6.4% at the end of 2018 compared with pre-crisis levels of around 3%. Still, the ratio had fallen considerably from its peak of 13% in 2013, partly due to the substantial increase in corporate taxes since 2015, combined with lower interest payments in recent years.([18])

([16]) Based on end-2019 Exchequer figures, a surplus of 0.4% of GDP is likely in 2019.

([17]) This is a preliminary assessment and subject to further ongoing work.

([18]) Other alternative metrics that show that the debt burden in Ireland is high in an international and historical context are debt-to-revenue ratio, debt as a fraction of the national

Making public finances more resilient may prove useful, given the heightened risks and the currently favourable cyclical position of the economy. Risks to the fiscal outlook remain skewed to the downside, reflecting uncertainty as regards economic outlook, the sustainability of the current level of corporate tax receipts, the ongoing review of the international corporate tax system and over-spending in particular in the health sector. In view of these risks and the favourable cyclical position, including buoyant corporate tax revenue, the resilience of public finances to adverse shocks could be enhanced by strengthening fiscal buffers. This could be achieved by firming up the rainy day fund and/or reducing public, and debt broadening the tax base.

The Department of Finance (DoF) proposed several measures to address fiscal vulnerabilities. These include reducing the exposure to corporate taxes by setting aside the windfall receipts in the rainy day fund and broadening the tax base (Department of Finance, 2019c). Also, it proposed defining a tailor-made general government balance that excludes corporate tax windfalls, and setting short- and medium-term debt targets as a percentage of GNI*. DoF also proposed to use alternative estimates of potential growth and structural fiscal balance, which would better reflect the underlying developments in the Irish economy, instead of relying on GDP figures that are inflated and volatile. These initiatives are welcome. Furthermore, in December 2019 the Minister for Finance announced a new target for the debt-to-GNI* ratio of 60%, including an interim target of 85% by 2025. He also announced a target for the budgetary surplus of 1% of GDP by 2021 (1.7% of GNI*). Both targets are contingent on continued economic growth.

Government financing has benefitted from the low interest rate environment and supportive bond market conditions. In conjunction with strong economic growth and fiscal performance, ECB measures (in particular the non-standard asset purchase programmes) have compressed sovereign borrowing costs and, in turn, debt servicing costs. The 10-year bond yield for Ireland remains low by historical standards at around 0.003% in December 2019. Consequently, total interest payments by the general government have continued to decrease as a share of GDP. Around 70% of the total sovereign debt is at fixed rates, which limits the risk from interest rate shocks and, in turn, increases the sustainability of public debt. The effective interest rates have also declined over recent years but remain above the euro area average (DoF, 2019)

pay-bill and debt per capita (Department of Finance, 2019a).

The maturity profile of the debt remains comfortable. The low interest rate environment also appears to have had an impact on the extension of the sovereign debt maturity profile (Larkin et al, 2019). At the end of 2019, the stock of public debt amounted to €206.7 billion, with a weighted average maturity of around 10 years. Some 25% of long-term marketable and official debt represented official loans from the EU-supported financial assistance programme. Redemptions of loans from the European Financial Stability Facility (EFSF) and European Financial Stabilisation Mechanism (EFSM) currently extend until 2042. For EFSF, there are no maturities until 2029 and for the EFSM until 2027. The maturity of EFSM loans can be extended within the limit of 19.5 years of average original maturity established by the Council Decision on Union financial assistance to Ireland. €3.9 billion originally due in 2018 has already been extended ([19]). The revised maturity dates of other individual EFSM loans will be determined as they approach their original maturity dates. This decision and the ensuing operations entail financial benefits for Ireland, linked to the EU's favourable funding conditions.

Debt sustainability analysis

In the short term, no significant risks of fiscal stress are projected for Ireland. The value of the S0 indicator,([20]) the Commission's early-detection indicator of fiscal stress, is below its critical threshold, for both the fiscal and financial competitiveness sub-indices (see Annex B and European Commission, 2020a). Financial market perceptions of sovereign risk remain favourable, as is reflected in low sovereign bond yields and credit default swap spreads

([19]) Council Implementing Decision 2011/77/EU.

([20]) The short-term sustainability indicator, S0, is an early-detection indicator of fiscal stress in the upcoming year, based on 25 fiscal and financial competitiveness variables that have proven in the past to be leading indicators of fiscal stress.

Debt sustainability risks are anticipated in the medium term. In principle, Ireland also faces low fiscal sustainability risks in the medium term, as measured by both the debt sustainability analysis and the S1 indicator([21]). This reflects a relatively strong initial budgetary position and a debt ratio already below 60% of GDP in 2019 (Annex B). However, when debt metrics are measured relative to gross national income (GNI) (which can be considered as a more accurate measure of repayment capacity for Ireland), most of the distribution of the debt burden lies close to the 60% threshold over the projection period (European Commission, 2020a). The Irish GNI is also inflated by the activities of multinationals, as is the case for the GDP, though to a lesser extent. Therefore, the analysis based on the GNI still underestimates vulnerabilities in the Irish context. Analysis by the Irish Department of Finance which uses the GNI* as a metric, points to high risks in the medium term (DoF, 2019a). Furthermore, combined adverse shocks to real GDP growth — of a magnitude reflecting Ireland's historical variability of output — would increase the public debt to GDP ratio by 17.7 pps by 2030 compared to the baseline scenario.([22]) The Central Bank of Ireland estimates that in the event of a significant loss of corporation taxes, combined with a slowdown in the international economy, the debt-to-GDP ratio could increase by between 10 and 20 pps. above central projections, by 2025 (Conefrey. et al., 2019).

Debt sustainability risks are anticipated as medium in the long term. The long-term sustainability gap indicator, S2, indicates that a structural primary effort of 2.9% of GDP would be needed to stabilise the debt-to-GDP ratio over the long term. This reflects the projected budgetary impact of an ageing population, which, in the long term, more than offsets the favourable initial budgetary position. Spending on pensions and long-term care both contribute by 1.6% of GDP to the long-term sustainability gap, and expenditure on healthcare by 0.8% of GDP (see Section 4.3.4. for a more detailed discussion on the cost-effectiveness of the healthcare and long-term care system). In 2018 the Irish authorities published the 'Roadmap for Pension Reform 2018-23' with the aim of improving the long-term sustainability of the state pension system. It builds on the 2014 reform that brought the state pension eligibility age to 68 by 2028. The implementation of the Roadmap is ongoing but has incurred some delays. The Roadmap targeted implementation of the total contributions approach from the third quarter of 2020, subject to the necessary legislation being enacted and supporting structures being in place

4.1.2. FISCAL FRAMEWORK, SPENDING REVIEWS AND GREEN BUDGETING

Consecutive spending overruns highlight challenges in controlling public expenditure. In recent years, there has been a tendency for spending to accelerate towards the end of the year, contributing to limited compliance with EU fiscal rules. The 2020 Budget prudently already incorporates some expected overruns in 2019, in particular related to healthcare expenditure. It also includes additional funds for the Christmas bonus. Furthermore, the Irish Fiscal Advisory Council highlighted that some other areas are facing expenditure slippages, including the local government and housing bodies([23]). Enhancing current expenditure planning and control, and ensuring its growth is sustainable remains highly important for increasing the resilience of public finances.

A broad public spending review could improve budget execution. In 2017, Ireland has embarked on a comprehensive three-year spending review process, designed to assess the efficiency and effectiveness of government spending. In total, 80 analytical papers have been produced so far. In 2019, key themes were those related to the developing multi-year sectoral expenditure analysis and aligning the spending review with the public spending code. Yet, the extent to which

([21]) The medium-term sustainability indicator S1 shows the additional adjustment required, in terms of improvement in the government structural primary balance over five years to reach a 60% public debt-to-GDP ratio by 2034, including financing for future additional expenditure arising from population ageing.

([22]) Details on the scenarios can be found in European Commission (2019), Fiscal Sustainability Report 2018. Calculations based on the European Commission 2019 autumn forecast.

([23]) The Irish Fiscal Advisory Council further points out that even though these areas are outside the government's direct control, they still impact the economy and should therefore be included in the budget planning (Irish Fiscal Advisory Council, 2019b).

these spending reviews could improve budget planning and administration or major investment projects remains unclear. In 2020, the Department of Public Expenditure and Reform plans to examine the degree to which the process has achieved its objectives and ways to improve it.

Ireland is one of the few countries in the EU to have started green budgeting practices. Ireland introduced a green budgeting exercise for the 2019 budget, which implied identifying and 'tagging' all climate-related expenditure. The authorities draw on the definition developed for the Irish sovereign green bonds: 'any expenditure which promotes, in whole or in part and whether directly or indirectly, Ireland's transition to a low carbon, climate-resilient and environmentally sustainable economy'. For the first year of the exercise, the authorities adopted a conservative approach and included only those expenditures that directly contributed to greenhouse gas emissions reduction, including funding for energy efficiency (Cremins and Kevany, 2018). The 2019 Revised Estimates Report details the climate expenditure, grouped by departments and specific programmes (Department of Public Expenditure and Reform, 2018a). Linked to the green budgeting, in May 2019, the Central Statistical Office published estimates of environmentally harmful subsidies for the 2012-16 period, distinguishing between direct support and tax expenditure. These estimates point to about €4 billion (1.5% of GDP) in potentially environmentally damaging subsidies in 2016, down from €4.2 billion in 2015 (Central Statistics Office, 2019a; Central Statistics Office, 2019b).

The shadow cost of carbon is better reflected in cost-benefit analyses of public investments. The Public Spending Code was reformed in 2019 in order to better integrate climate impacts in investment decisions. A shadow price of carbon has been set on an annual basis for emissions originating from Emission Trading System (ETS) and non-ETS sectors, with prices rising from €32/tonne in 2020 to €100/tonne in 2030 and €265/tonne in 2050 in the latter (Department of Public Expenditure and Reform, 2019b). These values represent Ireland's estimated marginal abatement cost at the level required to reach the binding mitigation targets. For emissions originating from ETS sectors, the shadow price is based on market projections of the price of ETS allowances and the values of the EU Reference Scenario. The reform of the code and the adoption of carbon prices in line with the binding targets and estimated marginal abatement costs could help to align public investment decisions in all sectors with climate policy objectives, regardless of whether they are directly related to climate or not.

4.1.3. TAXATION

Reliance on corporate tax revenue from multinationals is increasing. Corporate tax receipts remain heavily concentrated, with the top 10 multinationals operating in Ireland accounting for around 45% of total corporate tax revenue and 8.5% of the total tax revenue in 2018. The share of corporate tax receipts in total tax revenue reached 17.2% in 2018, the highest level since 2003. This is an increase by 7.2 pps. since 2014, before the 2015 spike in GDP growth. Reliance on these revenues, which are volatile and potentially transient in nature poses risks to the sustainability of public finances (Section 4.1.1).

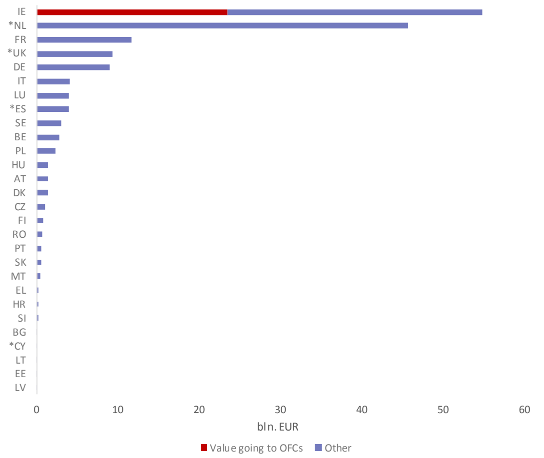
Recent revenue measures are not meaningfully contributing to broadening the tax base. The main revenue raising measures in the 2020 Budget included increases in the carbon tax and stamp duty on non-residential property, as well as specific anti-tax-avoidance measures. Other measures go in the opposite direction. These include increases in certain tax credits, an extension of the Help-to-Buy scheme and the capital acquisition tax. Furthermore, the revaluation of the local property tax was deferred by one year, to November 2020. The favourable cyclical position of the economy provides an opportunity to broaden the tax base and to choose a tax mix that is more conducive to growth.

The economic evidence suggests that Ireland's tax rules are used by companies that engage in aggressive tax planning([24]). Eurostat data suggest that outgoing royalty payments from Ireland in 2018 were high, representing 22% of its GDP and that 45% of these were paid to offshore financial

([24]) For an overview of the high level of incoming and outgoing dividend and royalty payments, as well as of inward and outward foreign direct investment positions, see European Commission, 2020(b) centres (OFC)([25]), as illustrated in the graph below. For net dividend payments, the share going to OFCs was 71% in 2017([26]). The current limited application of withholding tax on royalty and dividend payments going out of Ireland – which may lead to those payments being taxed at a very low rate or escaping tax altogether if they are channelled to a low or no tax jurisdiction – has been flagged as a key element facilitating aggressive tax planning through Ireland. The possibility to offset capital allowances for intangible assets against 100% of the income arising from the use of those intangibles purchased or developed between 2015 and October 2017 is still effective, as explained in the 2019 country report.

Ireland is acting to curb aggressive tax planning through the implementation of European and internationally agreed initiatives, as well as unilateral measures. The Irish government has introduced legislative measures implementing the second Anti-Tax Avoidance Directive (ATAD 2), which should neutralise certain hybrid mismatch arrangements that would otherwise result in double non-taxation,([27]) and the sixth amendment of the Directive on Administrative Cooperation (DAC 6), which provides for new transparency rules for intermediaries involved in tax planning. Ireland has also ratified the OECD Multilateral Instrument (MLI) to prevent base erosion and profit shifting, which entered into force on 1 May 2019. However, like most countries, Ireland entered a number of reservations to the MLI and the application of its provisions will depend on the choices made by the relevant treaty partners. Ireland has also made changes to its transfer-pricing rules, to take account of the 2017 OECD guidelines and extend their scope, as recommended in the Coffey Review (Department of Finance, 2017). In particular, it has extended transfer-pricing rules to cover non-trading transactions. It has also legislated to extend transfer-pricing rules to SMEs (with reduced documentation requirements), subject to a Ministerial commencement order. In addition, Ireland has made changes to the legislation governing Irish real estate funds (IREFs), to counter aggressive tax planning practices identified by the revenue services, and to the real estate investment trust (REIT) regime and to the taxation of securitisation vehicles, to strengthen anti-abuse measures. The effectiveness of these new measures in limiting the scope for aggressive tax planning and their impact on corporate income tax revenue in the medium term will need to be assessed.

Graph 4.1.2: **Total outgoing royalty payments from EU Member States and share going to offshore financial centers**, average values 2013-2017**



(*) - countries which do not publish the share of royalty payments going to OFCs.
(**) As defined in the Annex 7 of Balance of Payment Vademecum of Eurostat
Source: Eurostat

The carbon tax was increased by €6 per tonne and should reach €80 per tonne by 2030, though the precise trajectory towards that level remains uncertain. The Climate Change Advisory Council had advised the government to increase the carbon tax([28]) to €35/tonne, in part to make up for the decision not to raise it in the 2019 Budget (Department of Finance 2019d). Instead, the 2020 Budget includes an increase to €26/tonne, from €20/tonne, with deferred application to non-automotive fuels until after the winter heating season. The proceeds from this measure, expected

([25]) Commission services, based on Eurostat 2019, bop_its6_det. and nama_10_gdp. OFC is an aggregate used by Eurostat.
([26]) Commission services based on Eurostat, 2019, bop_fdi6_inc
([27]) Hybrid mismatch arrangements exploit differences in the tax treatment of an entity or instrument under the laws of two or more tax jurisdictions to achieve double non-taxation.

([28]) The carbon tax was introduced in Ireland in 2010. It applies to kerosene, marked gas oil, liquid petroleum gas, fuel oil, natural gas and solid fuels. It applies only to non-ETS (Emission Trading System) sector only.

to be €130 million in a full year, are to be ring-fenced for climate action measures and to protect the vulnerable (Department of Public Expenditure and Reform, 2019a) (see Section 4.5.2). (see Section 4.5.2). It is the intention of the government to linearly increase the tax by €6 per year and bring it up to €80/tonne by 2030 (Department of Finance, 2019e; Department of Communications, Climate Action and the Environment, 2019a). However, the authorities did not take a legally binding approach to the trajectory and indicated that flexibility should be preserved to adapt to future circumstances. Although there is broad political consensus about the need for future increases in the carbon tax, this means that investors still face a fair degree of uncertainty regarding the carbon price trajectory.

While the share of environmental taxes in total taxes is above the EU average (6.9% in Ireland versus 6.1% in the EU, in 2018), **the potential of environmental taxation to support environmental objectives has not yet been fully exploited**. In 2018, revenue from environmental taxes as a percentage of GDP (1.6%) appears to be below the EU average (2.4%), but this is due to the inflated level of GDP in Ireland. The share of environmental taxes was at 2.6% of GNI* in 2018. The Climate Action Plan includes provision for a rolling strategy of reviews across all environmental tax heads. However, there is little detail so far on how this will be implemented. Specific changes to environmental taxes in the 2020 Budget include the replacement of the 1% diesel surcharge, introduced in 2019, by a nitrogen oxide emissions-based surcharge, the equalisation of electricity tax rates for business and non-business, and the increase in the carbon tax, as mentioned above.

4.2. FINANCIAL SECTOR

Table 4.2.1: **Financial soundness indicators, all domestic and foreign banks in Ireland**

	2014	2015	2016	2017	2018q1	2018q2	2018q3	2018q4	2019q1	2019q2
Non-performing loans	21.6	14.9	13.1	9.9	9.8	8.5	7.8	5.5	4.7	4.2
o/w foreign entities	18.2	10.1	9.2	7.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
o/w NFC & HH sectors	28.4	20.5	16.6	14.1	13.7	11.8	10.9	8.2	7.3	6.8
o/w NFC sector	37.8	22.9	15.3	11.8	11.0	9.1	8.1	5.7	5.0	4.4
o/w HH sector	22.8	19.1	17.4	15.5	15.4	13.4	12.5	10.1	8.9	8.5
Coverage ratio	46.7	40.2	35.5	29.9	33.3	32.1	31.0	28.5	28.5	27.4
Return on equity(1)	8.5	6.8	6.3	5.0	6.3	6.9	6.4	4.9	5.2	4.5
Return on assets(1)	0.9	0.9	0.9	0.7	0.9	1.0	0.9	0.7	0.7	0.6
Total capital ratio	22.6	25.3	25.0	25.2	24.3	25.2	25.6	25.4	24.6	24.3
CET 1 ratio	20.1	22.3	22.2	22.9	22.1	23.0	23.4	22.9	21.9	21.8
Tier 1 ratio	20.5	23.2	23.0	23.4	22.6	23.5	23.9	23.4	22.5	22.4
Loan to deposit ratio	98.8	98.7	93.2	95.3	91.8	88.5	88.4	90.2	90.3	89.8

(1) For comparability reasons, annualised values are presented
Source: ECB Consolidated Banking Data

4.2.1. BANKING SECTOR

Although capital levels of Irish banks are healthy, profitability is coming under increasing pressure. Profits have been declining since end-2018, with return-on-equity (RoE) dropping to 4.5% as at June 2019, down from 6.9% a year before, (Table 4.2.1). Reduced profitability has been the result of a combination of factors, including a compressed net interest income margin, driven largely by lower yields on debt securities, higher operating costs, the maintenance of legacy assets, and, for some banks, additional provisions required following the Central Bank of Ireland's (CBI) Tracker Mortgage Examination. All major banks are implementing cost-cutting initiatives, including digitalisation investments and staff reductions, to counteract these trends. The aggregate Common Equity Tier 1 (CET1) capital position of all Irish banks was 21.8% in June 2019, down from 23.0% a year ago but significantly above the euro area average of 14.8%. However, foreign-owned subsidiaries, which are less retail-oriented than the largest Irish banks, were responsible for most of this excess capital position ([29]).

External uncertainties persist and continue to undermine the market performance of Irish banks. Much like the rest of the Irish economy, domestic banks remain susceptible to external spillovers, most notably related to the UK's decision to leave the EU. These sources of uncertainty have driven the stock prices of the Irish banks down, especially in the third quarter of 2019, trading well below the euro-area financial indices.

Credit growth is subdued overall. Loans to households increased by 2% on a year-on-year basis as at August 2019, driven by both housing and consumption loans. Loans for primary dwelling houses (PDH) continued to expand. This increase was driven by fixed-rate mortgages, even though flexible rate mortgages still account for 66% of PDH mortgages. Total credit to domestic non-financial companies (NFCs), however, continued to contract, underlining the weak demand for credit and investments.

Over the past year, Irish banks have made significant progress in reducing non-performing loans (NPLs). According to ECB consolidated banking data covering both domestic banks and foreign subsidiaries, the NPL ratio for the banking sector was 4.2% of gross loans as at June 2019, down from 8.5% a year earlier (Table 4.2.1) ([30]) . This reduction was possible due to sizeable portfolio sales by the three largest Irish banks in 2018 and early 2019. A significant proportion of the NPL stock continues to be comprised of residential mortgages.

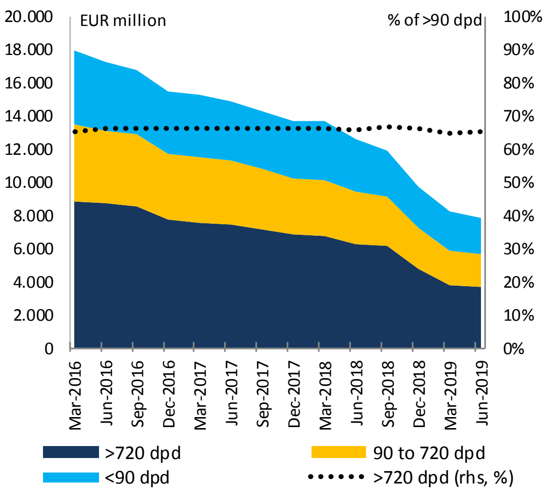
Long-term mortgage arrears in the banking sector continue to represent a significant proportion of the NPLs. Loan disposals and

([29]) A significant part of this excess capital is due to foreign subsidiaries. Indeed, the CET1 ratio for the domestic banking groups, including the largest three Irish banks Bank of Ireland, Allied Irish Banks, and Permanent TSB, was much lower at 17.6% in June 2019, slightly down from 18.4% a year before.

([30]) The NPL ratio for domestic banking groups is higher, 6.0% of gross loans as of June 2019, down from 9.1% a year before.

securitisations during late 2018 have reduced the stock of long-term arrears, i.e. loans that are more than 720 days past-due (Graph 4.2.1). Nevertheless, these loans continue to represent approximately two-thirds of all loans that are more than 90 days past-due. This portion of the NPL stock is likely to be the most challenging for banks to resolve. The Mortgage-to-Rent scheme ([31]), which targets long-term arrears, could play an important role in addressing this challenge. Although the scheme is attracting an increasing number of applications, approvals remain low, around 15% as of September 2019. Moreover, a significant number of applications are either terminated or deemed ineligible while there is evidence of increased delays in the entire process. It remains to be seen if these challenges will be overcome by the recent renewed efforts.

Graph 4.2.1: **Residential mortgage arrears in the banking sector**



(1) The graph distinguishes between all loans held by banks in terms of days past-due ('dpd').
Source: Central Bank of Ireland (CBI)

Aggregate provisioning has dropped to historical lows. Following a prolonged period of decline, the coverage ratio for the banking sector (ECB figures) was 27.4% as at June 2019, down from 32.1% a year earlier. This ratio is much lower than the euro area average of 47.7%. Further analysis shows that the coverage ratios remain low for some of the Irish banks, even after controlling for improving macroeconomic conditions (e.g. rising property prices) and the composition of the NPL portfolio (e.g. higher share of collateralised loans which carries lower provisioning) (European Commission, 2019b, pp. 14-16).

A number of initiatives have been proposed over the past years to address the social and economic impact of the non-performing loans workout process. The initiatives expose to a different extent the interests of homeowners and lenders. Some of them, like the Mortgage-to-Rent or the Abhaile ([32]) schemes, aim to provide help and restructuring packages to vulnerable homeowners. Others may have unintended consequences by affecting creditors' rights. Most recently, the Land and Conveyancing Law Reform Act 2019, which entered into force in August 2019, sets out the considerations the courts must take into account when a lender is seeking an order for the repossession of lands. Another recent initiative, the so-called "No consent, no sale" bill that was proposed in January 2019, could adversely affect the process of loan disposals. The Bill passed second stage in Dáil Éireann in January 2019.

The Central Bank of Ireland continues to make active use of its macro-prudential policy toolkit. The Central Bank of Ireland (CBI) has decided on 1 October 2019 to maintain the countercyclical capital buffer (CCyB) rate at 1%. The CCyB has been implemented in July 2019 with the objective of increasing the resilience of the financial system. As a part of the macro-prudential policy framework for the real estate sector, the CBI introduced in 2015 mortgages measures, i.e. limits on loan-to-value (LTV) and loan-to-income (LTI) ratios, to increase the resilience of the banking and household sectors to financial shocks ([33]). In its

([31]) The *Mortgage-to-Rent* scheme supports mortgage holders in arrears. Under the scheme, a homeowner's property is bought by an approved housing body and rented out to the original mortgage holder, who remains in it as a social tenant. The scheme was revised over the course of 2017 with a range of amendments to eligibility criteria and administration in view of making it more flexible and accessible to borrowers.

([32]) The *Abhaile* scheme provides independent expert financial and legal advice to people who are insolvent or in serious mortgage arrears on their home.

([33]) The mortgage measures provide for a set of upper limits on these two ratios, which differ depending on the type of borrowers and purpose (first-time vs subsequent buyer, buy-to-let). The measures take the form of 'speed limits', allowing lenders to exceed to caps for a set proportion of mortgages. Additional exemptions are also provided for negative equity mortgages (LTV), switcher mortgages latest revision in the fourth quarter of 2019, the CBI decided not to change any of the parameters of the two measures. A recent assessment by the European Systemic Risk Board (ESRB) has concluded that the macro-prudential measures implemented by the Central Bank of Ireland are sufficient to address the identified vulnerabilities in the residential real estate sector (ESRB, 2019). The authorities have also recently announced their willingness to give CBI the power to activate a systemic risk buffer (SyRB).

4.2.2. NON-BANKING SECTOR

The insurance sector continues to face risks related to the UK's decision to leave the EU. Nearly one-third of the gross premium incomes of Irish insurers and re-insurers are from the UK. The authorities have enacted temporary permissions regimes to provide additional time to insurers to complete the implementation of their restructuring plans to prepare for the UK's withdrawal from the EU. Beyond these, the Irish insurers and their UK-based head entities are also highly exposed to the UK market through their investment portfolios. This exposes them to significant exchange rate and market risk in case of market valuation fluctuations.

Ireland's large and growing non-bank financial sector deserves close attention. Total assets managed by the investment funds have increased substantially over the past years, reaching €2.7 trillion in June 2019, up from €375 billion ten years ago. According to the latest data available for end-2017, 72% value of the outstanding fund shares and units were issued in other Member States, with the UK issuance representing nearly 40%. Shares and units issued in Ireland represented only 8% of the total assets. These figures clearly highlight the outward orientation of the Irish investment fund sector. While this may limit some of the direct exposure and potential spillovers of risks to the domestic economy, the sheer size and growing interconnectedness in the sector exposes Ireland to global shocks. At the same time, there is evidence that funds are increasingly holding assets with higher risk and lower liquidity under management, which may amplify the generation and propagation of shocks (European Central Bank, 2018a). The CBI aims to enhance its risk monitoring and assessments, which are crucial for timely identification of risks.

(LTV and LTI), and lifetime mortgages (LTI, effective from July 2019).

4.2.3. ANTI-MONEY LAUNDERING

Ireland has strengthened its anti-money laundering framework, but more remains to be done. In its 2019 follow-up of the 2017 Mutual Evaluation Report (MER), the Financial Action task force (FATF) has upgraded Ireland's compliance rating on 11 of its 40 recommendations. While this points to a good overall progress in addressing the deficiencies identified in the 2017 MER, a number of weaknesses remain. This is particularly relevant, as Ireland faces some inherent money laundering risks associated to its internationally-oriented economy, the significant volume of foreign direct investment, as well as the presence of special purpose entities, often set up on behalf of non-domestic sponsors([34]), letterbox companies and shell companies.

The new register of beneficial ownership should significantly improve the available information on ownership of special purpose entities, letterbox companies and shellbox companies. In line with the anti-money laundering (AML) Directive, the register was opened in July 2019. Once all the required information has been duly submitted, the register will contribute to mitigating secrecy and reduce the possibility of money laundering. At the end of December 2019, 75% of companies registered in Ireland had done so.

The 2017 national risk assessment considers the money laundering risk posed by companies and legal structures as moderate, but this is under revision. Following a 2017 recommendation by the FATF, Ireland is working on a sector-specific risk assessment to complement its existing national risk assessment. Trusts or company service providers are regarded as having a medium to high risk level, mainly due to potential exposure to high-risk jurisdictions and customers, and

[34] Estimations differ as to the share of FDIs flowing through special purpose entities, from 5% calculated by Ireland's Central Statistical Office to 62% calculated by the International Monetary Fund. No official statistics are available as Ireland does not provide this data to the OECD.

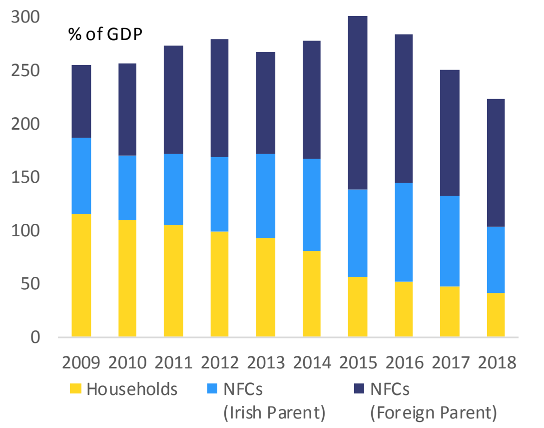
challenges with customer due diligence (lack of face-to-face contact, lack of transparency on beneficial ownership of shares). The same risk applies to professionals (e.g. auditors, solicitors) servicing companies and trust, yet statistics are not always available to identify professionals providing such services, which hampers the risk-based supervision of activities in the sector.

The incomplete understanding of risk exposure to money laundering by professionals engaged in the provision of services to companies and trusts might hamper their role as gatekeepers. Professionals engaged in the provision of services to trusts and companies are often the first line of defence against money laundering risk, as they are involved in the first stages of company creation. Supervisory inspections by the Department of Justice highlighted deficiencies in compliance with AML obligations. Suspicious transaction reporting by professionals engaged in the provision of services to trusts and companies is low compared to the risk level ([35]), which was also stressed by the FATF. This limits the information available to the Financial Intelligence Unit to identify suspicions of money laundering and to disseminate this information to law enforcement and other competent authorities. To improve the understanding of risk among these professionals, Irish competent authorities have issued guidance and organised trainings, including with regard to special purpose entities, letterbox and shell companies. Strengthening supervision and guidance will be key to ensure that the level of customer due diligence applied is commensurate to the risk. Given the significant presence of complex legal structures and foreign ownership, the efficient functioning of the beneficial ownership registers would be critical.

4.2.4. PRIVATE INDEBTEDNESS*

Private debt as a share of GDP is high but declining. In 2018, it stood at 223.2% of GDP, almost four times the size of government debt and well above the EU average (137.5%) and the MIP threshold (133%). However, it declined for a third consecutive year and is again approaching its pre-crisis level ([36]). This recent decline reflects a combination of particularly strong GDP growth and active deleveraging in both the household and the corporate sectors. The bulk of the stock of private debt is held by non-financial corporations (181.5% of GDP), with households accounting for the remainder (41.7%). The assessment of the risks associated to these high debt levels, however needs to take account of the implications of the strong presence of multinational companies in Ireland, which affects the interpretation of measures of both corporate debt and GDP (Department of Finance, 2019f). Removing the debt of foreign-controlled corporates from the private sector debt stock would bring the latter below the formal MIP threshold that is expressed as a percentage of GDP (see graph 4.2.2).

Graph 4.2.2: **Private indebtedness**



Source: CSO

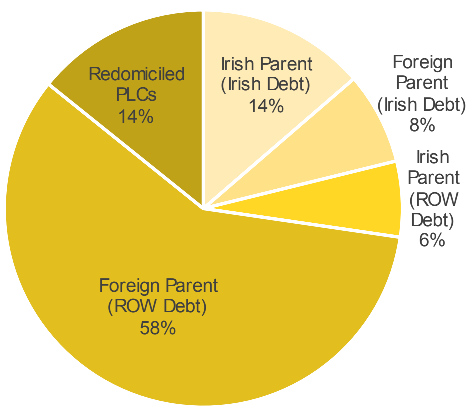
While corporate debt is high overall, the exposure of the domestic economy and financial

([35]) The number of reports is low compared to the size of the sector: in 2018, the more than 350 registered trust and company service providers reported only 15 suspicious transactions. The almost 10.000 solicitors reported 13 suspicious transactions and the almost 7.000 accountants and tax advisors registered in the country reported 20 suspicious transactions.

([36]) Household debt is lower than the so-called prudential and fundamental debt benchmarks calculated by the Commission, while NFC debt is higher than the benchmarks. Nonetheless, the benchmarks are known to be misleading given the specific characteristics of the Irish economy, such as a very low wage share in GDP and the presence of MNE and SPE debt.

system to it is more limited. Headline indicators of non-financial corporation debt relative to GDP point to high debt burden that would call for further corporate deleveraging. Analysis of the ultimate ownership of firms domiciled in Ireland however shows that about two thirds of corporate debt was concentrated in foreign controlled firms (see graph 4.2.2). Corporate debt of domestically controlled firms was equivalent to 61.7% of GDP or 101.3% of modified gross national income ([37]) in 2018 after declining in absolute terms. A breakdown of NFC debt by location of the counterparty reveals that Irish counterparts held about 22%, while 64% was held abroad, including in the form of intra-group loans. The remainder of the debt (14%) is concentrated in so-called redomiciled companies, i.e. firms that have located their headquarters in Ireland without substantial real activity (see graph 4.2.3). Overall, the links between those corporates that account for the high debt and the Irish financial system are thus weaker than headline figures would suggest, implying the impact of possible shocks to the corporate sector would be mitigated as a result.

Graph 4.2.3: **Breakdown of NFC debt by location of counterparty, 2018**



Source: CSO

([37]) The difference between gross domestic and gross national income is particularly high in the case of Ireland, due to high net factor payments to the rest of the world (about 22% of GDP in 2018). Modified GNI (GNI*) additionally corrects GNI for some factors that are specific to the activities of multinational enterprises located in Ireland (notably related to patents and aircraft leasing). In 2018, GDP exceeded GNI* by a factor of 1.6.

The stock of household debt has declined to 41.7% of GDP in 2018, almost a third of the 2009 ratio (116%) but remains a source of vulnerability. This decline reflects active deleveraging in all years since 2009, combined with high GDP growth. Household debt is largely composed of mortgage loans (83% at the end 2018), which are secured on a property and imply a lower interest burden (Department of Finance, Analysis of Private Sector Debt in Ireland, March 2019). While the stock of household debt in proportion to GDP in Ireland is below the EU average (60.8%), the use of GDP as a benchmark is of limited informational value in an Irish context (see section 1.1). Indeed, in proportion to modified gross national income, household debt was significantly higher at 68.4% in 2018, albeit after steadily declining from 146% in 2009. Furthermore, when expressed in per capita terms or relative to disposable income, the debt of Irish households also appears high in an EU comparison. Overall, and despite the strong deleveraging, the household debt stock remains a source of vulnerability in the event of adverse shocks.

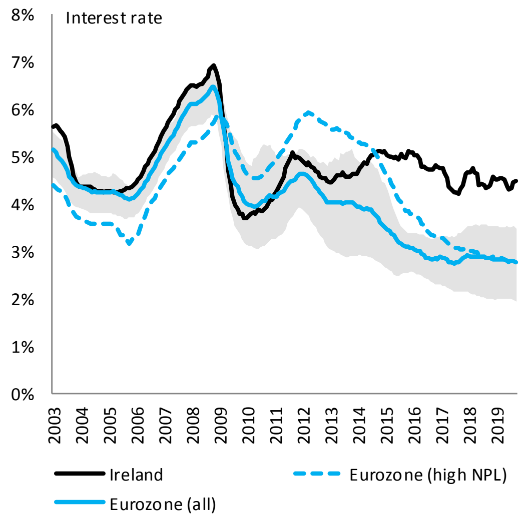
The continuous and substantial decline in household debt over recent years masks some structural challenges, such as high mortgage arrears. While the share of Irish borrowers with longer-term fixed rates is low in an international comparison, there has nonetheless been an increase in the share of mortgages with longer fixation periods, i.e. five years or more (Central Bank of Ireland, 2019a). Overall, this will increase households' resilience against adverse interest rate shocks. While banks have made significant progress in reducing their NPL-ratios (see above), long-term mortgage arrears remain an important issue for many borrowers, despite the existing schemes to reduce mortgage arrears. These deep arrears have been particularly persistent and the utilisation of personal insolvency for borrowers is relatively low.

4.2.5. SME ACCESS TO FINANCE

The cost of credit, especially for small and medium enterprises (SMEs), remains a concern for the competitiveness of Irish firms. For smaller new loans to non-financial corporations (< €1 million), which are mostly destined to

SMEs, the Irish interest rates are the highest in the euro area, (Graph 4.2.4). Interest rates for loans to companies in certain sectors are particularly high, including transport and storage, Information and Communication Technology, and construction sectors, (Central Bank of Ireland, 2019b). Weak competition in the market for SME loans, which is currently dominated by only two credit institutions, is one of the main reasons for the high interest rates.

Graph 4.2.4: **Comparison of new business loan interest rates (< €1 million)**

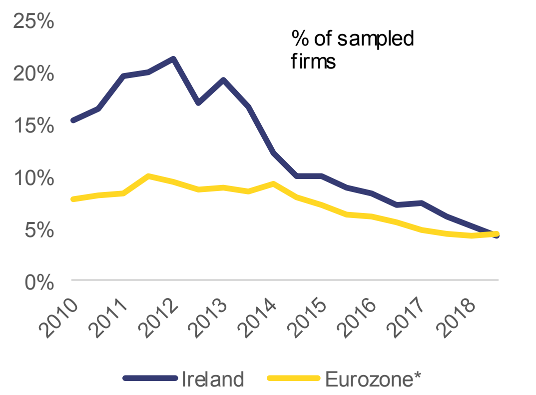


Interquartile range corresponds to 25 to 75 percentage points for the cross-country distribution. Only loans to non-financial corporations are considered, excluding evolving loans and overdrafts, convenience and extended credit card debt.
Source: ECB

Loan application rates, as well as loan rejections, are declining significantly. According to data from the Survey on the Access to Finance of Enterprises (SAFE), the share of firms that applied for loans has declined from 32% in early 2010 to 19% in 2019, which remains consistently lower than sample averages for euro area countries. Although applications have dropped, the share of Irish firms that have either a rejected application, refused offer, or those that did not apply due to expected rejection has also declined to levels comparable with other euro area countries, (Graph 4.2.5). In particular, loan rejections were 10% in 2019, down from a peak of 28% in 2014.

Put together, these results suggest a mixed picture, with access to finance being an issue for smaller firms. According to SAFE survey results, working capital remains the most common reason for credit applications among micro and small firms. This implies that high interest rates are likely to be deterring smaller firms, as well as those dependent on local funding sources, from applying for loans. For larger firms, credit applications are mostly driven by growth and expansion. Meanwhile, the share of firms expecting substantial growth (i.e. above 20% annually in terms of turnover) has declined substantially from a high of 15% in 2015 (highest in the euro area) to 9% by 2018, most likely due to the UK's decision to leave the EU ([38]). This suggests that larger firms, or those that can obtain foreign funding, are reducing their demand for credit due to growing uncertainty. This is confirmed by the fact that the share of firms that use internal funds is now much higher in Ireland than across the EU, 25% vs. 15% at end-2018.

Graph 4.2.5: **Credit rejections/refusals**



(1) The figure aggregates all bank loan and credit line applications that were rejected by the bank, refused by the borrower, or deterred because of a possible rejection *Due to data availability within the SAFE database, the eurozone benchmark consist of Austria, Belgium, Germany, Finland, France, Greece, Ireland, Italy, Netherlands, Spain, and Portugal were included for the eurozone benchmarks.
Source: Survey on Access to Finance or Enterprises (SAFE) and European Commission

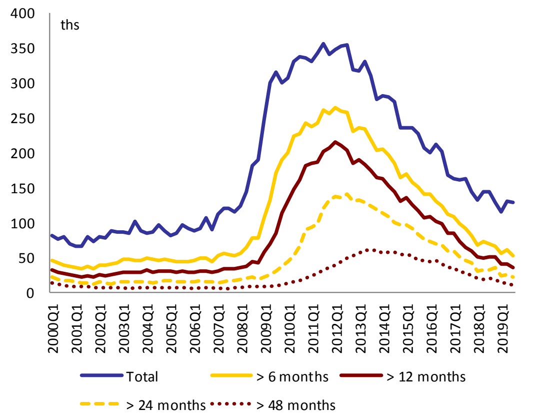
([38]) Deeper analysis (not provided) here shows that firms expecting substantial growth are 35% more likely to apply for bank loans in Ireland.

4.3. LABOUR MARKET, EDUCATION AND SOCIAL POLICIES

4.3.1. LABOUR MARKET

Ireland's labour market performance is robust. The employment rate (20-64) reached 74.1% in 2018, slightly above the EU average (73.1%). Solid job creation across most sectors continues, bringing the unemployment rate down to 4.8% in Q4-2019 (seasonally adjusted), its lowest level in a decade (Graph 4.3.1). The long-term unemployment rate has steadily improved (1.7% of the active population in Q2-2019 against 2.5% on average in the EU). Under a strong momentum for policy reform, climate transition, new forms of work and skills shortages are rising challenges for the labour market.

Graph 4.3.1: **Unemployment by duration**



Source: Eurostat

Some groups are not fully benefitting from the strong labour market performance. The overall activity rate (15-64) stood at 72.9% in 2018, below the EU average (73.7%), suggesting the existence of untapped labour potential. The female activity rate (15-64) is 12.5 pps lower than that of men (67.3% vs 79.8% in Q3-2019). Self-reported disability in Ireland is among the lowest in the EU. However, the employment rate of people with disabilities (32.2% in 2017) increased 6 pps compared to 2016, but remains well below the EU average (50.6%). [39]

The gender employment and pay gap have slightly increased. The gender employment gap increased slightly to 12.2 pps in 2018, and is above the EU average. The increase in female employment has been higher in low-paid jobs, leading to a higher gender pay gap over the past decade (OECD, 2018). A new Parents Leave and Benefit Scheme was adopted in November 2019. This provides parents with an individual entitlement to two weeks, non-transferable paid leave in the first year of a child's life, to be extended to seven weeks by 2021. The 2020 Budget will finance, among others, a Returnship Programme to help inactive women due to care responsibilities get back into the workforce. An integrated strategy to promote equal opportunities for all, including working arrangements, could address remaining gender gaps.

The transition to a carbon-neutral economy may shift the existing labour market structure. This transition is expected to have overall positive employment effects, but with differences across sectors and regions. Job gains could be expected in the construction, manufacturing or renewable sectors. These might be partly offset by job losses in sectors such as fossil fuel-related mining or quarrying (European Commission, 2019e). The provision of new and more adapted skills could help better exploit the job-creation potential and facilitate the labour transition of those at high risk of joblessness. Where appropriate, compensatory measures can also contribute to a socially fair transition (see Section 4.5.2).

Challenges remain to enhance the provision of early childhood education and care, a major obstacle to higher female labour participation. Participation in early childhood education and care from age three is well above the EU average (93.1% in 2018), and participation in formal childcare of those below three years (34.4%) is at around the EU average. The share of children aged less than three years in formal childcare for 30 hours or more (at 10.6%) is lower than the EU average (17.2%). The cost of formal childcare in Ireland affects to a greater extent low-income families. For them, net childcare costs as a percentage of disposable income were among the highest in 2018 (see Graph 4.3.2). The low progressivity of childcare costs was likely to be a major cause of the existing inequality in childcare use in 2018.

([39]) Academic Network of European Disability Experts (ANED) calculations based on Eurostat data. https://www.disability-europe.net/theme/eu2020

Box 4.3.1: **Monitoring performance in light of the European Pillar of Social Rights**

The European Pillar of Social Rights is a compass for a renewed process of upward convergence towards better working and living conditions in the European Union. It sets out twenty essential principles and rights in the areas of equal opportunities and access to the labour market; fair working conditions; and social protection and inclusion.

Social Scoreboard for IRELAND

SOCIAL SCOREBOARD		SDGs
Equal opportunities and access to the labour market	Early leavers from education and training (% of population aged 18-24)	4 QUALITY EDUCATION
	Youth NEET (% of population aged 15-24)	
	Gender employment gap	5 GENDER EQUALITY
	Income quintile ratio (S80/S20)	
	At risk of poverty or social exclusion (in %)	10 REDUCED INEQUALITIES
Dynamic labour markets and fair working conditions	Employment rate (% of population aged 20-64)	
	Unemployment rate (% active population aged 15-74)	8 DECENT WORK AND ECONOMIC GROWTH
	Long-term unemployment rate (% active population aged 15-74)	
	GDHI per capita growth	
	Net earnings of a full-time single worker earning AW	
Social protection and inclusion	Impact of social transfers (other than pensions) on poverty reduction	1 NO POVERTY
	Children aged less than 3 years in formal childcare	
	Self-reported unmet need for medical care	3 GOOD HEALTH AND WELL-BEING
	Individuals' level of digital skills	

Critical situation	To watch	Weak but improving	Good but to monitor	On average	Better than average	Best performers

Members States are classified on the Social Scoreboard according to a statistical methodology agreed with the EMCO and SPC Committees. It looks jointly at levels and changes of the indicators in comparison with the respective EU averages and classifies Member States in seven categories. For methodological details, please consult the proposal for a Joint Employment Report 2020, COM(2019) 653 final; NEET: neither in employment nor in education and training; GDHI: gross disposable household income. Update of January 2020.

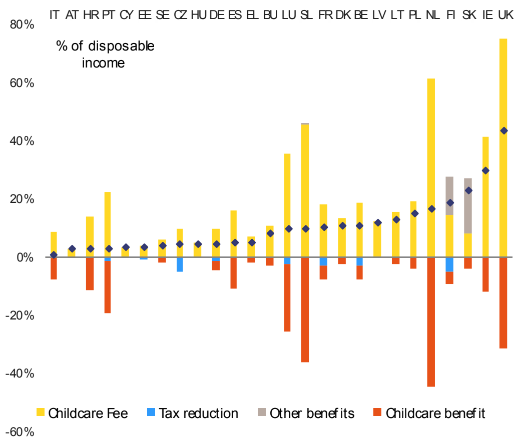
Ireland performs relatively well on a number of indicators of the Social Scoreboard supporting the European Pillar of Social Rights, while challenges remain. Labour market outcomes continue to improve. Employment is above and unemployment below the EU average. Real disposable household income (GDHI) per capita has been bolstered by accelerating wage growth and subdued inflation, but remains slightly below pre-crisis levels. Overall, the Irish tax and benefit system continues to be effective in reducing poverty and inequalities.

Some population groups have yet to reap the benefits of economic expansion. While employment rates are above the EU average for both women and men, the gender employment gap is still above the EU average with no signs of reduction. Although increasing, the employment rate for people with disabilities is below the EU average. The share of people living in low work intensity households is rapidly decreasing but remains one of the highest in the EU. The share of the population with at least basic digital skills is increasing. Child poverty is still a concern, with 1 in 4 children living in relative poverty. The rising number of homeless people, due to rent increases in big cities and insufficient provision of social housing, calls for further efforts. In this regard, individualised support in major urban areas and targeted to the groups most affected could help address this challenge.

Ireland is delivering very well on education generally. The education system in Ireland continues to show positive outcomes, with the rate of early school leaving at 5 %, as one of the lowest in the EU. Higher education attainment places Ireland among the three best-performing EU Member States. Ireland ranks top in terms of percentage of students from disadvantaged background and share of students with migrant background having attained a baseline level of skills (see Section 4.3.3).

Following the recent launch of the National Childcare Scheme, net childcare costs fall very substantially for lower-income households. For a single parent with two children earning the average wage, net childcare costs fall from 30% of the average wage to 1.2% of the average wage, improving Ireland's rank position considerably. However, net childcare costs remain among the highest for middle and higher income households (26.5 and 31%, respectively in 2018). While the still relatively high costs of early childhood education and care provision require careful monitoring, the Scheme is expected to significantly improve the incentives to participate both at the extensive (i.e. moving into work) and intensive (i.e. increasing working time) margins for low-income families helping them to reconcile work and care([40]).

Graph 4.3.2: **Net childcare costs for a low-income family, by component**



Source: ESDE – Employment and Social Developments in Europe 2019

Ireland has launched a key reform aimed at improving the provision of affordable and quality childcare. In line with the European Pillar of Social Rights, it launched on 19 November 2018 'First 5', Ireland's first ever strategy for early childhood. This ten-year strategy aims to deliver a broader range of options for parents to reconcile work and care, to promote child health, and to tackle early childhood poverty. The Budget, and further amended in the revised estimates volume for 2020, allocated extra funding of €103 million to provide additional resources to a number of areas including Tusla, the Child and Family Agency, Childcare and Youth Services, bringing the allocation for the Department to over €1.6 billion, from €1.1 billion in 2016. The additional funding will be targeted at those with the lowest income, single parents and children with additional needs. The impact of these measures remains to be seen, with future plans requiring a close monitoring.

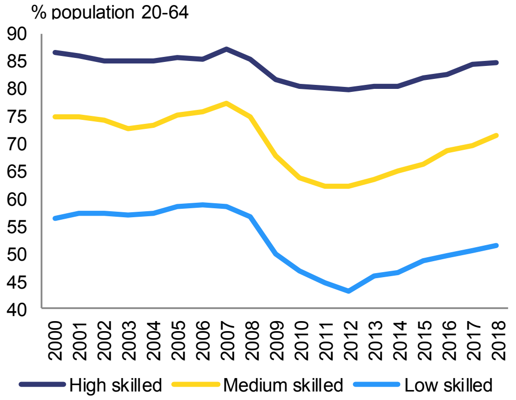
While support schemes for people with disabilities have been launched, their integration to the labour market remains challenging. People with disabilities find difficulties in getting to work, in particular women (the female employment rate was 28.6% in 2017, compared to 36% for men). The employment rate gap between people with and without disabilities is the highest in the EU (42.2 pps vs 24.2 pps in the EU). In 2015, the government introduced a new "Comprehensive Employment Strategy for People with Disabilities", a ten-year programme that supports access to employment for those who are able to and want to work. The impact of the strategy is still to be seen.

The share of workers in low- and middle-pay occupations is shrinking, with a pronounced decrease at the bottom of the pay distribution. Evidence suggests a decrease in the share of middle-pay occupations in total employment of 0.4 pps from 2011 to 2018, while employment in low-pay jobs is declining even faster (2 pps in the same period). Conversely, the share of employment in high-paid jobs increased 2.4 pps in the same period (European Commission, 2019f).

The provision of training and skills development remain key for employment outcomes in Ireland. Disparities between the employment rates of people aged 20-64 with high, medium, and low skills are significant. While the employment rate of the highly skilled was 84.7% in 2018, it was only 51.5% among the low-skilled. Efforts to upskill the workforce are ongoing (see Section 4.3.2), but are likely to require further investments to lead to sustained employment outcomes and career progression.

([40]) The impact on labour market participation is simulated using the OECD tax and benefit model. The assessment consists of indicators pertaining to work incentives for parents with children requiring care, including net childcare costs (NCC), as well as participation tax rates (PTRs) and marginal effective tax rates (METs) after accounting for the cost of centre-based childcare.

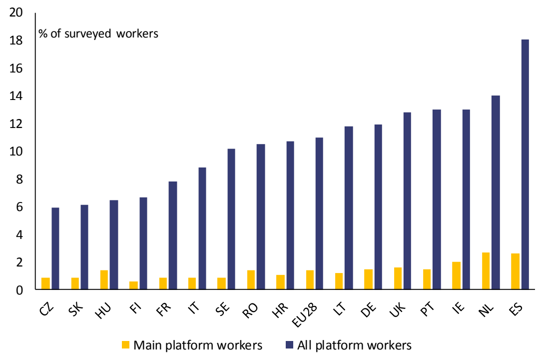
Graph 4.3.3: **Employment rate, by educational attainment**



Source: Eurostat

The impact of platform work is apparent in Ireland, with rising concerns about the quality of employment. A European Commission's Joint Research Centre study (European Commission, 2018a) indicates that 13% of the working-age population in Ireland has at least once provided services via online platforms. The share of workers operating on platforms as their main job remains small (2% of the working-age population). However, as remuneration is often based on the task performed, platform workers might not be granted full social protection benefits, such as sick leave or sick pay. Platform work has also raised concerns as regards workers' employment status.

Graph 4.3.4: **Share of platform workers across 16 EU Member States, year**



Source:

More efforts are needed to provide adequate social protection to the self-employed. The social security system covers all people in employment, provided their income meets the income threshold indicating attachment to the workforce, i.e. €38 per week for employees or €5,000 per year for the self-employed. However, the self-employed do not have equal access to social protection. Following up on the 2018 Council Recommendation on access to social protection for workers and the self-employed, in 2019 Ireland extended treatment, invalidity and jobseekers benefits to the self-employed. As of 2020, self-employed people may claim for the State Pension (contributory), Widow's Contributory Pension, Guardian's Payment, Maternity, Paternity and Adoptive Benefit, Treatment Benefit, Invalidity Pension and Jobseekers Benefit. However, they are still excluded from formal coverage to accident and occupational injuries.

With the recent restriction of zero-hour contracts, improvements in working conditions are foreseen. The share of involuntary part-time employment decreased from 2017 to 2018 (Eurostat) and zero-hours contracts were greatly restricted following the implementation of the Employment Act in March 2019(38) Under the new legislation zero hours contracts are outlawed except in situations where the work is of a genuinely casual, emergency or shortterm relief nature. In addition, the Employment Act implemented seeks to improve the security and predictability of working hours for employees on insecure contracts and variable working hours. The legislation compels employers to pay a new minimum payment to employees called into work, but sent home again without work. The Act introduces rules on banded hours for employees who habitually work longer than reflected in their contract. Employers are now compelled to provide basic terms of employment within five days.

Despite considerable improvement in Ireland's active labour market policies (ALMP), some scope for improvement remains. In the current context, reforms are needed to reach out to those furthest away from the labour market. Key challenges include the high reliance on community education and second-chance education initiatives, which create weak linkages with work-based vocational training programmes and employers. Secondly, the unresponsive nature of ALMP funding to changes in unemployment, which is suggestive of ALMP provision, is partially driven by the funding needs of delivery bodies. Then, the need to link monitoring and evaluation practices to programme redesign. Lastly, lastly a lack of clarity as to how programmes are redesigned with the aim of better reaching out to the long-term unemployed and providing them more complex, individualized, services.

Measures have been taken to improve social dialogue, but there is still scope for greater involvement. Social partners' role and participation in collective bargaining has improved recently, following a controversial period during the crisis (Eurofound, 2019). However, the renewed promotion of Social Partnership still appears to be weak, with consultations restricted to a narrow range of topics, mainly around pay and terms of employment. Discussions on the annual budget plan are supported by the structured forum for economic dialogue created in 2015. Besides, further efforts to promote the involvement of civil society organisations could better support policy implementation and development, in particular in the framework of the European Semester as well as the national and local climate initiatives.

4.3.2. EDUCATION AND SKILLS

Quality and inclusiveness of education remain high in Ireland. The 2018 PISA results show that Ireland ranks above the EU average in reading, maths and science (OECD, 2019). For all these three domains, the shares of low achievers remain among the lowest in the EU: reading (12%), maths (16%) and science (17%). The education system has become more equitable as Ireland has one of the lowest shares of low-performers among students from disadvantaged backgrounds (21% versus 35% in the EU) and among students with a migrant background (14% versus 35% in the EU). The rate of early leavers from education and training decreased to 5% in 2018. The early leaving rate gap between people with and without disabilities has narrowed down from 22.5 pps in 2016 to 17.9 pps in 2017. However, certain groups, including Irish Travellers, still face high rates of early school leaving. This calls for further efforts to close existing educational gaps.

Public expenditure on education continued to increase in Ireland. In 2019, Ireland dedicated €10.8 billion to education, up 7% from 2018. Between 2018 and 2019, the total budget for preschool, primary and secondary education increased by 5% and by 1% in tertiary education. The budget for early childhood education (learning) and care from €265 million in 2015 to €574 million in 2019, an increase of 116% (Rogers, 2018)[41].

Demand for higher education continues to increase, well above the increase in spending. In 2018, the tertiary educational attainment rate reached 56.3%, compared to 40.7% on average in the EU. Between 2007-2009 and 2014-2016, the number of higher education students increased by 15.5%, while real public expenditure on higher education decreased by 12.5%. In 2016, spending per higher education student in purchasing power standards (€9,996) was below the EU average (€10,817), while in 2012 it was above the EU average (11,500 versus 10,550). Potential funding constraints may act as a barrier for higher quality education and addressing the future skills needs of the population. Plans to reform the funding model for higher education are under discussion since 2018, with no concrete proposals put forward yet (DES, 2018a).

Ireland is taking measures to address the digital skills shortage, with existing challenges to fully exploit the opportunities of the digital age. In 2019, 53% of the adult population had an overall basic or above basic level of digital skills, still below the EU average (58%). This is still below the EU average (58%). While the share of information and communication technology specialists in the overall workforce (4.3%) is slightly above the EU average (3.9%), more than half of the firms who tried to recruit such specialists experienced difficulties (European Commission, 2019h). The Government has approved the Third ICT Skills Action Plan ("*Technology Skills 2022"*) with the aim of increasing by 65% its number of information and communication technology graduates by 2022 (DES, 2019a). This is expected to contribute to meeting 70% of the annual demand of people with high-level digital skills forecasted in the period. At the same time, the Future Jobs framework foresees to close the gap with the EU in terms of digital skills with a dedicated target by 2025. Progress in the share of people with basic and above basic digital skills requires close monitoring.

[41] Rogers, M. (2018). Overview of Higher Education. In Mooney, B. (ed.) Ireland's yearbook of education 2018/2019. Dublin: Education Matters.

The efforts to extend the apprenticeship system continue, with additional programmes and more apprentices. In 2018, 10.3% of upper secondary graduates enrolled in vocational education and training programmes, all of them combining training with work experience. The action plan to expand apprenticeship and traineeship aims to increase apprenticeship places (from 12,000 to 31,000) and programmes (from 27 to above 70) by 2020.

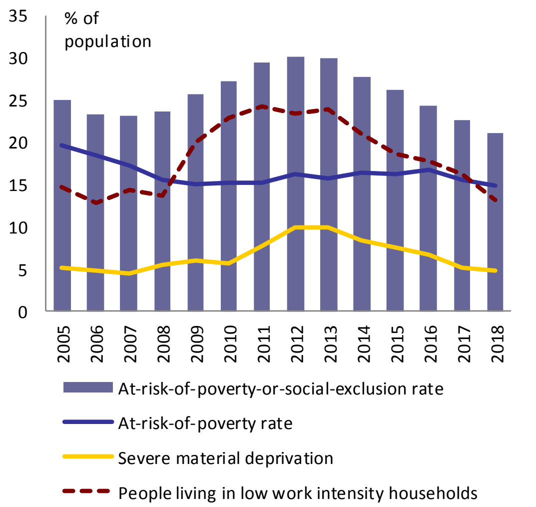
Measures to address teacher shortages have been reinforced, but results are still awaited. Concerns persist about teacher supply in primary and post-primary schools while the Teacher Supply Action Plan (DES, 2018b; DES, 2019b) is being rolled out and a workforce planning model is to be developed in 2020. A new pilot programme was announced in September 2019, which targets the areas with the highest levels of unmet substitute cover for primary school teachers (DES, 2019c). This is expected to address some of the challenges for the schools, and it might prepare the national rollout of the programme.

Skillnet Ireland might help address the skills deficit in SMEs, including managerial skills, but its reach is limited. In 2019, 17% of SMEs identified the availability of skilled staff and experienced managers as their biggest problem compared to 15% in 2017. 19% of SMEs used external financing (i.e. bank loans, credit lines) for hiring and training employees in 2019 compared to 14% in 2017 (European Commission, 2019). Skillnet Ireland is the national business support agency that promotes and facilitates workforce learning. It receives funding through the National Training Fund (resourced by a levy on employers). This funding is combined with financial contributions by businesses participating within 69 Skillnet Training Networks that are both sectoral and regionally based. In 2018, Skillnet provided training to 5.2% of the overall population of SMEs in Ireland and to more than 54,000 workers in Ireland, 23% of which were occupying managerial positions (Skillnet Ireland, 2018). The predominant participation of highly qualified employees and the low participation in the Midlands region require attention. In addition, Skillnet Ireland could benefit from additional funding, greater collaboration between its networks and with stakeholders. More focus on initiatives to drive productivity growth and innovation capacity among SMEs, such as those promoting the use of technology or workforce development, would also bring actions more in line with Future Jobs Ireland.

4.3.3. SOCIAL POLICY

The population at risk of poverty or social exclusion continues to fall. The overall at-risk of poverty or social exclusion rate fell from 22.7% in 2017 to 21.1% in 2018, slightly below the EU average. This remains negatively affected by the high share of the population living in households with very low work intensity. Although falling, this share remains well above the EU average, and is of concern given the large number of children living in such households. While fewer than 30% of adults in jobless households live with children in the other EU-15 countries, more than half do so in Ireland. Irish jobless adults are less likely to live with at least one working adult than in other EU countries, suggesting a concentration of joblessness at the household level.

Graph 4.3.5: **Main social indicators**



(1) At-risk-of poverty rate is the percentage of the total population who have an equivalised disposable income below 60% of the national equivalised median income. Severe material deprivation rate is the percentage of the total population who experience at least 4 out of 9 deprivations defined by EU-SILC. People living in low work intensity households is the percentage of population aged 0-59 who live in households where the adults (excluding dependent children) work less than 20% of their total work-time potential during the previous 12 months. At-risk-of-poverty or social exclusion are defined as fitting at least one of the three abovementioned categories. Provisional 2018 data.
Source: Eurostat

Social transfers play a major role in reducing poverty, but the most vulnerable groups could be better targeted. Minimum income benefits are among the most adequate in the EU (91.3% of the poverty threshold and 70.4% of the income of a low-wage earner). Ireland ranks close to EU average for indicators related to the adequacy of unemployment benefits ([42]). As highlighted in the Social Scoreboard accompanying the European Pillar of Social Rights (see Section 4.3.1), in 2017 social transfers reduced the at-risk-of-poverty rate by 53%, and the poverty gap by 81% (compared to 34% and 55% in the EU, respectively). On average, family benefits have the largest effect on the poverty rate (33%). This is followed by unemployment benefits (29%). While social benefits have a relatively small impact on the poverty rate (around 1.34%), they contribute more to reduce the depth of poverty, as these are more targeted towards those with the lowest income. However, simulations specific to Ireland show challenges as regards the effectiveness of the changes in the tax and benefit settings introduced between 2008 and 2018 to improve disposable income for most groups of the income distribution, in particular the lowest income earners. Overall, the model may show that social policies have been relatively successful in reducing poverty for households below the median income, but tax-benefit policies might be better targeted at the bottom decile. ([43])

Child poverty remains a challenge in Ireland. In 2018, 23.9% of children were at risk of poverty or social exclusion, slightly below the EU average of 24.3%. While overall measures fighting poverty have borne fruit in recent years, the at-risk-of-poverty rate among children has decreased at a slower pace (from 18.8% in 2009 to 15.8% in 2018). here is also an increasing trend in the child poverty gap from 2013, indicating that the median equivalised income of children living in relative poverty has fallen further behind the poverty threshold.

Child poverty has become central to the policy debate. A national debate including all major stakeholders was launched in 2019 under the 'NoChild 2020' initiative. Run by the Children's Rights Alliance in partnership with the Irish Times, it seeks to raise awareness and mobilise all those concerned towards concrete actions to eradicate child poverty. A new methodology, based on weekly minimum essential standard of living calculations, is gaining momentum in the policy debate. Recent evidence (Vincentian Partnership for Social Justice, 2019) shows that the deepest income inadequacy is found in single-parent households and households with older children, with important regional disparities. Based on a provision in the 2018 Social Welfare, Pensions and Civil Registration Act, consultations have taken place with stakeholders to examine ways in which social welfare rates are increased, ensuring through law the adequacy for all recipients.

([42]) Benchmarking Framework on Minimum Incomes conducted within the Social Protection Committee. For details, see Proposal for a Joint Employment Report 2020.

([43]) European Commission analysis carried out using the microsimulation model EUROMOD. Based on the methodology presented in Bargain and Callan (2010), the model isolates the pure effect of policy changes occurring over the period 2008-2018 from changes due to other factors.

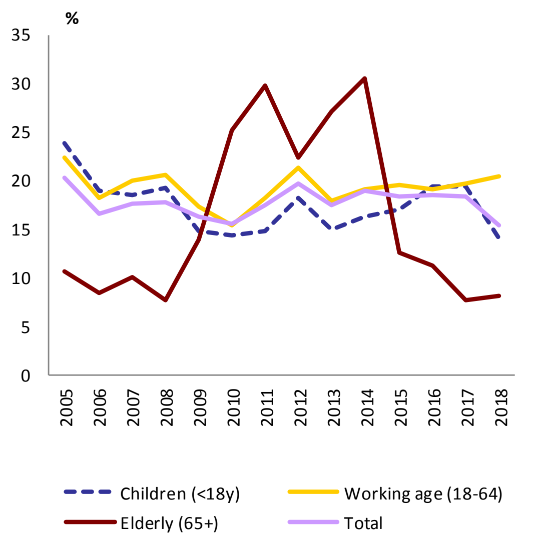
The share of the population living in quasi-jobless households remains an important challenge in terms of social inclusion and untapped labour resources. The share of people aged 0-59 living in households with very low work intensity is falling steadily (from 23.9% in 2013 to 13.1% in 2018), although it is still well above the EU average (8.8%). Irish (quasi-)jobless households have a high likelihood of including children. While fewer than 7.4% of adults in (quasi-)jobless households live with children in other EU-15 countries, 14.7% of low work intensity households do so in Ireland. Irish jobless adults are also less likely to live with at least one working adult than in other EU countries, suggesting a concentration of joblessness at the household level.

Jobless households may benefit from complementing in-cash social transfers with policies activation measures and targeted social services. The Action Plan for Jobless Households is targeted at those excluded from the labour market by extending activation measures beyond the unemployed, in particular to improve outcomes for children living in jobless households. While the strategy was launched in 2017, to date no update has been given on its effectiveness and how such measures can be further bolstered through links with enabling social services.

People with disabilities are more likely to be at risk of poverty or social exclusion than on average in the EU. In 2018, 36.9% of people with 'some or severe' level of limitation were at risk of poverty or social exclusion, compared to 29.3% on average in the EU. The difference in the at-risk of poverty or social exclusion rates between persons with and without disabilities is much higher than the EU average (19.1 pps vs. 9.4 pps in the EU). Evidence shows that this is strongly linked to low work intensity for people with disabilities[44]. Budget 2020 announced a modest but targeted social protection package. In 2020, the initiative is expected to increase by €316 per year the allowance for a person with disabilities living alone.

[44] Academic Network of European Disability Experts (ANED) calculations based on Eurostat data. Note: Self-reported disability in Ireland is among the lowest in the EU.

Graph 4.3.6: **At risk-of-poverty rate gap, by age groups**



Note: The relative median at-risk-of-poverty rate gap is calculated as the difference between the median equivalised disposable income of people below the at-risk-of-poverty threshold and the at-risk-of-poverty threshold, expressed as a percentage of the at-risk-of-poverty threshold (cut-off point: 60% of median equivalised income).
(1) Provisional 2018 data.
Source: Eurostat

Budget 2020 includes more support for vulnerable families. The 2020 Revised Estimates allocate €21.2 billion to the Department of Employment Affairs and Social Protection, an increase of €705 million on the 2019 Estimate. An additional €103million has been allocated to the Department of Children and Youth Affairs for 2020 including an increase in Tusla funding of €33 million and increased funding for Early Learning and Care of €63 million. It still remains to be seen how these measures contribute to alleviating poverty.

Shortages in housing supply and social housing have created a challenging situation. The rapid increase in the population of Ireland, along with increases in rental and residential property prices since 2013, have created affordability challenges, especially for households at the bottom of the income distribution (see Box 4.3.4). While the population of Ireland increased by around 150,000 people from 2011 to 2016, the housing stock increased only by 8,800 units. Residential construction has been strong in recent years, but housing completions still fall short of demand (see Box.3.1). Social housing as a share of the total housing stock has increased from 8.7% in 2011 to

9% in 2018 (Irish Council for Social Housing, 2019[45]). However, this share is still 3.5 pps lower than the one in 1981 (Hearne and Murphy, 2017). In 2018, the share of under-occupied social homes ([46]) was still relatively high.

Concerns over homelessness remain. In November 2019, the Department of Housing, Planning and Local Government counted 6,696 homeless adults and 3,752 homeless children. This represents an 8.7% increase in the overall number since November 2018 and a 50% increase since November 2016. The high number of homeless children implies that family homelessness remains a problem. Of the 1,685 homeless families in November 2019, 56% were single parents with children. There are still substantial regional and urban differences, with 67% of all homeless adults concentrated in Dublin.

Policy measures are being taken to tackle homelessness but their effectiveness is still limited. The government strategy for homelessness since 2016 has three main pillars: 1) housing and rehousing programme; 2) rent supplementation; and 3) supportive services in the form of emergency housing for individuals and especially families. Regarding the first pillar, investment is currently envisaged to facilitate the delivery of 54,000 new social homes by 2021. However , this might not be enough to cover all social housing needs (currently 68,000 households on social housing waiting lists). Construction of social housing gained momentum in 2019 with 8,172 units already completed and additional 14,549 homes under development in the third quarter of 2019. However, attaining the desirable level of social housing completions will take time. While construction of social housing is progressing, a big part of the actual social housing needs is covered by the second pillar. A challenge posed by the rent supplementation schemes is that they might have an inflationary effect on the rental market.

[45] Meeting with representatives of the Irish Council for Social Housing on the Fact Finding mission in autumn 2019.

[46] An under-occupied social dwelling is a dwelling deemed to be too large for the needs of the household living in it, in terms of excess bedrooms.

Box 4.3.2: Social housing policy and provision in Ireland

Residential property and rental prices continued to increase, making it more difficult for low-income households to buy a property or access affordable rental. Nation wide residential property prices have increased by 85.7% since early 2013, and by 94.9% from their February 2012 low in Dublin alone. Rental prices continued to increase both nationally and in Dublin in 2018. In the third quarter of 2019 (Q3 2019), the national standardised average rent stood at €1,243 a month, up 8.2% from a year earlier, while the average rent for Dublin was €1,762, an increase of €110 since Q3 2018 (RTB Rent Index).

Shortages in social housing have created a challenging situation. Social housing as a share of the total housing stock has decreased from 12.5% in 1981 to between 8% and 9% in recent years (Hearne and Murphy, 2017; Irish Council for Social Housing, 2019). Even though social home delivery has accelerated since 2015, there were still 68,000 households on social housing waiting lists and over 10,000 homeless people in Ireland in November 2019.

Policy measures to increase the supply of social housing are in place but their effectiveness is still limited. Rebuilding Ireland, the Government's 6-year action plan seeks to deliver over 50,000 new social housing units by 2021, through build, acquisition and leasing programmes thus meeting the housing needs of an additional 88,000 households through a housing assistance payment and a rental accommodation scheme. As of Q3 2019, the delivery of social homes has slightly exceeded its targets for each year since the launch of the action plan. If implementation continues according to plans, Rebuilding Ireland will provide social housing to over 73% of households on the current waiting list. For the timely delivery of homes to continue, all potential structural barriers need to be addressed (see Section 3 and below). Further efforts are needed to cover the needs of remaining households on the current list and of potential new applicants.

A more systematic re-assessment of individuals' rights for social housing might increase efficiency in allocating social homes. With a relatively high share of under-occupied social homes ([1]) and increasing homelessness in Ireland, a regular re-assessment of needs, including in terms of home size, might make the market more efficient. It is important that strategic planning regarding the size of newly built social homes reflects on changes in family composition and builds on a lifecycle perspective. Furthermore, the geographical allocation of new social housing units might benefit from more coordination at national level.

The regulatory environment in the social housing market may become more stable with the enactment of the Housing (Regulation of Approved Housing Bodies) Act 2019. The Act provides for the establishment of a Regulator to oversee the effective governance, financial management and performance of Approved Housing Bodies. The legislation aims to safeguard public and private investment in the sector by providing further assurances to investors, tenants, and the Government that social housing providers operate in a well-regulated and stable environment.

([1]) An under-occupied social house/flat is a unit deemed to be too large for the needs of the household living in it, in terms of excess bedrooms.

Regarding the third pillar, the government's response to the housing crisis has included the introduction of Family Hubs – emergency accommodation for children and families who are homeless. In his critical evaluation of the Family Hubs, the Ombudsman for Children calls on the Irish government to provide long-term social housing for children instead of emergency accommodation (Ombudsman for Children's Office, 2019).

4.3.4. HEALTHCARE AND LONG-TERM CARE

Public expenditure on health care and long-term care is relatively high and both systems face fiscal sustainability challenges. Ireland spends around one-fifth more on health per capita than the EU average. From 2009 to 2018, public expenditure on healthcare rose by 9% from €14.8bn to €16.2bn, above what would be expected due to the impact of population growth. The main growth drivers for health care over this period have been increased acute hospital expenditure, staff numbers and pharmaceuticals. In addition, long-term care in the form of long care is under-provided and under-regulated, with policies incentivising the use of institutional care (European Commission, 2018), which is more expensive than home care for dependency levels below a certain threshold. Expenditure projections show that, this together with the ageing of the population are likely to further increase future health care and long-term care expenditure, leading to fiscal sustainability concerns in both areas (see Section 4.1.1).

Increasing the cost-effectiveness of the health system may help create fiscal space for the universal coverage of primary care. Health status in Ireland has improved substantially since 2000, partly due to improvements in treatments. However, Ireland remains the only western European country without universal access to primary care, with more than 50% of the population paying the full costs out of pocket for a general practitioner visit. This can lead to delayed care and ultimately more expensive emergency and hospital treatment. The health system may be underperforming despite high per capita expenditure ((State of Health in the EU, Ireland Country Health Profile 2019). In 2017, an Irish cross-party parliamentary committee published the Sláintecare reform, a ten-year strategy to achieve universal access to healthcare in Ireland. The reform rollout may be endangered by a lack of sufficient expenditure control which results in a misallocation of public funds (House of Oireachtas, 2017). In 2019, Ireland set up a Health Budget Oversight Group to monitor and help control spending and staffing numbers. While budget overspends have still occurred through-out 2019, it is expected that the work of the group and HSE have contributed to moderating them.

Long waiting times for treatment remain a challenge for public hospitals despite recent positive developments.. Ireland has the largest largest market for duplicate insurance in Europe. A two-tier health system, where those with the ability to pay for treatment privately get faster access to care, including in public facilities, combined with inappropriate use of some hospital resources and the lack of universal primary care, contribute to long waiting times for patients in the public health system (despite some recent improvements). (State of Health in the EU, Ireland Country Health Profile 2019). Following a 2019 independent review, the government has made a decision to commence a process during 2020 of progressively and incrementally removing private activity from public hospitals– a fundamental reform envisioned in Sláintecare. While there are plans to increase hospital capacity, tackling this issue remains essential.

The implementation of the Sláintecare Report has so far prioritised organisational change and capacity increases over entitlement expansion The current government has made noteworthy steps to implement parts of the Sláintecare vision, mainly improving service delivery through organisational changes and increases in capacity. However, plans to achieve universal coverage remain less detailed and seem to have been put back to the second half of the Sláintecare implementation period. The 2019 general practitioner contract agreement expands resources and capacity across general practice from 2020 to 2024 but does not contain provisions for expansion of entitlement to reach universal coverage over this period. Universal coverage is a key element of making Ireland's health system accessible and cost-effective in the long-run, therefore clear milestones and deadlines are important to ensure its timely implementation. Expansion of primary care supply alone may not be enough to rebalance the system from hospital care to primary care if patients without a health card can by-pass paying a general practioner by going to a hospital emergency department for free.

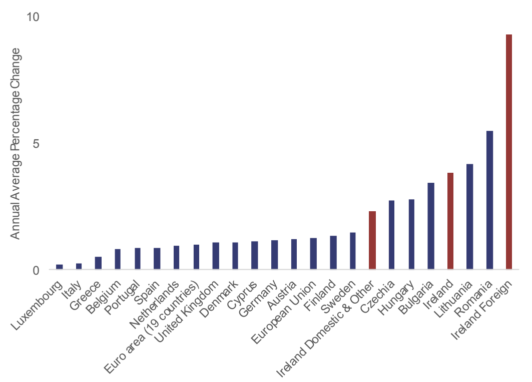
For long-term care, Sláintecare plans to support the expansion of home care, but more detailed work is needed to improve accessibility and fiscal sustainability. The Sláintecare Report proposes long-term care reforms, , including new ways of working in the community through reorganisation of nursing resources. However, as in health care, the transition and implementation is crucial to ensure that the stated policy aims are achieved. Stocktaking of existing facilities, projections for future growth in demand, and a commensurate 'gap' analysis are necessary, followed by a plan for delivery.

4.4. COMPETITIVENESS, REFORMS AND INVESTMENT

4.4.1. PRODUCTIVITY AND COMPETITIVENESS

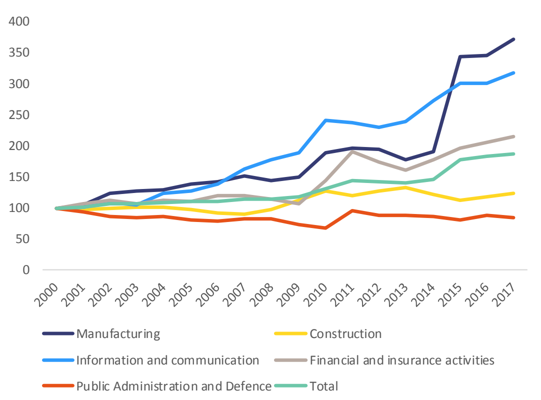
Ireland remains a highly competitive economy by international standards. Ireland scores well on major World Bank and World Economic Forum competitiveness indicators. Productivity growth continues to be strong, particularly driven by the activities of foreign multinational enterprises, even though the rest of the economy also performs better than many other European countries (see graph 4.4.1). There has also been a wide variation in labour productivity growth across different sectors (see graph 4.4.2.).

Graph 4.4.1: **Average labour productivity growth, 2010-2017**



Source: CSO, Eurostat

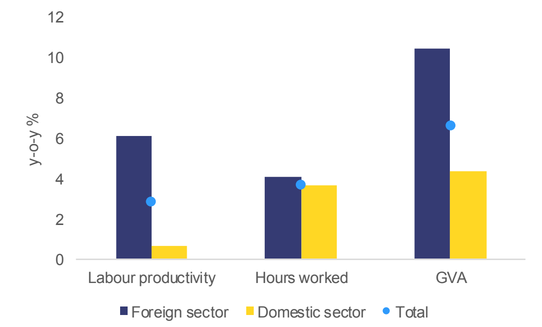
Graph 4.4.2: **Labour productivity index of main sectors**



Source: CSO

The foreign-owned multinational sector is the major driver of productivity, greatly improving the competitiveness of the Irish economy. Annual average growth of labour productivity in multinational firms during 2000-2017 was 9.3%, compared to 2.3% growth in the 'domestic and other' sector[47], both above the EU average of 1.3% (National Competitiveness Council, 2019c). In particular, labour productivity growth in the foreign sector was 6.1% in 2017, against 0.6% in the 'domestic and other' sector (Central Statistics Office, 2019c) (see graph 4.4.3). Foreign multinationals' productivity is enhanced by the investment they tend to make - focused on R&D, while investment by domestic firms remains weak (see section 4.4.4.). In 2017, the annual growth in gross value added in sectors dominated by foreign-owned multinationals was significantly higher than in other sectors (see graph 4.4.3).

Graph 4.4.3: **Labour productivity and GVA, 2017**



Source: CSO

Productivity is particularly high in large firms, in just a few specific sectors of economy. Manufacturing (notably pharmaceuticals and chemicals) made the largest contribution to labour productivity growth during 2000-2017, followed by ICT, professional, scientific, administrative and support services. In 2018, labour productivity further accelerated in manufacturing and services, where it was 9.1% and 4.7% respectively. This increase was in turn driven by total factor productivity growth, which increased by 6.2% in 2018.

This productivity concentration increases the vulnerability of the economy to sector-specific shocks. The National Competitiveness Council

[47] Foreign-owned Multinational Enterprise (MNE) dominated NACE A64 sectors occur where MNE turnover on average exceeds 85% of the sector total. These sectors are Chemicals and chemical products (NACE 20), Software and Communications sectors (NACE 58-63) and Reproduction of recorded media, Basic pharmaceutical products and Pharmaceutical preparations, Computer, electronic and optical products, Electrical equipment, Medical and dental instruments and supplies (NACE 18.2, 21, 26, 27 and 32.5). All other sectors are categorised as domestic and other sectors." (Central Statistics Office 2019c, Appendix)

warns that Ireland's economy is concentrated in a way that leaves it highly exposed to the performance of a small number of firms in a small number of sectors (National Competitiveness Council, 2019c). These vulnerabilities are amplified by concentration of export markets, notably the US which takes a quarter of all exports) and the UK (11% of all exports). This calls for a diversification of the economy and more diffusion of innovation from foreign multinational companies to local ones (see Section 4.4.2).

The cross-government strategic framework Future Jobs Ireland was launched in 2019 to define a new economic pathway for Ireland. This framework aims to support innovation and technological change, improve the small and medium enterprises (SME) productivity, enhance skills, increase labour force participation and smooth the transition to a low carbon economy. It is intended to be an evolving agenda capable of adapting to new economic challenges and opportunities through a comprehensive cross-government approach. The strategy identifies key measures that have the potential to help address the weaknesses of the domestic economy, in particular concerning SMEs. Full and swift implementation is key to make real progress. However, according to the first progress report covering the first half of 2019, the completion rate was only 68% (23 measures were on target while 11 were delayed).

Within the Future Jobs Ireland framework, an SME strategy is expected to be launched in mid 2020. To this end, an SME and Entrepreneurship Consultation Group has been tasked with the follow-up to the recommendations from the OECD Review of SME and Entrepreneurship Policy in Ireland (OECD, 2019b). The group aims to provide a platform for structured engagement between government, agencies, representative bodies and small businesses. In the meantime, Government has completed the pilot phase of its methodology to assess the impact of legislation on SMEs (the so-called SME test). In July 2019, each government department nominated a senior official as the designated point of contact in relation to the implementation of the SME Test as part of Regulatory Impact Assessments on relevant legislation.. Despite the debate on the extent to which taxation is fit for SMEs, the SME test does not apply to taxation measures.

There are several challenges affecting the competitiveness of Irish firms. The National Competitiveness Council in 2019 Competitiveness Challenge report focuses on the high cost of credit, legal services and general liability insurance as well as digital economy, infrastructure, skills and education. The Irish Seanad (Senate) report also highlights a number of major issues that are threatening the viability of SMEs or are a barrier to growth, notably the increasing cost of doing business in Ireland and the design of certain tax provisions. The cost of construction and commercial rent and the cost of credit, insurance and of business services are a particular concern for Irish SMEs (Seanad Public Consultation Committee, 2019).

4.4.2. INNOVATION

Ireland is a strong innovator and ranks 10th in the European Innovation Scoreboard 2019. It performed best in terms of impact of innovation on employment, presence of innovators and quality of human resources, including share of population with tertiary education. Two of its weakest aspects are, are public financial support for R&D and public-private linkages (European Commission 2019m). Ireland is also placed 12th in the world and 7th among EU member states in the Global Innovation Index (World Intellectual Property Organisation, 2019).

While there are many strong elements in Ireland's research and innovation system, some weaknesses need to be addressed. In particular, this concerns the amount of R&D funding, the structure of public support for business R&D and cooperation between firms and research bodies.

Ireland's current strategy for R&D, science and technology until 2020 is set out in Innovation 2020. (DBEI, 2015). A mid-term review suggests that most of its objectives are on course to be achieved. Progress so far includes the creation of five new research centres by Science Foundation Ireland and the establishment of a Disruptive Technologies Innovation Fund, with a total value of €500 million until 2027, to encourage collaboration between industry including large companies and multinationals but especially SMEs and the research sector in developing and deploying such technologies and applications on a commercial basis (DBEI, 2019a). Future Jobs Ireland 2019 identifies the means for achieving quality jobs that will be resilient into the future including developing Ireland as a centre for testing new technologies, while also addressing the impact of economic transition on vulnerable workers (Government of Ireland, 2019a).

However, relatively low levels of R&D investment are a continuing concern. Ireland's R&D intensity (gross domestic expenditure on R&D (GERD) as a share of GDP) was 1.15% in 2018 compared to an EU average of 2.11% ([48]). Although GERD is growing in absolute terms, this is not keeping pace with strong economic growth and Ireland is unlikely to achieve the target of 2.5 % of GNP within the timeframe of 2020 (Government of Ireland, 2019a).

Public R&D expenditure, while increasing, is still lower than past levels of investment, both in absolute terms and as a percentage of GDP. Although estimated at €766 million in 2018, up from €739 million in 2017, the level of the government budgetary allocation for R&D (GBARD) is still well below the pre-crisis peak of € 930 million in 2008. Public R&D intensity is also significantly lower than the EU and OECD averages (DBEI, 2019c).

While business R&D (BERD) in Ireland amounted to almost €2.8 billion or 0.86% of GDP in 2018 and is increasing in absolute terms, it is considerably below the EU average of 1.41%. Also, in 2017 foreign owned companies accounted for 69% of all R&D expenditure and they comprised 82% of the largest 100 firms by R&D spend (Central Statistics Office, 2018a). Furthermore, despite SME innovation indicators being above the EU average, in 2016 a general deterioration has been registered compared to 2014 (European Commission, 2019m). In 2016, only 36% of Irish-owned companies (accounting for 81% of all relevant firms) spent on innovation, compared to 43% of foreign-owned companies. Even though foreign owned companies accounted for only 19% of all relevant firms, they accounted for €2.9bn or 64% of all innovation-related expenditure, including €1.4bn on in-house R&D (Central Statistics Office, 2018b).

Although Ireland provides a relatively high amount of public support for companies, this is largely through an R&D tax credit. The cost of the tax credit has risen substantially since introduction, peaking in 2015 at €708m before falling back to €448m in 2017, and a significant share is claimed by large, foreign-owned firms. Direct grant support for R&D rose until 2010 but has since fallen (Department of Finance, 2016). Recent changes seek to make the tax credit more attractive for micro and small companies and the cap on outsourcing to third level institutions has increased (Department of Finance, 2019g). While the R&D tax credit provides valuable support, more priority for direct funding instruments could help stimulate research and innovation and improve productivity of Irish firms especially SMEs (European Commission, 2019l)..

Cooperation between firms and public research centres continues to develop but faces challenges. The first two calls for collaborative project proposals under the Disruptive Technologies Innovation Fund in 2018 and 2019 allocated €140 million for 43 projects involving collaborative partnerships (comprising of 159 organisations) between industry and SMEs, and public research bodies, in applying industrial research under the six themes of the revised Research Priority Areas, in areas such as health, climate action, food, ICT and manufacturing (DBEI 2018/2019). Also, Innovation 2020 aims to double private funding of R&D in the higher education sector to €48 million by 2020 (DBEI, 2019a). However, although collaboration between Science Foundation Ireland (SFI) and the business sector rose between 2013 and 2017, an increasing share of this collaboration has gone to multinational firms while the share of SMEs has declined (Department of Public Expenditure & Reform (DPER), 2019c)

([48]) Ireland is in just 20th place in the EU in 2018 in terms of R&D intensity measured against GDP, although this is affected by issues relating to the composition and measurement of Ireland's GDP. In terms of modified GNI (GNI*), that excludes distortions from foreign-owned firms, Ireland has a R&D intensity of 2% (2017).

4.4.3. DIGITISATION AND ULTRAFAST BROADBAND

Irish SMEs([49]) continue to excel in integrating certain digital technologies, but lag behind in others. Overall around 32% of SMEs in Ireland can be considered highly or very highly digitised above the EU average. Irish SMEs continue to excel in e-commerce: a growing 35% of Irish SMEs sell online and 18% sell outside Ireland, well above the EU averages of 18% and 8% respectively. 29% of the total turnover generated by SMEs comes from online sales, almost three times the EU average of 11%. Irish companies also rank relatively high on the use of big data (20%), cloud services (33%) and social media (44%). On the other hand, Irish SMEs are just near or below the EU average when it comes to adopting other e-business technology (e.g. supply chain management, enterprise resource planning, customer relationship management, radio frequency identification, etc.) According to the EIB the construction and manufacturing sectors, which together account for almost a third of SMEs in Ireland, are lagging behind other sectors in adopting digital technologies.

The European Investment Bank has identified knowledge and funding gaps that are preventing the digitisation of Irish SMEs. In its March 2019 report it identified a scope to develop effective financing mechanisms to facilitate the integration of digital technologies on the demand side to help SMEs willing to take advantage of digitisation. It is also recommended to strengthen the supply side by supporting local tech companies. Finally, while recognising various government initiatives to support the digitisation of businesses in Ireland, the EIB notes that these are not fully coordinated between government entities and are not embedded in a holistic national digital strategy.

The Irish Government welcomed the EIB`s findings and initially committed to develop a pilot scheme aimed at addressing the difficulty that SMEs have in accessing finance in order to benefit from digitalisation. Following a further assessment of demand and financing channels available, and in view of the EU COSME pilot scheme launched in October 2019, it has subsequently been considered sufficient to focus on helping SMEs make use of existing financing channels. As for overall strategies, the Irish Industry 4.0 strategy was launched in December 2019 and work is also underway to adopt a National Digital Strategy, and an Artificial Intelligence Strategy. Ireland is also member of the European High-Performance Computing Joint Undertaking.

Future-proof digital infrastructure remains crucial for the digital transformation of the economy. For rural Ireland, while fast broadband reached almost 90% (well above the EU average of 52%), ultrafast broadband is only available to 5% of rural premises (well below the EU average of 29%). Overall (including both rural and urban premises), at 56% ultrafast coverage in Ireland is also below the EU average (60%). Ireland is also one of the EU's most expensive countries for fixed broadband. Regarding 5G networks, Ireland performs relatively well on the 5G readiness indicator, as it assigned spectrum in the 3.4-3.8 GHz band by the end of 2018 and the spectrum is expected to become available for use for 5G by 2020.

The public-funded part of the National Broadband Plan is ready to start. On 19 November 2019, the Government signed a contract for implementing public intervention under the National Broadband Plan, following State aid approval from the European Commission. The public intervention covers rural premises where private commercial operators would not have rolled out high speed broadband. With an indicative budget of €2.6 billion, it aims to rollout a predominantly fibre network ensuring ultrafast coverage to around 540,000 premises in rural Ireland. The contractor will also maintain and operate this state-funded network over a 25-year term, offering wholesale services on an open-access basis during this period. The scheme complements investment made by commercial operators, who have invested over €2.75 billion in upgrading and modernising their networks over the past 5 years, with further investment planned, covering most premises.

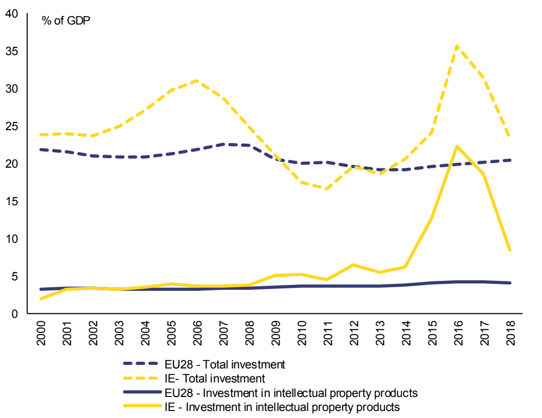
4.4.4. INVESTMENT

Total investment has recovered after the economic downturn but the main investors

([49]) The data and analysis below excludes micro-enterprises with less than 10 employees.

remain multinational companies. Headline investment figures in Ireland are volatile and largely inflated by the activities of multinationals. Investment by multinationals has particularly increased since the crisis, reflecting Ireland's efforts to attract them and restart the economy. Intellectual property is by far the main type of investment made by multinationals, followed by smaller-scale but still substantial investment in aircraft leasing. In 2015-2018, this accounted for a vast majority of all investments (see graph 4.4.4.). In the first half of 2019, investment sharply increased, again bolstered by investment in intellectual property. Underlying 'core' investment, which better reflects domestic activity, rose in 2018 but fell in the first half of 2019 (see Section 1).

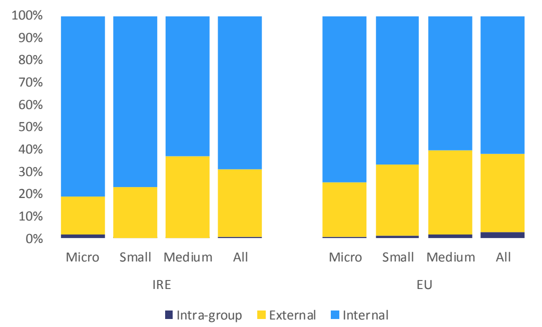
Graph 4.4.4: **Intellectual Property Investments v Total Investments**



Source: Eurostat

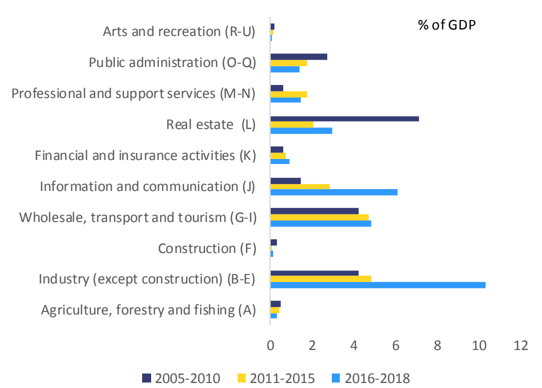
The large gap between investment by multinational corporations and by domestic firms increases the dichotomy of the Irish economy. Productivity in the multinational sector headquartered in Ireland is very high, determined by large-scale investment, particularly in research and development. Hence, Ireland's export share in global trade keeps increasing. Meanwhile domestic firms invest relatively little, despite the post-crisis economic rebound, which typically favours more investment. The unknown terms of the UK's withdrawal might have weighted down their investment decisions. Lack of investment hinders the productivity of domestic firms, which remains well behind that of foreign multinationals. Furthermore, domestic sourcing by foreign companies, which allow knowledge and skills to spill-over to domestic firms, and which could provide a certain substitute for investment, is relatively low. This calls for policies facilitating interactions between foreign and domestic companies (National Competitiveness Council, 2019b). Domestic investment is also hindered by the existence of structural barriers (see Box 4.4.1.) which force companies, particularly smaller ones, to rely on internal resources or abstain from investment.

Graph 4.4.5: **Source of investment finance, 2017**



Source: Central Bank of Ireland, SME Market Report 2019

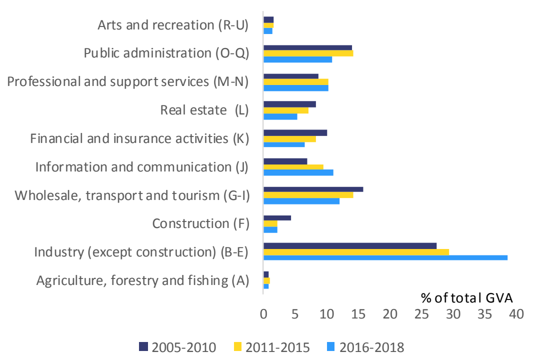
Graph 4.4.6: **Sectoral investment rates**



Source: Eurostat

Industry is the main recipient of investment in Ireland, followed by the information and communication sector and sectors encompassing trade, transport, accommodation and food services. On the back of large-scale investment, the industrial sector was the main contributor to Irish GDP in value added terms over several years, with its share increasing to 39% of the total gross value added in 2018. This sector has also been the most productive since 2000. However, this type of investment is likely to have increased the environmental footprint substantially. Investment in information and communication (ICT) was also substantial and led to a marked increase in its productivity and of the sector's value added creation. Retail and wholesale trade, transport, accommodation and food service activities were the third largest recipient of investments in Ireland, but, in contrast, relative value added by this agglomerated sector has declined over time. Construction, the largest receiver of investment in pre-crisis years, subsequently saw a sharp contraction. Despite recent renewed interest by investors, the sector's relative value added and importance in the economy continued to decline.

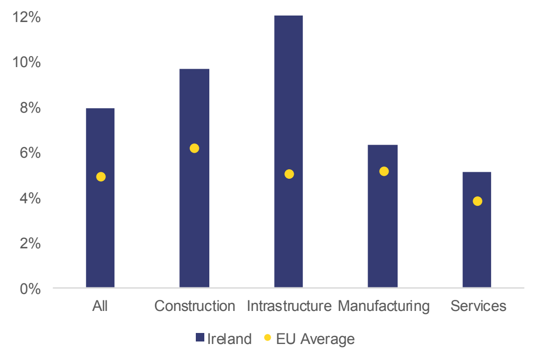
Graph 4.4.7: **GVA by sector**



Source: Eurostat

Investment in infrastructure appears necessary to support economic growth. Among the factors that enable firms to thrive, Ireland scores relatively low in infrastructure (World Economic Forum, 2019). After several years of low private and public investment in infrastructure, the available infrastructure has come under increasing strain. The financing constraints may play a role in infrastructure underinvestment (see graph 4.4.8.). While investment is needed to improve quality of roads, transport infrastructure investment dropped substantially from 2015 and has not recovered since. Mobilising additional investment in the utility sector (electricity, water and wastewater) is required to ensure the transition to a climate neutral and circular economy. The Climate Action Plan published in June 2019 (see Section 4.4.5) specifies that public investment will remain at the level identified in the National Development Plan. It is difficult to rule out, however, that public investment needs will remain unaffected by the additional policies and measures foreseen in the plan. Insufficient digital infrastructure, including the ultrafast broadband, is also a barrier to long-term investment. In contrast to other physical infrastructure, there were efforts to address this: investment in ICT infrastructure has increased considerably in recent years, and there are concrete plans to further improve it (see section 4.4.3.).

Graph 4.4.8: **Proportion of firms that are finance constrained**



Source: EIBIS 2019

Public capital investment is on an upward path, though from low levels. In 2018, public investment increased to 1.9% of GDP (3.1% of modified gross national income, GNI*), and is planned to reach 2.1% of GDP (3.5% of GNI*) in 2019. This investment is concentrated in four sectors: transport, housing, education and health, which account for more than 70% of overall expenditure. In each of these sectors, investment in physical infrastructure dominates. While budgeted expenditure has noticeably increased lately and is expected to keep rising (see Section 1.7.), it will take a considerable effort to address the investment gaps that have accrued over the sustained period of low investment (2011-2017).

Box 4.4.1: Investment challenges and reforms in Ireland

Section 1. Macroeconomic perspective

The investment-to-GDP ratio stood at 22% in 2018, somewhat down from previous years. Investment in Ireland is very volatile, with headline figures inflated by the activities of multinational companies. After a sharp contraction in 2018 (-21%), investment jumped in the first half of 2019 (112% y-o-y), driven by investments in intellectual property, and is projected to increase by 44% for the year as a whole. Meanwhile, domestic investment is dragged down by uncertainties (particularly related to the terms of the UK's withdrawal from the EU), although some part of it, notably construction, is holding up well. Public investment is on an upward path.

Assessment of barriers to investment and ongoing reforms

Public administration/ Business environment	Regulatory/ administrative burden	
	Public administration	
	Public procurement /PPPs	
	Judicial system	
	Insolvency framework	
	Competition and regulatory framework	
Labour market/ Education	EPL & framework for labour contracts	
	Wages & wage setting	
	Education, skills, lifelong learning	CSR

Financial Sector / Taxation	Taxation	
	Access to finance	
R&D&I	Cooperation btw academia, research and business	
	Financing of R&D&I	CSR
Sector specific regulation	Business services / Regulated professions	
	Retail	
	Construction	
	Digital Economy / Telecom	
	Energy	
	Transport	

Legend:

	No barrier to investment identified
CSR	Investment barriers that are also subject to a CSR
	No progress
	Limited progress
	Some progress
	Substantial progress
	Fully addressed
	Not assessed yet

In additional to cyclical macroeoconomic issues, investment faces several structural barriers. For small and medium enterprises (SMEs), affordability of financing is one of the main obstacles. Ireland scores low (among the five worst countries in the EU) according to the European Investment Fund's SME's finance index ([1]). Irish firms are particularly dissatisfied with the cost of finance (see Section 4.2.4), the type of finance available, and the collateral requirements (EIBIS, 2019). The SME financing problem is also pointed out in the World Economic Forum Report (2019). As a result, Irish firms have to rely more on internal sources of investment financing (see graph 4.4.6).

The other barriers to investment are energy costs, availability of skilled staff (see Sections 4.3.1. and 4.3.3.), labour market regulations and lack of appropriate infrastructure. As regards the latter, several fields with insufficient infrastructure were identified, notably transport, utilities, digital (see Section 4.4.4.) and environmental infrastructure (see Section 4.5). Housing affordability also remains an important barrier.

The EU supports investment and growth via the European Fund for Strategic Investments (EFSI). By December 2019 total financing under the EFSI amounted to € 1,507 million, intended to trigger EUR 7,247 million in additional investments. The current experience with the EU financial instruments and the EFSI budgetary guarantee demonstrated a need for simplification, streamlining and better coordination of the EU's investment support instruments during the next 2021-27 programming period. By the end of 2020, EFSI and other EU financial instruments will come under the roof of the new InvestEU programme that promotes a more coherent approach to financing EU policy objectives and increases the choice of policy implementation options and implementing partners to tackle country specific market failures and investment gaps. In addition, under InvestEU, Member States can set-up a national compartment by allocating up to 5% of their structural funds to underpin additional guarantee instruments supporting the financing of investments with a higher level of local specificities. InvestEU will be policy-driven and focus on four main areas, all relevant for Ireland: Sustainable Infrastructure, Research, Innovation, and Digitisation, Small Businesses, and Social Investment and Skills.

([1]) which itself is composed of four sub-indices, related to loans, equity, credit and leasing as well as general macro-economic environment.

In social infrastructure, Ireland leads in some fields but lags in others. Long-term, flexible and efficient investment in education, health and affordable housing is vital for economic growth and welfare as it reduces transaction costs, enables knowledge and innovation and boosts community resilience. In contrast, low-quality social infrastructure may limit economic opportunities, cause markets to work less efficiently and marginalise some groups (European Commission, 2018b). Ireland's current workforce is generally highly skilled although there are some shortcomings (see section 4.3.3.), but the skills of the future workforce rank much lower than of the current, according to the World Economic Forum (WEF) Global Competitiveness Report (2019). This suggests the need for investments in education, particular linked to pupil-to-teacher ratio (primary education) and development of critical thinking. While life expectancy in Ireland is above the EU average, the healthcare system in Ireland has serious weaknesses (see section 4.3.4.). But there are in-depth reform plans and investment is ongoing in this field (e.g. the National Children's hospital). The the most problematic factor in the social infrastructure pillar is affordable housing (see section 4.3.2. and Box 3.1.).

Mobilising additional investment might be required to ensure the transition to a climate neutral and circular economy. Ireland has not broken the link between greenhouse emissions and economic growth and has been consistently lagging in implementing climate-related policies and measures. The publication of the Climate Action Plan in June 2019 constitutes a potential breakthrough (see Section 4.4.5), but the plan makes it clear that public investment will remain at the level identified in the National Development Plan. It is difficult to rule out, however, that public investment needs will remain unaffected by the additional policies and measures foreseen in the plan.

4.4.5. MARKET FUNCTIONING

The tackling of barriers in the market for legal services lacks ambition and is much delayed. Since the adoption of the Legal Services Regulation Act of 2015, restrictions remain in place in the provision of legal services, hampering competition and thus increasing legal costs, to the detriment of small businesses in particular. Implementation of the Act is ongoing, with preparatory work and public consultations under way. However, no regulations have been adopted so far, including on key issues, prioritised under the Strategic Plan 2018-2020 such as regulations on advertising and introduction of legal partnerships and limited liability partnerships. Furthermore, open-ended provisions allowing for legal persons engaged in legal practice both in Ireland and throughout the EU to become partners in law firms set-up in Ireland are yet to materialise, even in draft form. Other reforms, crucial to ensure a dynamic and competitive legal service market, such as the introduction of multidisciplinary practices and direct professional access to barristers, lack a firm implementation schedule as yet.

The premiums for motor vehicle and liability insurance policies have been increasing significantly in recent years. This development can be explained by a number of factors specific to the Irish market. One of the principal factors is the raising of the maximum liability award limits and a general lack of guidance on the amounts courts can award in injury cases. In addition, the Irish police have been facing capacity constraints in investigating fraudulent and exaggerated claims cases. Recent data from the Central Bank of Ireland on private motor vehicle insurance reveals that increased cost of claims can only explain a part of the recent hike in insurance premiums, (CBI, 2019c). Legal costs in personal injury cases, which have also grown significantly in recent years, are also driving up the cost. In addition, several insurers have left the motor vehicle and liability insurance markets, driven partly by increased costs and uncertainty in this line of business. This development has undermined competition, resulting in an additional potential upward pressure on insurance premiums.

Addressing barriers to entry in the retail market could support competitiveness and consumer choice (European Commission, 2019c**)** A future evaluation of the 'Retail Planning Guidelines' could consider how requirements on shop size and location, such as the sequential approach or maximum retail floor caps, contribute to vibrant city centres. Some existing rules risk deterring, delaying or increasing the costs of opening new shops (European Commission, 2018d) Assessing whether less restrictive rules, can be equally effective in achieving the public policy objectives pursued, might contribute to a more dynamic market. This might also give retailers some flexibility to adapt to the transformation the sector is undergoing with the growth of e-commerce and changes to the supply chain (European Commission, 2019c).

Ireland has notified relatively few national draft technical regulations under the Single Market Transparency Directive. In 2018, Ireland notified the Commission about just two technical regulations, well below the average of 24 notifications per Member State. In the previous 10 years, Ireland had consistently notified very little (about five notifications a year). Certain draft technical regulations, which could have a negative impact on trade, might not have been notified. As a result, the Commission and stakeholders did not have a chance to react. This risks creating barriers to trade, affecting economic growth and the functioning of the single market, as a tool for competitiveness.([50]).

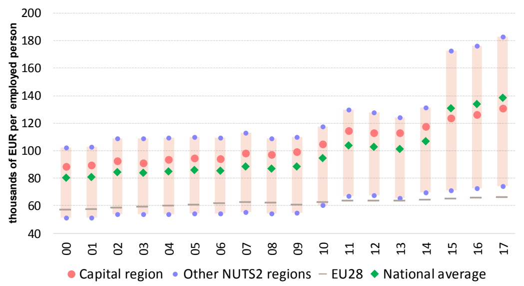
One year after its launch, the new all-island electricity market trading arrangements are bringing positive results. These market reforms, along with the first capacity market auction (in December 2018), aimed to bring Irish market rules into line with EU legislation and support the security of electricity supply in Ireland. Indicators show that one year after going live, markets work well, with successful capacity auctions, reduced imbalances and improved response of interconnectors to price signals. For the authorities, work during this first year focused on ensuring market stability and fixing some initial and emerging defects.

([50]) See Recitals (5)-(7) in Directive 2015/1535. Moreover, see *e.g.* Prof Micossi, "Thirty Years of the Single European Market", Bruges European Economic Policy Briefings, 41/2016, referring to the SMTD as one of three essential pillars of the EU legislative action together with the principle of mutual recognition that "*bring*[s] *about a radical shift in economic philosophy: market opening is placed at the centre of economic policies not only to foster growth, but also* [to] *improve the welfare of citizens.*"

4.4.6. REGIONAL DISPARITIES

Regional disparities in terms of regional GVA per capita in Ireland are among the highest in the EU, and they are increasing. (Eurostat, 2017). Regional growth follows a distinct spatial pattern with particularly dynamic developments around Dublin and Cork ([51]). This is due to the location of a limited number of globally highly competitive multinational companies around these cities and the growth-friendly business environment that has developed around them. While Dublin has a regional GVA per capita of 248% of the EU average, the region bordering Northern Ireland is at 66%. The difference between the richest and the poorest NUTS3 region in Ireland doubled between 2000 and 2016. ([52])

Graph 4.4.9: **Labour productivity, EU28, NL NUTS-2 regions**

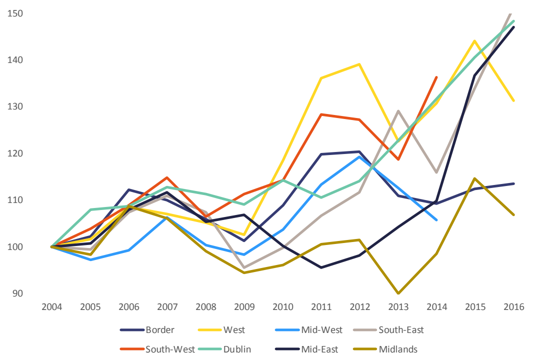


Source: Eurostat

Stark differences in productivity levels are one important driver behind these growing disparities. The Southern region is the most productive region (240% of the EU average), followed by Eastern and Midland (190%), which is close to the Irish average of 192%. Northern and Western Ireland is significantly less productive at 98% of the EU average. Real productivity growth was very high at 6.6% in Southern Ireland and around 3.2% in the other two regions, contributing to widening disparities. Furthermore, labour productivity at NUTS3 level has continued to diverge widely in 2004-2016 (see graph 4.4.11).

([51]) NUTS3 regions Dublin region and South-West region.
([52]) GVA per capita at NUTS 3 level, Central Statistical Office

Graph 4.4.10: **GVA per worker index by NUTS3 region**



Source: OECD

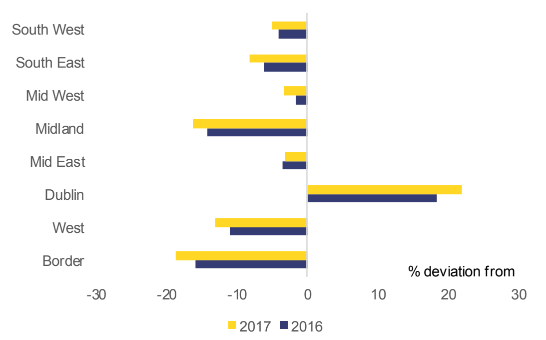
The ability of the regions to offer an attractive and sustainable environment for firms and residents is another important factor determining the variations in their economic performance. The Eastern and Midland region performs relatively well in the Regional Competitiveness Index (European Commission, 2019d) as the 89th most competitive region in the EU ([53]). It does particularly well in terms of technological readiness, higher education and lifelong learning and health. The Southern region ranks 129th, performing well in terms of technological readiness but less well on infrastructure. The Northern and Western is only 177th, due to lower than average results in terms of infrastructure, market size and efficiency. Existing differences raise concerns about whether the trend of increasing disparities can be reversed in the near future.

Employment in both high-tech and knowledge-intensive services is concentrated in the Eastern and Midland Region and is below the national average in Northern and Western. The share of high tech employment is 10% in the Eastern and Midland, 8% in the Southern region and only 5% in the Northern and Western region. Knowledge-intensive services are 50% of total employment in Eastern and Midland and around the EU average (39%) in the other two regions.

Disposable income follows a similar spatial pattern. The only place where per capita disposable income is higher than the national average is Dublin. Areas within the Dublin metro-region and in the Mid-West are close to the national average, while other predominantly rural remote areas at the border with Northern Ireland and in the centre of the country lag significantly behind. The gap between the maximum and minimum value of per capita disposable income, at NUTS3 level, increased from €7,061 in 2016 to €8,739 in 2017, due to a near 7% increase in incomes in Dublin and stagnating incomes along the border.

Uptake of information/communication technologies varies. Only 81% of households in the Northern and Western region have access to broadband, compared to 87% in Southern and 92% in Eastern and Midland [54]. Online interactions with the authorities over the last 12 months was close to the EU average of 52%. In the three Irish regions between 50% and 55% of individuals in a region had such contact.

Graph 4.4.11: **Disposable income per person**



Source: CSO

While jobs are increasingly concentrated locally, high costs of living in cities drive people to reside in the rural hinterland. Suburbanisation, particularly within the commuting distance of Dublin, can have negative effects on vehicle mileage, land use and residential energy consumption. Ireland has the seventh lowest population density in Europe, and the average person in Ireland has to drive long distances to reach the nearest local facility, particularly in the west of Ireland and along its border to Northern Ireland.

The process of effective and fair transformation in Ireland, to decarbonise the economy, is expected to have a significant impact on local communities, particularly in the Midlands.

([53]) Out of total of 268 regions

[54] "Eurostat 2019, Percentage of households that are connectable to any kind of a broadband network"

However, the transition to a climate neutral economy should also offer significant new job opportunities across the economy and including in the regions that could be affected most by job losses. See section 4.5 for details.

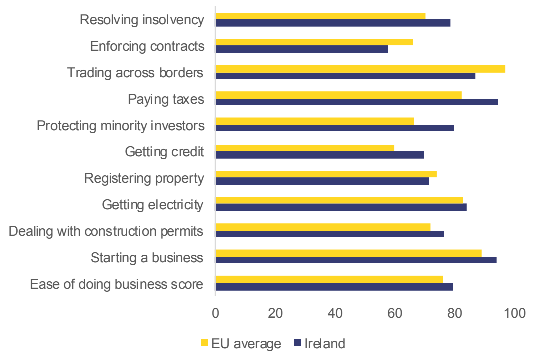
Ireland would benefit from considering place-based approaches for sector-specific or all-government strategies to counter uneven regional development. Ireland's Clarification is needed on whether existing strategies fulfil requirements of 'smart specialisation' strategy/ or strategies, a prerequisite for obtaining funding from the European Regional Development Fund. would benefit from a more detailed regional analysis and a strong governance and implementation mechanism.

4.4.7. INSTITUTIONAL QUALITY AND GOVERNANCE

While Ireland has a business-friendly environment overall, its position in the World Bank's 'ease of doing business' ranking has worsened slightly. In 2019, Ireland ranked 24th, one place less than last year (55) (World Bank, 2019). While Ireland's business environment generally remains business-friendly, the most problematic dimensions for the country's ranking are 'enforcing contracts' (91st), 'registering property' (60th) and 'trading across borders' (52nd). Concerning enforcement of contracts, Ireland scores poorly on all three indicators (time required to enforce a contract through the courts, cost required and quality of judicial process). In particular, the cost, which corresponds to 26.9% of the claim value, is particularly affected by attorney fees (18.8% of the value). Ireland's strongest performance, in relative terms, is in 'paying taxes' (4th), 'protecting minority investors' (13th) and 'resolving insolvency' (19th). (see Graph 4.4.13)

(55) Ten years ago, in 2010 Ireland ranked 8th out of 190 economies surveyed by the World Bank.

Graph 4.4.12: **Ease of doing business, by dimension - 2020**



Source: World Bank

Despite some action, efficiency challenges for the justice system remain. A new Courts Act increased the maximum number of ordinary judges of the Court of Appeal from 9 to 15. This is likely to decrease delays in the process of appellate jurisdiction. The average length of proceedings in the High Court which hears commercial cases at first instance had increased from 287 days in 2017 to 321 in 2018 (CS, 2018). For claims of at least €1 million and other major commercial disputes, the High Court offers shorter disposition times through its commercial proceedings list. A Bill establishing a compensation scheme to award damages in the event of protracted court proceedings (required by the *McFarlane* judgment of the European Court of Human Rights), is yet to be tabled in the *Oireachtas*. The draft Bill envisaging a new body for proposing judicial appointments, which raised concerns (European Commission, 2019c), has lapsed with the dissolution of *Dáil*.

High legal costs might hamper SME's access to public procurement remedies. Companies bidding in Member States where the cost of seeking redress is high tend to reduce the number of reviews claims, even if there are reasonable grounds for complaint. In Ireland, there are only five to ten public procurement review decisions by the courts every year. The relatively low number of review applications might be due to the legal costs, reported as ranging between €200,000 and €350,000 (Risk & Policy Analysis, 2018). This could make complaints by SMEs particularly challenging.

Public procurement deficiencies are present in the health sector. The Irish Comptroller and Auditor General concluded that non-compliance with procurement requirements in the health service is 'systemic' and goods and services are procured in a non-competitive manner (Houses of the Oireachtas, 2019). Professionalising public procurers and developing support tools such as guidelines, standardised tender documents and training might help deliver goods and services of better quality and value for money for the patients.

4.5. ENVIRONMENTAL SUSTAINABILITY

Recent trends in greenhouse gas emissions outside the Emissions Trading System remain a concern. However, in 2019, the Irish government published a Climate Action Plan that raises climate policy ambitions and sets out how Ireland expects to meets its emissions objectives, including its 2030 target under the Effort Sharing Regulation. The plan also sets a new 70% target for renewable electricity by 2030. Whether the plan delivers on its stated ambition will depend on early and sustained implementation of policies and measures, and the identification of additional supporting measures as necessary. The transition to a climate-neutral and circular economy will define a transformative agenda for the Irish economy over the coming decades, requiring strategic attention by policy makers. It will require significant private and public investment in energy, transport, the built environment and circularity, among others. The revenues from the carbon tax will help tackle the social costs of this transition.

4.5.1. TRANSITION TO A CLIMATE NEUTRAL ECONOMY

Ireland faces challenges in the United Nation's sustainable development goals related to clean energy and greenhouse gas emissions (SDGs 13 and 7). In recent years, Ireland has failed to reduce greenhouse gas emissions as foreseen under SDG13 — Climate Action. Ireland also scores poorly in several indicators related to SDG7 — Affordable and Clean Energy. In particular, the share of renewable energy in gross energy consumption is well below EU average and energy consumption has increased (see Annex E). All of this emphasises the need to implement effectively the changes set in the Climate Action Plan.

While overall emissions remained flat in 2018, trends for sectors outside the EU emissions trading system remain a concern. Provisional inventories indicate that greenhouse gas emissions stabilised in 2018, mainly because those from power generation declined by almost 12% following the closure of Ireland's only coal-fired power plant from August 2018 to the second half of 2019. In sectors outside the EU emissions trading system (non-ETS sectors), the rising trend, which started with the economic recovery, persisted in 2018, with an increase in emissions of 2.8% compared with 2017. Transport, buildings and agriculture emissions all increased in 2018.

Ireland will likely need to purchase significant allocations to comply with the 2020 climate targets. The latest projections indicate that Ireland will exceed its cumulative allocations under the Effort Sharing Decision by around 8.5 million tons of CO2 equivalent during the 2013-2020 compliance period ([56]), with emissions in non-ETS sectors about 5% lower in 2020 than 2005 ([57]). Excess allocations in other Member States nevertheless suggest that Ireland can remain compliant through the trading flexibility, although at a cost to the Exchequer and to the economy as the delayed action implies a more forced and hence more costly reduction of carbon intensity.

Achieving the 2030 targets and climate neutrality by 2050 will be a major challenge. The recent trends in emissions and their sectoral composition point to insufficient mitigation efforts made so far and major challenges ahead. The projected level of emissions for 2020 means that the linear trajectory between 2021 and 2030 ([58]) will be steep and require a major intensification of mitigation efforts. Ireland will benefit by receiving a higher level of cumulative allocations over the compliance period because of the method used to determine the starting point for the linear reduction trajectory in emissions towards the 2030 target .

Credible and ambitious plans to reverse the emissions trajectory are being spelled out. Tackling climate change was a key subject of discussion in the Citizens' Assembly in 2017. Building on its work, the Joint Oireachtas Committee on Climate Action issued its own set of recommendations in early 2019 (Joint Committee on Climate Action, 2019a). These represent a broad political consensus and a significant shift in

([56]) Annual emissions allocations are determined for all Member States under the Effort Sharing Decision, based on a linear trajectory between the starting point and the greenhouse gas emissions reduction objective in 2020. Under the Decision, Member States with excess allocations over actual emissions are allowed to sell their surplus to Member States with excess emissions over allocations (trading flexibility). Compliance is determined based on cumulative emissions and allocations over the period 2013-2020.

([57]) On the basis of existing measures only and compared with a target of -20% in 2020.

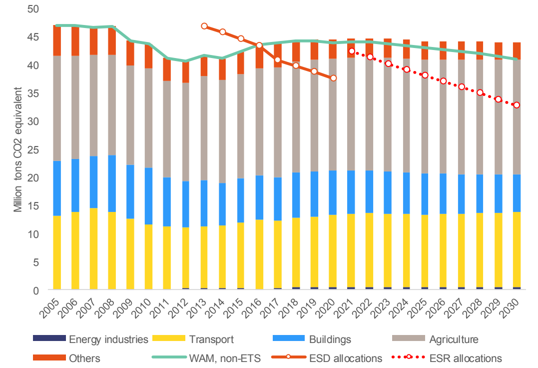
([58]) Ireland has a target of -30% under the Effort Sharing Regulation.

mentality among politicians, denoting a sense of urgency not seen before. Building on the report of the Joint Oireachtas Committee, the government published the Climate Action Plan 2019 to Tackle Climate Breakdown in June 2019 (Department of Communications, Climate Action and the Environment, 2019b). The plan significantly raises Ireland's climate policy ambitions and spells out a number of critical objectives, including the achievement of the 2030 targets strictly on a domestic basis, without purchasing allocations from other Member States and without using the ETS flexibility. It also endorses the EU's ambition to become climate neutral by 2050 (Box 4.5.1).

Measures from the Climate Action Plan will feed into the final National Energy and Climate Plan. In June 2019, the European Commission called on Ireland to put forward additional measures to cost-effectively meet its 2030 target in non-ETS sectors, contribute by at least 31% to the Union's 2030 renewable energy target and substantially increase its energy efficiency ambition. (Commission Recommendation 2019/C 297/07) The final National Energy and Climate Plan, which was not available ahead of the finalisation of this report ([59]), is expected to translate into concrete measures Ireland's stated ambition to adhere to the annual emissions allocations in non-ETS sectors on a strictly domestic basis. Doing so would require prolonged and sustained policy efforts, with forceful implementation of measures.

The effective implementation of the plan and addition of further specific measures will determine its success in mitigating emissions. While concrete measures have already been identified, additional action might be required to meet the number of broad objectives identified in the plan (see Box 4.5.1). The objectives on electric vehicles and housing stock retrofitting will be particularly challenging, also because they relate to investment decisions by individual households and will depend both on financing constraints and willingness to invest in energy efficient renovation or new types of vehicles. In addition, the path towards a climate-neutral agriculture and land sector (an objective defined separately from the Climate Action Plan), including the means to enhance the natural carbon sink in an environmentally sustainable manner, remains to be adequately defined. The authorities recognise that additional policies and regulations will be necessary to channel and promote such types of investments.

Graph 4.5.1: **Projections in non-ETS sectors**



(1) Scenario with existing measures by sector and scenario with additional measures overall (additional measures scenario does not fully reflect the measures foreseen under the Climate Action Plan).
Source: Environmental Protection Agency and European Environment Agency

The Climate Action Plan sets a new 70% target for renewable electricity by 2030, which will require large private investments. The delayed replacement of the old public support scheme for renewable electricity has been hindering new projects. Meeting targets for renewable electricity would require that auctions under the new public support start without delay and thus as planned in 2020. Corporate power purchasing agreements will also be key to financing projects without public funding. Addressing administrative barriers in the consent and planning process and grid connection delays will boost the development of wind power in particular.

Investing in electricity infrastructure is a prerequisite to reaching the 70% renewables target and transitioning to a climate neutral economy. The 700 MW Celtic interconnector between France and Ireland, with a total cost of €900 million, will be the first electricity link between Ireland and the European continent. In 2019, it received a €530 million grant from the Connecting Europe Facility (CEF) to fund its construction work. It is expected to be operational in 2025/2026 and enable the Irish system to

([59]) The Commission will assess, in the course of 2020, the final national energy and climate plans submitted by the Member States.

receive a high share of variable renewables in its electricity supply. Three other electricity interconnection projects with the UK, eligible under CEF, might also improve the security of energy supply in Ireland. In future, major investment might be also required at low voltage to manage the integration of electric vehicles and heat pumps into the electricity network.

The transition also requires Ireland to further exploit its potential for energy efficiency, in particular in the residential construction and transport sectors. Ireland's energy consumption remains on an increasing path since 2016, in particular in the building and transport sector. The need to accelerate retrofitting of existing buildings is well reflected in measures proposed in the Climate Action Plan. In 2019, €25 million were allocated to a social housing retrofitting programme. Ireland could now expand its efforts to include long-term renovation strategies required under the Energy Performance of Buildings Directive, and include their key elements in the final National Energy and Climate Plan.

The Climate Action Plan ambition of having close to one million electric vehicles on Irish roads by 2030 is laudable but seems particularly challenging in light of existing trends and policy. The plan includes a number of measures to promote the early uptake of electric vehicles, including an expansion of the charging network and tax and subsidy policies. However, Aat the end of 20198 there were 2.7 million vehicles on Irish roads, of which only 4,82515,549 were electric or plug-in hybrid. Sales of private cars in 2018 were around 220,000, of which some 93% were petrol or diesel and approximately 100,000 (45%) were second-hand cars imported primarily from the UK. The new tax on emissions of nitrogen oxide (NOx) from passenger cars, to be introduced from January 2020, should reduce the incentives to buy diesel cars, in particular older imported cars. However, the price and availability of diesel and petrol cars, especially second-hand, continue to be more attractive. In addition, concerns about the range of electric vehicles ( ) and car dealerships' lower incentives for selling electric vehicles (O'Neill E. et al., 2019) might also make it challenging to grow the share of electric vehicles significantly in the near future, even though this would be desirable to meet the Climate Action Plan target.

Investment in public clean transport would be required to ease congestion and reduce carbon emissions. The return to economic growth and the suburban sprawl has led to a high share of workers commuting daily from outside the main cities ([60]). This has aggravated congestion in recent years and resulted in increasing CO2 emissions and costs ([61]). While the share of passengers using trains or buses increased by 0.8pps to 17.4% in 2017, the fleet of buses and trains is still highly reliant on diesel engine (European Commission, 2019). The National Development Plan 2018-2027 has committed to promote compact urban growth, transition to low-emission buses fleets and partially electrify the Dublin Commuter Train network. This, together with other key clean public transport projects proposed in the Plan, will require increasing investment in public transport by around 90% compared to the previous decade. While in 2018 and 2019, investment in public transport increased by 20% with respect to the two previous years, its share with respect to total transport investment has remained relatively flat. Rapidly moving key public transport projects from the project-and-planning phase to construction might help reduce emissions and congestion costs more rapidly.

4.5.2. JUST TRANSITION TO A CLIMATE NEUTRAL ECONOMY

The transition to a climate neutral economy is expected to affect employment in local communities significantly. The transformation of the electricity-generation sector in Ireland, moving away from peat burning power stations into renewable energy sources, will potentially affect around 4,000 jobs in the Midlands region, out of a total of 110,000 people employed there. In addition, the scheduled closure of the Moneypoint coal-fired power plant by end-2025 will also affect around 750 jobs in county Clare.

([60]) In 2016, the share of the workforce commuting from outside the city and suburbs was 25% in Dublin, 40% in Cork and 50% in Galway. An average driver has spent more than 35 hours per year in traffic congestion in 2017, the seventh highest in the EU.

([61]) A study of the Department of Transport, Tourism and Sport (DTTS, 2017) estimated that the cost of time lost due to aggravated congestion in the Greater Dublin amounted to €350 million in 2012 and was expected to grow to EUR2.8 billion per year in 2033.

However, the transition to a climate neutral society also has potential to provide new job opportunities. Opportunities could emerge in the renewable energy and building sectors, waste recycling as well as in new green businesses. As suggested by a number of initiatives, some of them supported by EU funding ([62]), the restoration of peatlands might provide jobs and could attract tourists, while delivering major side benefits for climate mitigation, adaptation and biodiversity. The regional spatial and economic strategy of the Eastern and Midlands region ([63]) further identifies potential for diversification in sustainable farming and food production, tourism, bio economy and circular economy. The Irish regions' '**s**mart specialisation' strategies ([64]), underpinned by transition labs, ([65]) can provide further guidance on improving the regions' competitive advantage..

Further education and skills provision throughout Ireland could help workers adapt to the transition. The sectors prone to transformation still represent a major share of employment in Ireland. Many of the workers in these sectors would need re-skilling and up-skilling to adapt to this transition. The climate and energy transition will create new green jobs (European Commission, 2019e), which may require skills not fully available in the current labour market, nor provided by the education system. Ireland's latest review of skills needs in the green economy by the Expert Group on Future Skills Needs (Expert Group on Future Skills Needs, 2010) dates back to 2010 and is now out of date. As part of the Climate Action Plan, the Expert Group on Future Skills Needs has committed to assess the skills required to deliver key elements of the Plan. This is part of the Group's work programme for 2020 and will kick off later this year. The Climate Change Advisory Council has already flagged skill shortages in the housing sector, but others are expected to arise as the climate and energy transition progresses (see Section 4.3).

Revenues from the carbon tax will be partially earmarked for climate related spending, including the promotion of a fair transition. All revenues from the increase in the carbon tax (around €90 million in 2020) will be fully allocated for climate-related spending. Part of them (€6 million) will be dedicated to establishing an Irish 'Just Transition Fund' for the Midlands – covering investment in retraining and reskilling and helping local communities and businesses adjust to the low carbon transition. A Just Transition Commissioner has been appointed to work closely with local stakeholders and coordinate the government's response to an accelerated exit from peat for electricity generation. If successful, this could provide valuable input for implementing the EU's Just Transition Fund, proposed by the Commission under its next 7-year budget (see Annex D).

4.5.3. TRANSITION TO A CLEAN AND CIRCULAR ECONOMY

Ireland performs well in the United Nations' Sustainable Development Goals (SDGs) addressing sustainable communities. According to the indicators set by Eurostat to evaluate SDGs, Ireland performs well in SDG11 — Sustainable Cities and Communities. In particular, Ireland has one of the lowest percentages of population exposed to noise (9.4%) or air pollution (7.7%). The recycling rate for municipal waste increased to 40.4% in 2016, in line with the EU average. However, housing affordability is a concern (see Section 3 and 4.4.3). Ireland performs well in the water quality dimension of SDG6 — Clean Water and Sanitation. In particular, the levels of harmful phosphates, nitrates and biochemical oxygen in rivers are significantly below EU average. However, the share of population connected to at least secondary wastewater treatment is among the lowest in Europe (see below).

Municipal waste generation per capita is 20% above EU average. While projections indicate that Ireland might be close to meeting the 2020 recycling target for municipal waste, progress has

([62]) See for instance the EU LIFE project 'Restoring Active Raised Bog in Ireland's Special Area of Conservation Network 2016-2020', known as 'The Living Bog's, the Irish Peatland Conservation Council's Visitor centre at the Bog of Allen in Co. Kildare or the Lough Boora discovery park in a former peat production area in Co. Offaly.
([63]) Eastern and Midland Regional Assembly, 2019
([64]) Smart specialisation is a place-based approach enabling regions to identify and develop their own competitive advantages.
([65]) Innovation platform engaging a diverse range of stakeholders across regions to work together in addressing complex systemic challenges related to the diversification of the economy through smart specialisation. The transition lab could fund feasibility studies, collaborative projects and pilots and has been proven successful in other countries.

slowed in the recent years (Eunomia, 2018). The recycling rate slightly increased from 37% in 2013 to 41% in 2016 and the landfill rate fell substantially from 38% to 26% on the back of a successful increase in the landfill levy. However, some caution is required regarding the increase in incineration capacity from 16% to 29% which may discourage efforts to increase recycling. However, Ireland's toxic waste rate is below the EU average, suggesting a good potential for recycling.

Ireland performs well in the early stages of delivering eco-innovation but it is weaker in technology development and diffusion. Ireland's eco-innovation index is around the EU average but its eco-innovation activities have been decreasing since 2015, showing the need to boost investment in innovation in firms and manufacturers. In terms of eco-innovation inputs, Ireland is very strong in R&D personnel and researchers and green early stage investment, which reflects the strong R&D base and Ireland's capacity to attract high levels of foreign direct investment (Eco-innovation Observatory, 2017). But the rates for environmental technology development and diffusion are below the EU average.

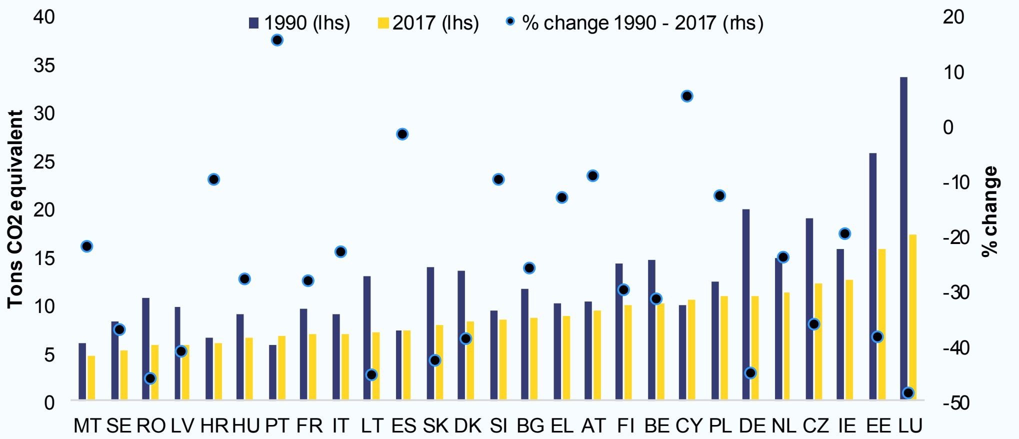
Ireland still has significant investment needs in the water and wastewater sectors. Ireland has a very high leakage rate in its water supply systems (44% leakage) (European Commission, 2017), partly due to an ageing infrastructure not renewed during the crisis period. In addition, while treatment standards improved in the previous two years, in 2018 just 42% of the wastewater generated by large urban areas was treated at plants complying with the requirements of the Urban Waste Water Treatment Directive. This low rate of compliance, which is largely explained by lack of proper treatment in large population centres in Dublin and Cork, poses a health risk to people and can damage aquatic ecosystems (Environmental Protection Agency, 2019). It could lead to substantial financial penalties, following the ruling of the European Court of Justice on Ireland´s breach of the aforementioned Directive. The Irish Water Strategic Funding Plan estimates the investment requirement in water infrastructure at €6.1 billion in 2019-2024. The 2020 budget will provide €592 million to fund part of this investment.

Legislation allowing for extra charges for excessive domestic water use can help reduce water leaks and excessive consumption. In November 2017, legislation added an 'excess use charge' for customers who use water above an annual allowance of 1.7 times the average volume per household. Analyses of the Commission for Regulation of Utilities and Irish Water indicate that approximately 7 to 10% of metered domestic households, many of which may have leaks, use more than this annual allowance and account for almost 40% of all domestic water consumption in Ireland. Proposals on the process by which customers can engage with Irish Water before receiving a bill were not approved until mid-July 2019. First excess use water use bills are expected in early 2021, giving households a year from being formally notified in early 2020, to reduce their consumption or fix their leaks.

Box 4.5.1: **Transition to a climate-neutral and circular economy**

Ireland faces significant challenges in transitioning to a climate-neutral and circular economy. Although significant progress was achieved in 2000-2010 in reducing emissions per capita, the early period of the Celtic Tiger years and the accompanying strong GDP growth had led to an initial increase in emissions per head (graph 4.5.2). Since 2011, emissions per head have been relatively stable, which places Ireland among the countries with the highest level of emissions per capita in the EU. Looking forward, Ireland is among the EU countries whose population is expected to increase more strongly up to 2030 and 2050, and its growth is also projected to be above the EU average. This will make meeting the 2030 targets and the climate neutrality objective by 2050 particularly challenging.

Graph 4.5.2: **Greenhouse gas emissions per capita, 2017 vs. 1990**



Source: Eurostat

The 2019 Climate Action Plan is a major stepping stone to tackling the decarbonisation challenges. It constitutes a breakthrough compared to previously muted policy action on climate change in that it is significantly more ambitious, comprehensive and will be backed by a strong legal framework and governance process. Importantly, the wide political consensus behind the Plan is expected to increase ownership and support its effective implementation over time, eventually leading to better socioeconomic outcomes. The Climate Action Plan provides a mix of concrete measures and broader objectives. Key among those are to: (1) source 70% of electricity from renewables; (2) phase out coal- and peat-fired power generation([1]); (3) increase the number of electric vehicles to 936,000 by 2030 while banning the sale of new fossil fuel cars as of 2030; (4) retrofit 500,000 houses with increased energy efficiency and install 600,000 heat pumps; (5) promote diversification of activity in agriculture and rural areas towards low-carbon opportunities; (6) significantly reduce the disposal of waste at landfills; (7) reduce food waste by 50% by 2030; (8) increase recycling (to reach 70% of packaging waste by 2030 and 65% of municipal waste by 2035); (9) take measures on limiting single-use plastic items; (10) carbon-proof all government decisions and investments; and (11) establish a 'just transition' review group to identify specific needs.

A new legal framework will drive the definition of targets and the governance process. The government published the general scheme of a Climate Action (Amendment) Bill in January, which will provide an unprecedented national legal basis for setting mitigation targets and the governance of climate policy. Under the proposed legislation, Ireland will adopt five-year carbon budgets at national level, following recommendations by a strengthened, statutorily independent Climate Action Council. Three five-year budgets (i.e. up to 2035 in the first instance) would be approved by the Government and by the Dáil. In addition, the Government is proposing to set target ranges and trajectories for each sector within the overall carbon budget. It is proposed that considerations such as distributional effects and cost effectiveness will be taken into account in setting budgets and target ranges, following criteria to be set out in the legislation. The targets and criteria will need to take into account the treatment of agriculture, a large source of emissions in Ireland, as well as issues related to the differences in the discount rate used to determine marginal abatement cost curves and those used by investors.

The plan is a transformative agenda for the entire economy. While the impacts will be strongest in the power sector, the built environment, transport and agriculture, the plan will affect others sectors. This is recognised in the whole-of-government approach that has been adopted for implementing the plan. The governance of the plan will follow the approach successfully applied in the Action Plan for Jobs. A very detailed list of actions are assigned at department level and implementation will be monitored and reported on a quarterly basis under the supervision of the Department of the Taoiseach(2). The plan and its list of actions will be updated annually.

The success of the plan will largely depend on consistent and effective implementation as well as constant review and updating of policies and measures. The Climate Action Plan sends a strong signal to economic operators on the course Ireland intends to embark on. Its publication is nevertheless only the beginning of a long process whose success will depend on supporting policies and measures. These will consist of a mix of regulatory requirements (e.g. energy efficiency of buildings or banning sales of new fossil fuel cars), price mechanisms (e.g. the carbon tax), financial and support measures (e.g. the renewables electricity support scheme or financial incentives for retrofitting), public infrastructure investment and labour market measures and education policies to ease the transition and ensure the necessary skills are available.

A number of challenges remain to ensure a steady and durable reduction of emissions over time. First, investment and financing needs and capacities have not been sufficiently assessed so far, both for households and businesses, though this is important for the design of policies and measures. Second, a vision for a 'carbon neutral' agriculture and land sectors still needs to be spelled out. Third, there has been limited progress so far in defining the long-term climate and energy strategy and the intermediate benchmarks, in part due to capacity constraints in the public administration.

A new circular economy policy and action plan for Ireland are expected to replace the government's current package of waste and resource efficiency policy, plans and programmes in 2020-21. Inspired by the EU's Circular Economy Action Plan, Ireland's response will provide policy direction on waste prevention, eco-design, reuse, repair, recycling, recovery and waste disposal, and lead a cross-government reflection on how these principles can be embedded throughout the country's public policy frameworks. A public consultation process launched at the end of December 2019 and will remain open until 21 February 2020. Submissions will inform the subsequent drafting of the new national action plan for a circular economy.

(1) Ireland's single coal-fired power station is scheduled to close by 2025 and the Electricity Supply Board announced in November 2019 the closure of its two (out of three in Ireland) peat-fired power stations in 2020, earlier than previously anticipated.
(2) The Annex of actions to the Climate Action Plan contains 183 concrete actions to be delivered over the next few years. These vary in scope from preparatory steps like analytical reports or organising consultations to concrete delivery of policies and measures, like launching the renewable electricity support scheme or setting carbon budgets. The First Progress Report was published at the end of October 2019.

ANNEX A: OVERVIEW TABLE

	Summary assessment ([1])
2019 country-specific recommendations (CSRs)	
CSR 1: Achieve the medium-term budgetary objective in 2020. Use windfall gains to accelerate the reduction of the general government debt ratio. Limit the scope and number of tax expenditures, and broaden the tax base. Continue to address features of the tax system that may facilitate aggressive tax planning, and focus in particular on outbound payments. Address the expected increase in age-related expenditure by making the healthcare system more cost-effective and by fully implementing pension reform plans.	Ireland has made **Limited Progress** in addressing CSR 1
Achieve the medium-term budgetary objective in 2020. Use windfall gains to accelerate the reduction of the general government debt ratio.	**The compliance assessment with the Stability and Growth Pact will be included in Spring when final data for 2019 will be available.**
Limit the scope and number of tax expenditures, and broaden the tax base.	**Limited Progress** Recent revenue measures are not meaningfully contributing to broadening the tax base. The main revenue-raising measures in Budget 2020 include an increase in the carbon tax rate, an increase in the stamp duty on non-residential property and several anti-avoidance measures. Some measures introduced for limiting aggressive tax planning practices may help broadening the tax base by closing existing loopholes. Some measures included in the 2002 Budget even broaden the scope for tax expenditure and narrow the tax base. These include increases in certain tax credits, an extension of the Help-to-Buy scheme and higher capital acquisition tax allowances.
Continue to address features of the tax system that may facilitate aggressive tax planning, and focus in particular on outbound payments.	**Limited Progress** Aside from the transposition of EU Directives in this area, there are some additional reforms, such as the extension of transfer pricing rules to non-trading transactions and to SMEs, however their effectiveness in addressing the issue of aggressive tax planning remains to be seen.
Address the expected increase in age-related expenditure by making the healthcare system more cost-effective and by fully implementing pension reform plans.	**Limited Progress** Despite some measures to increase the cost-effectiveness of healthcare, expenditure has continued to increase rapidly. The ambitious Sláintecare reform provides a credible vision for making the health system universally accessible and sustainable. However, its implementation is endangered by the difficulties in improving budget management in the health system to avoid recurrent overspends. A Health Budgetary Oversight Group was established in 2019 with the

	aim of monitoring and helping control health spending and staffing numbers within the budget allocation, and to act as an early warning mechanism for any variances. The Roadmap for Pension Reform, published in 2018, aims to address the long term sustainability of the state pension system. However, the envisaged reforms have not yet been finalised. The 2020 Budget has not reported on any new measures to address these issues.
CSR 2: Provide personalised active integration support and facilitate upskilling, in particular for vulnerable groups and people living in households with low work intensity. Increase access to affordable and quality childcare.	Ireland has made **Some Progress** in addressing CSR 2
Provide personalised active integration support and facilitate upskilling, in particular for vulnerable groups and people living in households with low work intensity.	**Some Progress** The share of people aged 0-59 living in households with very low work intensity is falling steadily (from 23.9% in 2013 to 13.1% in 2018), although it is still well above the EU average (8.8%). Measures taken include developing a revised activation framework with a particular focus on improving the progression to employment of vulnerable, inactive individuals by the Department of Employment Affairs and Social Protection and the launching of the Social Inclusion and Community Activation Programme (2018-2022) which provides funding to tackle poverty and social exclusion. Ireland's latest review of the skills needs of the green economy by the Expert Group on Future Skills Needs (Expert Group on Future Skills Needs, 2010) dates back to 2010 and is now out of date. The Climate Change Advisory Council has already flagged skill shortages in the housing sector, but others are expected to arise as the climate and energy transition progresses. Measures have been taken to increase basic and advanced levels of digital skills, but further efforts would be needed. Only a low percentage of the population has basic digital skills, which might hinder their active participation in a society increasingly reliant on digital tools. Providing workers with the skills required, including digital and those for a smooth and just transition to a climate neutral economy, would require investing more in education and training.
Increase access to affordable and quality childcare.	**Substantial Progress** Participation in early childhood education and care from age three is now well above the EU average (93.1% in 2018), and participation in formal childcare of those below three years (34.4%) is at around the EU average. At the same time, the share of children aged less than three

	years in formal childcare for 30 hours or more (at 10.6%) is lower than the EU average (17.2%). Limited availability of formal childcare in Ireland affects low-income families to a greater extent. For them, net childcare costs as a percentage of disposable income were among the highest in 2018. Recently launched programmes (National Childcare Scheme, Early Learning and Care Programme, First 5) supporting predominantly low-income families in reconciling work and care are likely to be effective in increasing access to affordable and quality childcare, as well as improving female labour market participation rates in the coming years.
CSR 3: Focus investment-related economic policy on low carbon and energy transition, the reduction of greenhouse gas emissions, sustainable transport, water, digital infrastructure and affordable and social housing, taking into account regional disparities. Implement measures, including those in the Future Jobs strategy, to diversify the economy and improve the productivity of Irish firms - small and medium enterprises in particular - by using more direct funding instruments to stimulate research and innovation and by reducing regulatory barriers to entrepreneurship.	Ireland has made **Some Progress** in addressing CSR 3
Focus investment-related economic policy on low carbon and energy transition, the reduction of greenhouse gas emissions,	**Some Progress** Some Progress Ireland adopted the Climate Action Plan 2019, which represents a major step towards more ambitious policies and measures to advance in the transition towards a climate neutral economy. The plan should help steer public, business and household investment towards low greenhouse gas projects. However, the impact of the plan on actual investment decisions will materialise fully only once the implementation of the range of measures and policies progresses over the coming years. The increase in the carbon tax to €26 per ton and the stated intention to increase the tax to €80 per ton by 2030 also sends a positive price signal. In turn, the decision to raise the shadow price of carbon in the Public Spending Code will enable Ireland to better integrate climate impacts in public investment decisions. Work also continues towards the adoption of a new Renewable Electricity Support Scheme. The National Development Plan 2018-2027 commits around €30 billion to address the climate and energy transition, including a substantial envelope for sustainable transport. However, the plan and the envelope dedicated to climate action will not be updated in light of the Climate Action Plan. A first call for applications under the €500 million Climate

	Action Fund led to the selection of seven projects that will receive €77 million of financial support. Ireland has not adequately assessed so far the (private and public) investment needs related to the transition towards a climate neutral economy, though this is important for the design of policies and measures.
sustainable transport,	**Some Progress** A very substantial increase in public clean transport investment is still needed to ease congestion and reduce carbon emissions. The return to economic growth and the sparse spatial distribution of the population has led to a high share of workers commuting daily from outside the main cities. This has aggravated congestion in recent years and resulted in increasing CO2 emissions and costs. While the share of passengers using trains or buses increased by 0.8pps to 17.4% in 2017, the fleet of buses and trains is still highly reliant on diesel engine. The National Development Plan 2018-2027 has committed to promote urban compact growth, to transit to low emission buses fleets and to electrify partially the Dublin Commuter Train network. This, together with other key clean public transport projects proposed in the Plan, will require increasing investment in public transport by around 90% with respect to the previous decade. While in 2018 and 2019, investment in public transport has increased by 20% with respect to the two previous years, its share with respect to total transport investment has remained relatively flat. Rapidly moving key public transport projects from the project and planning phase to construction might help reduce emissions and congestion costs more rapidly.
water,	**Some Progress** Significant investment needs remain outstanding in the water and wastewater sectors as very high leakage rate in its water supply systems persists and country breaches the requirements of the Urban Waste Water Treatment Directive (only 42% of the wastewater generated by large urban areas was treated at complying plants).To address it, the Government has approved an investment plan to support the country's operation, repair and upgrading of the country's water and wastewater infrastructure. The amount foreseen is significant and appears to be sufficient, in order to cover the needs in the sector, as identified both by the national authorities and an OECD study about to be published, and allow Ireland to reach compliance with the respective legal requirements.

digital infrastructure	**Some Progress** Significant investments have been made in digital infrastructure and the public-funded part of the National Broadband Plan has become ready to start in 2019.
and affordable and social housing, taking into account regional disparities.	**Some Progress** Even though social home delivery has accelerated since 2015, there were still 68,000 households on social housing waiting lists and more than 10,000 homeless people in Ireland in July 2019. Policy measures to increase the supply of social housing are in place but their effectiveness is still limited. Rebuilding Ireland, the Government's 6-year action plan seeks to meet the housing needs of 138,000 households. This will be delivered through the provision of 50,000 new social housing units by 2021, through build, acquisition and leasing programmes, and supporting 88,000 households through a housing assistance payment and a rental accommodation scheme. As of Q2 2019, the delivery has slightly exceeded its targets in each year of Rebuilding Ireland. If implementation continues according to plans, Rebuilding Ireland will provide social housing to over 73% of households on the current waiting list.
Implement measures, including those in the Future Jobs strategy, to diversify the economy and improve the productivity of Irish firms - small and medium enterprises in particular - by using more direct funding instruments to stimulate research and innovation	**Some Progress** Enterprise Ireland supports Collaborative Innovations between industry and third level institutions (Technology Gateways), in-company R&D projects, participation in Technology Centres and development of Knowledge Transfer Ireland while Call 2 under the Disruptive Technology Innovation Fund (DTIF) supports 16 projects with €65 million to 2022 for a wide range of activities. In addition, Phase 2 funding for Science Foundation Ireland supports six Science Foundation Ireland (SFI) Research Centres with €230 which is matched by industry. However, although public research funding is increasing in absolute terms, it is still below levels in earlier years and Ireland is unlikely to achieve its R&D intensity target of 2.5% of GNP within the timeframe of 2020. It also remains the case that the bulk of public support for R&I in firms is through the Research and Development tax credit, rather than direct support, although adjustments in Budget 2020 target the tax credit more at micro and small companies.
and by reducing regulatory barriers to entrepreneurship.	**Some Progress** While the Retail Planning Guidelines have not been reviewed, the Irish Authorities have taken some steps to address barriers to opening new shops by setting up the new Planning Regulator and implementing initiatives to make city

	centres more attractive using an Urban Regeneration Fund. The tackling of barriers in the market for legal services lacks ambition and is much delayed. Since the adoption of the Legal Services Regulation Act of 2015, restrictions remain in place in the provision of legal services, hampering competition and thus increasing legal costs, to the detriment of small businesses in particular. Implementation of the Act is ongoing with preparatory work and public consultations, but concrete measures are yet to materialise.
Europe 2020 (national targets and progress)	
Employment rate target set in the NRP: 69-71%.	The employment rate for 20-64 years old workers increased up to 74.1% in 2018, 0.9 pps above the EU average (73.2%) and 1.8 pps below the upper Europe 2020 target (75%) for 2020. The employment rate for women aged 20-64 stood at 68.1%, slightly below the 69%-71% national target for Ireland.
R&D target set in the NRP: 2.5% of GNP	Ireland is now aiming to reach a target of GERD as 2.5% of GNP only in 2025 instead of 2020. Although public and business research funding are increasing in absolute terms, public research funding is still below the level in 2009.
National greenhouse gas (GHG) emissions target: -20% in 2020 compared with 2005 (in sectors not included in the EU emissions trading scheme)	National projections indicate that cumulated emissions (on the basis of existing measures) over the 2013-2020 compliance period will exceed allocations by around 8 million tons of CO2 equivalent and that emissions in 2020 will be only about 5% lower than the 2005 level, i.e. around 15 percentage points short of the reduction target. This means that Ireland will need to buy allocations from other Member States in surplus in order to comply with the Effort Sharing Decision and it will put Ireland in a difficult starting position for the 2021-2030 compliance period under the Effort Sharing Regulation.
2020 renewable energy target: 16%	National projections indicate that Ireland is on track to fall short of its renewable target, with overall achievement approximately 13%. This shortfall will require Ireland to purchase statistical transfers, as per the Renewable Energy Directive 2009/28/EU.

Energy efficiency, 2020 energy consumption targets: Ireland's 2020 energy efficiency target is 31,925 GWh of savings expressed in primary energy consumption	National projections indicate that Ireland is on track to fall short of its energy efficiency target by about 4 percentage points. Reaching the target requires additional measures.
Early school/training leaving target: 8%.	The rate of early school leaving (18-24 years old) stood at 5.0% in 2018, ranking among the lowest in the EU and well below the Irish Europe 2020 target.
Tertiary education target: 60% of population aged 30-34.	In 2018, the share of 30-34 year-old tertiary graduates increased to 56.3%. It is well above the EU average (40.7%), but 3.7 pps below the Europe 2020 national target.
Target for reducing the number of people at risk of poverty or social exclusion, expressed as an absolute number of people: 200 000 (baseline year: 2010).	The number of people at risk of poverty or social exclusion has decreased since 2013. In 2018, 1 023 000 people were at risk of poverty and social exclusion, compared to 1 220 000 in 2010, getting therefore close to the national Europe 2020 target.

([1]) The following categories are used to assess progress in implementing the country-specific recommendations (CSRs):
No progress: The Member State has not credibly announced nor adopted any measures to address the CSR. This category covers a number of typical situations to be interpreted on a case by case basis taking into account country-specific conditions. They include the following:

- no legal, administrative, or budgetary measures have been announced

– in the national reform programme,

– in any other official communication to the national Parliament/relevant parliamentary committees or the European Commission,

– publicly (e.g. in a press statement or on the government's website);

- no non-legislative acts have been presented by the governing or legislative body;

- the Member State has taken initial steps in addressing the CSR, such as commissioning a study or setting up a study group to analyse possible measures to be taken (unless the CSR explicitly asks for orientations or exploratory actions). However, it has not proposed any clearly-specified measure(s) to address the CSR.

Limited progress: The Member State has:

- announced certain measures but these address the CSR only to a limited extent; and/or

- presented legislative acts in the governing or legislative body but these have not been adopted yet and substantial further, non-legislative work is needed before the CSR is implemented;

- presented non-legislative acts, but has not followed these up with the implementation needed to address the CSR.

Some progress: The Member State has adopted measures

- that partly address the CSR; and/or

- that address the CSR, but a fair amount of work is still needed to fully address the CSR fully as only a few of the measures have been implemented. For instance, a measure or measures have been adopted by the national Parliament or by ministerial decision but no implementing decisions are in place.

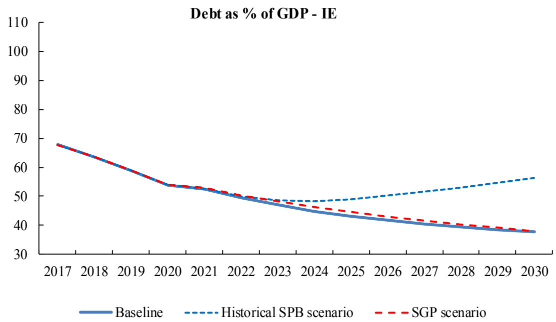
Substantial progress: The Member State has adopted measures that go a long way towards addressing the CSR and most of them have been implemented.

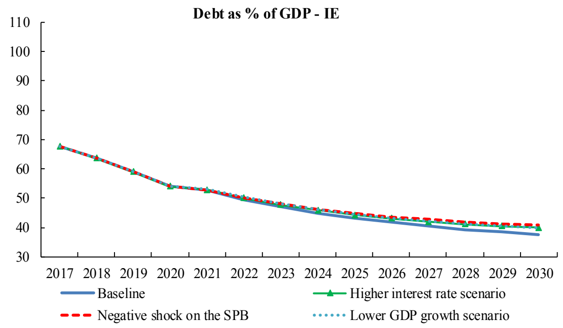
Full implementation: The Member State has implemented all measures needed to address the CSR appropriately.

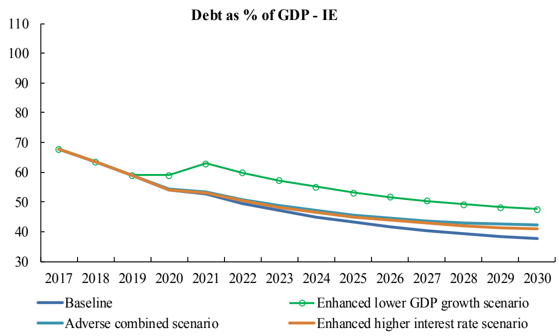
ANNEX B: COMMISSION DEBT SUSTAINABILITY ANALYSIS AND FISCAL RISKS

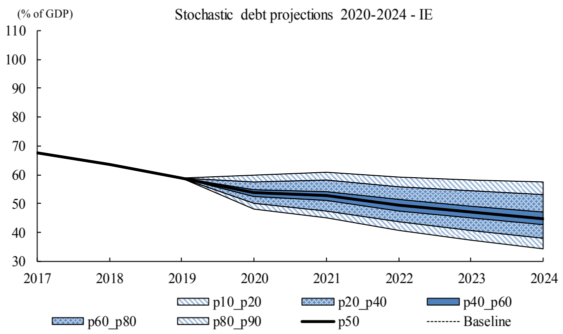
General government debt projections under baseline, alternative scenarios and sensitivity tests

IE - Debt projections baseline scenario	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Gross debt ratio	**63.6**	**59.0**	**53.9**	**52.6**	**49.6**	**47.1**	**45.0**	**43.1**	**41.7**	**40.4**	**39.3**	**38.4**	**37.6**
Changes in the ratio (-1+2+3)	*-4.2*	*-4.6*	*-5.1*	*-1.3*	*-3.0*	*-2.5*	*-2.1*	*-1.8*	*-1.5*	*-1.2*	*-1.1*	*-0.9*	*-0.8*
of which													
(1) Primary balance (1.1+1.2+1.3)	**1.7**	**1.7**	**1.5**	**1.6**	**1.2**	**0.9**	**0.6**	**0.4**	**0.2**	**0.1**	**0.1**	**-0.1**	**-0.2**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***1.0***	***0.5***	***0.8***	***1.3***	***1.0***	***0.8***	***0.6***	***0.4***	***0.2***	***0.1***	***0.1***	***-0.1***	***-0.2***
(1.1.1) Structural primary balance (bef. CoA)	*1.0*	*0.5*	*0.8*	*1.3*	*1.3*	*1.3*	*1.3*	*1.3*	*1.3*	*1.3*	*1.3*	*1.3*	*1.3*
(1.1.2) Cost of ageing					*0.2*	*0.5*	*0.7*	*0.9*	*1.1*	*1.2*	*1.2*	*1.4*	*1.5*
(1.1.3) Others (taxes and property incomes)					*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(1.2) Cyclical component	***0.7***	***1.2***	***0.8***	***0.3***	***0.2***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3)	**-4.0**	**-2.5**	**-1.7**	**-1.5**	**-1.8**	**-1.6**	**-1.5**	**-1.4**	**-1.3**	**-1.2**	**-1.1**	**-1.0**	**-1.0**
(2.1) Interest expenditure	*1.6*	*1.4*	*1.1*	*1.0*	*0.8*	*0.7*	*0.7*	*0.6*	*0.5*	*0.5*	*0.5*	*0.4*	*0.4*
(2.2) Growth effect	*-5.1*	*-3.4*	*-2.0*	*-1.7*	*-1.8*	*-1.4*	*-1.2*	*-1.1*	*-1.0*	*-0.8*	*-0.7*	*-0.7*	*-0.7*
(2.3) Inflation effect	*-0.6*	*-0.5*	*-0.9*	*-0.8*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*
(3) Stock-flow adjustments	**1.5**	**-0.4**	**-1.8**	**1.7**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**









Short term	Medium term	S1	Debt sustainability analysis (detail)	Baseline	Historical SPB	Lower GDP growth	Higher interest rate	Negative shock on SPB	Stochastic projections	DSA	S2	Long term
LOW (S0 = 0.1)	LOW	LOW (S1 = -2.6)	Risk category	LOW	LOW	LOW	LOW	LOW	LOW	LOW	MEDIUM (S2 = 2.9)	MEDIUM
			Debt level (2030)	37.6	56.2	39.8	39.9	40.8				
			Debt peak year	2019	2019	2019	2019	2019				
			Percentile rank	34.0%	72.0%							
			Probability debt higher						7.7%			
			Dif. between percentiles						22.9			

Note: For further information, see the European Commission Debt Sustainability Monitor (DSM) 2019.

[1] The first table presents the baseline no-fiscal policy change scenario projections. It shows the projected government debt dynamics and its decomposition between the primary balance, snowball effects and stock-flow adjustments. Snowball effects measure the net impact of the counteracting effects of interest rates, inflation, real GDP growth (and exchange rates in some countries). Stock-flow adjustments include differences in cash and accrual accounting, net accumulation of assets, as well as valuation and other residual effects.

[2] The charts present a series of sensitivity tests around the baseline scenario, as well as alternative policy scenarios, in particular: the historical structural primary balance (SPB) scenario (where the SPB is set at its historical average), the Stability and Growth Pact (SGP) scenario (where fiscal policy is assumed to evolve in line with the main provisions of the SGP), a higher interest rate scenario (+1 pp. compared to the baseline), a lower GDP growth scenario (-0.5 pp. compared to the baseline) and a negative shock on the SPB (calibrated on the basis of the forecasted change). An adverse combined scenario and enhanced sensitivity tests (on the interest rate and growth) are also included, as well as stochastic projections. Detailed information on the design of these projections can be found in the FSR 2018 and the DSM 2019.

[3] The second table presents the overall fiscal risk classification over the short, medium and long term.

a. For the short-term, the risk category (low/high) is based on the S0 indicator. S0 is an early-detection indicator of fiscal stress in the upcoming year, based on 25 fiscal and financial-competitiveness variables that have proven in the past to be leading indicators of fiscal stress. The critical threshold beyond which fiscal distress is signalled is 0.46.

b. For the medium term, the risk category (low/medium/high) is based on the joint use of the S1 indicator and of the DSA results. The S1 indicator measures the fiscal adjustment required (cumulated over the 5 years following the forecast horizon and sustained after that) to bring the debt-to-GDP ratio to 60 % by 2034. The critical values used are 0 and 2.5 pps of GDP. The DSA classification is based on the results of five deterministic scenarios (baseline, historical SPB, higher interest rate, lower GDP growth and negative shock on the SPB scenarios) and the stochastic projections. Different criteria are used such as the projected debt level, the debt path, the realism of fiscal assumptions, the probability of debt stabilisation, and the size of uncertainties.

c. For the long term, the risk category (low/medium/high) is based on the joint use of the S2 indicator and the DSA results. The S2 indicator measures the upfront and permanent fiscal adjustment required to stabilise the debt-to-GDP ratio over the infinite horizon, including the costs of ageing. The critical values used are 2 and 6 pps of GDP. The DSA results are used to further qualify the long term risk classification, in particular in cases when debt vulnerabilities are identified (a medium / high DSA risk category).

ANNEX C: STANDARD TABLES

Table C.1: **Financial market indicators**

	2014	2015	2016	2017	2018	2019
Total assets of the banking sector (% of GDP)(1)	554.2	413.5	395.9	354.3	340.1	359.2
Share of assets of the five largest banks (% of total assets)	47.6	45.9	44.3	45.5	46.1	-
Foreign ownership of banking system (% of total assets)(2)	48.3	48.4	48.3	48.8	51.4	55.9
Financial soundness indicators:(2)						
- non-performing loans (% of total loans)	21.6	14.9	13.1	9.9	5.5	4.2
- capital adequacy ratio (%)	22.6	25.3	25.0	25.2	25.4	24.3
- return on equity (%)(3)	8.5	6.8	6.3	5.0	4.9	4.5
Bank loans to the private sector (year-on-year % change)(1)	-10.0	-6.4	-3.5	2.1	0.4	2.1
Lending for house purchase (year-on-year % change)(1)	-3.9	-1.1	-4.2	2.7	4.0	2.4
Loan-to-deposit ratio(2)	98.8	98.7	93.2	95.3	90.2	89.8
Central bank liquidity as % of liabilities(1)	4.1	2.4	1.7	1.8	0.7	0.6
Private debt (% of GDP)	278.4	305.1	284.4	250.5	223.2	-
Gross external debt (% of GDP)(2) - public	73.4	54.3	49.4	44.8	41.6	40.0
- private	697.7	701.5	645.2	563.7	615.2	566.5
Long-term interest rate spread versus Bund (basis points)*	120.4	68.7	64.6	48.4	55.4	60.8
Credit default swap spreads for sovereign securities (5-year)*	53.5	37.0	45.7	27.9	17.5	20.4

(1) Latest data Q3 2019. Includes not only banks but all monetary financial institutions excluding central banks.
(2) Latest data Q2 2019.
(3) Quarterly values are annualized.
* Measured in basis points.
Source: European Commission (long-term interest rates); World Bank (gross external debt); Eurostat (private debt); ECB (all other indicators).

Table C.2: **Headline Social Scoreboard indicators**

	2014	2015	2016	2017	2018	2019 5
Equal opportunities and access to the labour market						
Early leavers from education and training (% of population aged 18-24)	6.7	6.8	6.0	5.0	5.0	:
Gender employment gap (pps)	11.8	12.3	12.1	12.1	12.2	12.4
Income inequality, measured as quintile share ratio (S80/S20)	4.9	4.5	4.4	4.6	4.2	:
At-risk-of-poverty or social exclusion rate(1) (AROPE)	27.7	26.2	24.4	22.7	21.1	:
Young people neither in employment nor in education and training (% of population aged 15-24)	15.3	14.3	12.6	10.9	10.1	:
Dynamic labour markets and fair working conditions						
Employment rate (20-64 years)	68.1	69.9	71.4	73.0	74.1	74.9
Unemployment rate(2) (15-74 years)	11.9	10.0	8.4	6.7	5.8	5.1
Long-term unemployment rate (as % of active population)	6.6	5.3	4.2	3.0	2.1	1.7
Gross disposable income of households in real terms per capita(3) (Index 2008=100)	90.8	93.5	97.3	101.3	103.4	:
Annual net earnings of a full-time single worker without children earning an average wage (levels in PPS, three-year average)	24726	24994	25510	:	:	:
Annual net earnings of a full-time single worker without children earning an average wage (percentage change, real terms, three-year average)	0.08	0.40	1.99	:	:	:
Public support / Social protection and inclusion						
Impact of social transfers (excluding pensions) on poverty reduction(4)	55.8	55.5	51.4	52.6	51.8	:
Children aged less than 3 years in formal childcare	27.4	30.6	28.6	34.4	37.7	:
Self-reported unmet need for medical care	3.7	2.7	2.5	2.8	2.0	:
Individuals who have basic or above basic overall digital skills (% of population aged 16-74)	:	44.0	44.0	48.0	:	:

(1) People at risk of poverty or social exclusion (AROPE): individuals who are at risk of poverty (AROP) and/or suffering from severe material deprivation (SMD) and/or living in households with zero or very low work intensity (LWI).
(2) Unemployed persons are all those who were not employed but had actively sought work and were ready to begin working immediately or within two weeks.
(3) Gross disposable household income is defined in unadjusted terms, according to the draft Joint Employment Report 2019.
(4) Reduction in percentage of the risk of poverty rate, due to social transfers (calculated comparing at-risk-of poverty rates before social transfers with those after transfers; pensions are not considered as social transfers in the calculation).
(5) Average of first three quarters of 2019 for the employment rate, unemployment rate and gender employment gap.
Source: Eurostat

Table C.3: **Labour market and education indicators**

Labour market indicators	2014	2015	2016	2017	2018	2019 [5]
Activity rate (15-64)	71.8	72.1	72.7	72.7	72.9	73.2
Employment in current job by duration						
From 0 to 11 months	14.1	14.6	15.2	14.8	15.6	:
From 12 to 23 months	8.5	8.6	9.9	10.1	9.9	:
From 24 to 59 months	14.7	14.5	15.6	17.0	18.6	:
60 months or over	60.2	59.4	55.6	53.0	50.5	:
Employment growth* (% change from previous year)	2.7	3.6	3.7	3.0	3.2	2.7
Employment rate of women (% of female population aged 20-64)	62.3	63.8	65.4	67.0	68.1	68.8
Employment rate of men (% of male population aged 20-64)	74.1	76.1	77.5	79.1	80.3	81.2
Employment rate of older workers* (% of population aged 55-64)	52.6	55.4	56.8	58.4	60.4	61.3
Part-time employment* (% of total employment, aged 15-64)	23.0	22.2	21.9	20.1	19.5	19.6
Fixed-term employment* (% of employees with a fixed term contract, aged 15-64)	10.3	9.6	9.0	9.1	9.9	9.6
Transition rate from temporary to permanent employment (3-year average)	38.9	40.9	39.9	43.3	:	:
Youth unemployment rate (% active population aged 15-24)	23.4	20.2	16.8	14.4	13.8	13.0
Gender gap in part-time employment	20.0	20.3	19.7	19.7	19.4	20.7
Gender pay gap(2) (in undadjusted form)	13.9	:	:	:	:	:
Education and training indicators	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Adult participation in learning (% of people aged 25-64 participating in education and training)	7.0	6.5	6.5	9.0	12.5	:
Underachievement in education(3)	:	15.0	:	:	15.7	:
Tertiary educational attainment (% of population aged 30-34 having successfully completed tertiary education)	54.6	53.8	54.6	54.5	56.3	:
Variation in performance explained by students' socio-economic status(4)	:	:	:	:	10.7	:

* Non-scoreboard indicator
(1) Long-term unemployed are people who have been unemployed for at least 12 months.
(2) Difference between the average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. It is defined as "unadjusted", as it does not correct for the distribution of individual characteristics (and thus gives an overall picture of gender inequalities in terms of pay). All employees working in firms with ten or more employees, without restrictions for age and hours worked, are included.
(3) PISA (OECD) results for low achievement in mathematics for 15 year-olds.
(4) Impact of socio-economic status on PISA (OECD) scores. Value for 2018 refers to reading.
(5) Average of first three quarters of 2019. Data for youth unemployment rate is seasonally adjusted.
Source: Eurostat, OECD

Table C.4: **Social inclusion and health indicators**

	2013	2014	2015	2016	2017	2018
Expenditure on social protection benefits* (% of GDP)						
Sickness/healthcare	7.9	7.4	5.7	5.8	5.6	:
Disability	1.1	1.1	0.8	0.8	0.8	:
Old age and survivors	6.7	6.2	4.8	5.1	4.8	:
Family/children	2.1	1.8	1.4	1.3	1.2	:
Unemployment	2.9	2.5	1.8	1.5	1.3	:
Housing	0.7	0.6	0.5	0.5	0.5	:
Social exclusion n.e.c.	0.2	0.2	0.1	0.1	0.1	:
Total	21.6	19.8	15.0	15.2	14.3	:
of which: means-tested benefits	6.9	6.2	4.5	4.3	3.9	:
General government expenditure by function (% of GDP)						
Social protection	15.1	13.8	10.4	10.0	9.5	:
Health	7.2	6.8	5.3	5.2	5.1	:
Education	4.7	4.3	3.3	3.3	3.3	:
Out-of-pocket expenditure on healthcare	14.3	14.0	13.3	12.8	12.3	:
Children at risk of poverty or social exclusion (% of people aged 0-17)*	34.4	30.4	29.0	27.3	25.2	23.9
At-risk-of-poverty rate(1) (% of total population)	15.7	16.4	16.2	16.8	15.6	14.9
In-work at-risk-of-poverty rate (% of persons employed)	5.0	5.4	4.9	5.1	5.1	4.9
Severe material deprivation rate(2) (% of total population)	9.9	8.4	8.5	6.7	5.2	:
Severe housing deprivation rate(3), by tenure status						
Owner, with mortgage or loan	0.4	0.0	0.9	0.0	0.2	0.0
Tenant, rent at market price	2.3	1.6	0.6	3.2	1.3	2.8
Proportion of people living in low work intensity households(4) (% of people aged 0-59)	23.9	21.0	18.7	17.8	16.2	13.1
Poverty thresholds, expressed in national currency at constant prices*	11253	11373	12160	12674	12888	13996
Healthy life years						
Females	12.1	12.3	12.0	13.2	13.4	:
Males	10.9	11.4	11.4	12.0	12.5	:
Aggregate replacement ratio for pensions(5)	0.4	0.4	0.4	0.4	0.3	0.4
Connectivity dimension of the Digital Economy and Society Index (DESI)(6)	:	46.2	55.5	60.7	64.7	:
GINI coefficient before taxes and transfers*	58.2	57.5	55.1	54.6	:	:
GINI coefficient after taxes and transfers*	30.0	30.8	29.8	29.5	:	:

* Non-scoreboard indicator
(1) At-risk-of-poverty rate (AROP): proportion of people with an equivalised disposable income below 60 % of the national equivalised median income.
(2) Proportion of people who experience at least four of the following forms of deprivation: not being able to afford to i) pay their rent or utility bills, ii) keep their home adequately warm, iii) face unexpected expenses, iv) eat meat, fish or a protein equivalent every second day, v) enjoy a week of holiday away from home once a year, vi) have a car, vii) have a washing machine, viii) have a colour TV, or ix) have a telephone.
(3) Percentage of total population living in overcrowded dwellings and exhibiting housing deprivation.
(4) People living in households with very low work intensity: proportion of people aged 0-59 living in households where the adults (excluding dependent children) worked less than 20 % of their total work-time potential in the previous 12 months.
(5) Ratio of the median individual gross pensions of people aged 65-74 relative to the median individual gross earnings of people aged 50-59.
(6) Fixed broadband take up (33%), mobile broadband take up (22%), speed (33%) and affordability (11%), from the Digital Scoreboard.
Source: Eurostat, OECD

Table C.5: **Product market performance and policy indicators**

Performance indicators	2013	2014	2015	2016	2017	2018
Labour productivity per person[1] growth (t/t-1) in %						
Labour productivity growth in industry	-7.63	9.46	71.82	-1.31	4.81	11.24
Labour productivity growth in construction	6.43	-1.99	-8.27	1.30	4.54	-0.36
Labour productivity growth in market services	-0.12	3.79	7.10	1.90	4.28	5.25
Unit Labour Cost (ULC) index[2] growth (t/t-1) in %						
ULC growth in industry	8.03	-5.96	-41.53	3.40	-1.33	-2.94
ULC growth in construction	-6.73	1.53	5.99	7.73	0.64	3.71
ULC growth in market services	-1.11	-2.22	-0.25	1.40	0.82	-2.62
Business environment	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Time needed to enforce contracts[3] (days)	650	650	650	650	650	650
Time needed to start a business[3] (days)	16.0	12.0	12.0	11.0	11.0	11.0
Outcome of applications by SMEs for bank loans[4]	0.79	1.23	0.73	0.26	0.73	0.67
Research and innovation	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
R&D intensity	1.57	1.50	1.19	1.19	1.23	1.15
General government expenditure on education as % of GDP	4.70	4.30	3.30	3.30	3.30	:
Employed people with tertiary education and/or people employed in S&T as % of total employment	55	54	55	55	56	55
Population having completed tertiary education[5]	37	38	39	40	40	41
Young people with upper secondary education[6]	90	93	94	94	94	94
Trade balance of high technology products as % of GDP	1.98	0.57	2.34	2.82	2.92	4.72
Product and service markets and competition	**2003**	**2008**	**2013**			**2018***
OECD product market regulation (PMR)[7], overall	1.58	1.35	1.45			1.38
OECD PMR[7], retail	0.87	1.53	1.53			0.94
OECD PMR[7], professional services[8]	1.60	1.25	1.25			1.48
OECD PMR[7], network industries[9]	3.32	2.49	2.21			1.26

*While the indicator values from 2003 to 2013 are comparable, the methodology has considerably changed in 2018. As a result, past vintages cannot be compared with the 2018 PMR indicators.
1 Value added in constant prices divided by the number of persons employed.
2 Compensation of employees in current prices divided by value added in constant prices.
3 The methodologies, including the assumptions, for this indicator are shown in detail here: http://www.doingbusiness.org/methodology.
4 Average of the answer to question Q7B_a. "[Bank loan]: If you applied and tried to negotiate for this type of financing over the past six months, what was the outcome?". Answers were codified as follows: zero if received everything, one if received 75% and above, two if received below 75%, three if refused or rejected and treated as missing values if the application is still pending or don't know.
5 Percentage population aged 15-64 having completed tertiary education.
6 Percentage population aged 20-24 having attained at least upper secondary education.
7 Index: 0 = not regulated; 6 = most regulated. The methodologies of the OECD product market regulation indicators are shown in detail here: http://www.oecd.org/competition/reform/indicatorsofproductmarketregulationhomepage.htm
8 Simple average of the indicators of regulation for lawyers, accountants, architects and engineers.
9 Aggregate OECD indicators of regulation in energy, transport and communications (ETCR).
Source: European Commission; World Bank — Doing Business (for enforcing contracts and time to start a business); OECD (for the product market regulation indicators); SAFE (for outcome of SMEs' applications for bank loans).

Table C.6: **Green growth**

Green growth performance		2013	2014	2015	2016	2017	2018
Macroeconomic							
Energy intensity	kgoe / €	0.08	0.07	0.06	0.06	0.06	0.05
Carbon intensity	kg / €	0.34	0.31	0.25	0.25	0.23	-
Resource intensity (reciprocal of resource productivity)	kg / €	0.58	0.52	0.42	0.43	0.43	0.44
Waste intensity	kg / €	-	0.08	-	0.06	-	-
Energy balance of trade	% GDP	-3.2	-2.7	-1.5	-1.1	-1.2	-1.4
Weighting of energy in HICP	%	11.67	11.15	10.62	8.84	8.50	8.48
Difference between energy price change and inflation	p.p.	3.0	1.0	-4.9	-4.9	0.8	6.9
Real unit of energy cost	% of value added	4.6	4.4	4.8	5.5	-	-
Ratio of environmental taxes to labour taxes	ratio	0.19	0.19	0.26	0.26	0.25	-
Environmental taxes	% GDP	2.5	2.4	1.9	1.9	1.8	1.6
Sectoral							
Industry energy intensity	kgoe / €	0.06	0.05	0.03	0.03	0.03	0.03
Real unit energy cost for manufacturing industry excl. refining	% of value added	6.7	6.4	6.7	7.0	-	-
Share of energy-intensive industries in the economy	% GDP	3.38	3.38	2.69	2.61	2.59	2.54
Electricity prices for medium-sized industrial users	€ / kWh	0.14	0.14	0.14	0.13	0.12	0.13
Gas prices for medium-sized industrial users	€ / kWh	0.04	0.04	0.04	0.03	0.03	0.04
Public R&D for energy	% GDP	0.00	0.00	0.00	0.00	0.00	0.00
Public R&D for environmental protection	% GDP	0.01	0.00	0.00	0.01	0.00	0.00
Municipal waste recycling rate	%	-	39.8	-	40.7	-	-
Share of GHG emissions covered by ETS*	%	27.1	27.7	28.1	28.8	27.8	25.5
Transport energy intensity	kgoe / €	0.76	0.77	0.74	0.76	0.73	0.71
Transport carbon intensity	kg / €	1.75	1.85	1.88	2.00	2.09	1.95
Security of energy supply							
Energy import dependency	%	91.7	86.2	88.9	69.1	67.1	-
Aggregated supplier concentration index	HHI	11.4	11.0	9.5	4.7	9.1	-
Diversification of energy mix	HHI	35.1	33.4	33.4	34.4	34.4	35.6

All macro intensity indicators are expressed as a ratio of a physical quantity to GDP (in 2010 prices)
Energy intensity: gross inland energy consumption (in kgoe) divided by GDP (in EUR)
Carbon intensity: greenhouse gas emissions (in kg CO2 equivalents) divided by GDP (in EUR)
Resource intensity: domestic material consumption (in kg) divided by GDP (in EUR)
Waste intensity: waste (in kg) divided by GDP (in EUR)
Energy balance of trade: the balance of energy exports and imports, expressed as % of GDP.
Weighting of energy in HICP: the proportion of 'energy' items in the consumption basket used for the construction of the HICP.
Difference between energy price change and inflation: energy component of HICP, and total HICP inflation (annual % change).
Real unit energy cost: real energy costs as % of total value added for the economy.
Industry energy intensity: final energy consumption of industry (in kgoe) divided by gross value added of industry (in 2010 EUR).
Real unit energy costs for manufacturing industry excluding refining: real costs as % of value added for manufacturing sectors.
Share of energy-intensive industries in the economy: share of gross value added of the energy-intensive industries in GDP.
Electricity and gas prices for medium-sized industrial users: consumption band 500–20 00MWh and 10 000 -100 000 GJ; figures excl. VAT.
Recycling rate of municipal waste: ratio of recycled and composted municipal waste to total municipal waste.
Public R&D for energy or for the environment: government spending on R&D for these categories as % of GDP.
Proportion of GHG emissions covered by EU emissions trading system (ETS) (excluding aviation): based on GHG emissions. (excl. land use, land use change and forestry) as reported by Member States to the European Environment Agency.
Transport energy intensity: final energy consumption of transport activity including international aviation (kgoe) divided by gross value added in transportation and storage sector (in 2010 EUR).
Transport carbon intensity: GHG emissions in transportation and storage sector divided by gross value added in transportation and storage sector (in 2010 EUR).
Energy import dependency: net energy imports divided by gross inland energy consumption incl. consumption of international bunker fuels.
Aggregated supplier concentration index: Herfindahl index covering oil, gas and coal. Smaller values indicate larger diversification and hence lower risk.
Diversification of the energy mix: Herfindahl index covering natural gas, total petrol products, nuclear heat, renewable energies and solid fuels. Smaller values indicate larger diversification.
* European Commission and European Environment Agency - 2018 provisional data.
Source: European Commission and European Environment Agency (Share of GHG emissions covered by ETS); European Commission (Environmental taxes over labour taxes and GDP); Eurostat (all other indicators).

ANNEX D: INVESTMENT GUIDANCE ON JUST TRANSITION FUND 2021-2027 FOR IRELAND

Building on the Commission proposal, this Annex(66) presents the preliminary Commission services' views on priority investment areas and framework conditions for effective delivery for the 2021-2027 Just Transition Fund investments in Ireland. These priority investment areas are derived from the broader analysis of territories facing serious socio-economic challenges deriving from the transition process towards a climate-neutral economy of the Union by 2050 in Ireland, assessed in this report. This Annex provides the basis for a dialogue between Ireland and the Commission services as well as the relevant guidance for the Member States in preparing their territorial just transition plans, which will form the basis for programming the Just Transition Fund. The Just Transition Fund investments complement those under Cohesion Policy funding for which guidance in the form of Annex D was given in the 2019 Country Report for Ireland (67).

Ireland's transition away from carbon-intensive sources of energy towards more sustainable, renewable energy sources will have a significant impact in the Midlands region and the workers in its electricity-generating industry. Its peat burning power stations will cease to operate by the end of 2020, potentially affecting around 4,000 jobs, out of a total of 110,000 persons employed in the region. Workers affected by this transition would need to be equipped with new and in-demand skills to increase their employability prospects and receive tailored support by employment services to find new employment. Based on this preliminary assessment, it appears warranted that the Just Transition Fund concentrates its intervention on that region.

The smart specialisation strategies (68) provide an important framework to set priorities for innovation in support of economic transformation. In order to tackle these challenges, investments needs have been identified to diversify the regional economy making it more modern and competitive and to alleviate the socio-economic costs of the transition. Key actions of the Just Transition Fund could target in particular:

- upskilling and reskilling of workers;
- job-search assistance to jobseekers;
- productive investments in SMEs, including start-ups, leading to economic diversification and reconversion;
- the creation of new firms, including through business incubators and consulting services;
- investments in research and innovation activities and fostering transfer of advanced technologies;
- investments in the deployment of technology and infrastructures for affordable clean energy, in greenhouse gas emission reduction, energy efficiency and renewable energy;
- investments in enhancing the circular economy, including through waste prevention, reduction, resource efficiency, reuse, repair and recycling.

(66) This Annex is to be considered in conjunction with the EC proposal for a Regulation of the European Parliament and of the Council on the Just Transition Fund 2021-2027 (COM(2020) 22) and the EC proposal for a Regulation of the European Parliament and of the Council laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, and the European Maritime and Fisheries Fund and financial rules for those and for the Asylum and Migration Fund, the Internal Security Fund and the Border Management and Visa Instrument (COM(2020) 23)
(67) SWD(2019) 1006 final
(68) As defined in Article 2(3) of Regulation EU 1303/2013 (CPR)

ANNEX E: PROGRESS TOWARDS THE SUSTAINABLE DEVELOPMENT GOALS (SDGS)

Assessment of Ireland's short-term progress towards the SDGs ([69])

Table E.1 shows the data for Ireland and the EU-28 for the indicators included in the EU SDG indicator set used by Eurostat for monitoring progress towards the SDGs in an EU context ([70]). As the short-term trend at EU-level is assessed over a 5-year period, both the value at the beginning of the period and the latest available value is presented. The indicators are regularly updated on the SDI dedicated section of the Eurostat website.

SDG / Sub-theme	Indicator	Unit	Ireland Starting year	Ireland Starting value	Ireland Latest year	Ireland Latest value	EU-28 Starting year	EU-28 Starting value	EU-28 Latest year	EU-28 Latest value
SDG 1 – No poverty										
Multidimensional poverty	People at risk of poverty or social exclusion	% of population	2013	29.9	2018	21.1	2013	24.6	2018	21.9
	People at risk of income poverty after social transfers	% of population	2013	15.7	2018	14.9	2013	16.7	2018	17.1
	Severely materially deprived people	% of population	2013	9.9	2018	4.9	2013	9.6	2018	5.8
	People living in households with very low work intensity	% of population aged 0 to 59	2013	23.9	2018	13.1	2013	11.0	2018	8.8
	In-work at-risk-of-poverty rate	% of population aged 18 or over	2013	5.0	2018	4.9	2013	9.0	2018	9.5
Basic needs	Population living in a dwelling with a leaking roof, damp walls, floors or foundation or rot in window frames or floor	% of population	2013	14.3	2018	11.9	2013	15.6	2018	13.9
	Self-reported unmet need for medical care	% of population aged 16 or over	2013	3.3	2018	2.0	2013	3.7	2018	2.0
	Population having neither a bath, nor a shower, nor indoor flushing toilet in their household	% of population	2013	0.3	2018	0.0	2013	2.2	2018	1.7
	Population unable to keep home adequately warm	% of population	2013	10.0	2018	4.4	2013	10.7	2018	7.3
	Overcrowding rate	% of population	2013	2.8	2018	2.7	2013	17.0	2018	15.5
SDG 2 – Zero hunger										
Malnutrition	Obesity rate	% of population aged 18 or over	2014	18.7	2017	15.2	2014	15.9	2017	15.2
Sustainable agricultural production	Agricultural factor income per annual work unit (AWU)	EUR, chain linked volumes (2010)	2012	16 522	2017	22 783	2012	14 865	2017	17 304
	Government support to agricultural research and development	million EUR	2013	90.1	2018	109.6	2013	3 048.6	2018	3 242.5
	Area under organic farming	% of utilised agricultural area	2013	1.2	2018	2.6	2013	5.7	2018	7.5
	Gross nitrogen balance on agricultural land	kg per hectare	2010	34	2015	42	2010	49	2015	51
Environmental impacts of agricultural production	Ammonia emissions from agriculture	kg per ha of utilised agricultural area	2012	23.1	2017	26.1	2011	19.7	2016	20.3
	Nitrate in groundwater	mg NO_3 per litre	2012	11.7	2017	12.7	2012	19.2	2017	19.1
	Estimated soil erosion by water	km^2	2010	378.4	2016	367.9	2010	207 232.2	2016	205 294.5
	Common farmland bird index	index 2000 = 100	N/A	:	N/A	:	2013	83.9	2018	80.7
SDG 3 – Good health and well-being										
Healthy lives	Life expectancy at birth	years	2012	80.9	2017	82.2	2012	80.3	2017	80.9
	Share of people with good or very good perceived health	% of population aged 16 or over	2013	82.0	2018	84.1	2013	67.3	2018	69.2
Health determinants	Smoking prevalence	% of population aged 15 or over	2012	29	2017	19	2014	26	2017	26
	Obesity rate	% of population aged 18 or over	2014	18.7	2017	15.2	2014	15.9	2017	15.2
	Population living in households considering that they suffer from noise	% of population	2013	9.4	2018	9.4	2013	18.8	2018	18.3
	Exposure to air pollution by particulate matter ($PM_{2.5}$)	$\mu g/m^3$	2013	10.5	2017	7.7	2012	16.8	2017	14.1
Causes of death	Death rate due to chronic diseases	number per 100 000 persons aged less than 65	2011	113.7	2016	96.8	2011	132.5	2016	119.0
	Death rate due to tuberculosis, HIV and hepatitis	number per 100 000 persons	2011	1.8	2016	1.2	2011	3.4	2016	2.6
	People killed in accidents at work	number per 100 000 employed persons	2012	2.34	2017	1.87	2012	1.91	2017	1.65
	People killed in road accidents	number of killed people	2012	162	2017	157	2012	28 231	2017	25 257
Access to health care	Self-reported unmet need for medical care	% of population aged 16 or over	2013	3.3	2018	2.0	2013	3.7	2018	2.0

([69]) Data extracted on 9 February 2020 from the Eurostat database (official EU SDG indicator set; see https://ec.europa.eu/eurostat/web/sdi/main-tables).

([70]) The EU SDG indicator set is aligned as far as appropriate with the UN list of global indicators, noting that the UN indicators are selected for global level reporting and are therefore not always relevant in an EU context. The EU SDG indicators have strong links with EU policy initiatives.

Table (continued)

SDG / Sub-theme	Indicator	Unit	Ireland Starting year	Ireland Starting value	Ireland Latest year	Ireland Latest value	EU-28 Starting year	EU-28 Starting value	EU-28 Latest year	EU-28 Latest value
SDG 4 – Quality education										
Basic education	Early leavers from education and training	% of the population aged 18 to 24	2013	8.7	2018	5.0	2013	11.9	2018	10.6
	Participation in early childhood education	% of the age group between 4-years-old and the starting age of compulsory education	2012	99.1	2017	100.0	2012	94.0	2017	95.4
	Underachievement in reading	% of 15-year-old students	2015	10.2	2018	11.8	2015	19.7	2018	21.7
	Young people neither in employment nor in education and training	% of population aged 15 to 29	2013	18.8	2018	11.6	2013	15.9	2018	12.9
Tertiary education	Tertiary educational attainment	% of the population aged 30 to 34	2013	53.6	2018	56.3	2013	37.1	2018	40.7
	Employment rate of recent graduates	% of population aged 20 to 34	2013	74.5	2018	84.3	2013	75.4	2018	81.7
Adult education	Adult participation in learning	% of population aged 25 to 64	2013	7.6	2018	12.5	2013	10.7	2018	11.1
SDG 5 – Gender equality										
Gender-based violence	Physical and sexual violence to women experienced within 12 months prior to the interview	% of women	N/A	:	2012	8	N/A	:	2012	8
Education	Gender gap for early leavers from education and training	percentage points, persons aged 18–24	2013	4.1	2018	2.2	2013	3.4	2018	3.3
	Gender gap for tertiary educational attainment	percentage points, persons aged 30–34	2013	12.0	2018	8.7	2013	8.5	2018	10.1
	Gender gap for employment rate of recent graduates	percentage points, persons aged 20–34	2013	0.4	2018	3.1	2013	4.4	2018	3.4
Employment	Gender pay gap in unadjusted form	% of average gross hourly earnings of men	2009	12.6	2014	13.9	2012	17.4	2017	16.0
	Gender employment gap	percentage points, persons aged 20–64	2013	10.5	2018	12.2	2013	11.7	2018	11.6
	Gender gap in inactive population due to caring responsibilities	percentage points, persons aged 20–64	2013	45.9	2018	39.7	2013	25.5	2018	27.1
Leadership positions	Seats held by women in national parliaments and governments	% of seats	2014	19.9	2019	24.3	2014	27.2	2019	31.5
	Positions held by women in senior management	% of board members	2014	10.9	2019	22.4	2014	20.2	2019	27.8
SDG 6 – Clean water and sanitation										
Sanitation	Population having neither a bath, nor a shower, nor indoor flushing toilet in their household	% of population	2013	0.3	2018	0.0	2013	2.2	2018	1.7
	Population connected to at least secondary wastewater treatment	% of population	2012	58.8	2017	61.2	N/A	:	N/A	:
Water quality	Biochemical oxygen demand in rivers	mg O_2 per litre	2012	1.20	2017	0.99	2012	2.06	2017	2.00
	Nitrate in groundwater	mg NO_3 per litre	2012	11.7	2017	12.7	2012	19.2	2017	19.1
	Phosphate in rivers	mg PO_4 per litre	2012	0.024	2017	0.024	2012	0.096	2017	0.093
	Inland water bathing sites with excellent water quality	% of bathing sites with excellent water quality	2013	77.8	2018	88.9	2013	76.5	2018	80.8
Water use efficiency	Water exploitation index	% of long term average available water (LTAA)	N/A	:	N/A	:	N/A	:	N/A	:
SDG 7 – Affordable and clean energy										
Energy consumption	Primary energy consumption	million tonnes of oil equivalent (Mtoe)	2013	13.1	2018	14.5	2013	1 577.4	2018	1 551.9
	Final energy consumption	million tonnes of oil equivalent (Mtoe)	2013	10.8	2018	12.3	2013	1 115.5	2018	1 124.1
	Final energy consumption in households per capita	kgoe	2013	607	2018	571	2013	605	2018	552
	Energy productivity	EUR per kgoe	2013	12.6	2018	18.8	2013	7.6	2018	8.5
	Greenhouse gas emissions intensity of energy consumption	index 2000 = 100	2012	89.4	2017	84.7	2012	91.5	2017	86.5
Energy supply	Share of renewable energy in gross final energy consumption	%	2013	7.6	2018	11.1	2013	15.4	2018	18.0
	Energy import dependency	% of imports in gross available energy	2013	91.6	2018	67.4	2013	53.2	2018	55.7
Access to affordable energy	Population unable to keep home adequately warm	% of population	2013	10.0	2018	4.4	2013	10.7	2018	7.3

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Table (continued)

SDG / Sub-theme	Indicator	Unit	Ireland Starting year	Ireland Starting value	Ireland Latest year	Ireland Latest value	EU-28 Starting year	EU-28 Starting value	EU-28 Latest year	EU-28 Latest value
SDG 8 – Decent work and economic growth										
Sustainable economic growth	Real GDP per capita	EUR per capita, chain-linked volumes (2010)	2013	37 010	2018	57 960	2013	25 750	2018	28 280
	Investment share of GDP	% of GDP	2013	18.6	2018	23.4	2013	19.5	2018	20.9
	Resource productivity	EUR per kg, chain-linked volumes (2010)	2013	1.77	2018	2.31	2013	1.98	2018	2.04
Employment	Young people neither in employment nor in education and training	% of population aged 15 to 29	2013	18.8	2018	11.6	2013	15.9	2018	12.9
	Employment rate	% of population aged 20 to 64	2013	66.5	2018	74.1	2013	68.4	2018	73.2
	Long-term unemployment rate	% of active population	2013	8.0	2018	2.1	2013	5.1	2018	2.9
	Gender gap in inactive population due to caring responsibilities	percentage points, persons aged 20–64	2013	45.9	2018	39.7	2013	25.5	2018	27.1
Decent work	People killed in accidents at work	number per 100 000 employed persons	2012	2.34	2017	1.87	2012	1.91	2017	1.65
	In-work at-risk-of-poverty rate	% of population	2013	5	2018	4.9	2013	9	2018	9.5
SDG 9 – Industry, innovation and infrastructure										
R&D and innovation	Gross domestic expenditure on R&D	% of GDP	2013	1.57	2018	1.15	2013	2.01	2018	2.12
	Employment in high- and medium-high technology manufacturing and knowledge-intensive services	% of total employment	2013	50.6	2018	48.0	2013	45.0	2018	46.1
	R&D personnel	% of active population	2013	1.45	2018	1.55	2013	1.15	2018	1.36
	Patent applications to the European Patent Office (EPO)	number	2012	313	2017	371	2012	56 772	2017	54 649
Sustainable transport	Share of buses and trains in total passenger transport	% of total inland passenger-km	2012	17.2	2017	17.4	2012	17.2	2017	16.7
	Share of rail and inland waterways in total freight transport	% of total inland freight tonne-km	2012	1.0	2017	0.9	2012	25.4	2017	23.3
	Average CO2 emissions per km from new passenger cars	g CO_2 per km	2013	120.7	2018	113.0	2014	123.4	2018	120.4
SDG 10 – Reduced inequalities										
Inequalities within countries	Relative median at-risk-of-poverty gap	% distance to poverty threshold	2013	17.5	2018	15.3	2013	23.8	2018	24.6
	Income distribution	income quintile share ratio	2013	4.7	2018	4.2	2013	5.0	2018	5.2
	Income share of the bottom 40 % of the population	% of income	2013	21.1	2018	22.3	2013	21.1	2018	21.0
	People at risk of income poverty after social transfers	% of population	2013	15.7	2018	14.9	2013	16.7	2018	17.1
Inequalities between countries	Purchasing power adjusted GDP per capita	Real expenditure per capita (in PPS)	2013	35 200	2018	58 600	2013	26 800	2018	31 000
	Adjusted gross disposable income of households per capita	Purchasing power standard (PPS) per inhabitant	2013	18 954	2018	21 613	2013	20 392	2018	22 824
	Financing to developing countries	million EUR, current prices	2012	744	2017	1 064	2012	147 962	2017	155 224
	Imports from developing countries	million EUR, current prices	2013	5 253	2018	7 053	2013	817 475	2018	1 013 981
Migration and social inclusion	Asylum applications	Positive first instance decisions, per million inhabitants	2013	32	2018	206	2013	213	2018	424
SDG 11 – Sustainable cities and communities										
Quality of life in cities and communities	Overcrowding rate	% of population	2013	2.8	2018	2.7	2013	17.0	2018	15.5
	Population living in households considering that they suffer from noise	% of population	2013	9.4	2018	9.4	2013	18.8	2018	18.3
	Exposure to air pollution by particulate matter ($PM_{2.5}$)	µg/m³	2013	10.5	2017	7.7	2012	16.8	2017	14.1
	Population living in a dwelling with a leaking roof, damp walls, floors or foundation or rot in window frames or floor	% of population	2013	14.3	2018	11.9	2013	15.6	2018	13.9
	Population reporting occurrence of crime, violence or vandalism in their area	% of population	2013	11.9	2018	10.0	2013	14.5	2018	12.7
Sustainable mobility	People killed in road accidents	number of killed people	2012	162	2017	157	2012	28 231	2017	25 257
	Share of buses and trains in total passenger transport	% of total inland passenger-km	2012	17.2	2017	17.4	2012	17.2	2017	16.7
Adverse environmental impacts	Settlement area per capita	m²	2009	922.2	2015	961.3	2012	625.0	2015	653.7
	Recycling rate of municipal waste	% of total waste generated	2012	36.6	2017	40.4	2013	41.7	2018	47.0
	Population connected to at least secondary wastewater treatment	% of population	2012	58.8	2017	61.2	N/A	:	N/A	:

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Table (continued)

SDG / Sub-theme	Indicator	Unit	Ireland Starting year	Ireland Starting value	Ireland Latest year	Ireland Latest value	EU-28 Starting year	EU-28 Starting value	EU-28 Latest year	EU-28 Latest value
SDG 12 – Responsible consumption and production										
Decoupling environmental impacts from economic growth	Consumption of toxic chemicals	million tonnes	N/A	:	N/A	:	2013	300.3	2018	313.9
	Resource productivity	EUR per kg, chain-linked volumes (2010)	2013	1.77	2018	2.31	2013	1.98	2018	2.04
	Average CO2 emissions per km from new passenger cars	g CO_2 per km	2013	120.7	2018	113.0	2014	123.4	2018	120.4
	Energy productivity	EUR per kgoe	2013	12.6	2018	18.8	2013	7.6	2018	8.5
Energy consumption	Primary energy consumption	million tonnes of oil equivalent (Mtoe)	2013	13.1	2018	14.5	2013	1 577.4	2018	1 551.9
	Final energy consumption	million tonnes of oil equivalent (Mtoe)	2013	10.8	2018	12.3	2013	1 115.5	2018	1 124.1
	Share of renewable energy in gross final energy consumption	%	2013	7.6	2018	11.1	2013	15.4	2018	18.0
Waste generation and management	Circular material use rate	% of material input for domestic use	2012	1.7	2017	1.6	2012	11.5	2017	11.7
	Generation of waste excluding major mineral wastes	kg per capita	2012	1 761	2016	1 765	2012	1 716	2016	1 772
	Recycling rate of waste excluding major mineral wastes	% of total waste treated	2012	37	2016	41	2012	55	2016	57
SDG 13 – Climate action										
Climate mitigation	Greenhouse gas emissions	index 1990 = 100	2012	105.1	2017	112.9	2012	82.1	2017	78.3
	Greenhouse gas emissions intensity of energy consumption	index 2000 = 100	2012	89.4	2017	84.7	2012	91.5	2017	86.5
	Primary energy consumption	million tonnes of oil equivalent (Mtoe)	2013	13.1	2018	14.5	2013	1 577.4	2018	1 551.9
	Final energy consumption	million tonnes of oil equivalent (Mtoe)	2013	10.8	2018	12.3	2013	1 115.5	2018	1 124.1
	Share of renewable energy in gross final energy consumption	%	2013	7.6	2018	11.1	2013	15.4	2018	18.0
	Average CO2 emissions per km from new passenger cars	g CO_2 per km	2013	120.7	2018	113.0	2014	123.4	2018	120.4
Climate impacts	European mean near surface temperature deviation	temperature deviation in °C, compared with the 1850–1899 average	N/A	:	N/A	:	2013	1.4	2018	2.1
	Climate-related economic losses	EUR billion, in 2017 values	N/A	:	N/A	:	2012	2 719	2017	2 649
	Mean ocean acidity	pH value	N/A	:	N/A	:	2013	8.06	2018	8.06
Support to climate action	Contribution to the international 100bn USD commitment on climate related expending	EUR million, current prices	N/A	:	2017	64.5	N/A	:	2017	20 388.7
SDG 14 – Life below water										
Ocean health	Coastal water bathing sites with excellent water quality	% of bathing sites with excellent water quality	2013	84.9	2018	69.9	2013	85.5	2018	87.1
	Mean ocean acidity	pH value	N/A	:	N/A	:	2013	8.06	2018	8.06
Marine conservation	Surface of marine sites designated under NATURA 2000	km^2	2013	6 905	2018	10 257	2013	251 566	2018	551 899
Sustainable fisheries	Estimated trends in fish stock biomass	index 2003 = 100	N/A	:	N/A	:	2012	110.0	2017	136.0
	Assessed fish stocks exceeding fishing mortality at maximum sustainable yield (Fmsy)	% of stocks exceeding fishing mortality at maximum sustainable yield ($F>F_{MSY}$)	N/A	:	N/A	:	2012	52.9	2017	42.7
SDG 15 – Life on land										
Ecosystems status	Share of forest area	% of total land area	2009	15.8	2015	22.4	2012	40.3	2015	41.6
	Biochemical oxygen demand in rivers	mg O_2 per litre	2012	1.20	2017	0.99	2012	2.06	2017	2.00
	Nitrate in groundwater	mg NO_3 per litre	2012	11.7	2017	12.7	2012	19.2	2017	19.1
	Phosphate in rivers	mg PO_4 per litre	2012	0.024	2017	0.024	2012	0.096	2017	0.093
Land degradation	Soil sealing index	index 2006 = 100	2009	101.7	2015	103.4	2009	101.7	2015	104.2
	Estimated soil erosion by water	km^2	2010	378.4	2016	367.9	2010	207 232.2	2016	205 294.5
	Settlement area per capita	m^2	2009	922.2	2015	961.3	2012	625.0	2015	653.7
Biodiversity	Surface of terrestrial sites designated under NATURA 2000	km^2	2013	9 222	2018	9 229	2013	787 766	2018	784 252
	Common bird index	index 2000 = 100	N/A	:	N/A	:	2013	94.7	2018	93.5
	Grassland butterfly index	index 2000 = 100	N/A	:	N/A	:	2012	72.2	2017	74.1

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Table (continued)

SDG / Sub-theme	Indicator	Unit	Ireland Starting year	Ireland Starting value	Ireland Latest year	Ireland Latest value	EU-28 Starting year	EU-28 Starting value	EU-28 Latest year	EU-28 Latest value
SDG 16 – Peace, justice and strong institutions										
Peace and personal security	Death rate due to homicide	number per 100 000 persons	2011	0.6	2016	0.5	2011	0.9	2016	0.6
	Population reporting occurrence of crime, violence or vandalism in their area	% of population	2013	11.9	2018	10.0	2013	14.5	2018	12.7
	Physical and sexual violence to women experienced within 12 months prior to the interview	% of women	N/A	:	2012	8	N/A	:	2012	8
Access to justice	General government total expenditure on law courts	million EUR	2012	536	2017	628	2012	48 381	2017	51 027
	Perceived independence of the justice system	% of population	2016	75	2019	74	2016	52	2019	56
Trust in institutions	Corruption Perceptions Index	score scale of 0 (highly corrupt) to 100 (very clean)	2013	72	2018	73	N/A	:	N/A	:
	Population with confidence in the EU Parliament	% of population	2013	42	2018	57	2013	39	2018	48
SDG 17 – Partnerships for the goals										
Global partnership	Official development assistance as share of gross national income	% of GNI	2013	0.46	2018	0.31	2013	0.43	2018	0.48
	EU financing to developing countries	million EUR, current prices	2012	744	2017	1 064	2012	147 962	2017	155 224
	EU imports from developing countries	million EUR, current prices	2013	5 253	2018	7 053	2013	817 475	2018	1 013 981
Financial governance within the EU	General government gross debt	% of GDP	2013	119.9	2018	63.6	2013	86.3	2018	80.4
	Shares of environmental and labour taxes in total tax revenues	% of total tax revenues	2013	8.6	2018	6.9	2013	6.4	2018	6.1

Source: Eurostat

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