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Country Report Ireland
Including an In-Depth Review on the prevention and correction of macroeconomic imbalances

Accompanying the document

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

**2017 European Semester: Assessment of progress on structural reforms,
prevention on correction of macroeconomic imbalances, and results of in-depth reviews
under Regulation (EU) No 1176/2011**

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EXECUTIVE SUMMARY

This report assesses Ireland's economy in the light of the European Commission's Annual Growth Survey published on 16 November 2016. In the survey the Commission calls on EU Member States to redouble their efforts on the three elements of the virtuous triangle of economic policy — boosting investment, pursuing structural reforms and ensuring responsible fiscal policies. In so doing, Member States should focus on improving social fairness in order to deliver more inclusive growth. At the same time, the Commission published the Alert Mechanism Report (AMR) that initiated the sixth round of the macroeconomic imbalance procedure. The in-depth review, which the 2017 AMR concluded should be undertaken for the Irish economy, is presented in this report.

Ireland's economic prospects remain bright, but risks have heightened. GDP is estimated to have grown by 4.3 % in 2016 and is projected to further expand by 3.4 % in 2017 and 3.3 % in 2018. The activities of multinationals remain unpredictable but this does not disguise the fast-paced, broad-based and employment-rich recovery that has taken place in the country. Yet, the external environment has become increasingly uncertain. Ireland could be subject to external shocks linked to the referendum on UK's membership of the EU and the international tax environment, through its impact on multinational location decision.

Domestic economic activity has expanded strongly. Gross value added in the 'domestic' sectors of the Irish economy expanded by 4.4 % in 2015, more than twice the rate in the euro area as a whole. Moreover, core domestic demand — a measure that strips investment components linked to the activities of multinationals — grew by approximately 5.4 % in 2015. Core domestic demand now stands 8 % above its 2010 level, reflecting the breadth of the Irish recovery, which has reached nearly all sectors. However, large differences prevail between the productivity growth of the indigenous firms and multinationals operating in Ireland.

Unemployment has continued to fall but labour market and social challenges remain. Long-term unemployment has also declined further and the youth unemployment rate has fallen below the EU average. In 2016, the country experienced net

inward migration for the first time since 2009. This is in addition to sizeable natural population growth of about 0.8 %. However, very-long-term unemployment (over two years) amounted to more than 40 % of all unemployment in 2015 and labour market participation has increased only marginally, despite the strong recovery. However, notwithstanding the progress so far, some households continue to experience poverty and social exclusion.

Insufficient housing supply is a concern for both its economic and social reasons. House prices are increasing and supply constraints persist. This highlights the importance of coherent spatial planning and infrastructure investment. The government is intervening in the residential property market to support the recovery in supply.

The stability of tax revenues in the medium term is a concern for public finances. The general government deficit has continued to drop, due largely to a surge in GDP and strong tax receipts. However, the increasing reliance on buoyant corporate tax receipts to finance permanent increases in current expenditure is a concern. This is because corporate tax receipts tend to be a volatile source of revenue in most economies and particularly in Ireland. The small tax base increases risks stemming from the still elevated levels of public debt and relatively high debt servicing costs.

Although the domestic economy continues to grow at robust rates, there are uncertain times ahead. The external environment is increasingly unpredictable and internal risks also remain. Increasing spending pressures to fund current services are emerging, reducing the scope for public investment. Reorienting the fiscal policy mix towards growth-sustaining capital expenditure and increasing the quality of current expenditure remain at the forefront of policy issues, also with a view to reducing the vulnerability of public finances to shocks. A number of factors continue to drag on bank profitability. These include the high stock of non-performing loans and low-yielding tracker mortgages, weak credit demand, difficulties in accessing collateral, and continued pressure on net interest margins. Recent price and rent increases have drawn attention to persistent housing supply bottlenecks. These

problems have greater implications for social stability than for financial stability at present.

Overall Ireland has made some progress in addressing the 2016 country-specific recommendations. Some progress was made regarding the quality of public expenditure which has improved, but Ireland has taken measures that are at odds with broadening the tax base. The use of volatile tax revenues to fund current expenditure makes public finances more vulnerable to the risk of future shortfalls in revenue. Some progress has been made regarding labour market. The roll-out of labour activation programmes has continued but their effect has not yet been assessed by the government. Ireland has also taken steps to make childcare more affordable and improve its quality, but these efforts will need to be sustained over coming years to meet existing needs. Despite recent progress, incentives to work within the tax and benefit system remain a challenge. Ireland has also made some progress in tackling the still relatively high level of non-performing loans. Although the level continues to fall, the long-term sustainability of restructuring solutions is uncertain. The central credit register has been delayed and is now only expected to be fully operational in late 2018.

Regarding progress in reaching the national targets under the Europe 2020 strategy, Ireland is performing well on employment rate and early school leaving targets. More effort is needed in R&D investment, reducing greenhouse gas emissions, increasing the proportion of renewable energy, improving energy efficiency, reducing poverty and attaining the already extremely high and ambitious tertiary education goal.

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

- **Private sector indebtedness remains high.** Non-financial private sector non-consolidated debt stood at 322.3 % of GDP at the end of 2015. Trends in private debt, especially for non-financial corporations, are difficult to gauge due to the strong influence of the activities of multinationals on debt levels. However, there is evidence that domestic firms and households are continuing to reduce their debt. Strong economic growth, coupled with

job creation, rising earnings and asset valuations are expected to support deleveraging in the future. Although there are indications of credit demand picking up in certain loan categories, existing debt repayments exceed new credit.

- **Gross government debt is on a firm downward trend, but remains high.** Public debt reached 78.6 % of GDP at the end of 2015, 32 percentage points below its peak level in 2012. The risks associated with high debt, such as its future refinancing, are mitigated by the long-term maturity of the Irish debt stock and its low interest rates. The government is studying the feasibility of a rainy-day fund as a tool to alleviate fiscal risks while continuing to reduce public debt. Nevertheless, as Ireland is a small and very open economy, its public finances remain vulnerable to external shocks and changes in economic outlook.
- **The net international investment position reversed its path in 2015.** Ireland's negative net international investment position had been falling rapidly before 2015, but it surged to 208 % of GDP in 2015 as a result of the transfer of large balance sheets into the country. In so far as it is observable, the external sustainability of domestic sectors does not appear to be deteriorating, although it is difficult to assess.
- **The stock of non-performing loans remains high.** Banks' asset quality is improving and profitability is recovering but remains fragile. The non-performing loans ratio for domestic banks fell to 14.7 % at the end of June 2016, down from a peak of 27.1 % at the end of 2013. Nevertheless, this ratio is still among the highest in the euro area. The share of arrears in the total mortgage balance remains high at 14 %. The high ratio of non-performing loans is expected to continue to weigh on domestic banks' profitability — as well as on the economic activity of affected households and firms — in the short and medium term. Carefully balancing the push for credit volumes with prudent lending standards continues to pose a challenge for banks.

- **Property prices continued to increase.** Residential property prices remain below pre-crisis peaks and overall, current prices do not appear to be overvalued. Private rents increased 9.7 % in the year to December. Insufficient housing supply continues to be the prime driver of the increase in rents and house prices. House price increases are being tackled through supply-side and macro-prudential measures but it will take time for housing completions to recover.

Other key economic issues analysed in this report which highlight particular challenges for the Irish economy are as follows:

- **Reforms of the fiscal framework have played a key role in repairing Ireland's public finances.** In recent years, comprehensive reviews of expenditure have primarily focused on reducing government spending to meet overall fiscal targets set over the crisis period. However, there has been little evaluation of the effectiveness and efficiency of expenditure programmes, which ultimately weakened the multiannual spending planning. Repeated discretionary changes to expenditure ceilings have characterised Ireland's recent budget execution and weakened prioritisation of growth-enhancing expenditure.
- **The Irish economy is sensitive to changes in the international tax environment.** The weight of multinationals in overall GDP and the growth in corporate tax receipts as a proportion of government revenue increase Ireland's exposure to changes in international tax regimes. In response to the uncertain environment, the government is engaging in international tax reforms. More generally, relying on a broader tax base enhances revenue stability in the face of economic volatility. As a response to the uncertain environment, the government is engaging in international tax reform.
- **The situation on the labour market continues to improve but social challenges remain, in particular for low work-intensity households.** There are large disparities in labour market outcomes for different skills groups. Recovery in the labour market has not yet reversed the prospects of low-skilled workers. Low work intensity for some groups persists, as aspects of the tax and benefit system lead to low work incentives. At the same time, the improving economy is resulting in skills shortages in several areas. The availability and cost of childcare remain barriers to female labour market participation and hinder efforts to reduce child poverty.
- **Spatial planning and infrastructure provision have become increasingly important.** There are a number of challenges for developing projects of an economically sufficient scale. These include coherent spatial planning and infrastructure provision, such as transport, water and energy, and in their efficient integration with public transport corridors in and around main urban areas. Regulatory issues and building permits are also slowing down the uptake of construction activity. The lack of affordable housing in urban areas may also be detrimental to Ireland's continued ability to attract foreign direct investment, as firms have difficulties finding suitable accommodation for employees.
- **Linkages between multinationals and indigenous firms remain limited.** Their export performances and profiles are significantly different, while the productivity gap between them is growing wider.
- **Public R&D expenditure remains low.** Public R&D intensity has declined since 2009 and continues to cause concern. Fully implementing measures to improve R&D, in particular those to support the innovation capacity of indigenous SMEs, depends on the return to a trend of sustained investment.
- **The cost-effectiveness and sustainability of the healthcare system continue to pose challenges.** In view of a growing and ageing population, the cost-effectiveness of the health system remains a priority. Public healthcare expenditure pressures persist which can have a negative impact in the medium term for fiscal sustainability. Specific strands of reforms are progressing gradually. Ireland has introduced some important efficiency measures, yet key cost-effectiveness gains are still to be achieved,

for instance by strengthening the role and use of primary care as a gatekeeper for Ireland's overburdened hospitals.

1. ECONOMIC SITUATION AND OUTLOOK

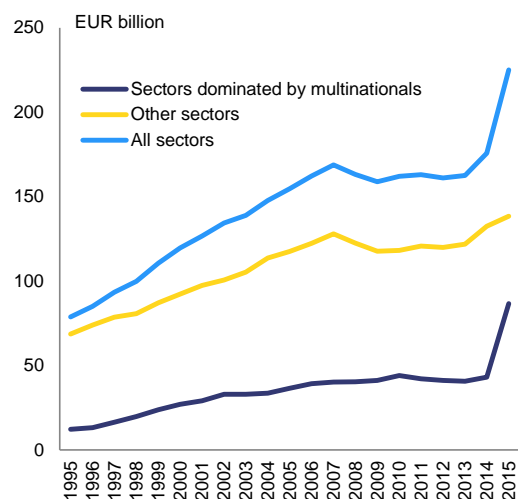
GDP growth

The Irish economy has continued its rapid recovery but the risks have heightened. The very rapid growth in Irish GDP since 2014 reflects both the positive evolution of the domestic economy and the substantial contribution from global value chains, with limited impact on domestic economic activity. In 2014, the volume of Irish GDP was already at the pre-crisis level and just over 10 % higher than in 2009 — the lowest point in the aftermath of the crisis. GDP is estimated to have grown by 4.3 % in 2016 and is projected to further expand by 3.4 % in 2017 and 3.3 % in 2018. The large operations channelled through Ireland by some multinationals, do not disguise the fast-paced, broad-based and employment-rich recovery that has taken place in the country at the same time. In the next few years, Ireland's domestic economy is expected to continue to expand at robust rates. But the risks have also increased, reflecting the referendum on the UK's membership of the EU and the uncertainty surrounding future US tax policies.

The value added recorded in Ireland by some multinationals has increased dramatically. In 2015, gross value added (GVA) — a measure of output net of the inputs used for its production — more than doubled in the economic sectors dominated by foreign-owned multinationals (Graph 1.1) ⁽¹⁾. A small number of very large multinationals restructured their operations in 2015. This led to a bigger share of GVA from their global production chains being booked in Ireland but had a limited impact on domestic economic activity (European Commission 2016a, Box 2.1). The evolution of the international tax environment appears to have played a role in the changes to the operations of multinationals (Section 4.1.3). As a result, net exports contributed 18 percentage points (pps.) to GDP growth in 2015, driven by the production and sale of goods abroad on behalf of the Irish affiliates of some multinationals — known as contract manufacturing (see below).

⁽¹⁾ These are sectors such as software, communications, reproduction of recorded media, computers, electronics, pharmaceuticals and medical supplies. The precise contribution of each sector is not publicly available due to statistical confidentiality.

Graph 1.1: **Gross value added from domestic production and foreign-owned multinationals**



(1) Gross value added at constant basic prices (chain linked annually referenced to 2014)

Source: Central Statistics Office of Ireland (CSO)

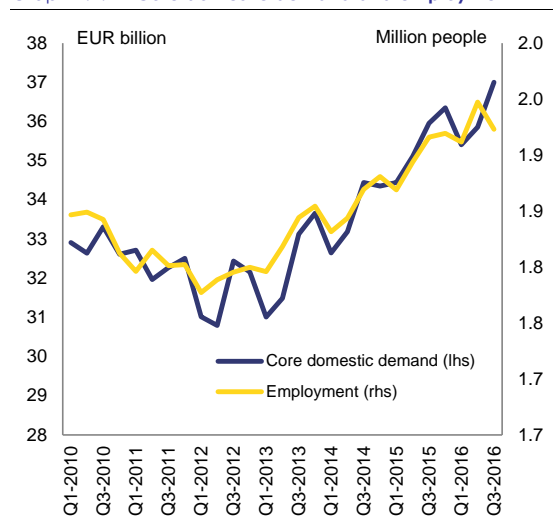
Headline national accounts indicators therefore need to be interpreted with caution. Under current standards for compiling national accounts ⁽²⁾, GDP captures not only domestic production but also the value of production and income accruing to domestic entities from their activities abroad. Observers should therefore look beyond headline indicators and into their disaggregation. There is also a direct arithmetic impact on any indicator expressed as a share of GDP — used to measure the burden of public debt or the intensity of research and innovation, for example. This report uses disaggregated and complementary indicators, whenever source data allow for their calculation.

There is abundant evidence that the domestic economic activity has expanded strongly. GVA in the 'domestic' sectors of the Irish economy — those where the presence of foreign-owned multinationals is not prevalent — grew by 4.4 % in 2015 (Graph 1.1), more than twice the average in the euro area. Moreover, core domestic demand — a measure that strips out investment components linked to the activities of multinationals — grew by approximately 5.4 % in 2015 (Graph 1.2). The upward trend reflects the breadth of the Irish

⁽²⁾ The European System of Accounts 2010, which implements the 2008 System of National Accounts, coordinated by the UN.

recovery, which has reached nearly all sectors in the economy.

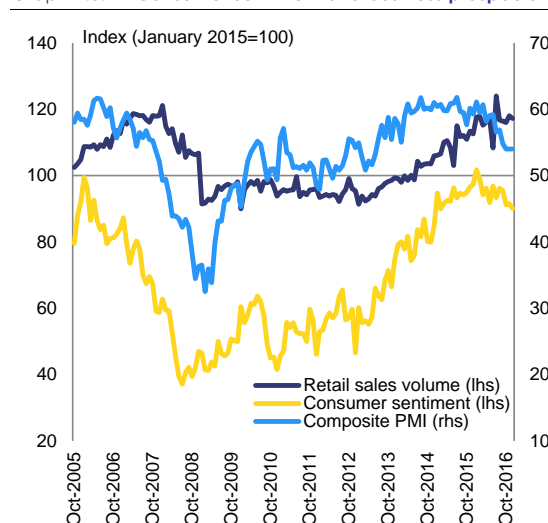
Graph 1.2: Core domestic demand and employment



(1) Core domestic demand comprises public and private consumption and gross fixed capital formation except investment in intangible assets and other transport equipment (a proxy for aircraft). Data are in constant prices (chain linked annually and referenced to year 2014), and seasonally adjusted except for other transport equipment. **Source:** European Commission and calculations based on CSO data

Overall, confidence in the economy remains high despite growing risks and uncertainty. Monthly indicators of consumer confidence, retail sales and business prospects have been close to or above pre-crisis levels since 2014 (Graph 1.3). However, the outlook has become more uncertain. Risks discussed in this report include exchange rate developments and wage pressures. Other sources of uncertainty relate to productivity developments, the volatility of certain sources of public revenue and the overall exposure of the economy to global value chains and taxation frameworks. Further depreciation of sterling and uncertainty surrounding the referendum on UK's membership of the EU could weigh on consumer and business confidence and economic activity. However, there is also the upside potential from further investment in infrastructure and housing, and the continued attractiveness of Ireland as an entry point to the EU single market.

Graph 1.3: Consumer sentiment and business prospects



(1) Any reading of the composite purchasing managers' index of more than 50 signals aggregate expansion in manufacturing and services.

Source: Central Statistics Office of Ireland, KBC Bank of Ireland, Markit Group

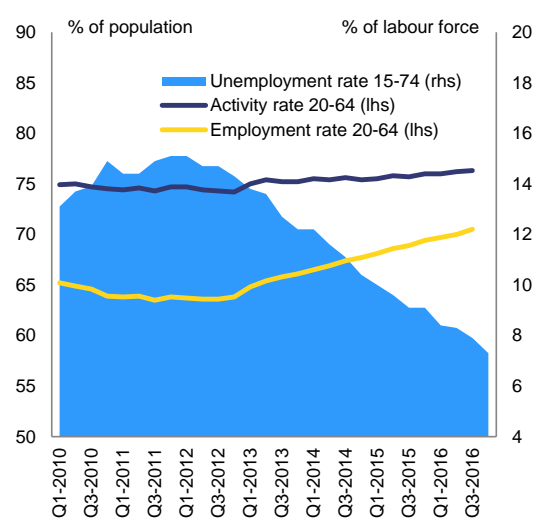
The longer-term impact of the referendum on UK's membership of the EU on the Irish economy remains uncertain. It depends on the precise shape of the future relationship between the UK and the EU. The interdependence between the Irish and the UK economies declined following the intense period of diversification and growth that Ireland has undergone since it joined the EU. Several studies highlight potential downside risks for the Irish economy in relation to the referendum on UK's membership of the EU. The fall in sterling has an impact on indigenous Irish exporters, in particular in the agri-food sector. In this regard, the National Competitiveness Council has identified the broadening of the export destinations for domestic firms as another challenge for Ireland.

Labour market

Unemployment has continued to fall but challenges remain. It stood at 7.3 % in Q4-2016, down from 15 % at the beginning of 2012 (Graph 1.4). Long-term unemployment also declined further and the youth unemployment rate fell below the EU average to 15.3 % in Q4-2016, almost halving from its 2012 peak. In addition to the expansion of the economy, a number of employment activation policies have played a role in improving labour market recovery. The rate for

young people not in employment, education, or training fell further in 2015 but remains 2.3 pps. above the EU average. In 2016, the country experienced net inward migration for the first time since 2009 — with an estimated net inflow of 8 200 people in the 25-44 age bracket. This is combined with sizeable natural population growth of about 0.8 %. Despite the strong recovery, labour market participation has increased only marginally.

Graph 1.4: Recent labour market trends



Source: European Commission

More jobs and recovering pay levels have continued to support household consumption.

High employment intensity is a continuing feature of the recovery of the Irish economy. Employment grew by nearly 2.7 % in the first three quarters of 2016, compared to the same period in 2015. Most new jobs are full-time positions and the proportion of temporary employees remains far below the euro area average. At the same time, nominal earnings per employee grew by 2.8 % in 2015 and average hourly earnings continued to go up in the first three quarters of 2016. Both of these developments explain the high growth in household consumption (5 % in 2015), combined with the demand for durable goods, such as cars and home appliances, after the crisis.

Social developments

Income inequality is below the EU average, due to an effective tax-benefit system. In 2015, the income inequality as measured by the S80/S20

indicator ⁽³⁾ stood at 4.5 compared to the 5.2 EU average. Ireland had one of the highest incidences of market income inequality — the inequality of income before taking into account taxes, social transfers and pensions — amongst Member States. However, the tax-benefit system is particularly effective at reducing inequality in Ireland, resulting in a performance in line with the EU average in terms of disposable income ⁽⁴⁾. This effect was even more pronounced in the years immediately after the crisis (2011-2013). Ireland's system remains effective at containing inequalities as measured by income. In terms of net wealth (difference between total assets and total liabilities), in 2013 many Irish households still owed more than they owned. Overall, households' net wealth inequality is relatively higher than income inequality and among the highest in the EU (ECB 2016).

Inflation

Consumer price inflation has been negative but energy prices are starting to recover. The harmonised index of consumer prices (HICP) declined by 0.2 % in 2016, even lower than the 0.0 % observed in 2015. Energy prices continued to drag down the headline inflation rate while services inflation was 2.5 % and remains the main source of upward price pressures. Nationally, private rents increased 9.7 % y-o-y in December and market participants report that private rents in Dublin have exceeded their pre-crisis peaks.

Competitiveness

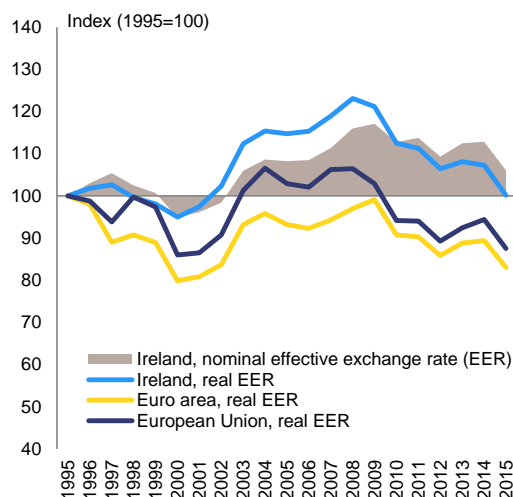
External competitiveness has improved. The improvement in Ireland's external competitiveness can be seen by comparing the real and nominal effective exchange rates (EER) (Graph 1.5). In 2015, Ireland's real EER was back to its 2002 level. Nominal exchange rates contributed the most to improving Ireland's competitiveness in 2015. However, this has been partially reversed by the recent weakening of sterling. In addition, the

⁽³⁾ S80/S20 indicator is measured as the ratio of the income of the richest 20 % of households to those of the poorest.

⁽⁴⁾ The 'market' and 'non-market' income inequality are measured through the Gini coefficients for market income before taxes and social transfers including pensions (57.5 % for IE vs. 50.2 % EU average) and for final income, including transfers, pensions and net of taxes (30.8 % for IE and 30.4 % EU average).

overall improvements in these headline indicators hide large differences across sectors (Section 4.4).

Graph 1.5: Real effective exchange rate



(1) Real EER deflated by the harmonised index of consumer prices (HICP). It measures the country's price competitiveness relative to its principal competitors in international markets (42 trading partners)

Source: European Commission

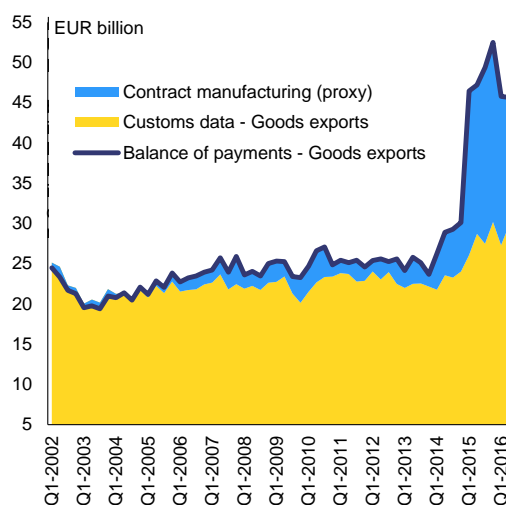
External position

The external performance of the Irish economy has been very positive. In 2015, net exports contributed 18 pps. to GDP growth, driven by contract manufacturing activities of multinationals⁽⁵⁾. Up until 2014, the exports of contract-manufactured goods by Irish-domiciled firms were compensated by imports (royalty payments) to entities residing abroad. This resulted in an overall neutral effect on GDP. But since 2015, the volume of contract manufacturing has become significantly larger and without royalty payments matching the volume of exports. The net volume of contract manufacturing can be approximated by comparing customs and balance of payments data for goods exports (Graph 1.6). This is because contract-manufactured goods

⁽⁵⁾ Contract manufacturing refers to the production of goods abroad on behalf of Irish-domiciled entities. Inputs to the production of these goods count as Irish imports and their sale abroad as Irish exports, following the economic ownership principle. Contract manufacturing is largely recorded net on a company level. In the national accounts of Ireland, they are mainly presented as an adjustment to exports. At the same time, all the service elements relating to contract manufacturing are recorded in the service statistics, including service fees, royalty payments and other related inter-group payments.

rarely enter the Irish territory. The differential between balance of payments and customs data narrowed significantly in the first nine months of 2016. The performance of indigenous firms in international export markets was also robust in 2015, as reflected by the customs data, and helped by positive exchange rate developments. However, indigenous exports have suffered from the weak sterling exchange rate since July 2016.

Graph 1.6: Goods exports and contract manufacturing



Source: European Commission

Risks and vulnerabilities to Ireland's external position have become increasingly difficult to ascertain. The headline net international investment position deteriorated markedly in 2015. A more detailed analysis shows that the risk to the external position of domestic sectors probably did not deteriorate. The international investment position of domestic banks improved. However, the position of domestic non-financial corporations cannot be fully determined, given the weight of multinationals and lack of disaggregated indicators. The marked deterioration in the external position of multinational companies, considered as a whole, does not appear to pose a threat to the domestic economy (Section 4.2.2).

Financial sector

Banks' resilience to shocks has improved further but they continue to face considerable challenges. Their capital positions have continued to improve but there are persisting vulnerabilities (Section 4.2.1). The stock of non-performing loans

continued to decline but remains high. The high proportion of long-term arrears is still a concern. On top of legacy issues, weak credit demand and the low interest rate environment constrain the banks' ability to improve their future profitability. Growing uncertainty in the external environment represents an additional challenge.

New lending is growing only gradually, with measures in place to ensure it is prudent. Net lending for both households and companies remains negative. However, mortgage approvals are increasing, amidst increased competition and product offering by banks. New credit to non-financial companies, in particular SMEs, is also recovering (Section 4.2.5). The ability of banks to substantially reduce interest rates is however constrained by legacy issues, including the stock of low-yielding assets and persistent difficulties in accessing collateral. The government continues to pursue a broad range of initiatives to facilitate SMEs' access to credit.

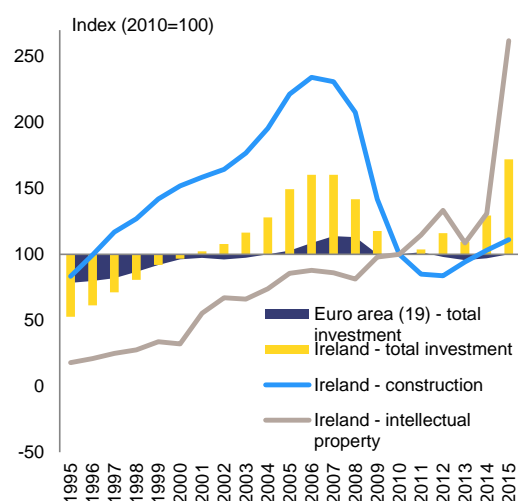
Domestic firms and households remain highly indebted but continue to deleverage. The private debt-to-GDP ratio has been affected by both the surge in GDP and the debt stock that accompanied the relocation of multinationals' balance sheets to Ireland. However, domestic firms and households continue to deleverage but their debt stock remains high compared to the rest of the euro area (Section 4.2.3). Most of the debt stock attributable to foreign-owned multinationals consists of intra-firm loans or transactions in international capital markets. The exposure of domestic banks to the cluster of multinationals based in the country remains very limited in Ireland.

Investment and housing market

The surge in investment has been driven largely by the onshoring of intellectual property assets. Total investment (gross fixed capital formation) in the Irish economy grew by more than 30 % in 2015 and 70 % since 2010 (Graph 1.7). However, most of this growth can be explained by the redomiciliation of intangible assets, such as patents, by multinationals. Coming from abroad, these flows also count as Irish imports and have an initial neutral effect on Irish GDP growth. However, they also reduce the amount of royalties paid abroad for the use of patents — and therefore help to explain the surge in value added in Ireland

in recent years (see above). Total investment has also been driven by aircraft imports (Section 4.4.10).

Graph 1.7: Total investment and main drivers

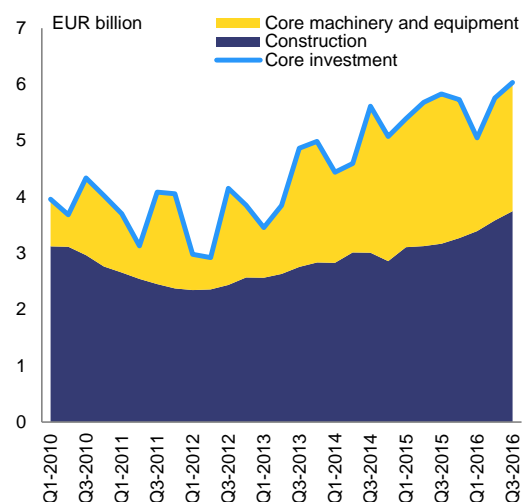


Source: European Commission

Other investment components have also been strong. Excluding intellectual property and aircraft, the growth in investment components has been robust since their lows in early 2012. Construction investment has grown steadily since 2012 by over 30 %, albeit from low levels (Graph 1.8). More recent trends point to a deceleration in core machinery and equipment investment due to the recent completion of a large industrial project. Significantly higher growth in construction investment is expected in the next few years, given large unmet demand, in particular for housing in urban areas (see below).

Public investment remains relatively low but continues to recover, given the resources available. After contracting sharply since 2008, capital expenditure by the general government is expected to recover gradually in the future (Section 4.4.1). A mid-term review of the Capital Investment Plan 2017-2021 is expected in 2017.

Graph 1.8: Core investment and its components



Source: European Commission

Insufficient housing supply is a concern for both economic and social reasons. The recovery in construction activity is long in materialising, only picking up gradually and from low levels. At the same time, demand for housing is estimated at about 25 000 units per year or around 65 % above the completions expected in 2016, contributing to rising rents and houses prices (Section 4.5.2). Since the trough in prices in 2013, national residential property prices have grown by 50 %. Increases in residential prices have been moderate since the central bank introduced limits to mortgage lending. Rents have also increased rapidly and are now straining affordability. This supply shortage is also likely to have contributed to the growing number of homeless people (Section 4.3.2). It could also postpone the return of Irish migrants and weigh on foreign direct investment in Ireland, as firms have difficulties finding suitable accommodation for employees.

Coherent spatial planning and infrastructure provision would support sustainable and balanced economic development. Delays in the pick-up in construction activity after 2012 can be explained by a combination of factors — such as the collapse in construction production capacity after the bust of the property bubble, strategic behaviour by some firms (including land hoarding) and institutional hurdles (section 4.5.1). The government adopted a revised strategy to enable and promote construction in July 2016 (Section 4.5.1). Spatial planning and infrastructure

provision have become all the more important — to enable the development of projects with sufficient scale, and their efficient integration with public transport corridors in and around main urban areas. In February 2017, the government launched a major national consultation for the preparation of a strategic planning and development framework for Ireland.

Public finances

The deficit has continued to drop, alongside the surge in GDP and strong tax receipts. Ireland has shown a commitment to prudent fiscal policy-making since the onset of the property crisis, especially during the EU-IMF financial assistance programme. The general government deficit has fallen by almost 10 pps. from its peak in 2010. Overall, the deficit reduction was mostly driven by expenditure restraint. More recently however, strong GDP growth and buoyant tax receipts have eased fiscal achievements. In 2015, the deficit fell to 1.9 % of GDP, down from 3.7 % a year earlier, partly due to the level-shift in GDP explained earlier. The fiscal effort lessened, as better-than-expected revenue was used to finance additional current expenditure.

The stability of tax revenues in the medium-term is a re-emerging concern for public finances. Past experience in Ireland, during the property bubble, demonstrates the dangers of over-reliance on a small number of tax headings and narrowing the tax base. Cutting personal income taxes — if not adequately supported by a shift towards more growth-friendly sources of revenue — could significantly reduce revenue collection and have a regressive impact on income distribution which could increase inequality. Corporate tax receipts increased by 50 % in 2015 with multinationals accounting for approximately 80 % of total corporate tax receipts (Revenue 2016, p. 6). The increasing reliance on buoyant and volatile corporate tax receipts to finance additional permanent increases in current expenditure is also a concern (Section 4.1).

The government debt-to-GDP ratio has fallen but the burden of public debt remains very significant. It fell to 78.6 % in 2015 from 105.2 % a year earlier, with the surge in GDP accounting for most of this reduction. The burden of gross government debt on public finances and the

economy has declined more slowly than the debt-to-GDP ratio would suggest. Complementary indicators — such as the weight of the debt stock or debt servicing costs on total tax revenue — show that the burden of public debt remains significant (Section 4.1.1). Favourable market conditions and the long-term maturity of the debt stock are expected to ease future refinancing operations.

Table 1.1: Key economic, financial and social indicators — Ireland

	2004-2008	2009	2010	2011	2012	2013	2014	2015	forecast		
									2016	2017	2018
Real GDP (y-o-y)	3.6	-4.6	2.0	0.0	-1.1	1.1	8.5	26.3	4.3	3.4	3.3
Private consumption (y-o-y)	4.8	-5.8	0.2	-0.9	-1.2	-0.3	1.8	5.0	2.7	2.5	2.5
Public consumption (y-o-y)	3.9	-2.5	-4.0	-1.3	-2.8	-1.3	4.5	0.3	5.4	2.4	2.0
Gross fixed capital formation (y-o-y)	4.5	-16.9	-15.0	3.7	11.9	-5.7	18.3	32.9	5.0	6.4	5.0
Exports of goods and services (y-o-y)	4.6	4.6	5.8	2.9	2.4	3.1	14.4	34.4	2.3	3.8	4.2
Imports of goods and services (y-o-y)	6.1	-1.7	0.8	2.6	5.4	1.1	15.3	21.7	1.5	4.0	4.5
Output gap	2.3	-4.4	-2.0	-2.1	-4.1	-4.8	-0.3	1.1	1.9	1.4	0.8
Potential growth (y-o-y)	3.5	-0.7	-0.4	0.1	0.9	1.9	3.5	24.6	3.5	4.0	3.9
Contribution to GDP growth:											
Domestic demand (y-o-y)	3.9	-7.5	-3.9	0.0	1.0	-1.5	4.9	8.9	2.7	2.5	2.2
Inventories (y-o-y)	-0.2	-0.6	0.5	0.7	0.1	-0.1	1.3	-0.9	0.2	-0.2	0.0
Net exports (y-o-y)	-0.4	5.2	4.8	0.7	-2.1	2.3	1.9	18.3	1.4	1.1	1.1
Contribution to potential GDP growth:											
Total Labour (hours) (y-o-y)	0.8	-2.2	-2.0	-1.7	-1.1	-0.1	0.7	1.3	1.5	1.8	1.6
Capital accumulation (y-o-y)	2.0	0.8	0.3	0.3	0.5	0.3	0.6	18.8	-0.3	0.0	0.2
Total factor productivity (y-o-y)	0.7	0.7	1.2	1.5	1.4	1.7	2.3	4.4	2.2	2.2	2.1
Current account balance (% of GDP), balance of payments	-4.4	-4.9	-1.5	-2.0	-2.6	2.1	1.7	10.2	.	.	.
Trade balance (% of GDP), balance of payments	10.0	13.5	15.8	17.9	17.2	18.8	17.9	31.7	.	.	.
Terms of trade of goods and services (y-o-y)	-0.6	-1.4	-2.8	2.2	0.4	0.0	-1.6	2.5	-0.1	0.2	0.1
Capital account balance (% of GDP)	0.1	0.0	0.1	0.1	0.0	-0.5	-3.5	-0.5	.	.	.
Net international investment position (% of GDP)	-44.3	-116.8	-114.9	-138.3	-137.3	-131.7	-162.1	-208.0	.	.	.
Net marketable external debt (% of GDP) (1)	159.1*	158.0*	245.6*	283.2*	323.1	320.9	366.4	353.6	.	.	.
Gross marketable external debt (% of GDP) (1)	640.2	900.9	880.1	832.4	778.0	663.1	733.0	590.6	.	.	.
Export performance vs. advanced countries (% change over 5 years)	6.5	10.5	0.6	-2.7	-6.2	0.7	-5.4	41.19	.	.	.
Export market share, goods and services (y-o-y)	-3.5	18.6	-13.5	-9.3	-2.7	2.1	12.9	35.8	.	.	.
Net FDI flows (% of GDP)	11.5	0.4	-9.2	-10.3	-10.8	-7.2	1.6	-7.8	.	.	.
Savings rate of households (net saving as percentage of net disposable income)	0.8	9.6	7.6	4.7	7.3	5.6	6.1	5.8	.	.	.
Private credit flow, consolidated (% of GDP)	28.9	-4.6	2.2	16.2	-0.6	-1.5	2.5	-6.7	.	.	.
Private sector debt, consolidated (% of GDP)	188.9	256.7	258.0	270.9	278.7	267.3	281.3	303.4	.	.	.
of which household debt, consolidated (% of GDP)	90.1	116.5	110.6	103.3	98.8	93.5	82.3	58.5	.	.	.
of which non-financial corporate debt, consolidated (% of GDP)	98.8	140.2	147.4	167.6	179.9	173.8	199.0	244.9	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	2.4	3.6	27.8	9.8	2.9	7.8	1.9	10.1	8.1	7.9	8.0
Corporations, gross operating surplus (% of GDP)	33.5	32.0	35.4	37.6	38.2	38.8	39.3	50.3	50.6	50.8	51.6
Households, net lending (+) or net borrowing (-) (% of GDP)	-7.9	2.9	3.1	1.6	3.0	2.1	1.9	1.3	0.9	0.5	0.0
Deflated house price index (y-o-y)	5.0	-13.6	-11.6	-16.9	-15.2	1.1	15.1	8.3	.	.	.
Residential investment (% of GDP)	11.5	4.7	3.0	2.3	1.8	2.0	2.3	1.9	.	.	.
GDP deflator (y-o-y)	1.7	-5.3	-3.5	3.6	2.7	1.4	-1.2	4.9	-0.3	1.2	1.2
Harmonised index of consumer prices (HICP, y-o-y)	2.6	-1.7	-1.6	1.2	1.9	0.5	0.3	0.0	-0.2	0.9	1.0
Nominal compensation per employee (y-o-y)	4.9	-1.1	-3.6	0.4	0.8	1.4	1.8	2.8	2.9	2.5	2.1
Labour productivity (real, person employed, y-o-y)	0.2	3.6	6.3	0.5	-0.5	-1.4	6.7	23.2	.	.	.
Unit labour costs (ULC, whole economy, y-o-y)	4.8	-4.5	-9.3	-0.1	1.3	2.8	-4.5	-16.5	1.1	1.3	0.6
Real unit labour costs (y-o-y)	3.0	0.8	-6.1	-3.6	-1.3	1.4	-3.4	-20.4	1.4	0.0	-0.6
Real effective exchange rate (ULC, y-o-y)	4.6	-6.9	-12.3	-0.5	-4.2	4.8	-5.4	-22.3	1.7	0.0	-1.2
Real effective exchange rate (HICP, y-o-y)	1.9	-1.5	-7.2	-1.1	-4.3	1.6	-0.7	-6.7	1.3	-1.5	.
Tax rate for a single person earning the average wage (%)	21.3	21.3	21.8	18.9	17.9	19.8	20.2	19.7	.	.	.
Tax rate for a single person earning 50% of the average wage (%)	6.6*	6.2	6.2	2.9	2.8	3.4	3.7	3.2	.	.	.
Total Financial sector liabilities, non-consolidated (y-o-y)	18.0	3.9	6.9	-0.5	-1.8	-3.1	22.5	7.0	.	.	.
Tier 1 ratio (%) (2)	.	7.7	7.7	16.3	14.9	13.4	15.6	15.6	.	.	.
Return on equity (%) (3)	.	-68.8	-165.0	-15.5	-27.2	-11.3	7.1	8.1	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (4)	.	.	.	.	16.6	18.4	16.3	11.7	.	.	.
Unemployment rate	4.9	12.0	13.9	14.7	14.7	13.1	11.3	9.4	8.0	7.0	6.7
Long-term unemployment rate (% of active population)	1.5	3.5	6.8	8.6	9.0	7.8	6.6	5.3	.	.	.
Youth unemployment rate (% of active population in the same age group)	9.7	24.0	27.6	29.1	30.4	26.8	23.9	20.9	17.0	.	.
Activity rate (15-64 year-olds)	71.2	70.6	69.4	69.2	69.2	69.8	69.8	70.0	.	.	.
People at risk of poverty or social exclusion (% total population)	24.0	25.7	27.3	29.4	30.0	29.5	27.6	.	.	.	.
Persons living in households with very low work intensity (% of total population aged below 60)	13.7	20.0	22.9	24.2	23.4	23.9	21.1	.	.	.	.
General government balance (% of GDP)	-0.2	-13.8	-32.1	-12.6	-8.0	-5.7	-3.7	-1.9	-0.9	-0.6	-0.6
Tax-to-GDP ratio (%)	31.5	29.0	28.5	28.6	29.0	29.5	29.9	24.4	24.5	24.5	24.5
Structural budget balance (% of GDP)	.	.	-9.9	-7.6	-5.8	-3.5	-3.5	-1.6	-1.9	-1.4	-1.0
General government gross debt (% of GDP)	28.8	61.7	86.3	109.6	119.5	119.5	105.2	78.6	75.1	73.6	72.6

(1) Sum of portfolio debt instruments, other investment and reserve assets.

(2, 3) domestic banking groups and stand-alone banks.

(4) Domestic banking groups and stand-alone banks, EU and non-EU foreign-controlled subsidiaries and EU and non-EU foreign-controlled branches.

(*) Indicates BPM 5 and/or ESA 95

Source: European Commission, ECB

2. PROGRESS WITH COUNTRY-SPECIFIC RECOMMENDATIONS

Progress with implementing the recommendations addressed to Ireland in 2016⁽⁶⁾ has to be seen as part of a process which started with the introduction of the European Semester process in 2014. The country has achieved considerable success in stabilising public finances and has been able to ensure a durable correction of the excessive deficit. The government balance has improved from a peak of 11 % in 2010 to 1.1 % in 2015, net of one-off and temporary bank supporting measures linked to the financial crisis. The structural balance has also improved but more slowly in recent years. Limited progress has been made in broadening the tax base and repeated changes to expenditure ceilings remain a concern for budgetary execution. Measures have been taken to increase the cost-effectiveness of the healthcare system but not all have been fully implemented. The fiscal sustainability of the health sector could be further improved. Public investment started to increase in 2014 and the government has outlined some of its priorities until 2021. The insufficient supply of housing, and related deficiencies in infrastructure and planning, have become more pressing for both economic and social reasons. The government has announced an array of measures to support supply including an increase of the provision of social housing units and a targeted infrastructure fund.

The recovery in the labour market has also been supported by CSR implementation since 2014. Ireland has pursued a range of active labour market reforms over recent years. Two support programmes for jobseekers (Intreo and JobPath) have now been fully rolled out. Reforms of further education and training, aimed at promoting re-skilling and up-skilling, have also made steady and continuous progress. Ireland has also achieved some success in addressing child poverty by, for example, enhancing inclusion programmes. The Housing Assistance Programme and Family Income Supplement have reduced disincentives to return to work, while access to childcare has gradually improved.

Efforts to implement the financial sector CSR, in place since 2014, are ongoing. Progress has been made in reducing non-performing loans over

the last three years, although their stock still remains high. Long-term impaired mortgages remain the most critical cohort to resolve. The Central Bank of Ireland has been closely monitoring the banks' performance on mortgage arrears restructuring targets and their restructuring practices. Overall, the sustainability of restructuring solutions will only be validated over time. Several policy measures have been introduced to incite active engagement of debtors in distress, speed up legal procedures and increase the number of personal insolvency arrangements, but their take-up has been limited so far.

Overall, Ireland has made some ⁽⁷⁾ progress in addressing the 2016 CSRs. Since the publication of the CSRs, the quality of public expenditure has improved but the country has taken measures at odds with broadening the tax base. Thus some progress was made on CSR 1. As regards CSR 2, the roll out of labour activation programmes has continued but their effects have not yet been assessed by the government. Ireland has also taken some steps to making childcare more affordable. On CSR 3, Ireland has also made some progress. Non-performing loans have continued to fall but the long-term sustainability of restructuring solutions is sometimes uncertain. The central credit register is now only expected to become fully operational from late 2018.

⁽⁷⁾ Information on the level of progress and actions taken to address the policy advice in each respective subpart of a CSR is presented in the Overview table in the Annex. This overall assessment does not include an assessment of compliance with the Stability and Growth Pact.

⁽⁶⁾ For the assessment of other reforms implemented in the past, see in particular Section 3.

Table 2.1: Summary table on 2016 CSR assessment

Ireland	Overall assessment of progress with 2016 CSRs: Some
<p>CSR 1: <i>Following the correction of the excessive deficit, achieve an annual fiscal adjustment of 0.6 % of GDP towards the medium-term budgetary objective in 2016 and in 2017. Use windfall gains from strong economic and financial conditions, as well as from asset sales, to accelerate debt reduction. Reduce vulnerability to economic fluctuations and shocks, inter alia, by broadening the tax base. Enhance the quality of expenditure, particularly by increasing cost-effectiveness of healthcare and by prioritising government capital expenditure in R&D and in public infrastructure, in particular transport, water services and housing.(MIP relevant)</i></p>	<p>Some progress¹</p> <ul style="list-style-type: none"> • Limited progress in reducing the vulnerability of public finances to economic fluctuations and shocks. • Some progress in enhancing the quality of expenditure. • Some progress in prioritising government capital expenditure.
<p>CSR 2: <i>Expand and accelerate the implementation of activation policies to increase the work intensity of households and address the poverty risk of children. Pursue measures to incentivise employment by tapering the withdrawal of benefits and supplementary payments. Improve the provision of quality, affordable full-time childcare.</i></p>	<p>Some progress</p> <ul style="list-style-type: none"> • Some progress in increasing household work intensity. • Some progress in reducing child poverty. • Some progress in incentivising employment. • Some progress in improving the provision of childcare.
<p>CSR 3: <i>Finalise durable restructuring solutions to lower non-performing loans, to ensure debt sustainability of households and to encourage lenders to reduce the debt of excessively leveraged yet viable businesses. Accelerate the phasing-in of a fully operational central credit registry covering all categories of lenders and debtors. (MIP relevant)</i></p>	<p>Some progress</p> <ul style="list-style-type: none"> • Some progress in adopting restructuring solutions sustainable in the long-term. • Some progress in phasing-in the central credit registry.

¹ This overall assessment of CSRI does not include an assessment of compliance with the Stability and Growth Pact.

Source: European Commission

Box 2.1: Contribution of the EU budget to structural change in Ireland

Ireland is a beneficiary of significant European Structural and Investment Funds (ESI Funds) support and can receive up to EUR 3.4 billion (all ESI Funds) by 2020. This represents 7 % of national public investment¹. Ireland remains open for considering the introduction of EU financial instruments where possible in ESI Funds programmes. By 31 December 2016, an estimated EUR 1.5 billion, which represents about 44 % of the total allocation for ESI Funds, have already been allocated to concrete projects.

Financing under the European Fund for Strategic Investments (EFSI), Horizon 2020, the Connecting Europe Facility and other directly managed EU-funds is additional to the ESI funds. By end 2016, Ireland has signed agreements for EUR 78.5 million for projects under the Connecting Europe Facility. The EIB Group approved financing under EFSI amounts to EUR 475 million, which is expected to trigger nearly EUR 2.3 billion in total investments (as of end 2016). In addition to that, administrative reforms support is available through targeted financing under the European Social Fund, advice from the Structural Reform Support Service and, indirectly, through technical assistance

All necessary reforms and strategies as required by the ex-ante conditionalities² for the ESI funds support were already met before programmes adoption. This ensured timely and effective start of the implementation of the ESI Funds. Ireland is already directing considerable domestic resources to address Europe 2020 strategy ambitions. ESI Funds will be helping Ireland implement structural reforms in critical and key areas for its future growth throughout the 2014-2020 period. The structural reforms being implemented also prepare the ground for successful investments from national sources and other EU instruments, in particular EFSI and Horizon 2020.

All relevant CRSs were taken into account when the 2014-2020 programmes were designed. These include prioritising government capital expenditure in R&D and in public infrastructure, incentivising employment and increasing the flexibility of the labour market and labour market access.

In addition to challenges identified in the past CRSs, **ESI Funds address wider structural obstacles to growth and competitiveness.** These include investing in low-carbon economy, enlarging the coverage of superfast broadband (targeting 100 % of households and SMEs throughout Ireland by 2023); incentivising innovation and private investments; and supporting and training several thousand of Irish enterprises). High take-up levels by end users of rolled out superfast broadband throughout the country will enable e-Commerce and e-Government by SMEs and inhabitants (100% of settlements and SMEs to be covered by 2023), new competitiveness skills in thousands of SMEs after support and training, and hundreds of more RTDI results to come from research institute-company cooperation to make Irish-owned firms more competitive to produce products and services in demand in global markets. Over 500 000 learners, over 275 000 disadvantaged people and 186 000 long-term employed will be successfully supported into work.

Springboard+ 2016 scheme provides free part time and full time opportunities to reskill and upskill up to 5 825 jobseekers, in SMEs and multinationals. The main focus of the ESF to labour mobility is expected to help find jobs for hundreds of thousands of schemes participants. Youth Employment Initiative has yet to produce jobs to all 13 900 young people so far supported under YEI - financed measures. A 10 % raise in more competitive agricultural SMEs is expected; 65 % of rural population is covered by local development strategies, which will lead to improved social inclusion, poverty reduction and economic development.

<https://cohesiondata.ec.europa.eu/countries/IE>

¹ National public investment is defined as gross capital formation + investment grants + national expenditure on agriculture and fisheries

² At the adoption of programmes, Member States are required to comply with a number of ex-ante conditionalities, which aim at improving framework and investment conditions for the majority of areas of public investments. For Member States that do not fulfil all the ex-ante conditionalities by the end 2016, the Commission has the possibility to propose the temporary suspension of all or part of interim payments

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

The 2017 Alert Mechanism Report calls for further in-depth analysis to monitor progress in unwinding the imbalances identified in the 2016 MIP cycle. In spring 2016, macroeconomic imbalances were identified in five areas. These relate to the high levels of private and public debt, the negative net external liabilities, the high ratio of non-performing loans and the rapidly rising property prices and rents.

This report provides the in-depth review (IDR) of how the imbalances identified have developed. In particular IDR-relevant analysis can be found in the following sections: public debt in Section 4.1.1; financial sector imbalances in Section 4.2.1, external imbalances in Section 4.2.2, private indebtedness in Section 4.2.3, and property market in Section 4.5.1.

3.1 Imbalances and their gravity

The debt stock of the private sector is high. Non-financial private sector non-consolidated debt stood at 322.3 % of GDP at the end of 2015, up from the 301 % of GDP recorded at the end of 2014. However, it also represents a decrease from early 2015, when private debt surged as a result of the transfer of large balance sheets into Ireland. There is strong evidence that both domestic firms and households continue to reduce their debt. Although there are indications of credit demand picking up in certain loan categories, repayments of existing debt exceed new credit.

Gross government debt remains high. It stood at 78.7 % of GDP in 2015, 32 pps. below its peak in 2012. The ratio of debt servicing costs to tax revenue shows that the public debt still represents a significant burden. The risks associated with high debt, such as its future refinancing, are somewhat lessened by the long-term maturity of the Irish debt stock and its low interest rates. Nevertheless, being a small and very open economy, Ireland's public finances remain vulnerable to external shocks and changes in the economic outlook.

The net international investment position (NIIP) reversed its path in 2015. Ireland's negative NIIP, which had been falling rapidly before 2015, surged to 208 % of GDP (Q4-2015)

as a result of the transfer of large balance sheets into Ireland (see Table 3.1 for a split on various sectors). Insofar as they are observable, the external sustainability of domestic sectors does not appear to be deteriorating.

Banks are facing a high stock of non-performing loans (NPLs). Their ratio for the domestic banks fell to 14.2 % at the end of September 2016, down from a peak of 27.1 % at the end of 2013. The high ratio of NPLs is expected to continue to weigh on domestic banks' profitability, as well as on the economic activity of affected households and firms, in the near and medium term. Achieving the right balance between supporting businesses' access to credit and maintaining prudent lending standards remains a challenge

Property prices continued to increase but there is little evidence of overvaluation in the market. Residential property prices increased by 8.6 % in November 2016 compared to the same month a year earlier but remain far below pre-crisis peaks. Overall, current prices do not appear to be overvalued and recent increases are not currently driven by an unsustainable expansion of bank credit. Over the same period, private rents increased by 9.7 %. Insufficient housing supply remains the prime driver of the increase in rents and house prices. An adequate supply of housing is essential to protect and expand Ireland's economic future growth but the recovery of residential construction will take time.

3.2 Evolution, prospects and policy responses

Deleveraging prospects are improving. Strong economic growth is expected to support deleveraging in the future. It is important to keep distinguishing between trends for domestic firms and multinationals.

Government debt is projected to decline further but public finances remain vulnerable to shocks. The debt ratio is on a firm downward trend. According to the European Commission winter 2017 forecast, it is expected to fall to approximately 72.6 % of GDP by 2018, conditional on robust economic growth and

primary budget surpluses. Risks to long-term debt sustainability relate mostly to changes to the economic outlook. Government contingent liabilities, mainly related to bank bailout operations, are rapidly declining. The government is also studying the feasibility of a ‘rainy-day fund’ as a tool to mitigating risks while continuing to reduce public debt.

The worsening in the NIIP appears to be driven by factors disconnected from the domestic economy. Analysis shows that the recent deterioration in the NIIP was driven by the activities of a few very large multinationals. The risks presented by the external liabilities of these companies are mitigated by a number of factors (Section 4.2.2.). Therefore, many of their operations have few implications for the external sustainability of the domestic economy. Regarding the banking sector, the NIIP of the Central Bank of Ireland (CBI) took an upswing in 2016, as domestic banks restored their access to market funding. Ireland’s headline NIIP will continue to be driven by the activities of multinationals.

Measures to strengthen the banking sector have continued, and the stock of NPLs is declining. Banks’ asset quality is improving, and their profitability is recovering but remains fragile. New lending to the private sector is increasing gradually, albeit from low levels. While the progress made in loan restructuring is remarkable, the pace of the process has slowed and the sustainability of restructured loans in the long run requires constant vigilance. The legal procedures for mortgage arrears are still slow and cumbersome, while the use of insolvency and bankruptcy schemes remains limited. The central credit register is not expected to be fully operational until end-2018.

The government has actively intervened to address the issue of housing shortages but measures will take time to generate effects. The government is pursuing a range of measures to support the housing supply under its Action Plan for Housing and Homelessness. Housing completions remain well below the estimated demand as the construction industry continues to slowly recover. In this context, demand-side policies, such as the ‘help-to-buy’ scheme, could be counter-productive. The macro-prudential

measures ⁽⁸⁾ introduced by the CBI in 2015 have reduced house price expectations. However, macro-prudential rules remain important to enforcing prudent lending standards — mitigating the risk of a repeat of the dangerous property bubble of the 2000s. Supporting housing supply also appears to be the best policy to sustainably contain the increase in rents, while the government is also taking measures to alleviate the immediate social consequences of high rents (Section 4.5.1). However, proposed rent controls could provide a disincentive to further investment.

3.3 Overall assessment

Ireland has broad based sources of imbalances linked to large stocks of external, public and private debt as well as a high level of non-performing loans, all making Ireland vulnerable to adverse shocks. Strong productivity growth in past years has implied improved competitiveness, and a positive current account balance entailing a rapid reduction in the stock of net foreign liabilities ⁽⁹⁾. However, even if the negative NIIP had been falling at a fast pace before 2015, it has reversed partly due to a level shift in 2015. The external sustainability risks for the domestic economy seem limited although difficult to assess. On the back of a strong growth recovery, private debt is falling at a rapid pace, as well as the NPL ratio, which remains however elevated. Government debt is also projected to remain on a downward trajectory. The stock of NPLs has been declining rapidly but slowing down somewhat by the end of 2016. Property prices continued to increase over 2015 but there is no significant evidence of overvaluation. Policy measures have been taken in recent years especially on the financial sector, debt restructuring, and the management of public finances. As regards the undersupply in the housing market the government has taken measures repeatedly but the measures will take time to generate effects.

⁽⁸⁾ Loan-to-value and loan-to-income limits to mortgage lending.

⁽⁹⁾ However, the evolution of the underlying current account and external position are difficult to assess due to the statistical impact of the activities of multinationals in 2015.

Table 3.1: MIP assessment matrix — Ireland 2016

	Gravity of the challenge	Evolution and prospects	Policy response
	Imbalances (unsustainable trends, vulnerabilities and associated risks)		
Private debt	<p>Private sector consolidated debt stood at 198.4 % of GDP in 2015.</p> <p>Corporate debt figures are more difficult to interpret due to the strong influence of the activities of multinationals on debt levels (Section 4.2.3).</p>	<p>Household debt is continuously decreasing. Active household deleveraging has continued at an accelerated pace in 2016.</p> <p>Deleveraging is aided by strong real and nominal GDP growth. Prospects are improving due to reduced debt and increased value of assets.</p> <p>SMEs have borne the brunt of the deleveraging in the corporate sector, but it is difficult to precisely disentangle the debt held by indigenous Irish firms and the foreign-owned/re-domiciled ones.</p> <p>The legal procedures for mortgage arrears are slow and cumbersome and the use of insolvency and bankruptcy schemes remains limited.</p>	<p>Recent policy initiatives aim to increase the use of personal insolvency and bankruptcy schemes.</p> <p>Progress has also been made on the corporate side, albeit there is less clarity on the nature and pace of debt reduction in the SME category, due to significant SME-household debt connections.</p>
Public debt	<p>Gross general government debt remains high at 78.6 % of GDP in 2015.</p> <p>The stock of debt is mostly of a long-term nature and at low interest rates. As of the end of 2015, average debt maturity was 12.4 years. This mitigates the risks and reduces refinancing needs in the near term (Section 4.1.1).</p> <p>Government contingent liabilities - is estimated to be 4.9 % of GDP in 2015, mainly related to bank bailout operations, implying a large reduction from 2013 (by 26 pps. of GDP).</p>	<p>Gross general government debt fell by 26.5 pps. to 78.6 % of GDP in 2015, mostly due to the growth in GDP experienced in 2015. The debt ratio is projected to further fall to 75.1 % in 2016 and to reach 72.6 % in 2018, contingent on still robust GDP growth and the realisation of sizeable primary budget surpluses.</p> <p>In 2015, the maturity profile and interest burden of government debt has improved further with the refinancing of IMF loans, the maturity extension of EFSM loans and the issuance of longer-term bonds.</p> <p>The general government deficit fell to 1.9 % of GDP in 2015, down from 3.7 % in 2014. The deficit is projected to have declined to 0.9 % of GDP in 2016 and to further decrease to 0.6 % of GDP in 2017. The structural deficit is expected to decrease to around 1½ % of GDP in 2017 from 1¾ % in 2015.</p>	<p>Ireland successfully and timely corrected its excessive deficit in 2015.</p> <p>The Draft Budgetary Plan for 2017 implies a risk of some deviation from the required adjustment towards the medium-term objective in both 2016 and 2017.</p> <p>The government used a large part of the over-performing, but partly volatile, tax proceeds to fund additional current spending both in 2015 and 2016.</p>
Financial sector challenges	<p>NPL ratio for the domestic banks fell to 14.7 % at end-June 2016, down from a peak of 27.1 % at end-2013, among the highest in the euro area. At the end of September 2016, 13.9 % of the total mortgage balance was in arrears, down from a high of 19.9 % in 2013.</p> <p>70 % of the non-performing mortgages balance is past due for more than two years.</p> <p>Legal procedure for mortgage arrears cases that banks cannot restructure is still slow and cumbersome. Repossessions and personal insolvency arrangements remains low, indicating that the contribution of insolvency frameworks could remain relatively low despite recent reforms. The central credit register is to serve as basis for adequate credit risk assessment of borrowers.</p> <p>The relatively subdued SME lending volumes are partly a result of a subdued demand for credit, and the comparatively high interest rates.</p>	<p>The high stock of NPLs continues to decline, however at a slower pace.</p> <p>Much less progress with loans in long-term arrears, partly due to these cases being in a long legal pipeline. The number of pending court cases indicates that these will take a long time to reach their conclusion.</p> <p>Bank profitability continues to recover, though it has also been bolstered by one-off provision write-backs (Section 4.2.1).</p> <p>The domestic banks meet capital requirements, with an average CET 1 ratio of 16.6 % at end-March 2016.</p> <p>New lending to the private sector has been increasing, from a very low base, and repayments exceed new borrowing.</p>	<p>Bank-specific granular monitoring of problematic loans continues. Progress is being made in implementing restructuring solutions. Commercial loan restructuring and disposal is ongoing.</p> <p>A new counselling initiative to assist distressed mortgage debtors has been launched nationally in October, with encouraging initial take-up.</p> <p>The review of the macro-prudential measures resulted in relatively minor changes to the loan-to-value ratio, leaving the bulk of the framework intact.</p> <p>The full implementation of a central credit register has been pushed to late 2018.</p> <p>The Strategic Banking Corporation of Ireland involved more on-lenders into its lending scheme, that accounted for 9 % of all SME lending in the period from March to December 2015.</p> <p>The Central Bank of Ireland introduced macro-prudential measures in 2015 to increase the resilience of households and lenders to adverse shocks and support prudent lending.</p>

(Continued on the next page)

Table (continued)

External sustainability	<p>Ireland had a negative NIIP of 208 % of GDP in Q4-2015.</p> <p>Non-financial companies net liabilities: 176 % of GDP</p> <p>The International Financial Services Centre negative net position: 48 % of GDP along with gross positions of over 1300 % of GDP.</p> <p>The general government sector negative net external position: 52 % of GDP.</p> <p>Non-IFSC financial intermediaries: net assets of 68 % of GDP.</p>	<p>The deterioration in the NIIP was primarily due the very sizeable on-shoring of intellectual property assets to Ireland and is largely related to the activities of a small number of large multinational firms. Some of these companies are very large compared to the Irish economy. The incurrence of these liabilities has only limited implications for the external sustainability of the underlying domestic economy (Section 4.2.2).</p>	<p>The external position of the domestic sectors of the economy improved in recent years. In particular, this reflects the recovery in the banking sector, which has in turn resulted in an improvement in the external position of the Central Bank.</p> <p>The maturity profile of public debt is generally favourable, in particular for external liabilities vis-a-vis to official creditors. Approximately 40 % of medium/long-term debt maturing from 2026 onwards.</p>
Property market	<p>Residential property prices increased by 6.6 % in 2015 but this came after the collapse in house prices between 2008 and 2012. Nationally, residential property increased by 8.6 % y-o-y in November 2016, still 31.5 % lower than the 2007 peak. At this stage, price levels do not look unsustainable according to standard measures (Section 4.5.1).</p> <p>Supply constraints are such that demand for new housing currently exceeds supply by a wide margin in main urban areas.</p>	<p>The pace of residential property price increases slowed over the course of 2015, with prices rising by 4.6 % y-o-y in December 2015, compared to 17.1 % in December 2014. Nationally, private rents increased 9.7 % y-o-y in December 2016.</p> <p>If not addressed, constraints limiting the construction sector and the supply of housing could contribute to imbalances building up.</p>	<p>The government recently announced additional measures to address housing supply constraints. The Action Plan for Housing and Homelessness includes a 34 % expansion of direct social housing provision over the next 5 years and a EUR 200 million Local Infrastructure Housing Activation Fund to contribute to the delivery of transport, water, and other infrastructure essential to facilitate an increase in housing supply. These measures come on top of previous actions such as revisions to national building standards for apartments.</p> <p>The Central Bank of Ireland (CBI) introduced macro-prudential loan-to-income and loan-to-value ratios in 2015. These measures reduced property inflation expectations. The CBI's review of the measures was published in November. It proposes several refinements to better calibrate the loan-to-value limits while preserving the overall framework and, in particular, leaving the loan-to-income ratio unchanged.</p>

Conclusions from IDR analysis

- Ireland is characterised by a large stock of external, public and private debt (both for households and non-financial corporations) which make Ireland vulnerable to adverse shocks. Banks are still facing a high level of non-performing loans but are well recapitalised and their profitability, still low, is improving gradually. Houses prices are increasing and supply constraints persist.
- Non-financial debt stock decreased over 2015, but was still higher than end-2014. Household debt stock decreased in 2015 and public debt is on a firm downward trajectory. Ireland's negative NIIP had been falling at a fast pace before 2015, but it then reversed partly due to a level shift in 2015. Yet, the external sustainability of the domestic sector does not seem problematic. The stock of NPLs has been declining rapidly over the last year but was slowing down somewhat by the end of 2016. Property prices continued to increase over 2015 but there is no significant evidence of overvaluation.
- Policy measures have been taken in recent years to address all imbalances highlighted including in the banking sector (improved regulatory framework, measures to address the high level of NPLs). Regarding the undersupply in the housing market the government has taken measures repeatedly but the measures will take time to generate effects.

(*) The first column summarises 'gravity' issues which aim at providing an order of magnitude of the level of imbalances. The second column reports findings concerning the 'evolution and prospects' of imbalances. The third column reports recent and planned relevant measures. Findings are reported for each source of imbalance and adjustment issue. The final three paragraphs of the matrix summarise the overall challenges, in terms of their gravity, developments and prospects, policy response.

Source: European Commission

4. REFORM PRIORITIES

4.1. PUBLIC FINANCES AND TAXATION

4.1.1. FISCAL POLICY⁽¹⁰⁾ (PUBLIC DEFICIT AND DEBT DEVELOPMENTS)

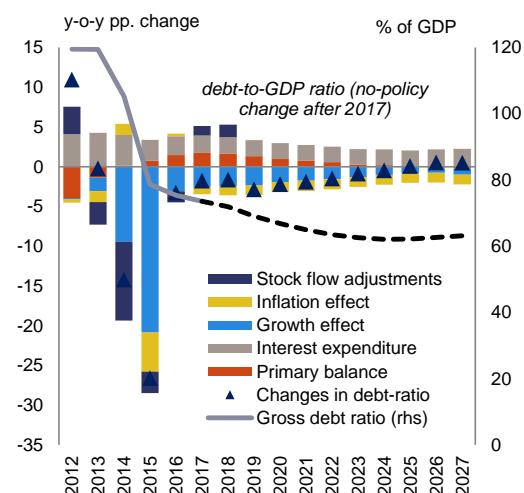
The government gross debt-to-GDP ratio is firmly on a downward path. Ireland's government debt-to-GDP ratio is projected to continue to decline, after peaking at 119.5 % in 2012. The European Commission winter 2017 forecast projects the ratio to fall further to 75.1 % in 2016 and to reach 72.6 % in 2018, contingent on still robust GDP growth and the realisation of sizeable primary budget surpluses (Graph 4.1.1). However, the burden of government debt on public finances and on the overall economy can no longer be assessed solely on the basis of GDP ratios. Despite being reflected in additional government revenues, the considerable impact of the foreign activities of multinationals on Irish GDP together with their inherent volatility (Section 1) calls for complementary debt indicators.

In absolute terms, public debt is still high. The stock of debt remains at a historically high level. It has, however, one of the most long-term maturities in Europe and interest rates are relatively low. According to the 2017 Draft Budgetary Plan, government gross debt is projected to increase by nearly EUR 13 billion over 2016-2019, reflecting the projected increase in the funding requirement, owing primarily to large bond redemptions in 2019-2020. This could have an impact on borrowing conditions at that time.

Alternative measures of repayment capacity show that progress has been relatively moderate. Revenue-based indicators — such as the stock of debt or debt interest expenditure as percentage of government revenue — can give a more accurate view of the state's ability to generate resources to service its debt. These metrics are also more resilient to the effects of globalisation on Irish economic performance data. The proportion of government interest expenditure relative to its tax revenue has improved significantly since 2013 (Graph 4.1.2). However, it

remains high compared with other highly indebted EU countries, also reflecting the low tax environment in Ireland. It is also twice the EU average in 2015. Comparing debt stock and tax revenue would give a similar picture.

Graph 4.1.1: Government gross debt evolution



(1) Stock-flow adjustments include Irish Bank Resolution Corporation consolidation, banks supports funded by the National Pension Reserve Fund and bank support measures. The remarkable contribution of stock-flow adjustment to debt reduction in 2014 is mainly due to the liquidation of the Irish Banking Resolution Corporation, which will probably no longer have a significant impact on debt reduction in subsequent years

Source: European Commission

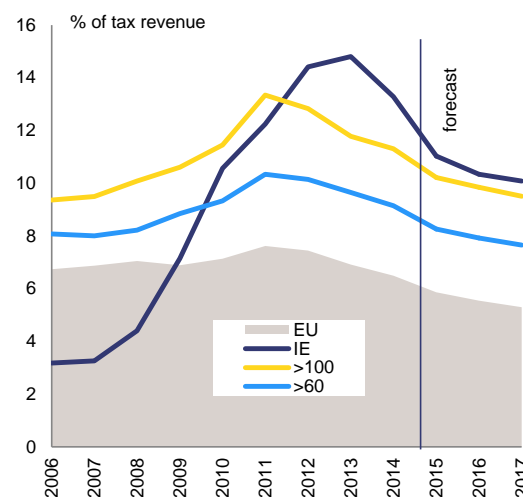
However, the sovereign's financing situation remains healthy. Government bond yields have fallen sharply since the end of 2013 and continue to fall, reflecting Ireland's progress on the economic and fiscal fronts, as well as ECB's bond purchases under its quantitative easing programme. As of the end of September 2016, EUR 6.5 billion had been raised in bonds at a weighted average yield of 0.85 % and with a weighted average maturity of close to 10 years⁽¹¹⁾. To date, Irish

⁽¹¹⁾ In January 2016, the issue of a new 10-year benchmark bond via syndication raised EUR 3 billion at a yield of 1.16 %. There have also been four separate bond auctions, of the 2022 and 2026 bonds, raising EUR 3.5 billion in total. Yields ranged from 1 % in the February auction of the 2026 bond to only 0.18 % in the May auction of the 2022 bond. The National Treasury Management Agency has also raised some ultra-long-term debt, issuing a EUR 100 million 100-year note at a yield of 2.35 % in March 2016.

⁽¹⁰⁾ An asterisk indicates that the analysis in the section contributes to the in-depth review under the MIP (see section 3 for an overall summary of main findings).

government bonds maturing up to 2023 are trading at negative yields.

Graph 4.1.2: Debt servicing cost indicator



(1) The >100 line is the average of countries with a debt-to-GDP ratio higher than 100 % in 2010. The >60 line is the average of countries with a debt-to-GDP higher than 60 % in 2010

Source: European Commission

Long maturities and moderate interest rates ease refinancing operations. At the beginning of 2016, the average maturity of debt was close to 12 years — having improved by nearly one year after IMF programme loans were replaced with longer-dated government bonds⁽¹²⁾. The next significant bond maturity (EUR 6.4 billion) is due in the Q4-2017. Other bond redemptions are significant over the medium term (Graph 4.1.3). The current outstanding balance on the six benchmark bonds maturing in 2017-2020 is around EUR 50 billion. Bilateral loans from the UK, Denmark and Sweden also begin to mature in 2019. The next IMF maturity, of EUR 2.9 billion, will be in 2021.

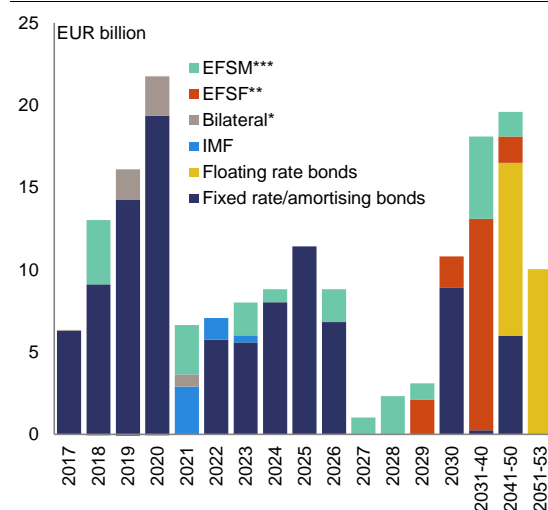
Debt sustainability has improved. However, comparisons with previous debt sustainability analysis⁽¹³⁾ are very much affected by the level

⁽¹²⁾ At the end of 2015, the European Financial Stabilisation Mechanism (EFSM) refinanced a EUR 5 billion loan due in December 2015. Other EFSM loans are expected to be refinanced as they approach their maturity dates.

⁽¹³⁾ The Commission's debt sustainability analysis makes use of both deterministic and stochastic projections over a 10-year period. Alternative scenarios are designed to capture possible future alternative 'states of the world'. The aim is to have a comprehensive set of debt projection results supporting conclusions in a context of future

shift in nominal GDP in 2015, which carries over into later years. The latest debt sustainability analysis carried out on the basis of the Commission's winter 2017 forecast projects that the general government debt-to-GDP ratio will fall steadily until 2024 to around 65.2 % and then increase slightly in the following few years, mainly on account of increasing ageing costs (Graph 4.1.1). These baseline-scenario projections assume that existing policies will not change from 2018 on⁽¹⁴⁾.

Graph 4.1.3: Maturity profile of Ireland's long-term debt (end December 2016)



(1) The Irish programme was the second euro area assistance programme, and the first financed by two new financial assistance instruments established in 2010, the European Financial Stability Facility (EFSF) and the European Financial Stabilisation Mechanism (EFSM). EFSF loans reflect the maturity extensions agreed in June 2013. EFSM loans are also subject to a seven-year extension. It is not expected that Ireland will have to refinance any of its EFSM loans before 2027. However, the revised maturity dates of individual EFSM loans will only be determined as they approach their original maturity dates.

(2) Bilateral loans were provided by the United Kingdom, Sweden and Denmark.

Source: National Treasury Management Agency

Yet, public finances remain vulnerable to shocks, while risks have increased. Risks to long-term debt sustainability relate mostly to

uncertainties. Scenarios are designed to be used in an integrated way to assess debt sustainability.

⁽¹⁴⁾ They rely on Commission forecasts for the next two years (2017-2018), after which fiscal policy is assumed to remain consistent with the last forecast year for the remaining of the projection period. This translates into a constant government structural primary balance, before cost of ageing.

changes to the economic outlook — since most of the outstanding stock of debt pays fixed interest rates. Adverse developments on real GDP growth — of a magnitude reflecting the country's historical variability of output⁽¹⁵⁾ — would increase the public debt-to-GDP ratio by 22 pps. by 2027 to about 90 %⁽¹⁶⁾. A combination of adverse effects on growth, interest rates and primary balance — also comparable to past shocks in magnitude — would keep the debt ratio at around 80 % of GDP by 2021.

Uncertainty may further postpone plans to sell bank shares. According to the most recent assessment, the government's total stakes in the three major domestic banks is valued at about EUR 13 billion (around 5.1 % of GDP)⁽¹⁷⁾. The sale of these stakes, on which the debt sustainability analysis does not speculate, could accelerate debt reduction further. However, subdued bank profitability could further hinder government plans for early sales. Additional cash over the medium term can be expected from surpluses arising from the closing operation of the National Asset Management Agency and the Irish Banking Resolution Corporation.

Government contingent liabilities are rapidly declining. State guarantees fell sharply to 4.9 % of GDP at the end of 2015, down from 13.2 % in the previous year (Table 4.1.1). The vast majority of contingent liabilities are linked to the support granted to financial institutions. The ongoing repayment of government-guaranteed bonds of the National Asset Management Agency means that contingent liabilities are rapidly decreasing yet further. Other potential future payments (not reflected in the table below) might arise in

connection with public private partnership projects — which the government estimates at around EUR 4.6 billion — and commitments to provide capital to international organisations⁽¹⁸⁾.

Table 4.1.1: **Government's contingent liabilities**

% of GDP	2013	2014	2015
Public guarantees	31.2	13.2	4.9
<i>of which linked to the financial sector</i>			
Eligible liabilities guarantee	11.1	5.3	1.3
National Asset Management Agency	19.2	7.0	3.2
Other	0.8	0.8	0.5

Source: Department of Finance (Ireland)

4.1.2. FISCAL FRAMEWORKS AND SPENDING REVIEWS

Ireland's budgetary and expenditure reforms played a key role in repairing public finances.

In the past years, comprehensive reviews of expenditure have primarily focussed on reducing government spending to meet overall fiscal targets set over the crisis period. There has been little evaluation of the effectiveness and efficiency of expenditure programmes, which ultimately weakened the multi-annual spending planning. Indeed, repeated discretionary changes to expenditure ceilings, which were decided with little or no explanations, have characterised Ireland's recent budgetary implementation. These took advantage of upward revisions to GDP growth and government revenue projections (Graph 4.1.4) with insufficient prioritisation to growth-enhancing expenditure. An appropriately designed review of expenditure could support both fiscal responsibility and growth-enhancing structural changes in public expenditure by guiding a better allocation of expenditures, in particular in view of prioritising investment.

Against this background, the ongoing budgetary reform could enrich the Irish fiscal framework further. The recent budgetary reform incorporates new procedures aimed at improving communication on expenditure targets, increasing stakeholder engagement and harnessing public

⁽¹⁵⁾ This enhanced sensitivity test is designed based on a reduction/increase of real GDP growth by one standard deviation, calculated over the last three years of historical data, for two years following the one of last historical data available. After two years of projections, -0.5/+0.5 pp. permanent shocks on GDP growth would be applied till the end of the projections period.

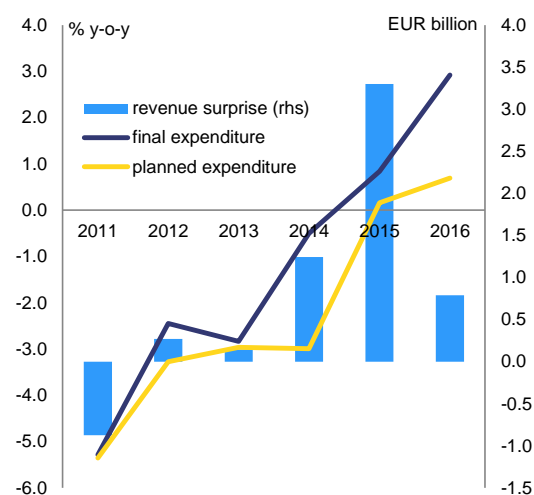
⁽¹⁶⁾ In turn, a permanent 1 pp. increase to short- and long-term interest rates on newly issued and rolled-over debt would raise the public debt-to-GDP ratio by 3.1 pps. by 2027 to about 70.8 %.

⁽¹⁷⁾ The state's 99 % share in Allied Irish Banks were valued at EUR 12.2 billion at 31 December 2015, as per the Irish Strategic Investment Fund. It does not take account of negative market movements since then. The contingent convertible bonds valued at EUR 1.6 billion, together with accrued interest, were fully repaid in July 2016 yielding total proceeds of EUR 1.8 billion.

⁽¹⁸⁾ The most significant of these commitments is Ireland's callable capital contribution of approximately EUR 9.87 billion to the European Stability Mechanism which provides financial assistance to euro area Member States experiencing or threatened by financing difficulties.

support to improve the quality of expenditure⁽¹⁹⁾. A number of documents analysing the economic, fiscal and social implications of possible policy options, have now been presented in advance of budget decisions and are part of the final budget package⁽²⁰⁾. Overall, these budgetary reforms aim at developing a 'culture of spending' evaluation to, for example, increase responsibility across the public administration for assessing the efficiency and effectiveness of public expenditure⁽²¹⁾. However, some of these principles have not yet been fully embedded in the wider Irish budgetary process.

Graph 4.1.4: Change in final and planned expenditure allocation and revenue surprise



(1) Total government expenditure refers to the current and capital resources allocated to ministerial departments and voted by the Irish Parliament. The planned allocation refers to targets set in the previous year's budget. Unexpected revenues are the difference between revenues effectively collected and those projected in the budget

Source: Irish Department of Public Expenditure and Reform, European Commission

In an economy featuring such volatility, the planned 'rainy-day fund' could act as a shock absorber. The government's proposal to create a specific fund after the country has reached its medium-term objective would work as a reserve

against future contingencies but could also divert resources away from faster debt reduction. Appropriately designed fund or buffers⁽²²⁾ could facilitate counter cyclical fiscal policy and help to absorb future shocks⁽²³⁾. Its design could, however, also face hurdles in the form of accounting and fiscal rules, which currently do not make specific provision for this type of funds⁽²⁴⁾. The design of the fund would probably require domestic fiscal rules to specify a target value for the fund in normal times. It would also be important for a set of rules to define which revenue windfalls would be paid into the fund and under which circumstances withdrawals from the fund could take place and with which allocation rules across expenditures. This would help the fund play a balancing role also in the event of unanticipated revenue fluctuations. The experience with the National Pensions Reserve Fund, established in Ireland in 2001, is also worth taking into account. The Fund was heavily invested in equities with a long-term duration to pre-fund pension liabilities, but suddenly had to be repurposed, with significant losses, in the context of the 2008 crisis.

4.1.3. TAXATION

The Irish economy is sensitive to changes in the international tax environment. Some features of the Irish tax system have been used by multinationals for aggressive tax planning⁽²⁵⁾. Recent changes are a consequence of both public-policy initiatives to limit tax avoidance and growing corporate awareness of the reputational

⁽²²⁾ Multiannual buffers with some pre-defined reallocation rules would mean setting actual budgetary targets below the ceilings set according to the numerical fiscal rules. This would also limit the need to frequently revise the ceilings.

⁽²³⁾ As discussed in Calmfors (2003), Finland set up a 'rainy-day fund' upon its entry to the Economic and Monetary Union that accumulates extra social security contributions from employers during upswings to enable a lower contribution rate to be applied during downturns. This smoothing policy helps to stabilise employment over the cycle.

⁽²⁴⁾ The current accounting rules mean that any transfer to the fund would not affect the budget balance, i.e. will not reduce the surplus. Conversely withdrawals from the fund would be treated as additional expenditure and thereby increase the deficit (Buti and Giudice, 2002).

⁽²⁵⁾ Aggressive tax planning consists in taking advantage of the technicalities of a tax system or of mismatches between two or more tax systems for the purpose of reducing tax liability (source: Commission recommendation of 6 December 2012 on aggressive tax planning (2012/772/EU)).

⁽¹⁹⁾ <http://finance.gov.ie/news-centre/press-releases/government-submission-select-committee-arrangements-budget-scrutiny>

⁽²⁰⁾ <http://budget.gov.ie/Budgets/2017/2017.aspx>

⁽²¹⁾ The set of common principles endorsed by the Eurogroup on 9 September, for improving the quality of public finances through the use of spending reviews is a useful benchmark in reviewing national reform efforts.

<http://www.consilium.europa.eu/it/press/press-releases/2016/09/09-eurogroup-statement/>

risks from aggressive tax planning. The weight of multinationals in overall GDP and the growing share of corporate tax receipts in public revenue make Ireland more exposed to changes in the international corporate tax framework. To date, however, Ireland appears to have benefitted from the changes that are taking place in the international tax environment in the form of windfall tax revenues.

In response to the uncertain environment, the Irish government is engaging in international tax reform. Ireland has been constructively engaged in the Base Erosion and Profit Shifting (BEPS) project (see OECD, 2015) and has been an early adopter of the country-by-country reporting for large companies (Action 13 of the BEPS project). Moreover, the Irish government has introduced additional measures to address tax evasion and avoidance. They include a new compliance programme to tackle offshore tax evasion and amendments to prevent certain funds from exploiting existing legislation for tax avoidance purposes. Administrative resources for audits and compliance procedures have also been increased. These measures build on similar initiatives in 2015 and 2016, including the decision to change the corporate tax residency rules that had been exploited by some multinationals.

Nevertheless, the growing share of corporate tax in total tax revenue merits some consideration. The annual corporate tax revenue increased by approximately 50 % in 2015 compared to 2014. This brought the share of corporate income tax in total revenue to almost 10 %, with the top 10 payers accounting for over 40 % of net receipts. Corporate tax revenue in Ireland can therefore be characterised as highly concentrated and prone to volatility. A detailed examination of the risks linked to the composition of the Irish tax system could help to ensure that public finances have access to a broad set of revenue sources. The government has already launched an independent review of its corporate tax code, which will yield a set of recommendations by summer 2017.

Relying on a broader tax base would support revenue stability in the face of economic volatility. Ireland has done very little to broaden the bases of its tax heads. Budget 2017 has introduced a range of tax expenditure measures

which are likely to narrow the income tax base thereby increasing public finances' exposure to shocks. Measures include a tax rebate for first-time buyers of newly-built homes and increases to tax credits for the self-employed and home carers⁽²⁶⁾. Tax rate increases in limited areas, notably on tobacco, are unlikely to sufficiently compensate for the more significant cuts elsewhere. This comes on top of the decision to further delay the revaluation of self-assessed property values, used to calculate local property tax liabilities, to November 2019.

There is still no systematic process for evaluating the costs and benefits of reduced VAT rates. This is in contrast with the regular reviews of other tax expenditures. However, in the context of the budgetary process, the Department of Finance released a report on selected VAT issues, including the rate of VAT for hotels and restaurants. The report found that bringing the 9 % VAT rate back to the standard reduced rate of 13.5 % would generate additional revenue of EUR 626 million. Despite this, and the fact that hotels and restaurants are performing strongly, the government has decided to keep the reduced VAT rate as a buffer for the sector against the weakness in sterling, which increases the cost of holidaying in Ireland for British tourists.

Recurrent property taxation is considered one of the most growth-friendly revenue sources. However, Irish revenues from immovable property are below the EU average, amounting to 1.0 % of GDP in 2014, compared to the EU average of 1.6 %. The extension of exemptions for newly developed houses and the postponement until 2019 of the revaluation of self-assessed property values, used to calculate local property tax liabilities, contrast with the importance of broadening the tax base for the sustainability of public finances.

The tax system can be used for environmental policy while also generating revenue. Overall, revenues from environmental taxes are in line with the EU average (2.43 % of GDP for IE compared to an EU average of 2.46 %). The differences in the taxation of diesel and gasoline for road use are

⁽²⁶⁾ Further tax changes include reducing the rate of capital gains tax applicable to certain gains, increasing the pre-tax thresholds for inheritance and gift tax and reducing the rate of deposit interest retention tax.

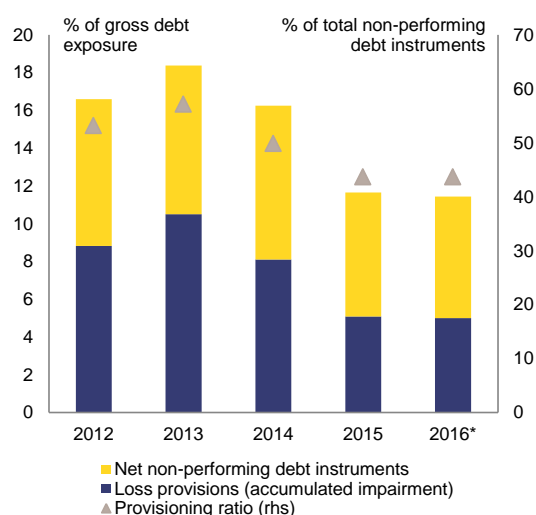
environmentally unjustified. In Ireland, diesel is taxed at a lower rate, although it emits more air pollutants. The tax advantage in favour of diesel currently stands at 11 cents per litre. An equal treatment of transport fuels would lead to environmental improvements.

4.2. FINANCIAL SECTOR

4.2.1. BANKING SECTOR*

Bank profitability has recovered but remains weak. A number of factors will continue to drag on bank profitability in the near to medium term. These include the elevated stock of non-performing loans (NPLs) and low-yielding tracker mortgages, weak credit demand, difficulties in accessing collateral and continued pressure on net interest margins. However, progress made in loan restructuring and portfolio sales, as well as rising collateral valuations, have led to the release of provisions, supporting profitability metrics (Graph 4.2.1).

Graph 4.2.1: Banks' book quality and provisioning



Source: ECB

Market uncertainties are expected to persist over time. Irish banks remain susceptible to spillovers from financial sector problems from across the euro area. Bank shares across Europe have generally been weak but the domestic Irish banks have traded below euro area market averages in 2016.

Irish banks maintain adequate capital buffers but may face pressures in the coming years. The aggregate Common Equity Tier 1 (CET1) capital position of Irish banks diminished slightly in the first quarter of 2016. This was driven primarily by a reduction in the capital of the branches and subsidiaries of foreign banks. Nevertheless, the CET1 ratio for the sector as a whole remained high, at 20.5 % of risk weighted assets as of the end of June 2016, down from 22.3 at the end of

2015 (ECB). Part of this capital buffer will be used in the gradual phasing in of the Capital Requirements Regulation.

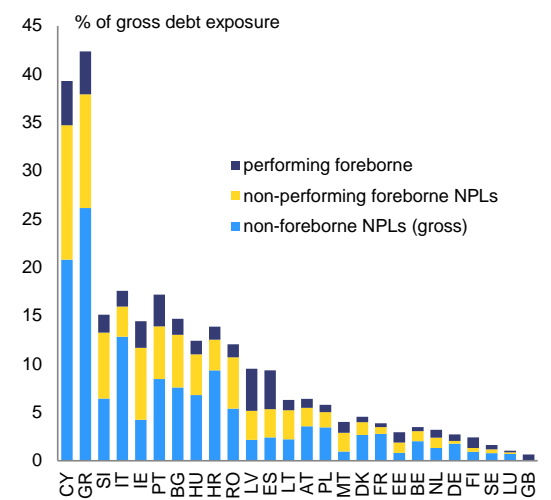
The European Banking Authority stress test of July 2016 signalled continuing challenges. The average CET1 ratios of Allied Irish Banks (AIB) and Bank of Ireland (BOI) scored significantly below their European peers in the adverse scenario. This was primarily explained by their accumulation of deferred tax assets and high NPL stock, considered below. Overall, the results show the vulnerability of the Irish banking sector to a reversal in macroeconomic environment. Credit risk accounted for the majority of the losses for these two banks under the adverse scenario, highlighting their key weakness relative to their peers.

The substantial stock of deferred tax assets (DTAs) is still a concern. Accounting and tax practices allow institutions that make losses — and thus pay no income taxes — to generate DTAs to reduce their future tax liabilities. As a result of severe losses in recent years, Irish banks have accumulated a substantial stock of DTAs, the value of which depends on the banks' future profits. These assets will need to be gradually deducted in the calculation of regulatory capital under current rules. BOI and AIB had accumulated a stock of over EUR 4.4 billion of DTAs by the end of June 2016, representing over 20 % of their own funds.

The high forbearance levels in Ireland are partly a reflection of the arrears restructuring process. According to the CBI, the average NPL ratio of the domestic Irish banks was 14.2 % as of September 2016. This is lower than its peak level of 27.1 % at the end of December 2013 but remains substantially above the EU average of 5.4 % ⁽²⁷⁾. Forbearance levels in Ireland remain comparatively high (Graph 4.2.2). The large volume of restructured accounts also explains part of this differential, given the significant lag between the conclusion of a restructuring solution and the reclassification of the loan as performing.

⁽²⁷⁾ The EU average NPL ratio refers to end-June 2016 numbers, as reported in the latest EBA report on non-performing loans.

Graph 4.2.2: Forbearance levels — a euro area comparison



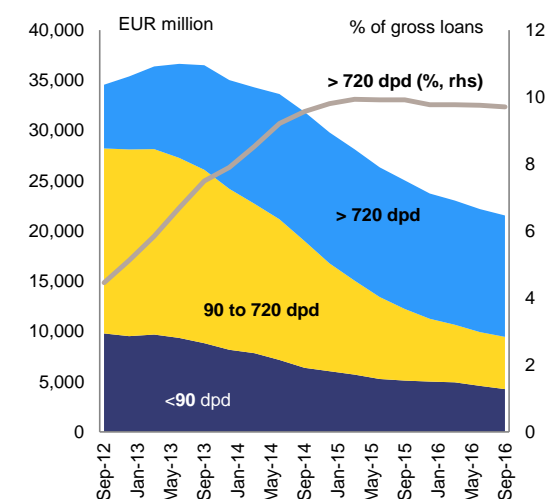
Source: ECB

Although NPL ratios have declined, the substantial share of long-term mortgage arrears requires continued monitoring. Thanks to increasing asset prices and the loan restructuring solutions offered to customers, significant progress has been made in reducing mortgage arrears, although pace of improvement is slowing down (Graph 4.2.3). At the end of September 2016, about 14 % of the total balance of mortgages was in arrears at least for 90 days — down from a high of about 20 % at the end of September 2013. As of September 2016, around 70 % of all mortgage arrears are past due for more than two years, primarily due to the limited success that the lenders have had in restructuring these loans. This issue requires close monitoring, especially since loans that remain in arrears for longer periods tend to carry higher risks and greater expected losses.

The key difficulties in accessing collateral are lengthy repossession procedures and the infrequent use of out-of-court arrangements, insolvency and bankruptcy. A large number of mortgage arrears cases are still at some stage of the legal process, due to repetitive adjournments. Late repossessions can result in higher collateral valuations, given the recovery of the property market. However, they are also holding up a significant portion of the property market in a context of insufficient supply (Section 4.4.2). Difficulties in collateral access can also deter potential new market entrants and investors. Formal repossession processes are still preferred to

out-of-court arrangements between banks and borrowers. A substantial use of bankruptcy and personal insolvency arrangements is yet to happen.

Graph 4.2.3: Evolution of mortgage loans in arrears



(1) The data aggregates primary home dwellings and buy-to-let mortgages for households

(2) dpd: days past due

Source: Central Bank of Ireland (CBI)

Corporate and commercial real estate (CRE) loans remain heavily impaired and are either being restructured or sold away. Approximately 25 % of these loans continue to be non-performing. Their restructuring is usually more complex and takes more time than mortgage restructuring. Sales of the portfolios of CRE still owned by banks could be affected by the changes announced to the tax regime applicable to Irish real estate funds, which could make investment in Irish CRE assets less attractive.

The National Asset Management Agency (NAMA) continues with the successful sales of its assets. This process has recently been clouded by allegations of wrongdoings during the sale of one of its portfolios. By October 2016, NAMA had redeemed EUR 26.6 billion or 88 % of its senior debt.

A well-functioning central credit register is a crucial element for ensuring prudent future lending standards. After several delays, the central register will begin collecting lenders' submissions on consumer lending in mid-2017. It will cover all types of lending only in mid-2018.

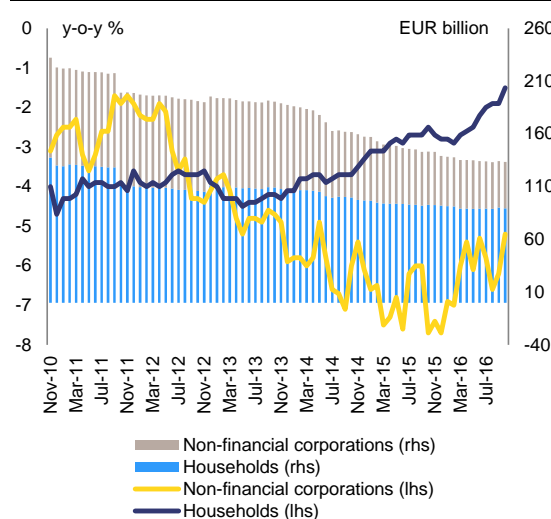
Banks are expected to carefully balance the push to boost credit volumes with maintaining prudent lending standards. The legislative proposal enabling the Central Bank of Ireland to cap interest rates on variable rate mortgages, if enacted, could challenge the sustainability of bank lending in Ireland. Such measures could act as a deterrent to new entrants to the market and to lending overall.

The Central Bank concluded its review of existing national macro-prudential measures, and broadly left them in place. Crucially, as it is a main affordability metric, the loan-to-income (LTI) ratio was maintained at 3.5 %. The loan-to-value (LTV) limits were altered, but not substantially. A new help-to-buy tax rebate also reduces the stringency of the loan-to-value ratio — thought the availability of the rebate is restricted by its eligibility requirements.

Negative net lending and growing deposit trends are unchanged but the outlook is more positive. Net lending for both households and firms is still negative (Graph 4.2.4). However, mortgage approvals and drawdowns are increasing, with the share of fixed rate mortgages growing as banks expand their product range. New credit for non-financial SMEs is also on the rebound, with an increase of almost 30 % in June 2016 compared to the same period a year earlier.

Interest rates on loans have declined, but remain higher than the euro area average. The increase in new credit to SMEs has occurred on the back of a reduction in average interest rates of 60 basis points over the year (Section 4.2.4). Similarly, the interest rates for mortgages have declined by about 10 basis points (to 3 %) and 20 basis points (to 3.5 %) for variable and fixed-rate mortgages respectively — but remained almost twice as high as the euro area average. This reflects legacy issues whereby new lending has to cover up for the low-yielding existing loan book. The small number of bank lenders in the market is not conducive to bringing rates down either.

Graph 4.2.4: Net lending volumes and yearly growth rates



Source: CBI

4.2.2. EXTERNAL SUSTAINABILITY*

The risks to the external sustainability of domestic sectors seem to be contained. Official statistics recorded a very large level shift that led to a substantial deterioration in the net international investment position (IIP) in 2015. However, the analysis below presents evidence that this was primarily due to transactions by a small number of very large multinational enterprises (MNEs), probably arising from optimisation of their operations across their global value chains. The associated financial flows and positions altered neither the productive capacity nor the external liabilities of underlying domestic economic sectors. As such, they have limited implications for the domestic economy and do not increase the risk of Ireland's external position becoming unsustainable⁽²⁸⁾.

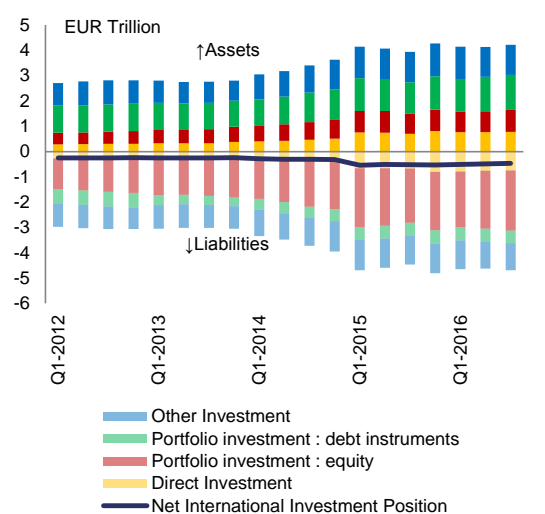
Ireland's headline external accounts indicators should be interpreted with caution. An accurate assessment of the external sustainability of the Irish economy requires a detailed examination of several factors that affect but do not directly explain the IIP of the Irish domestic economy⁽²⁹⁾. These include the International Financial Services Centre (IFSC) and the large-scale operations of

⁽²⁸⁾ See Section 4.1.3 for a discussion of the implications of multinational activities on government revenues.

⁽²⁹⁾ The observable domestic sectors include the government, the Central Bank of Ireland and the domestic banks.

MNEs — including re-domiciled public limited companies (PLCs)⁽³⁰⁾, aircraft leasing and contract manufacturing (European Commission, 2016c, p. 29). The international orientation of these sectors means that investment in Ireland is heavily influenced by global value chains and the interplay between tax regimes and tax treaties.

Graph 4.2.5: International investment position by asset type (IFSC and non-IFSC)

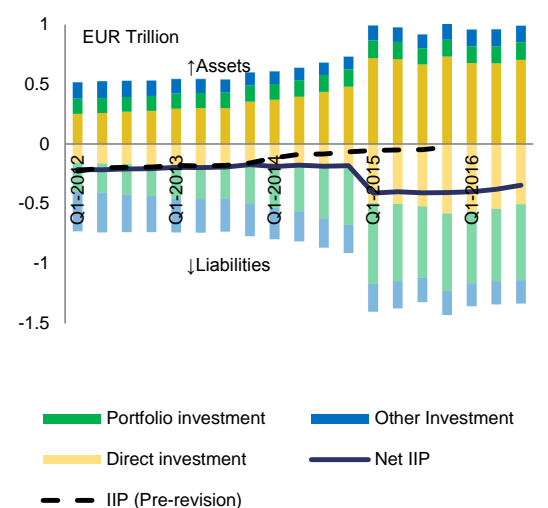


Source: CSO

The IFSC has very large gross positions but its net position is far smaller. The IFSC is a hub for international financial transactions, which have little connection to the financing of the domestic economy. If the IFSC is included, Ireland's gross IIP assets and liabilities both exceeded EUR 4 trillion in Q3-2016 (Graph 4.2.5). When the IFSC is excluded, the gross positions held in Ireland are far smaller (Graph 4.2.6). Nevertheless, they remain large compared to nominal GDP of EUR 256 billion in 2015. The total net IIP was -177 % of GDP (EUR -465 billion) in Q3-2016. Of this total net IIP, approximately EUR 120 billion was attributable to the IFSC. As the IFSC gross positions largely cancel each other out, the majority of the negative net IIP is attributable to the other international factors mentioned, combined with the domestic sectors of the economy (EUR 345 billion).

⁽³⁰⁾ Redomiciled PLCs are companies that relocate their legal group headquarters. In the case of relocations to Ireland this is often motivated by tax considerations and may not be associated with substantive economic activity (CSO, 2016a).

Graph 4.2.6: International investment position by asset type — excluding IFSC



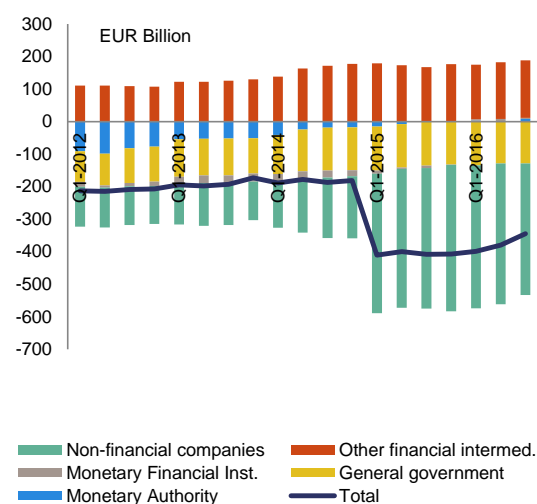
Source: CSO

In so far as they are observable, the benign trends in the net IIP of the domestic sectors appear to have continued in 2016. The net IIP of the Central Bank turned positive in late 2015 while the net IIP for non-IFSC banks turned positive in 2016 (Graph 4.2.7). After reaching levels in excess of EUR -100 billion during the financial crisis, the CBI had a small positive (EUR 7.6 billion) net IIP (and Eurosystem Target II payment balance) in Q3-2016. This is explained by the restoration of domestic banks' access to market funding. Domestic banks' net IIP also turned slightly positive (EUR 3.8 billion), partly reflecting the switch to domestic deposits from international wholesale funding and the deleveraging process. Other financial intermediaries had a large positive net IIP of EUR 176 billion, partly due to the overseas investments of insurers and pension funds. The net IIP of the general government sector (EUR -129 billion) deteriorated since the ECB Outright Monetary Transactions announcement but this may partially reflect improved international investor appetite for Irish sovereign debt⁽³¹⁾. These positive developments are dwarfed by the net IIP of EUR -404 billion of non-financial corporations, a category that is heavily dominated by MNEs. Moreover, it

⁽³¹⁾ Foreign debt holders also include official creditors from the financial assistance programme; the European Financial Stabilisation Mechanism, the European Financial Stability Facility and the IMF.

represents a large increase from the EUR –190 billion net IIP recorded in Q4-2014.

Graph 4.2.7: International investment position by institutional sector, non-IFSC



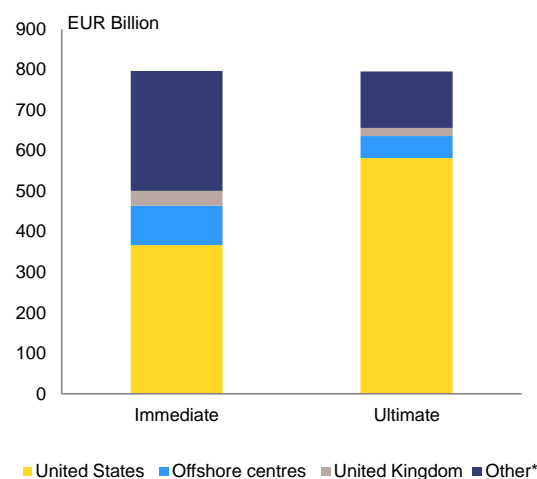
Source: CSO

Revisions to the 2015 balance of payments led to a very large deterioration in Ireland's net IIP. The revisions to national accounts data announced by the CSO in July 2016 were accompanied by large revisions to the balance of payments and IIP. These comprised of a large level shift in the negative *net* IIP to a peak of EUR –410 billion in Q1-2015, compared to the previous estimate of EUR –51 billion (both exclude the IFSC). Between 2014 and 2015, the net IIP deteriorated by about EUR 300 billion which is comparable in scale to the increase in the total capital stock of approximately EUR 255 billion recorded in the national accounts. Much of the changes to the net IIP were recorded as large negative volume changes as the change in stocks greatly exceeded the flows in 2015⁽³²⁾. The increases in liabilities were concentrated in the foreign direct investment (FDI) equity, other capital (which includes inter-company loans) and portfolio investment (see also section 4.2.3).

⁽³²⁾ According to the 6th edition of the IMF Balance of Payments Manual (p. 33): 'Changes in the status of existing financial claims and liabilities arising from the change in residence of individuals from one economy to another are treated as other changes in the volume of assets. These flows result from a change in the classification of the owner's residence status, and hence, they should not be classified as transactions.'

The behaviour of MNEs partly reflects the optimisation of their operations across their global value chains. Notably, this includes international corporate tax considerations. In this context, the geographic distribution of FDI liabilities becomes informative (Graph 4.2.8). On an 'immediate owner basis'⁽³³⁾, offshore financial centres account for approximately EUR 100 billion of FDI liabilities. In addition to these centres, the US, Luxembourg and the Netherlands also appear to be substantial direct investors in Ireland, on an 'immediate owner basis'. Furthermore, on an 'ultimate ownership basis', the vast majority of direct investment liabilities are attributable to the US.

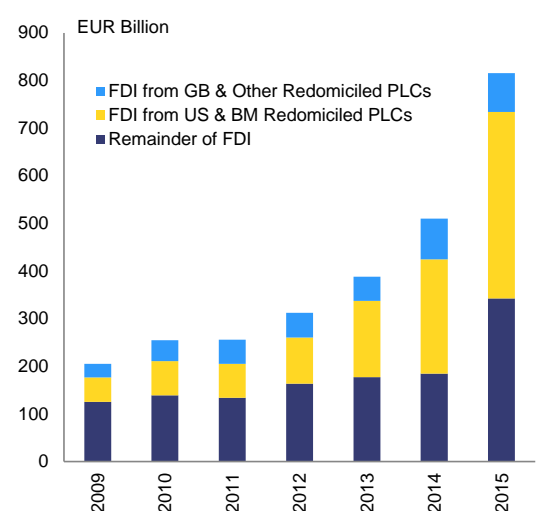
Graph 4.2.8: Geographic distribution of FDI liabilities, immediate and ultimate ownership (2015)



Source: CSO

⁽³³⁾ The concepts of immediate and ultimate ownership are explained using the following example in the 6th edition of the IMF Balance of Payments Manual (page 77): 'For direct investment, there can be chains of voting power, such as when a direct investor in Economy A has a subsidiary in Economy B, which in turn has a subsidiary in Economy C. In this case, for the direct investment in Economy C (a) the economy of immediate ownership is Economy B; and (b) the ultimate investing economy is Economy A.'

Graph 4.2.9: Direct investment abroad end year position by prior domicile location



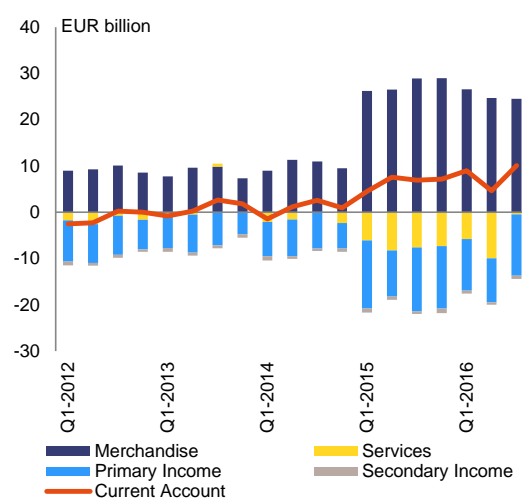
Source: CSO

Ireland's current account surplus is overstated due to a number of factors. The headline data presented in Graph 4.2.10 record a very large surplus in merchandise trade. However, much of the exports, including the very large upsurge in Q1-2015, were driven by contract manufacturing activities (Section 1). A more accurate reflection of Ireland's merchandise exports can be obtained by looking at alternative data sources (Graph 1.6). This phenomenon also contributed to the services trade and primary income deficits. Notably, imports of research and development business services have tended to increase rapidly in recent quarters, and combined with royalties and licenses, accounted for approximately 56 % of total services imports in Q3-2016. In contrast, the IFSC continued to record a large services export surplus, which stood at over EUR 16 billion in the year to Q3-2016. Regarding primary income, it should be noted that the sharp increase in profit outflows observed in 2015 is due to companies other than re-domiciled PLCs. The latter recorded large, albeit declining, net primary income flows that inflated Ireland's current account balance by EUR 4.8 billion in 2015. However, the precise value of the underlying current account balance of domestic sectors remains unobservable.

Direct investment income outflows also highlight the use of offshore centres by MNEs operating in Ireland. Closer examination of income outflows from foreign-owned direct

investment enterprises shows that they increased by EUR 44 billion in 2014, to just under EUR 60 billion in 2015. It also highlights the very large profits generated by some MNEs operating in Ireland. A large proportion of profits, EUR 25 billion, were directed to offshore centres, compared to EUR 22 billion to other euro area countries.

Graph 4.2.10: Current account balance, net components



Source: CSO

Intra-firm trade data highlight the dominant role of MNEs in Ireland's exports and imports. Intra-firm trade in Ireland accounts for 30 % of exports and 25 % of imports (Stehrer, R. 2016). The US accounts for about 70 % of the total number of intra-firm flows and 72 % of the total number of import flows, which can be explained by the large number of US multinationals located in Ireland. Germany and the UK are the next most important intra-firm trading partners. The top 10 products traded intra-firm are predominantly chemicals and pharmaceuticals, medical devices and electronics, reflecting the specialisation of multinational enterprises located in Ireland.

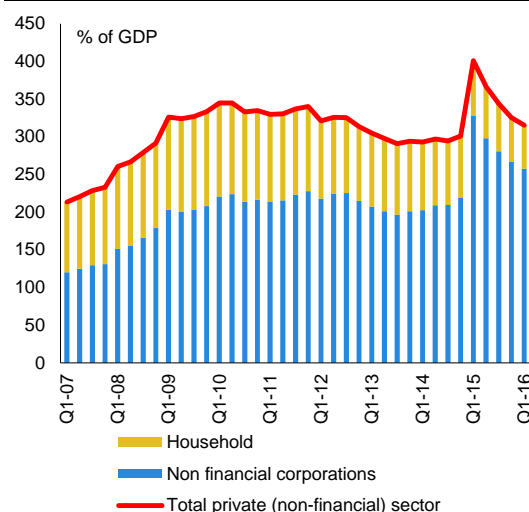
In conclusion, much of Ireland's external liabilities are not attributable to domestic sectors of the economy. The above evidence indicates that a substantial portion of Ireland's external liabilities are attributable to entities whose ultimate domicile lies abroad. The many MNEs that have significant economic activities in Ireland can be broadly characterised as follows: They are highly profitable, have a large share of liabilities in

the form of direct investment, and have offsetting overseas assets, while their debt liabilities are not owed to Irish investors. These factors limit the risks to the domestic Irish economy. In other cases, although the ultimate domicile is legally in Ireland, the MNEs involved have only limited connections to the domestic economy. This means that much of recorded financial inflows do not contribute to the productive capacity of the economy, but are instead a reflection of the tax optimisation strategies of large US corporations. However, precisely because of the absence of links to the domestic economy, they do not increase the risks to Ireland's external sustainability.

4.2.3. PRIVATE INDEBTEDNESS*

The private debt-to-GDP ratio decreased since a surge in 2015, but remains high. This surge in GDP reflects the growth in value added booked by multinationals in Ireland (Section 1). At the same time, the transfer of large balance sheets into Ireland also resulted in large increases to the overall stock of private debt attributed to the country. Non-financial private sector debt stood at 310.1 % of GDP in March 2016. Deleveraging had followed a rather linear trend since early 2012 but, in late 2014, the debt stock surged by an amount equivalent to the size of the country's GDP (Graph 4.2.11). Over the course of 2015, the debt-to-GDP ratio reduced substantially again but this reduction was primarily explained by the surge in GDP rather than the debt stock levels.

Graph 4.2.11: (Non-consolidated) private sector debt to GDP



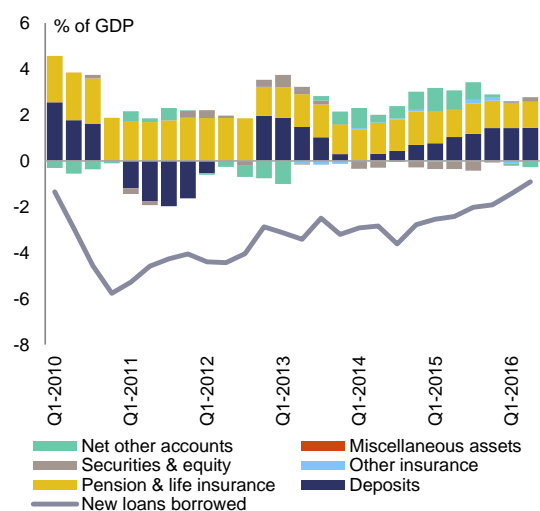
Source: European Commission

Households keep deleveraging, but less strongly, as new credit demand re-emerges. The stock of Irish household debt decreased to 56.7 % of GDP at the end of March 2016, from a high of 125.2 % at the end of September 2009. Expressed as a percentage of disposable income, Irish household debt has fallen to 144.8 % in Q3-2016, down from 225 % in 2008, as the strong recovery in GDP has not been matched by an equal increase in household disposable income⁽³⁴⁾. However, deleveraging slowed down in 2016, as new lending for consumer and house purchases started to pick up.

The improvement in household finances is supported by recovering asset values. Housing and financial assets held by Irish households keep increasing in value (Graph 4.2.12). The recovery of house prices helps mortgage holders, as it increases the value of the equity they hold. Approximately 15 % of mortgages remained in negative equity at the end of 2015, compared to 20 % a year earlier. CBI statistics indicate a concentration of debt in loans overdue for over two years (Section 4.2.1), making their restructuring efforts crucial for resolving the debt burden of households.

⁽³⁴⁾ The relative importance of households as producing sectors as well as current transfers between households and other sectors in the economy (social transfers, income taxes, etc.) explain the difference between disposable income and GDP.

Graph 4.2.12: Financial assets held by Irish households



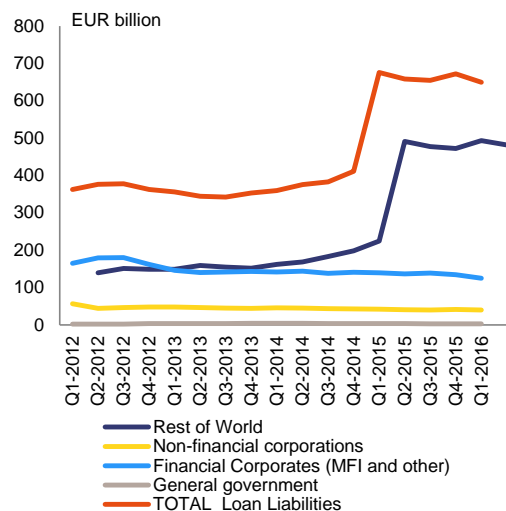
Source: European Commission

The debt levels of non-financial corporations are heavily affected by the presence of multinationals. Only one third of total debt of these corporations can be attributed to indigenous firms - an amount equivalent to approximately 62 % of GDP in 2014 (Graph 4.2.13). These are firms that are not foreign-parent owned or re-domiciled from abroad (CSO, 2015). However, even when discounting for that, the Irish private sector remains highly leveraged in comparison to the euro area average.

Isolating the effect of multinationals on corporate debt is crucial because they do not rely on the domestic banks. In the aftermath of the 2008-2010 crises, domestic banks had limited access to credit but this did not stop the increase in corporate indebtedness, which almost doubled from 2011 to 2015. This implies that in Ireland many non-financial corporations, mostly multinationals, do not rely on domestic lenders for funding but finance themselves through intra-group lending⁽³⁵⁾ or international financial markets (Graph 4.2.14). This type of lending is less vulnerable to a worsening of domestic credit conditions.

⁽³⁵⁾ According to the Irish authorities, most of foreign corporations' debt pertains to intra-group lending, whereby companies' headquarters and/or its subsidiaries lend to one another.

Graph 4.2.13: Total corporate loans by counterparty

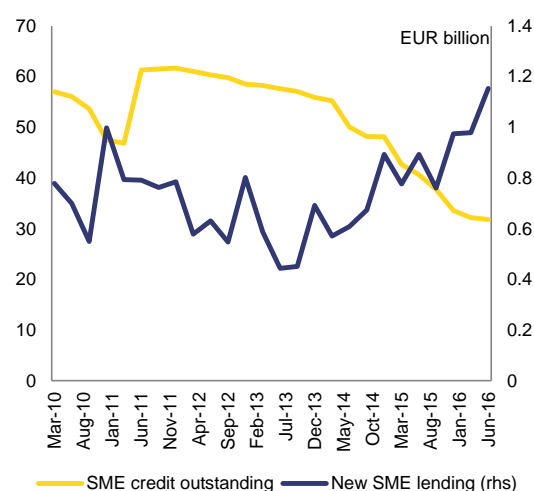


Source: CBI

The Irish domestic corporate sector, mostly small companies, remains in strong deleveraging mode. This is evidenced by the negative net credit numbers characterising the Irish banking sector in recent years, and in line with the behaviour of Irish households which keep reducing their debt. The total stock of SME credit is falling due to continuous repayments and the sale of banks' loan portfolios. Between early 2010 and early 2016, it fell by over 50 %. There is an increase in new lending, but it is still very small compared to the overall SME debt burden (Graph 4.2.14).

Firms default less often and more firms have no debt at all. In addition to the overall fall in the stock of SME non-performing loans (see Section 4.2.1), fewer SME loans are entering arrears and more loans are exiting arrears. Indebted firms are now better placed to service their debt. This is reflected in the decline of the median debt-to-turnover ratio to about 4.5 % in March 2016, down from a peak of 10 % two years previously. Most defaults still occur in the construction sector and among loans linked to both SME and personal lending, i.e. loans for house purchases or other property investment. Encouragingly, 37 % of all firms had no debt outstanding at the end of March 2016.

Graph 4.2.14: SME lending – total and new



Source: Central Bank of Ireland

Viable firms constrained by their debt burden can only resume growth by rapid restructuring.

The Central Bank of Ireland's Regulations for firms lending to SMEs, that apply since July 2016, are an important step in ensuring adequate engagement between distressed SMEs and their lenders. Where the viability of firms depends on their debt servicing capacity, the downsizing of debt is an option that can result in a better outcome for all. For a large portion of SME debt that has 'personal' characteristics (see above), the restructuring approach should be similar to mortgage resolution.

4.2.4. SME ACCESS TO FINANCE

Most Irish SMEs report improved turnover.

According to the most recent Department of Finance SME Credit Demand Survey, 88 % of Irish SMEs reported stable or increased turnovers in the six months to the end of September 2016⁽³⁶⁾. The April-September 2016 Survey on Access to Finance of Enterprises (SAFE) indicates

⁽³⁶⁾ According to the 2016 SAFE survey, 57 % of Irish SMEs reported an increase in turnover over the last 6-month period, in comparison to 61 % in the 2015 SAFE survey. This somewhat contradicts the Red C Survey. In any case, both exceed the EU average of 41 % significantly. It should be noted that there is a substantial difference in the sample sizes of these two surveys. The SAFE survey sample is of 500 SMEs, while all Department of Finance SME Credit Demand Surveys have a sample of a minimum of 1,500 SMEs.

that one third of Irish firms invest in fixed capital, such as land and machinery, which is higher than the EU average of 27 %.

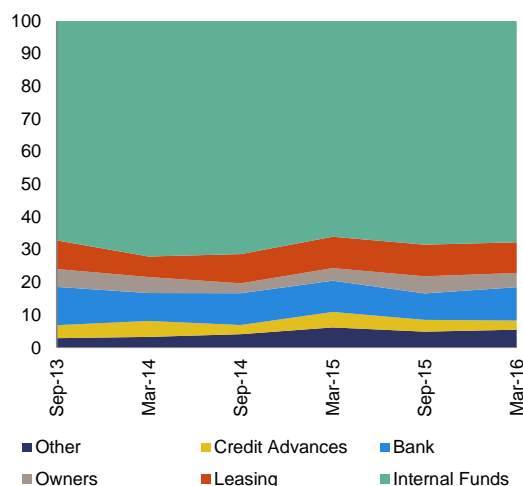
While internal funds remain overwhelmingly the financing choice, more bank credit is being sought. Some SMEs still have debt to repay and others delay credit applications due to the uncertain market prospects. This cautiousness is one of the factors explaining the continued dominance of retained earnings as the top financing source (Graph 4.2.15). Reliance on internal funds has increased over the past year, and remains stronger than elsewhere in the EU⁽³⁷⁾. However, the recovery in SME bank lending continues, albeit from a very low base. Most new loans are being extended to construction, agriculture and manufacturing firms.

While hurdles remain, it is getting easier for firms to borrow. As the SAFE Survey reports, Irish SMEs are becoming less concerned about their ability to obtain credit, as they believe that banks are more willing to lend. Rejection rates by banks have declined and the waiting time for a credit decision has decreased. However, collateral and/or personal guarantees are still required in about 30 % of cases. The low profitability of Irish banks, legacy issues affecting the quality of their balance sheets and a concentrated lenders' market⁽³⁸⁾ remain the main reasons for the elevated cost of credit in Ireland (Section 4.2.1).

⁽³⁷⁾ According to the 2016 SAFE survey, 42 % of Irish SMEs list retained earnings as a significant source of funding compared to 39 % the year previously. The EU average is 27 %.

⁽³⁸⁾ The three main retail banks account for 95 % of all SME loans. This de facto means two banks, as Permanent TSB does not have a substantial SME loan book at present (CBI, 2016).

Graph 4.2.15: Financing sources for SME fixed investment

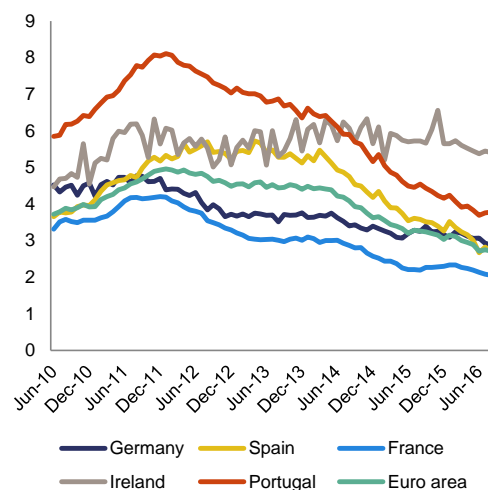


Source: CBI

A pick-up in the use of non-bank sources for SME credit is yet to be observed. When not relying on own funds for investment, SMEs turn to bank loans and leasing financing (Graph 4.2.15), while alternatives such as equity financing remain little used. Of the government bank financing initiatives, the Strategic Banking Corporation of Ireland (SBCI) has achieved most success, accounting for 9 % of all SME lending in the period from March to December 2015. SBCI financing is obtained through bank and non-bank lenders⁽³⁹⁾ and has a more pronounced focus on investment, rather than working capital purposes. It translates, on average, into a 1 % decrease in the interest rate for SMEs. In December 2016 it increased its funding capacity from the original EUR 800 million to EUR 1.25 billion.

⁽³⁹⁾ The end SBCI-finance lending rate is around 4.5 %, about 1 pp. lower than the average market rate.

Graph 4.2.16: Interest rates for SME loans



Source: ECB

The European Investment Fund (EIF) and the SBCI are entering new partnerships to support SMEs. In December 2016, they signed an agreement aimed at supporting Irish SMEs over the next three years to the tune of EUR 100 million in loans. The first EU programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises (COSME) agreement in Ireland will enable the SBCI to back an estimated 2 000 firms through risk-sharing initiatives. Moreover, to mitigate liquidity challenges facing the agricultural sector the SBCI launched a EUR 150 million low-cost agri-loan scheme. This temporary scheme, designed in partnership with the Irish government, will include an SBCI credit risk guarantee and subsidy to selected financial intermediaries to enable them to offer loans at a 2.95 % interest rate to farmers⁽⁴⁰⁾.

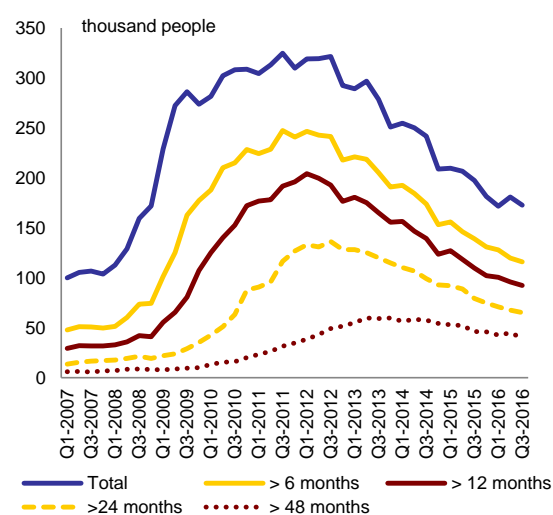
⁽⁴⁰⁾ For more details on the eligibility of applicants and financial intermediaries, see <http://sbci.gov.ie/sbci-seeks-lending-partners-for-new-e150-million-low-cost-agri-loan-scheme>

4.3. LABOUR MARKET, EDUCATION AND SOCIAL POLICIES

4.3.1. LABOUR MARKET

In parallel with the labour market recovery, long-term unemployment has continued to fall but remains a challenge. As a proportion of total unemployment, it was above or close to 60 % from 2011 to early 2015, when it started to decrease but remained around 5 pps. above the EU average in Q2-2016 (53 % vs. 47.8 %). At the same time, very-long-term unemployment (over two years) amounted to more than 40 % of all unemployment in 2015 — one of the highest rates in the EU (Graph 4.3.1).

Graph 4.3.1: Unemployment by duration

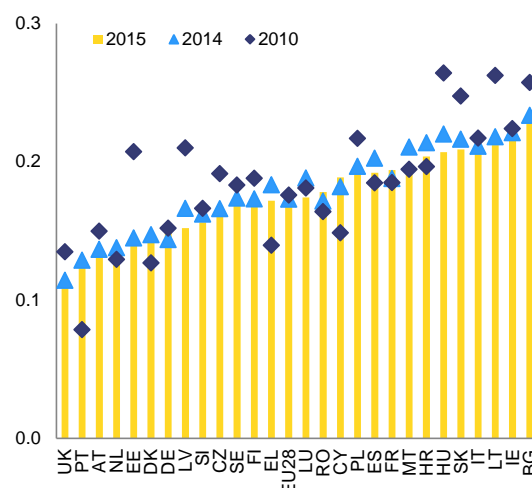


(1) Activity and employment rates (% of population), total, ages 20–64, seasonally adjusted; Unemployment rate (% of labour force), total, ages 15–74, seasonally adjusted
Source: Eurostat, LFS

The labour market continues to be characterised by large disparities between the labour market outcomes of different skill groups. The disparities between the employment rates of low-, medium- and highly skilled workers were among the highest in the EU in 2015 (Graph 4.3.2). These discrepancies have decreased only marginally in Ireland since 2010, compared to faster falls in some other Member States. This suggests that the labour market recovery has not yet been able to reverse the relative deterioration of labour market prospects that low-skilled workers have experienced since 2008. Nevertheless, continued employment growth, including in the construction and services sectors, is expected to contribute to reducing this gap. Ireland has, however, fewer low-skilled adults than

in the EU overall. The least educated represent about 20 % of the 25-64 population in Ireland, as compared with 24 % in the EU and 27 % in the euro area.

Graph 4.3.2: Relative dispersion of employment rates by education level, 2010, 2014 and 2015



(1) Annual average based on the average of four quarters
Source: Update of calculations by Kiss and Vandeplas (2015). European Commission (DG EMPL) calculations based on Eurostat data

Skills shortages are intensifying in several areas. While international surveys (ManpowerGroup, 2016) indicate that skills shortages are less severe in Ireland than in most other countries, they do occur in some sectors and occupations. The National Skills Bulletin 2016 (EGFSN, 2016) highlights challenges in ICT, engineering, sales, logistics, health, business and finance. This could potentially constrain growth in the future and have an impact on competitiveness. Strong growth in the construction sector has led to an emergence skills shortage in categories such as project managers, surveyors and some technical professions. An increasing number of employers report that they are experiencing issues with attracting and retaining employees. This is particularly relevant in view of the large unmet demand for housing.

The roll-out of JobPath Service was completed in mid-2016. Ireland has taken important steps to address the integration of the long-term unemployed (LTU) in the labour market, though an established activation model, the provision of tailored support for LTU and a strong engagement

with employers. The JobPath Service forms part of the Pathways to Work ⁽⁴¹⁾ strategy and is aimed at integrating the long-term unemployed into the labour market. The programme results (it is important to note that the figures are based on a small initial cohort of participants only, those who have completed their 52 week engagement period with the service, and are subject to review) have been positive so far, with full-time job-starts for JobPath participants reaching a rate of 22.2 %. This exceeds the target job-start rate set out in the contract with the service providers (14.8 %) by 50 %. In October 2016, JobPath participants who were in very-long-term unemployment were 42 % more likely to obtain employment than non-participants.

Existing schemes continue to be evaluated but the large number of initiatives makes a comprehensive assessment difficult. A major evaluation of the Intreo ‘one-stop-shop’ service for jobseekers, making use of counterfactual methods, is currently being carried out. This is a positive development as it will better align the available programmes with the needs and employability of participants. The responsibility for delivering training initiatives lies with a number of organisations and departments, making it difficult to arrive at an estimate of total expenditure of activation training programmes. The 2016 Country Report also highlighted concerns regarding activation and employment support programmes, including the Back to Education Allowance (ESRI, 2015a), and some of the measures taken forward by authorities to improve effectiveness. It is difficult to draw conclusions on the effectiveness of other upskilling programmes (i.e. JobBridge, Springboard and Momentum) due to the lack of formal, rigorous evaluation.

Labour market integration of people with disabilities represents a challenge for Ireland. The country has the lowest employment rate of people with disabilities in the EU — only 26.5 % against an EU average of 48.5 %. The gap between the employment rate of people with and without disabilities is the second widest in the EU (37.6 pps. against an EU average of 22.9 pps.). Addressing this issue is particularly relevant due to

the high prevalence of disability in jobless households (Section 4.3.2). Disability, however, appears to be less prevalent in Ireland. Most recent LFS estimates from Eurostat show that 7 % of the adult population had a disability affecting work capacity, compared with 11 % in the EU.

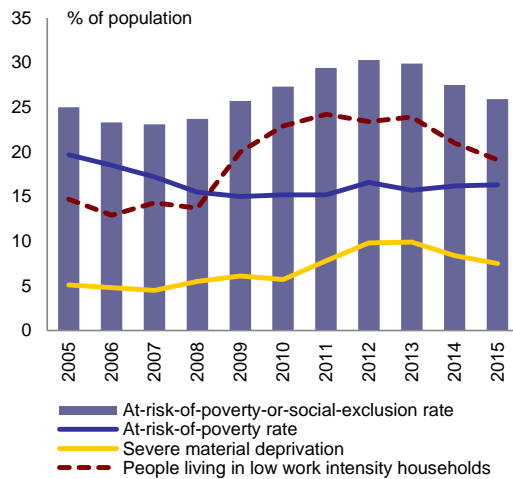
The government has adopted a new strategy and a number of measures. The Comprehensive Employment Strategy for People with Disabilities, published in October 2015 and covering the period up to 2024, aims at increasing the employment rate of people with disabilities to 38 %. The government has already taken a number of actions such as establishing an employer helpline and doubling the quota for people with a disability working in the public sector, from 3 % to 6 %. A group has also been established to examine the financial barriers to taking up employment, such as the loss of the free travel pass associated with the receipt of disability/illness income support payments. Finally, Budget 2017 announced an additional EUR 2 million of funding to be made available in 2017 for pre-activation support for people with disabilities.

4.3.2. SOCIAL POLICY

While absolute poverty and joblessness have been falling since the labour market recovery took effect in 2012, social transfers continue to protect the most vulnerable. The proportion of people affected by severe material deprivation continued to decrease in Ireland in 2015 and while much higher than at the onset of the crisis in 2008 it is now slightly below the EU average (Graph 4.3.3). Both the overall and child at-risk-of-poverty-or-social-exclusion rates fell slightly in 2014 but they remain higher than the EU average. Relative poverty among children and young people increased slightly in 2015. Overall, relative poverty remains below the EU average of 17.3 % and is significantly reduced by social transfers. The at-risk-of-poverty rate before social transfers stood at 46.3 % but the impact of social transfers reduced this rate to 16.3 %. There is a territorial dimension to this phenomenon as consistent poverty and joblessness continues to be highest in small and medium-sized towns than in cities or rural areas (OECD, 2016).

⁽⁴¹⁾ Pathways to Work is the overarching strategy to increase the engagement of mainly long-term and young unemployed jobseekers (European Commission 2016c).

Graph 4.3.3: Main social indicators

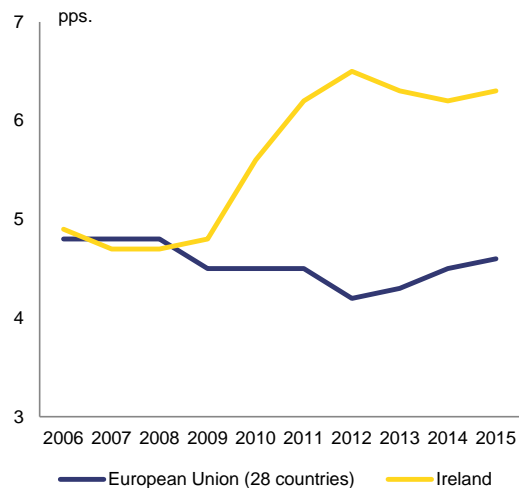


Source: Eurostat, EU-SILC

Low-work intensity for some groups persists.

The proportion of people living in households with very low work intensity continues to be high. The rate, which was already high at the onset of the crisis at 13.7 % in 2008 versus an EU average of 9.2 %, fell from 21.0 % in 2014 to 19.1 % in 2015, but it remains almost double the EU average. During the recession, joblessness became more common among multi-adult households with children. In 2015, 12.4 % of adults and 14.5 % of children lived in jobless households, down from peaks of 16 % and 20 %, respectively, in 2011/2012. Persistent joblessness is more common for women, older adults, those with lower levels of education, adults with a disability and in one-adult households with children. The chance of someone in a jobless household getting employment is little more than half than that of someone in a working household. The presence of children is linked with a lower chance of getting a job and a higher chance of exiting employment, mainly due to the pattern of care for women and the prevalence of inactivity as a result of caring responsibilities (Watson, Maître and Russell, 2015). The gap between people living in jobless households and the unemployment ratio is greater in Ireland than in the EU on average. This is due to the Irish economy growing faster than the EU average and, while the rate of joblessness is generally falling (Graph 4.3.4), only about one in four job entries in Ireland removes households from joblessness (O'Rourke, 2016).

Graph 4.3.4: Gap between people living in jobless households and unemployment ratio



(1) The unemployment ratio is defined as the percentage of unemployed individuals in the total population (age group 15 –74)

Source: Eurostat

The government has announced policy measures to tackle low work intensity but further details have yet to emerge. The Programme for Government (Irish Government, 2016b) outlined plans to develop a 'Pathways to Work for Jobless Households' strategy, expected in the first half of 2017. Similarly, Budget 2017 announced plans for a new working family payment that would be in place for the next budget round. The content and scope of these initiatives is not yet known but they are expected to combat some of the barriers faced by low work intensity households, including the need to increase work incentives in some cases.

Some aspects of the tax and benefit system lead to low work incentives. In particular, the effective tax rate when taking up a job remains very high for some groups. This means that the net material gain of accepting a job offer is low. Disincentives are highest for those on low incomes with inactive partners, with or without children. Calculations suggest that only about 3 % of those in receipt of unemployment benefits would be financially worse off in the short term when taking up work (Savage *et al.*, 2015). But for others individuals (recipients of either unemployment or welfare benefits) the financial gain can be small. The disincentives are typically caused by lost benefits while the negative impact of labour taxes and contributions is small.

Conversely, in-work benefits increase the financial gains from taking up work.

Ireland has sought to address work disincentives by tapering the withdrawal of benefits when returning to work. The Back to Work Family Dividend was set up in 2015 to help families move from social welfare into work. It offers financial support to people, with at least one dependent child, who are in, or take up, employment or self-employment and, as a result, do no longer claim a jobseeker's or one-parent family payment. Currently, around 12 000 families receive this Dividend, which reaches 21 000 dependent young people. The roll-out of the Housing Assistance Payment, designed to tackle work disincentives in previous housing support schemes, is also continuing. There are over 13 000 recipients and the payment will be made for all local authorities by mid-2017. Budget 2017 announced an additional EUR 105 million to enable 15 000 more households to avail of this payment.

Childcare

The availability and cost of childcare remain barriers to female labour market participation and hinder efforts to reduce child poverty. The female employment rate is below the EU average. The gender employment gap increased further in 2015, although it has come down from pre-crisis levels. However, parents are frequently forced into inactivity and part-time work due to the lack of care services. Around 27.4 % of inactive women aged 20-64 do not work because they have to look after children or incapacitated adults (4.5 % of men) and 26 % of women who work part-time cite the same reason (3.6 % of men). Single parents, mostly women, in particular suffer from the lack and high cost of childcare support. Formal childcare is more common among higher income families while informal unpaid care provided by relatives is more common among those with fewer resources (Barnardos, 2016; ESRI, 2016b). Female participation in the labour market will also depend on the provision of more gender-balanced leave arrangements. While Ireland has recently introduced paid paternity leave, parental leave is still unpaid, which encourages the second-earner, mostly women, to step out of the labour market to take care of children.

The Irish authorities have taken steps to address the issue of access and affordability of childcare. As a follow-up to a report presented by an Inter-departmental Working Group on Investment in Childcare, considered in last year's country report, the Programme for Government presented a range of actions to improve the quality and affordability of childcare. Free pre-school care has been extended for children from three years old until school age. The authorities are working to ensure that all eligible children will receive a place in the course of 2017.

The government has announced plans that are expected to address the needs of disadvantaged families in particular. Budget 2017 announced the introduction of a new Single Affordable Childcare Scheme to replace all existing targeted schemes. Most of the funding for the scheme will go into means-tested subsidies, with a strong focus on low-income, disadvantaged families. The scheme will include subsidies for full-time childcare, including 'wrap-around' care for children who are in school or in the Early Childhood Care and Education (ECCE) free pre-school programme, which currently provides only 15 hours a week and around 61 weeks of coverage.

Measures are also underway to improve the quality of childcare provision. In 2016, a minimum qualification level for staff at childcare facilities was established, with existing staff receiving financial support to upgrade their qualifications. Childcare facilities also receive additional funding when they employ more expert staff and mentoring services are offered to underperforming facilities. These measures are also expected to contribute to reducing the high turnover of staff in the sector, where pay remains unattractive compared to some other sectors requiring a similar qualification level. Inspection schemes have also been revamped — the Department of Education and Skills Inspectorate completed close on 500 education-focused inspections in pre-schools by the end of 2016. The results of these inspections have highlighted challenges for the sector, such as the inclusion of children from diverse backgrounds, fostering positive partnerships with parents and smoothing transitions from preschool to primary school.

To address child poverty, the new government has continued with previous financial measures

and a stronger focus on targeted and early intervention policies. The non-means tested child benefit was increased by EUR 5 per month in two consecutive budgets (2015 and 2016) and now amounts to EUR 140 per month per child. The Social Inclusion and Community Activation Programme aims to help 30 000 vulnerable people improve their work prospects and is currently being evaluated. The Area Based Childhood Programme continues to be implemented with a view to testing effective approaches to improve outcomes for children and families as a means of addressing child poverty. The Programme is being evaluated but a final report will not be available until 2018.

The surge in homelessness continues with the government launching targeted measures. Almost 1 200 families, including 2 500 children, were homeless in Dublin in November 2016, compared to 683 families and 1 400 dependants in December 2015. This is due, in particular, to the insufficient supply of housing, including social housing, leading to the deterioration in affordability in the private rental sector (Section 4.5.1). The Action Plan for Housing of July 2016 contains measures to address both the structural problem of insufficient housing supply and the more immediate needs of homeless families (Section 4.5.1). Most homeless families are hosted in temporary accommodation at a cost to the public finances that exceeds the provision of social housing solutions ⁽⁴²⁾.

present and future demographic trends which will further increase the demand for education. The population is expected to grow by between 500 000 and 1 million people by 2035, with around 600 000 being the most likely figure according to the Irish Central Statistics Office (CSO, 2016). Enrolment in primary education is expected to be the highest ever in 2018, with a peak in secondary education in 2025. The recent Infrastructure and Capital Investment Plan estimates investment needs at EUR 3.8 billion in 2016-2021 for the primary, secondary and tertiary education levels.

Public spending on education, as a share of GDP, decreased slightly but recent policy measures have increased education expenditure. Spending decreased slightly from 4.5 % of GDP in 2013 to 4.3 % in 2014. It also remained somewhat below the EU average of 4.9 % in 2014 (Graph 4.3.5). However, as a percentage of total government expenditure it stood at 11.1 % in 2014, 0.2 pps. below the 2013 level, but above the EU average of 10.2 % In September 2016, the Irish government launched a comprehensive Action Plan for Education, which will guide investment in education over the 2016-2019 period. It contains a set of actions with particular focus on disadvantaged students, skills provision and continuous improvement within the education sector. Budget 2017 envisages higher spending on education and the recruitment of more teachers in the future.

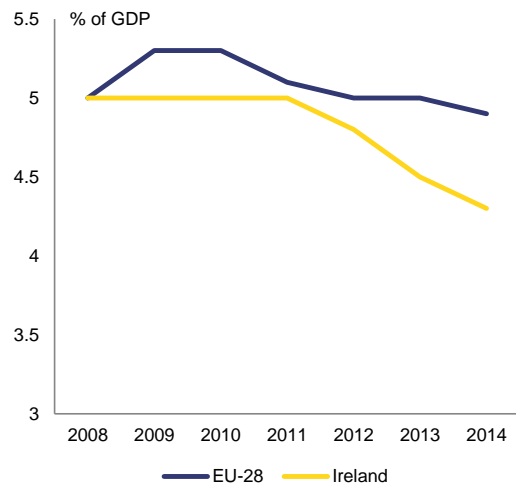
4.3.3. EDUCATION AND SKILLS

Ireland performs well regarding early-school-leaving and tertiary educational attainment and has made significant progress in improving the provision of basic skills. However, skills shortages in sectors of the economy such as ICT (which has an impact on ICT occupations across all sectors) have emerged, and there is need to further upskill and reskill the adult population, in particular by increasing participation in further education and training.

Ireland will require additional investment in schools and related facilities. This is due to

⁽⁴²⁾ <https://www.focusireland.ie/resource-hub/about-homelessness/>

Graph 4.3.5: Public expenditure on education



Source: European Commission

Ireland has clearly improved its performance in basic skills. Students' basic skills in reading, mathematics and science are high and equitable. Ireland has maintained a very good average performance in reading, and ranks second in the EU, according to PISA 2015. Although the country continued to perform above the OECD average in science, it registered a significant drop compared to 2012. The proportion of low achievers is the lowest in the EU in reading (10 %) and among the smallest in maths (15 %) and science (15 %). In addition, the impact of socio-economic status on performance is fairly limited. The gender gap is among the lowest in the EU in all three test domains (OECD, 2016).

Important progress in addressing social inequalities has been made in Irish education. Early school leaving has fallen consistently since 2009 to a rate of 6.9 % in 2015, one of the lowest in the EU. Ireland has met its Europe 2020 national target of 8 %. The action plan Delivering Equality of Opportunity in Schools (DEIS) targets schools serving disadvantaged communities, with 836 schools taking part in the 2016-2017 school year. There have been significant improvements in participating schools as regards planning and target-setting. The plan plays a key role in combating disadvantage and improving learning outcomes.

Ireland features high tertiary attainment levels but future financing of higher education

remains a challenge. The tertiary attainment rate, at 52.3 % in 2015, is very high and well above the EU average. The goal is to reach 60 % by 2020. The report of the Expert Group on the Future Financing of Higher Education, from April 2016, points to a 25 % fall in public funding during the economic recession (Department of Education and Skills, 2016a). It also argues that additional funds, relative to the ones already envisaged in the Capital Investment Plan, may be needed given demographic pressures. Finally, fairness and inclusion at tertiary level are also a concern and part of the National Strategy for Higher Education to 2030. However, the funding for this strategy could prove to be insufficient in the light of its fairly broad goals.

The National Skills Strategy acknowledges, and responds to, the challenges that remain in relation to skills shortages. Skills shortages are increasing in certain sectors and the quality and availability of upskilling and reskilling opportunities remain inadequate. This is borne out by Ireland's relatively weak performance in relation to participation in lifelong learning which decreased to 6.5 % in 2015, well below the EU average of 11 %. A key component of the response to these issues is the establishment of a national council to oversee research into, and forecasting and prioritisation of skills needs in the economy. The strategy also envisions further developing Regional Skills Fora to support employer engagement with education and training providers to meet the skills needs of each region (Department of Education and Skills, 2016b).

Meeting the ambitious lifelong learning targets will be challenging. The strategy sets out an ambitious target to increase participation in lifelong learning to 15 % by 2025. One option being explored is the redeployment of spending from the National Training Fund. The fund finances training mainly for the unemployed, but could target more upskilling and reskilling opportunities for people in employment, especially as unemployment continues to fall. The Further Education and Training Authority (SOLAS) is also currently overseeing the development of a framework for employee development which will contribute to achieving the target.

The roll-out of new apprenticeships has begun and a strong commitment to delivery will be

crucial to meeting the requirements of business.

Following an evaluation process involving the government, social partners and further education bodies, the Apprenticeship Council has selected new types of apprenticeships tailored to labour market needs. The target is to provide 50 000 apprenticeship and traineeship places (of which 31 000 apprenticeships) cumulatively between 2016 and 2020, which equates to doubling current apprenticeship registrations. The first new apprenticeships were in insurance practice and industrial engineering. Besides covering the whole range of national qualifications, it could also be useful to develop middle- and higher-end qualifications. For example, modernising traditional craft apprenticeships in construction could help in dealing with housing shortages. In addition, as stressed by the OECD (2016), specific support could help to make the schemes accessible to disadvantaged populations, including pre-apprenticeships support.

Further education and training (FET) programmes are being adjusted and improved.

Continuous evaluation may prove useful in

delivering ambitious objectives. FET is being refined and improved, including through the use of improved labour market data and better engagement with employers and the Department of Social Protection. FET funding programmes will also be subject to formal review and evaluation, starting with the largest — the Post Leaving Certificate programme — which is due to be completed early in 2017.

Programme evaluations may help in achieving even better results.

Furthermore, better and more current data on programmes may be achieved with the delivery and roll-out of the Programme Learner Support System in 2016 and 2017. The next few years are expected to be characterised by implementation and evaluation rather than further reform. The creation of a one-stop shop for students, detailing all further education courses is a positive development. However, a total of 4 000 courses represents a difficult choice for learners, making the provision of guidance essential. The lower attractiveness of vocational education, compared to academic education, is an ongoing issue, and is likely to continue hindering the

Box 4.3.1: Selected highlights: Expert Group on Future Skills Needs

The Expert Group on Future Skills Needs (EGFSN) is advising the government on future skills requirements and associated labour market issues that may impact the growth potential of enterprises and employment. It also anticipates the market needs for skilled workers. Overall, the group advises the government on:

- skills requirements projections, at national and sectoral levels, and recommendations on how to best address the identified needs;
- associated priority training requirements and the most cost-effective ways to address them;
- skills requirements that cannot be met internally at a given time.

An innovative feature of the Irish model is the national skills database which matches different sources of data and provides information on employment trends and forecasts for various occupations.

The EGFSN skills forecasting system actively contributes to the country's efforts in achieving the Europe 2020 national employment target. The work of the EGFSN has also contributed to the implementation of country-specific recommendations from 2014 — in particular to 'improve and ensure the relevance of further education and training (FET) courses and apprenticeships with respect to labour market needs.' Developing better systems that forecast skills needs and ways to address them is a common interest across Europe and a key component of the New Skills Agenda for Europe.

The occupational forecasts have been used to influence and shape policy responses by contributing to the making sound decisions. This has resulted in the provision of training and work placements for the long-term unemployed and reskilling unemployed people in education priority areas.

The EGFSN is a tripartite group comprising representatives from government, employers and trades unions. The involvement of different stakeholders, a central element of the Irish approach to skills forecasting, contributed to making the national skills database a success.

The Expert Group was presented as a good practice at a Mutual Learning Programme event on 13/14 June 2016 ⁽¹⁾ and features in its own database ⁽²⁾.

⁽¹⁾ <http://ec.europa.eu/social/main.jsp?catId=1070&langId=en&newsId=2474&furtherNews=yes>

⁽²⁾ <http://ec.europa.eu/social/main.jsp?catId=1047&langId=en>

uptake of these types of courses, particularly by young people.

Ireland launched the Springboard+ programme in June 2016 to upskill and reskill the unemployed to find employment in growth sectors of the economy. Springboard has been running since 2011. Over 30 000 people have enrolled on courses to date and 54 % of those were back in employment or self-employment six months after completing their course. Springboard+ 2016 is the latest version. It provides free part-time and full-time higher educational opportunities to reskill and upskill up to 5 825 jobseekers. Almost half the places are on ICT courses, reflecting the growing demand for these skills. ICT conversion programmes are open to people regardless of employment status. There are also a significant number of places on manufacturing courses, reflecting the strong performance of this sector.

4.3.4. HEALTHCARE

Making the health system more cost-effective is a priority, given Ireland's growing and ageing population. The Irish population has increased by around 12 % in just 10 years. Population growth and ageing are fuelling the debate on cost-effectiveness in the delivery of healthcare. Ireland has phased in some important efficiency measures, such as a streamlining financial management and information systems, developing new eHealth architecture and rolling out activity-based funding. Together these measures will promote transparency, improve data collection and enable resources to be reallocated, but will take some years to bear fruit. The scope for additional efficiency measures is addressed further below.

The pressure on public healthcare expenditure persists. The public healthcare system has deviated from the ex-ante budget plans repeatedly over the past few years (European Commission, 2016c). In July 2016, the government has allocated additional funding of EUR 500 million per annum. However, in 2016, the additional funding has primarily been used to cover overspending rather than expanding service provision. For 2017, an extra EUR 497 million has been allocated bringing the total budget to a record level EUR 14.6 billion.

Given the poor level of expenditure control in the past, better monitoring of the budget and making supplementary allocations conditional on improved governance remain challenges in improving the budget execution.

Multi-year budgeting remains a challenge in planning and budgeting healthcare provision. Executing public healthcare expenditure plans has been problematic over recent years. To address technical challenges in the planning and budgeting of healthcare provision, the new government programme envisages multi-year budgeting, based on a five-year service plan based on verifiable metrics. While this would represent a step in the right direction, no concrete plans have yet been forthcoming.

Healthcare spending is projected to have a negative impact on fiscal sustainability. The 2015 Ageing Report projects that public expenditure on healthcare will increase by 1.2 pps., more than the EU average increase of 0.9 pps., in the period to 2060 (European Commission, 2014b). From a debt sustainability perspective, risks can appear in the medium term. This is due to the high sensitivity of healthcare spending to possible shocks in nominal GDP (European Commission, 2016k, p. 117). The sustainability gap indicator S1⁽⁴³⁾ also points to medium-term fiscal risks emerging from the high initial debt-to-GDP ratio and the projected costs of ageing (impacting strongly on healthcare expenditure).

A major cost-saving deal was concluded with the pharmaceutical industry in 2016. The new Framework Agreement on the Supply and Pricing of Medicines embraces some of the European Commission's previous proposals (European Commission, 2016c). In particular, it expands the reference price basket of countries used to benchmark price realignments, and provides for annual price realignment exercises throughout the agreement's lifetime⁽⁴⁴⁾. Meanwhile, the Health

⁽⁴³⁾ S1 is a traditional sustainability indicator based on forecasts for growth and fiscal balances used in the Ageing Report; for more details see European Commission, 2016k, p. 5.

⁽⁴⁴⁾ Price realignments will only be possible downwards. This means that if in a given year the average price of the countries in the basket goes up, there will be no realignment for Ireland in that year.

Services Executive (HSE) estimates savings of EUR 600 million from Irish Pharmaceutical Healthcare Association members and an additional EUR 150 million from other manufacturers.

ePrescribing can contribute to lowering the cost of pharmaceuticals for consumers. Under the Health Act 2013, pharmacists are advised to provide the cheapest interchangeable medicine available for medicines that fall within an interchangeable group. However, the practice is not mandatory and doctors can revert to a ‘do not substitute’ clause. A promising policy lever in this context would be ePrescribing, which enables automatic interchangeable substitution and closer monitoring of prescribing behaviour. The rollout of individual patient identifiers, another eHealth milestone, is a precondition for ePrescribing, but is only now reaching its operational stage.

Key efficiency gains can still to be made in primary care. Primary care acts as a gatekeeper for hospital care and has an important role in health promotion and illness prevention. Yet, a large proportion of the population has a financial disincentive to visit a general practitioner (GP) first, as they do not have a medical card (which is generally means-tested) or GP visit card. In addition to the current 99 primary care centres across Ireland, the Programme for a Partnership Government plans a further 80 centres. There are currently 81 centres at varying stages of development. The European Fund for Strategic Investment is supporting the construction of 14 of these centres. While this represents a significant step forward, additional structural reforms could optimise the actual use of primary care. These could for instance relate to changing payment incentives, improving referral practices and tackling the medical workforce challenge (see below).

Steps towards a universal single-tier health service are fragmented and lack an overarching vision. Piecemeal steps towards universal healthcare are yielding varied results. Whereas medical card coverage is being extended to all children receiving a Domiciliary Care Allowance, the planned extension of free GP care to children between the ages of 6 and 12 has been severely delayed. Given this slow and incremental approach, its impact on overall cost-effectiveness and waste reduction is uncertain. Since June 2016,

a dedicated Oireachtas Committee has been reflecting on the future model of Ireland’s healthcare provision. Following an earlier costing project on universal health insurance, the committee aims to deliver, by spring 2017, a ten-year strategy on health policy and new recommendations on a universal single-tier health service.

Private insurance discourages recourse to the most cost-effective service. Private insurance buys faster access to Ireland’s near full-capacity hospitals, ‘queue jumping’ the already long hospital waiting lists. As doctors and hospitals are paid a fee for services to private patients, publicly funded hospitals have a financial incentive to prioritise privately insured patients. More transparent financial management and information systems, currently being phased in, should ensure that public hospitals adhere to the cap of 20 % for private treatment. In primary care, adding an element of performance-related pay to GPs’ capitation income would not only increase the cost-effectiveness of the health system but also encourage health promotion and illness prevention (European Commission, 2016i).

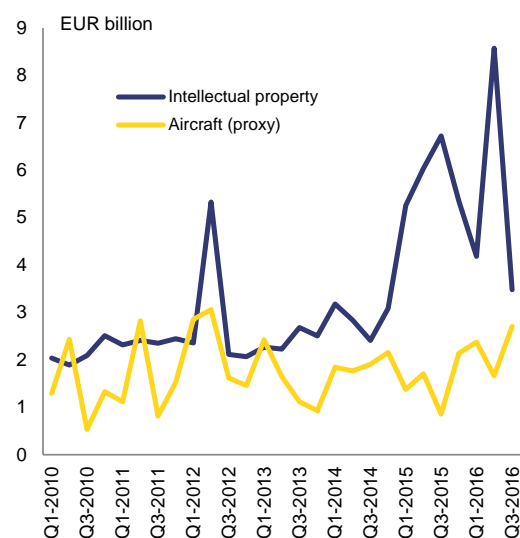
A significant block to Irish healthcare reform is the shortage of medical staff. Ireland produces the most medical graduates per capita in the EU, yet has amongst the fewest doctors. Despite an investment of EUR 200 million in medical training over the last decade, 87 % of medicine students either intend to emigrate or are contemplating it (DPER, 2015). The retention of Ireland’s health workforce and medical graduates is exacerbated by overly long working hours, although continuous progress is being made to comply with the Working Time Directive. At present, there are no return-of-service schemes, in which medical students receive loans to help with living costs during their studies that can either be repaid or written off by working in a shortage area upon graduation for a period. As for primary care, there may be scope for better workload allocation between GPs, nurses and pharmacists for certain types of routine tasks.

4.4. INVESTMENT

4.4.1. INVESTMENT SITUATION AND CHALLENGES

Intellectual property investment has been very volatile over the last year, but largely driven by the operations of some multinationals. A small number of multinationals have transferred large volumes of intangibles assets, such as patents, into Ireland. New capital formation (in the year) translates into large increases in gross fixed capital formation and capital stock. The investment flow in intellectual property assets doubled in size in 2015 and has been very volatile over the first three quarters of last year (Graph 4.4.1). Over three quarters of the flows are compensated for by imports, with the remainder reflecting indigenous investment (Section 4.5.3).

Graph 4.4.1: Investment in intellectual property and aircraft



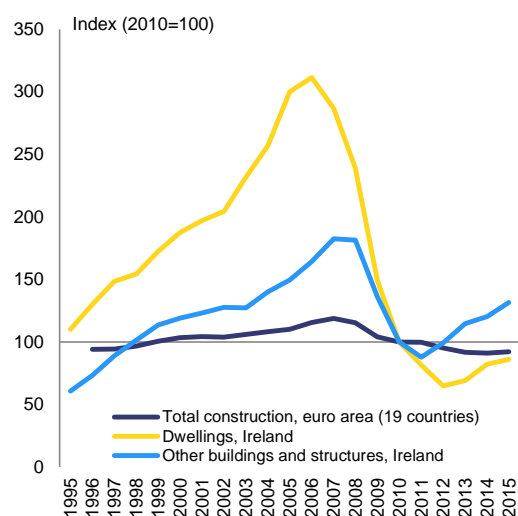
(1) Gross fixed capital formation.
Source: European Commission.

Imports of aircraft for leasing are very volatile but core equipment investment has been strong. Investment in aircraft transport equipment fell by approximately 20 % in 2015 but still accounted for close on 40 % of total investment in machinery and equipment. These are purchases of planes for rental abroad by leasing companies based in Ireland, and almost entirely compensated for by imports. If planes are excluded, 'core' machinery and equipment investment grew by more than 25 % in 2015, compared to a growth rate of less than 5 % in the euro area, highlighting the strength of the economic recovery in Ireland. It fell in the

first half of 2016 due to the recent conclusion of a large industrial project, but is expected to recover as companies continue to replenish their capital stock and construction activity picks up.

Construction investment has continued to grow steadily, albeit from low levels. Gross fixed capital formation in construction grew by just under 8 % in 2015 and almost 15 % in the first three quarters of 2016, compared to the same period a year earlier. The recovery in housing construction has been slower than for commercial properties —dwellings accounted for almost half of total construction prior to 2008 but just under 20 % in 2015 (Graph 4.4.2). Residential construction continued to recover in 2016 and is expected to keep growing, given the large unmet demand, supportive government policies and renewed public investment in social housing stock (Section 4.5.1).

Graph 4.4.2: Investment in dwellings and other construction



(1) Gross fixed capital formation
Source: European Commission

Public investment has started to increase under the Infrastructure and Capital Investment Plan. The plan envisages an allocation of EUR 27 billion to capital expenditure from 2016 until 2021 and has recently been increased by EUR 5.1 billion. The share of public investment in government expenditure, as for the 2017 Draft Budgetary Plan, is expected to gradually grow to close to 8.6 % by 2021, up from 5.8 % in 2015, well above the euro area average.

Transport and housing will receive the largest allocations but other areas are also prioritised.

They account for approximately 30 % and 20 % of total government capital expenditure planned until 2021 (Section 4.5). In addition, a Local Infrastructure Housing Activation Fund will address infrastructure deficiencies (Section 4.5.1). Other investment priorities include education and healthcare, which also feature prominently in government plans, given the impact of population growth and ageing on these services (Section 4.3).

4.4.2. COMPETITIVENESS* AND BUSINESS ENVIRONMENT

External competitiveness has improved. The boom in asset prices and construction up to 2008 eroded the country's competitiveness but the latter has recovered due to downward adjustment of

domestic wages and prices since 2010 (Section 1).

Productivity has become increasingly difficult to measure in the Irish context. Total factor productivity (TFP) contributed by 29 pps. to the fall in unit labour costs in 2014 and 2015 (Graph 4.4.3). However, TFP encompasses all productivity contributions that cannot be directly

Box 4.4.1: Investment challenges and reforms in Ireland

Section 1. Macroeconomic perspective

Most of the growth in investment in 2015 was driven by transfers of intellectual property assets, with limited impact on the domestic economy and jobs. However, investment in construction and core machinery and equipment were also strong. The sum of these two components grew by more than 40 % from 2010 to 2015, compared to an estimated fall of 2 % in the euro area. In the coming years, construction investment is expected to grow rapidly, given the large unmet demand for housing and supportive government policies. Domestic businesses are also expected to continue to replenish their capital stock, although some investment plans may be delayed due to increased uncertainty worldwide. For more information on the investment trends please see Section 1.

Section 2. Assessment of barriers to investment and ongoing reforms

Public administration/ Business environment	Regulatory/ administrative burden		Financial Sector / Taxation	Taxation	
	Public administration			Access to finance	
	Public procurement / PPPs			Cooperation btw academia, research and business	
	Judicial system		R&D&I	Financing of R&D&I	
	Insolvency framework			Business services / Regulated professions	
	Competition and regulatory framework		Sector specific regulation	Retail	
Labour market/ Education	EPL & framework for labour contracts			Construction	
	Wages & wage setting			Digital Economy / Telecom	
	Education			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

Barriers to private investment in Ireland are overall fairly moderate (European Commission, 2015d). However, there are emerging challenges, and existing barriers affect multinationals and indigenous companies differently. Ireland remains a very competitive destination for foreign direct investment. Large multinationals are interested in basing a bigger share of their activities in the country but this can be difficult due to infrastructure and housing shortages — which also constrain the expansion of indigenous companies. The growing cost base for business can also act as a deterrent to additional investment in Ireland. Interest rates for SME loans remain much higher than the euro area average but surveys indicate that it is getting easier for Irish firms to borrow (Section 4.4.2).

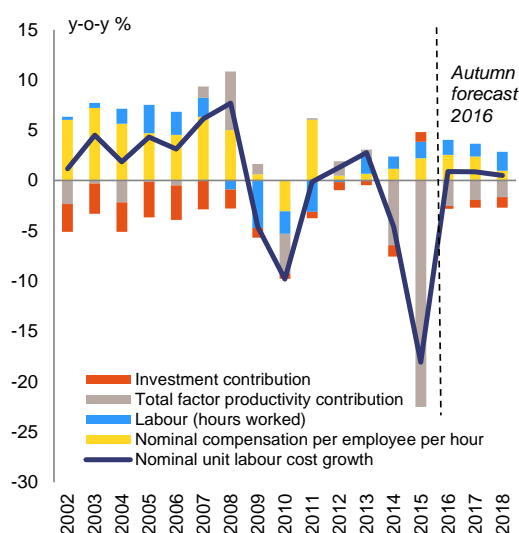
Main barriers to investment and priority actions underway:

1. The barriers affecting the development of housing and infrastructure projects have become the most pressing (Section 4.5). Both are closely linked as infrastructure provision is needed to enable housing developments of sufficient size and reduce commuting times and pollution. Until 2021, housing demand is estimated at 25 000 units per year but only 60 % of this demand was met in 2016, despite the recovery in construction. To build new apartments and houses in sufficient numbers at affordable prices, development projects need to become bigger. The government has taken a number of actions to promote construction, including the allocation of just over EUR 5 billion in capital expenditure to deliver 47 000 social housing units until 2021, and address the infrastructure shortages that constrain the development of larger housing projects. It has also taken a number of regulatory measures to ease administrative requirements, for which the country scores poorly in international rankings (World Bank, 2016). However, Ireland needs to continue its efforts in developing a new National Planning Framework, which is expected during 2017, strategically to coordinate both spatial development and capital investment in a manner that the previous National Spatial Strategy could not fully achieve.

2. Increasing costs for business are an emerging challenge (Section 4.4.1). Despite the improvement in Ireland's cost competitiveness since 2010, the country remains a high cost location (National Competitiveness Council, 2016). Costs are rising slowly but a number of factors point to the risk of significant increases going forward. Rising rents and house prices exert upward pressure on wages, which are the largest cost for many businesses, in particular in the services sector. Legal services, commercial insurance and credit are also expensive. As a small open economy, the performance of business services and regulated professions is important. However, barriers to entry and exit remain significant. According to the new restrictiveness indicator developed by the Commission, access to and/or exercise of the following professions are more restricted in Ireland than in the EU on average: architects and real estate agents.

attributed to capital or labour. In Ireland's case, most of this jump in TFP can be attributed to the level shift in the value added that some multinationals now book in Ireland from the production of goods in third countries (Section 1). The contribution of capital and labour to productivity has been mixed, as in most European economies. However, between 2014 and 2015, nominal unit labour costs fell in Ireland while marginally grew in the euro area by 0.3 %.

Graph 4.4.3: Breakdown of unit labour costs

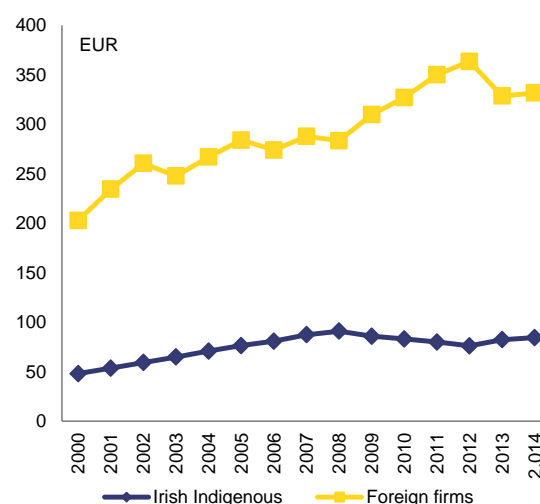


Source: European Commission

Productivity varies widely across sectors and the trend among indigenous firms is unclear.

Sectors dominated by foreign-owned multinationals account for a growing share of the Irish economy — approximately 40 % of gross value added and 80 % of taxable profits in 2015 (Revenue 2016, p. 6). These profits frequently arise from the production of goods outside Ireland⁽⁴⁵⁾ and therefore do not reflect domestic productivity developments. The Annual Business Surveys from the Department of Jobs, Enterprise and Innovation provide indicators for total value added per employee, distinguishing between indigenous and foreign firms (Graph 4.4.4). Foreign companies do not only register a higher gross value added per employee, but the gap between indigenous and foreign firms is growing.

Graph 4.4.4: Total value added per person employed Irish indigenous and foreign firms (2000-2014)



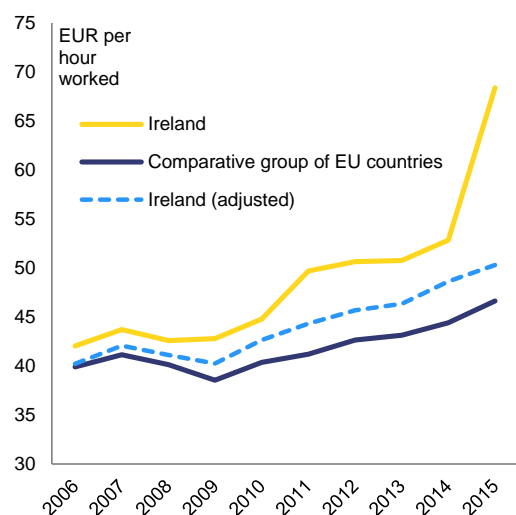
Source: Department of Jobs, Enterprise and Innovation

Breakdown of gross value added by sector can provide an indication on the impact on productivity of multinational companies. In most recent years, productivity in Ireland, measured as gross value added per hours worked, has drifted away from that of a relatively similar group of EU countries (Graph 4.4.5)⁽⁴⁶⁾. The difference mostly stems from the divergent productivity pattern of Ireland's manufacturing sector where production contracted abroad and other MNEs operations have played an increasingly important role, widening the productivity gap between Ireland and other countries. The gross value added — and the productivity growth — of economic activities effectively taking place in Ireland can be approximated by applying the output-per-hour rate of the comparative group of EU countries to the hours worked in the manufacturing sub-sectors in Ireland (broken down at the highest possible level). As shown in the chart, productivity still appears to grow rapidly but at a more moderate rate than when using raw Irish national account data.

⁽⁴⁶⁾ The comparative group of EU countries includes France and Germany — the two largest continental economies — Denmark, Finland, Sweden and the United Kingdom.

⁽⁴⁵⁾ This takes place under 'contract manufacturing', meaning the production of goods abroad on behalf of Irish-domiciled entities (Section 1).

Graph 4.4.5: **Gross Value Added per hour worked, total economy (2006-2015)**



(1) The comparative group of EU countries include Denmark, Germany, France, Finland, Sweden and United Kingdom.

(2) The contribution of the manufacturing sector in the "adjusted" line is proxied by the hours effectively worked in all sub-sectors times the hourly productivity of the comparative group of countries in the same sub-sectors.

Source: European Commission

Upward cost pressures are an emerging challenge for Ireland. A detailed analysis by the National Competitiveness Council (2016) concludes that 'business costs are high and rising slowly' and consumer prices are more than 20 % above the euro area average. Of particular concern are services costs, which are increasing rapidly compared to the euro area average. The rising cost of accommodation (Section 4.5.1) exerts upward pressure on wages, which are the largest cost for businesses in the services sector. In turn, services account for approximately 30 % of costs in the manufacturing sector (ECSIP Consortium, 2014). The rising cost of commercial insurance and the high interest rates for business loans (Section 4.2.4) are also relevant.

Some regulated professions continue to be affected by insufficient competition and significant barriers to entry⁽⁴⁷⁾. Research conducted by the Commission on restrictive

⁽⁴⁷⁾ As evidenced by the low ratio of newly founded and closed companies in these professions. The 2016 restrictiveness indicators (European Commission, 2016l) are relatively high in several professions such as the legal profession, civil engineering and architecture, and for accountants and real estate agents.

barriers⁽⁴⁸⁾ indicates that restrictions are above the EU average in Ireland for real estate agents in particular and also for architects. Restriction levels are also high for lawyers but close to the EU average. These restrictions effectively stifle competition. It has been estimated that if the level of the restrictions for real estate agents in Ireland was brought down to the EU average level, the number of firms in that market would increase by 1 %. Ireland has not yet submitted a national action plan of proposed reforms in the context of the mutual evaluation exercise of regulated professions⁽⁴⁹⁾.

However, Ireland continues to rank favourably in international business environment surveys.

The country's position in global competitiveness rankings improved further in 2016 but the business environment deteriorated somewhat⁽⁵⁰⁾. The country also performs strongly in the 2016 EU Small Business Act indicators (European Commission, 2016m), where it is a frontrunner in several areas. Ireland is among the three best performing Member States in Skills and Innovation, Responsiveness of the Administration and Single Market issues. It is also well above the EU average in Entrepreneurship. This is due to continuous improvements in the business environment since 2008.

Yet, there are areas that still require further attention. For example, Ireland still lacks rules and procedures for companies to directly transfer their registered offices into and out of the country (European Commission, 2016c). Furthermore, despite the recently adopted Legal Services

⁽⁴⁸⁾ (European Commission, 2016l). Regulatory barriers entail, for example, reserves of activities, shareholding and voting requirements, multidisciplinary restrictions, compulsory chamber membership, authorisation schemes and professional indemnity insurance.

⁽⁴⁹⁾ The European Commission has developed a new composite indicator on the restrictiveness of most existing barriers concerning access to and exercise of the regulated professions. It is based on data collected from Member States, complemented by desk research. This new indicator has many similarities with the Commission's indicator assessing the barriers in business services published in 2015, but also differs from it in certain respects (European Commission, 2016l).

⁽⁵⁰⁾ Ireland's position improved from 24th to 23rd place in the 2016-2017 WEF Global Competitiveness Report and from 16th to 7th in the 2016 IMD World Competitiveness Scoreboard. However, the country fell from 15th to 18th place in the 2017 World Bank Ease of Doing Business Indicators.

Regulation Act, imperfections in the market for legal services still drive the costs of enforcing contracts upwards, to the detriment of small businesses in particular. As a part of the Act, public consultations on regulation of legal partnerships and multidisciplinary practices and whether to introduce direct professional access to barristers (both important elements to amend market imperfections) are expected to be launched in the course of 2017. Unfortunately, the Act does not take full advantage of open-ended provisions in order to ensure the greatest impact possible on enhancing competition and reducing costs for legal services.

Ireland has a successful but distinctive exporting profile that entails some risks. Despite recent efforts to diversify exports, the country's profile remains highly concentrated in terms of products and services exported and their destination. Since 2000, Ireland has had the highest level of trade specialisation in the internal market (Stehrer *et al.*, 2016) after Malta. Approximately 50 products account for 67 % of total exports of goods to the EU, largely represented by chemicals and pharmaceuticals.

Irish indigenous firms present a weaker exporting profile than multinational firms operating in Ireland. Multinationals account for 90 % of exports for five key sectors: computer programming, chemicals, computer consultancy, computer electronic and optical devices, and medical devices. The median number of products exported by Irish firms was 5, with a big difference between Irish owned firms (4) and foreign-owned firms (11). The median number of destination countries per firm is 3 for indigenous firms, the UK being their main export market, and 12 for foreign firms (Lawless *et al.*, 2016). This high concentration and specialisation makes Irish exports vulnerable to industry and country-specific shocks. Although, indigenous SMEs are vulnerable to external shocks, they tend to be less footloose, better embedded in the national economy and more evenly distributed in the country (Lawless *et al.*, 2016). These are some of the reasons why the National Competitiveness Council has identified the broadening of the export base as one of the Challenges for Ireland in December 2016.

The Irish government adopted last year the Enterprise Policy 2025 plan to help increase the

export intensity of the indigenous firms and support geographic market diversification. The Global Sourcing initiative undertaken in 2012 to deepen Irish company and MNEs relationships through supplier opportunities, technology partnerships, investment and other collaborative engagements has made progress but its continuity is important. The Enterprise Ireland Agency has also strengthened its information and support tools recently. At the same time, innovation among Irish indigenous firms could be improved. More strategic cooperation with public research centres, universities and foreign multinationals could help improve those results (National Competitiveness Council, 2016). A National Support Network has been created to scan and exploit innovation opportunities for firms and researchers in Horizon 2020. The Health Innovation Hub Ireland fosters cooperation between the public health system and companies for products and services innovation. The European Regional Development Fund programmes 2014-2020 and Science Foundation Ireland Spokes Programme 2015 are already involved in helping Irish firms in this area. Limited managerial skills and lack of resources remain key barriers to SME internationalisation. Skills shortages are also becoming relevant in some areas (Section 4.3.3).

Strengthening entrepreneurship remains a challenge for competitiveness. Following the publication of the National Policy Statement on Entrepreneurship, several measures have been taken to foster entrepreneurship. The government is developing a policy to make entrepreneurship part of education for all students, across all levels of the education and training system. The 2016 Action Plan for Jobs pays special attention to entrepreneurship. It includes almost 30 measures that aim to provide support to start-ups.

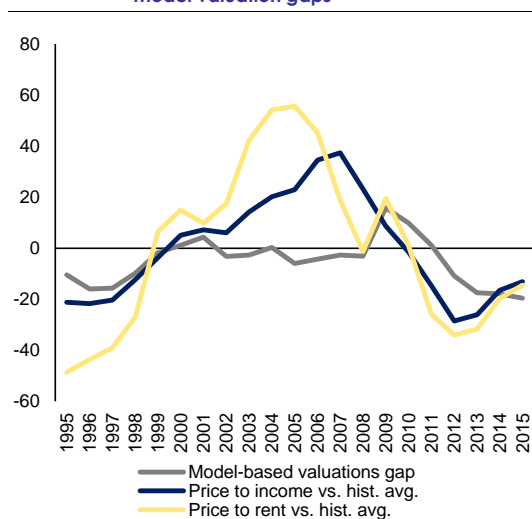
4.5. SECTORAL POLICIES

4.5.1. PROPERTY MARKET*

Residential prices and rents

Despite brisk increases in 2016, residential property prices do not appear to be overvalued. Nationally, residential property prices continued to rise, by 8.6 % year-on-year (y-o-y) in November 2016. However, the national index was still 31.5 % lower than the highest level reached in 2007 during the pre-crisis boom. At this stage, there is no strong evidence of overvaluation when comparing current prices with standard indicators, such as price-to-income or regression-based equilibrium price estimates (Graph 4.5.1). In contrast with the pre-crisis period, current price developments are not driven by bank credit and cash buyers still account for half of all transactions.

Graph 4.5.1: **Overvaluation gap with respect to price/income, price/rent and fundamental model valuation gaps**



(1) Overvaluation gap estimated as an average of the price/income, price/rent and fundamental model valuation gaps. Long-term values are computed over 1995-2015.

Source: European Commission

Residential property price increases show substantial regional variation. Prices in Dublin increased by 5.9 % y-o-y in November 2016, compared to 12.8 % in the rest of the country. This occurred despite underlying demand factors being strongest in urban areas, particularly Dublin. Some regional variation in prices and rents may relate to the introduction of macroprudential measures by the Central Bank of Ireland. Loan-to-value and loan-to-income limits were introduced in 2015,

after residential property prices in Dublin increased by approximately 19 % in 2014. Property prices in the capital are the highest in Ireland both in absolute terms and as a ratio to income. In addition to dampening expectations of further house price increases, the loan-to-value limit is likely to have been more binding in the capital. Initially, this may have diverted demand to commuter areas close to Dublin.

Residential rents continued to increase rapidly.

Nationally, private rents increased by 9.7 % y-o-y in December 2016 and market participants report that private rents in Dublin now exceed pre-crisis peaks. This could relate to the macro-prudential measures, as would-be first time buyers may have been forced to rent for longer while saving for a down-payment, diverting demand to the rental market and contributing to the rent increases.

The affordability of housing is deteriorating.

Data for 2014 indicate that the housing 'cost-over-burden rate' ⁽⁵¹⁾ for tenants stood at 21 %, slightly below the EU average of 26.2 %. It is likely that the cost-over-burden rate is deteriorating and, based on current trends, it could soon exceed the EU average ⁽⁵²⁾. This will further strain affordability, particularly as tenants are more likely to have lower earnings.

Residential supply and policies

The underlying problem is still undersupply.

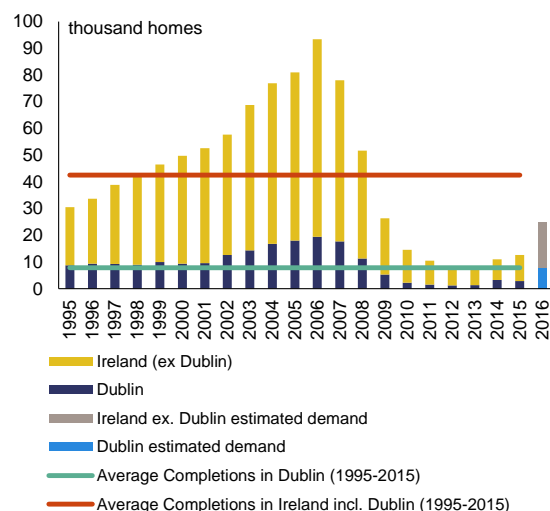
Estimated housing demand, based on projected household formation rates, is generally considered to be in excess of 25 000 units per year nationally, including 8 000 in Dublin (Morgenroth, 2014; Byrne *et al.*, 2014). This greatly exceeds expected housing completions. Forecasters project completions in the range of 14-15 000 in 2016 compared to 12 666 in 2015 (Graph 4.5.2). The latest available data, show completions at 14 728 in the year to November 2016, an increase of

⁽⁵¹⁾ The housing cost-over-burden rate measures the percentage of the population living in households where total housing costs (net of housing allowances) represent more than 40 % of disposable income (net of allowances).

⁽⁵²⁾ According to Commission projections, between 2014 and 2016, gross disposable income will have increased by a cumulative 10 %, while rents increased by 17.6 % between December 2014 and October 2016. These adverse trends are likely to be more pronounced in Dublin. Over the same period, national residential property prices increased by 11.4 %.

almost 18 % y-o-y. Overall, while the rate of increase in residential construction is rapid in percentage terms, it represents a recovery from a very low base, meaning that completions in 2016 are likely to remain 40 % below demand estimates.

Graph 4.5.2: Housing completions and demand



Source: Department of Housing, Planning, Community and Local Government. Estimated demand based on Morgenroth (2014) and Duffy et al. (2014)

The construction industry was severely affected by the crisis and still lacks capacity. Surviving domestic developers are still struggling to adapt to equity-based financing. In the pre-crisis period, banks regularly offered 100 % bank debt funding but this is no longer available. The industry may suffer from a lack of capacity for delivering large scale developments as there are only a limited number of large construction companies in Ireland. High construction sector wages and shortages of skilled labour could put upward pressure on costs as the recovery continues. Insufficient competition and restrictions to entry in the provision of services by architects and real-estate agents are additional factors contributing to the sluggish supply reaction. Together, these factors may have limited the capacity of the industry to increase supply in the short-term.

The government has repeatedly intervened in the residential property market. The Action Plan for Housing and Homelessness, launched in July 2016, included a very wide array of measures along with a target of delivering 25 000 homes per year. The plan focuses on five pillars, namely; addressing homelessness, providing more social

housing, building more homes, improving the rental sector and better utilising existing housing.

Targeted initiatives to support supply, including larger-scale residential developments, are now in place. In particular, a EUR 200 million Local Infrastructure Housing Activation Fund was set up in August 2016. The fund is aimed at helping to unlock sites with the capacity for a large number of new units, preferably in relatively central urban locations. Relatedly, the Department of Housing, Planning, Community and Local Government has since identified ‘major urban housing development sites’, with the aim of delivering 30 000 additional homes. The size of housing developments appears to help achieving some economies of scale, with the high cost of construction in Ireland frequently cited to explain the absence of active developers. The vacant site levy would provide a disincentive to holding land speculatively in anticipation of price increases but will not come into effect until 2018.

Additional social housing units will contribute to increasing overall supply. The Action Plan included a commitment to directly provide 47 000 social housing units by 2021. The estimated cost is EUR 5.35 billion, meaning that social housing will account for approximately 40 % of the capital budget over the next four years. The addition of almost 8 000 new units per year would help to ease the pressure generated by the lack of supply. However, in the absence of complementary reforms to the social housing system, such as cost rental⁽⁵³⁾, direct provision of social housing may be more expensive in the long run than schemes operating via the private rental market.

Government intervention on the demand side may be counterproductive. Most notably, Budget 2017 included a ‘help-to-buy’ tax rebate for first time buyers. Although the scope of the scheme is relatively limited, the measure is likely to increase demand in the face of inelastic supply. As such, it may contribute to further price increases, at an estimated fiscal cost of EUR 50 million, without directly contributing to increasing supply.

⁽⁵³⁾ Cost rental is when a social-housing provider raises the finance to provide accommodation and charges enough rent to cover current and capital costs. (National Economic and Social Council, 2014).

The government has also introduced measures in the rental market, including to reduce the risk of homelessness. In an effort to increase the supply of properties in the private rental market, Budget 2017 modified the ‘rent-a-room’ tax relief. This measure increases the tax ceiling and mortgage interest tax deduction for landlords’ rental income. The budget also allocated an additional EUR 28 million to tackling homelessness bringing the total provision to EUR 98 million. A new rental strategy, published on 13 December 2016 includes proposals to impose upper limits on rent increases (4 % per annum) in selected urban areas (*rent pressure zones*). The new measure has been prompted by the growing affordability concerns described above and the *rent pressure zone* designation is limited to 3 years. However, rent controls have been shown to have a significant destabilising impact on the aggregate housing market in other countries (Cuerpo *et al.*, 2014). Stringent rent regulations potentially discourage new construction and maintenance by capping the price of rentals, thus lowering the net return on such investments. Moreover, changes to the frequency of rent-reviews introduced last year did not prevent further rapid rent increases.

A coherent and timely planning process would help to deliver new homes in the right areas. Ireland is ranked 38th by the World Bank for dealing with construction permits. The delays are largely at local authorities level and relate to the assessment of planning applications. It is not yet clear whether increased output will be concentrated in the areas of highest demand. Over the 12 months to September, approximately 30 % of commencements and 27 % of completions were located in the four Dublin councils. Yet these numbers may still be low relative to the concentration of demand in the capital. The absence of a coherent spatial strategy that integrates housing and infrastructure delivery with projected population developments is a concern (Section 4.4.1). During the pre-crisis property boom, a considerable proportion of property development activity occurred in relatively remote areas without appropriate transport links to the main centres of employment (Section 4.5.2).

The government plans to introduce several further reforms to the planning process. Ireland needs to continue its efforts in developing a new

National Planning framework, which is expected during 2017, strategically to coordinate both spatial development and capital investment in a manner that the previous National Spatial Strategy could not fully achieve. In addition, the Action Plan for Housing and Homelessness (referred to above) included measures aimed at expediting the planning process for large developments (in excess of 100 units) by allowing direct applications to the National Planning Board, which usually only adjudicates on appeals. Finally, early indications suggest that the revisions to the apartment planning standards, introduced in 2015, may be starting to have the desired effect. The number of apartments granted planning permissions increased to 4,073 in the year to September 2016, compared to just 1,683 in the previous year. However, building height restrictions and underground parking requirements may still hinder developments in urban areas.

4.5.2. TRANSPORT AND TELECOMS

Transport

Shortcomings in transport infrastructure and spatial planning have become more pressing. Large projects, particularly upgrading roads into motorways, were undertaken during the boom years and until 2010 (European Commission 2016c). However, significant infrastructure shortages remain, particularly in and around main urban areas. This situation is aggravated by rising economic activity, population growth and under-investment in recent years. According to the World Economic Forum’s Global Competitiveness Index (GCI), Ireland ranks only 32nd for the quality of roads and 35th for railroad infrastructure, well below other EU countries.

Addressing the shortcomings in transport infrastructure and spatial planning is a growing challenge. To address this growing problem, the Irish authorities face a quadruple challenge: delivering additional transport capacity, finding the right balance between public and private transport, improving the efficiency of transport corridors by means of careful spatial planning, and limiting carbon emissions from transport. Moreover, main urban areas also face large housing supply shortages (Section 4.5.1). The timely and targeted expansion of rail and road networks is crucial to

allow for the development of housing projects of sufficient scale. In turn, the strategic positioning of those projects close to public transport corridors again highlights the important role of spatial planning.

Planned investment in transport infrastructure is expected to help ease some pressures. In addition to the Infrastructure and Capital Investment Plan (European Commission, 2016c), the Local Infrastructure Housing Activation Fund targets investment in public infrastructure, including transport, to facilitate the development of large housing projects (Section 4.4.1).

Concrete plans for the rail extensions are being delayed. Some details of the expansions to Ireland's railways envisaged in the Capital Investment Plan still need to be specified, such as the connection between Dublin and its airport or the underground plan for the Dublin Area Rapid Transit (DART) system. An assessment of the various alternatives for the DART extension is expected in 2017. Works to extend Dublin's light rail tram system (LUAS) are ongoing.

Telecoms

Access to broadband is improving but remains uneven. Fixed broadband coverage is stable, but 7 % of rural homes have no access to basic broadband. By mid-2016, there had been a significant increase in high-speed coverage, particularly in rural areas, as fixed infrastructure has now been installed. The percentage of households able to access high-speed broadband in Ireland (82 %) surpassed the EU average (76 %), including in rural areas (50 % of households compared to 40 % EU average) (European Commission, 2017). While the take-up of high-speed and mobile broadband is above the EU average, the overall take up of fixed broadband (including basic) remains below average (European Commission, 2017).

The roll-out of high-speed networks is expected to progress, helped by public support in rural areas. Various private operators are likely to roll out the infrastructure allowing for high-speed broadband (in particular fibre). However, private investment alone is not expected to be enough to close the gap in high speed broadband coverage between rural and urban areas, which requires

public support. The Intervention Strategy 2015 under the National Broadband Plan, in which the European Regional Development Fund (ERDF) is a co-investor, aims to provide high speed broadband by 2020 also to households and SMEs in those parts of the country where there is no certainty that the commercial sector will invest (Department of Communications, Energy and Natural Resources, 2015). A full up-take of the high-speed broadband services by the end users is important to maximise the benefits of the strategy (Box 2.1).

There are significant digital skills gaps but the Irish government is working to address them.

Only 44 % of individuals in Ireland have basic or above basic digital skills, which is below the EU average of 56 %. When it comes to ICT specialists, in 2016, 35 % of enterprises employed such specialists, the highest in the EU. However, over 50 % of enterprises who recruited or tried to recruit ICT specialists reported hard-to-fill vacancies for jobs requiring ICT specialist skills (European Commission, 2017). As set out in the new enterprise policy framework, Enterprise 2025, Ireland has a comparative advantage and significant export potential in the ICT sector. A significant number of new jobs are expected in ICT and data analytics. Against this background, the National Skills Strategy 2025 envisages new actions to increase participation in science, technology, engineering and mathematics (STEM) in higher education. The Strategy will promote lifelong learning, including opportunities for adults to improve their digital skills, based on existing programs, such as Springboard.

4.5.3. RESEARCH, DEVELOPMENT AND INNOVATION (R&D&I)

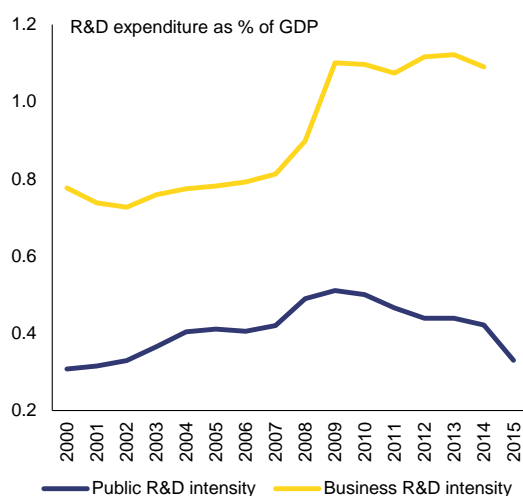
Ireland is a strong innovator moving up the international rankings ⁽⁵⁴⁾. Ireland has the vision to become a global innovation leader, which largely depends on the economy maintaining its recent recovery.

Low public expenditure on R&D continues to cause concern as Ireland ranks 25th in the EU.

⁽⁵⁴⁾ European Commission, European Innovation Scoreboard (6th place in 2016) and Innovation Output Indicator (3rd place in 2016).

Even though public expenditure on R&D marginally grew from EUR 814 million in 2014 to EUR 843 million in 2015, public R&D intensity has declined since 2009, reaching 0.33 % GDP in 2015 (Graph 4.5.3, Graph 4.5.4). The share of capital expenditure in public R&D also decreased from 15 % in 2008 to 10 % in 2014.

Graph 4.5.3: Trends in business R&D intensity and public R&D intensity, 2000-2015



Source: European Commission, Directorate General for Research and Innovation - Unit for the Analysis and Monitoring of National Research Policies. Data: Eurostat

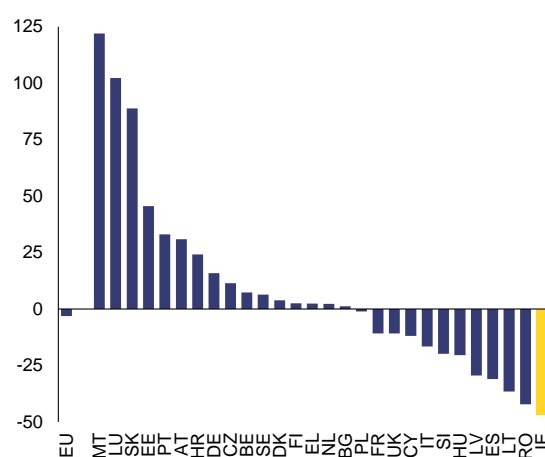
In reaction to the decline, R&D public funding has been redesigned to improve its impact through Ireland's strategy for research, development, science and technology (Innovation 2020). A first progress report was published in July 2016 showing progress in implementing the strategy (Department of Jobs, Enterprise and Innovation, 2016). Specific R&D programmes have been implemented. Of key importance is the planning of a new cycle of funding for the Programme for Research in Third Level Institutions. Also twelve world class Research Centres and fifteen industry-led technology Centres are being supported.

Full implementation of measures undertaken depends however on the return to a trend of sustained investment. Declining R&D intensity may have a negative impact on the high standing of the Irish public research base⁽⁵⁵⁾. Irish

⁽⁵⁵⁾ 2015 Eurostat: International scientific co-publications (Ireland ranks 8th in the EU), highly-cited publications

universities have started to fall in the international rankings, and the falling number of enrolled PhD students may become a barrier to sustaining the economic growth.

Graph 4.5.4: Difference between real growth in government budget appropriations for R&D (GBOARD) and real growth in GDP, 2007-2015



- (1) Real growth was calculated from values in PPSE at constant 2010 prices and exchange rates
- (2) Foregone tax revenues resulting from R&D tax revenues are not included
- (3) Poland: 2007-2011; Romania: 2007-2012; Luxembourg: 2007-2014; Greece, Croatia: 2008-2015; Denmark: 2010-2015
- (4) Austria: GBAORD refers to federal or central government only

Source: European Commission, Directorate General for Research and Innovation - Unit for the Analysis and Monitoring of National Research Policies. Data: Eurostat

Further public expenditure in R&D is needed to make indigenous Irish-owned firms more dynamic and innovative, while maintaining the country's attractiveness to foreign investment. Business expenditure on R&D (1.14 % of GDP) accounted for 73.5 % of the overall research carried out in 2014. This was however dominated by a small number of mainly foreign-owned multinational companies with limited spillovers to Irish SMEs. Furthermore, 54 % of R&D active companies with headquarters in Ireland do not perform their R&D in the country (Research and Innovation Observatory, 2016). Despite the increase of SMEs engaging in R&D, Irish patenting remains low and is concentrated in a small number of companies. **To stimulate**

(Ireland ranks 4th in EU), new doctoral graduates (Ireland ranks 9th in the EU).

innovation by indigenous SMEs, innovation policies could be rebalanced towards more direct forms of funding. Support from the government for business R&D has increasingly relied on R&D tax credits. A Knowledge Development Box was introduced in 2016. More targeted policy mixes and direct funding measures may better address the needs of Irish young innovative firms and exploit opportunities from the strong investing power of MNEs. This would serve to facilitate access to global value chains and accelerate knowledge spillovers. In this regard, the government's first steps in reviewing the R&D support to businesses⁽⁵⁶⁾, are welcomed, as is the scaling up of the National Healthcare Innovation Hub in 2016. The Global Sourcing Initiative helps to deepen Irish company and MNE relationships through supplier opportunities, technology partnerships, investment and other collaborative engagements.

More business-academia cooperation could help Irish-owned firms become more competitive and leverage additional private R&D investments. The level of business enterprise funding of public R&D is one of the lowest in the EU and the public-private scientific co-publications per million inhabitants remains relatively low. To address this challenge, Ireland has introduced more industry leadership — including by MNEs — onto the agendas of Higher Education Institutions and Public Research Organisations (Research Centres programme and the Technology Centres Programme). The Knowledge Transfer Ireland office acts as an interface between public research and industry. 748 new collaborative research agreements were signed in 2015 between research performing organisations and industry. In January 2016, an updated national intellectual property protocol to assist firms access knowledge in the public research sector was introduced. ERDF is currently co-investing 35 % in RTDI, its largest share of allocation from its total 2014-2020 co-investment to Ireland (Box 2.1).

⁽⁵⁶⁾ Request for tenders for the provision of research and consultancy services to undertake a review of RD&I support to business in Ireland to maximise business expenditure on research and expenditure, 19 April 2016.

4.5.4. ENERGY, RESOURCES AND CLIMATE CHANGE

Energy and climate action

Ireland is falling behind its greenhouse gas emission reduction targets. According to Ireland's own projections, based on existing policy measures, the country is expected to miss its national emission reduction targets by 12 pps. in 2020 and by an estimated 6 megatons of CO₂ equivalent over 2013-2020⁽⁵⁷⁾.

Transport and agriculture are the main drivers of increased greenhouse emissions. The Irish authorities expect transport emissions, representing about 20 % of total emissions, to increase by 11 % between 2015 and 2020. This increase in transport emissions is largely due to the shortage of mass transit facilities around Dublin — which underlines the importance of additional investments in public transport and spatial planning (Section 4.5.2). Over the same period, agriculture emissions, representing one third of total emissions, are expected to increase by 7 %. In order to reduce emissions from agriculture, one of the measures that Ireland has developed is the Beef Data and Genomics Programme. It is expected to achieve greenhouse gas savings from agriculture in the range of 65 kilotons of CO₂ to 300 kilotons of CO₂ per year by 2020 (which represents between 0.35 % and 1.6 % of total agricultural emissions).

Measures are underway to tackle persisting challenges in the energy sector. The proportion of renewable energy is estimated to have reached 9 % in 2015, about half-way towards achieving 16 % EU 2020 target in Ireland⁽⁵⁸⁾. Budget 2017 envisages additional capital to support renewable heating, grants to households, electrical vehicles and expanding energy efficiency programmes in 2017. Approximately 25 000 homes are expected to be upgraded for improved energy efficiency in 2017. However, around 75 000 homes (and businesses) may need to be upgraded every year to reach the EU 2020 target (Sustainable Energy Agency Ireland, 2016). Given the robust growth

⁽⁵⁷⁾ Figures may be subject to revision.

⁽⁵⁸⁾ Renewable energy shares for 2015 are approximations and not official data, reflecting the available data (04.10.2016). See the Öko-Institut Report: Study on Technical Assistance in Realisation of the 2016 Report on Renewable Energy, <http://ec.europa.eu/energy/en/studies>.

expected in the domestic economy (Section 1), improving energy efficiency is all the more important so that energy needs do not outpace economic growth.

The transition to low-carbon energy sources is another challenge for Ireland. Fossil fuel energy represented 90 % of total energy used in 2014. Decarbonisation and replacement with renewable energy may help to improve energy efficiency. Public and private investment needs in energy infrastructure are large, including in management systems, smart distribution and storage systems (Environmental Protection Agency, 2016).

Resource efficiency and circular economy

Ireland appears to have done quite well as regards its environmental performance. The fall since 2008 in ozone-precursor gas emission intensity, resource intensity and waste intensity ranks among the highest in the EU. The levels of these GDP-intensities are among the lowest in the EU. However, it remains to be seen how robust the environmental achievements turn out to be with the current strong economic upturn.

Ireland is making progress in resource efficiency measures. A wide range of measures, both voluntary and regulatory, have been proposed to support business in improving its resource efficiency. The SMILE Resource Exchange 2010 is a successful example. It aims at encouraging the exchange of resources between SMEs to reduce their costs, reduce waste, and develop new business opportunities (SMILE Resource Exchange, 2016). About 34 % of participating SMEs have achieved cost savings through the actions taken so far.

There is further scope to reduce landfill waste and increase separate waste collection. Landfill rates remain high (42 %) but the current landfill levy and regulations on household waste collection are expected to help Ireland meet the set waste targets. The insufficient coverage of households by door-to-door separate waste collection — with some households not subscribed to any collection system remains a challenge. Also, there are insufficient fiscal incentives to move away from residual waste treatment towards prevention and recycling.

Water

Ireland faces severe challenges in providing proper water services. In 2012, as regards the required minimum standard biological treatment, 47 of the 170 existing Irish wastewater treatment facilities did not provide sufficient treatment, causing a negative impact on the environment and human health. Ireland's performance on a more stringent treatment ⁽⁵⁹⁾, required for sensitive areas to avoid eutrophication, is worse. Most wastewater treatment plants are not yet equipped for these requirements. The investment needed to reach EU standards is estimated at EUR 443 million (European Commission, 2016f, p. 152).

The need for large investments to improve water infrastructure is widely recognised. The EUR 5.5 billion set out in the Infrastructure and Capital Investment Plan (European Commission, 2016c) would address essential needs such as lifting all current boil water notices and reducing the leakage from 49 % to 38 % — saving 180 million litres every day. The Irish Water estimates that an additional EUR 8 billion would be needed in the long term (2021-2034) to address deficiencies in the infrastructure.

Recent decisions have created uncertainty around investment in water infrastructure. Water charges have been suspended for a period of nine months starting from July 2016. The expert commission, assembled to examine the long-term funding model for Irish Water, submitted its report in November ⁽⁶⁰⁾ (Expert Commission on Domestic Public Water Services, 2016). The report recommended charging for domestic water consumption through general taxation up to the level of 'normal' water usage, to be determined by the Energy Regulator. Households that consume above this level would be charged extra tariffs. The government has allocated EUR 123 million to Irish Water to cover the shortfall arising from the suspension of water charges, but it remains to be seen if it is enough to cover the operating costs of Irish Water.

⁽⁵⁹⁾ i.e. with nitrogen and/or phosphorus removal.

⁽⁶⁰⁾ The recommendations will be considered by a special Oireachtas committee, which is expected to report within three months, followed by the plenary.

ANNEX A

Overview table

Commitments

Summary assessment⁽⁶¹⁾

2016 country-specific recommendations (CSRs)	
<p>CSR 1: Following the correction of the excessive deficit, achieve an annual fiscal adjustment of 0.6 % of GDP towards the medium-term budgetary objective in 2016 and in 2017. Use windfall gains from strong economic and financial conditions, as well as from asset sales, to accelerate debt reduction. Reduce vulnerability to economic fluctuations and shocks, inter alia by broadening the tax base. Enhance the quality of expenditure, particularly by increasing cost-effectiveness of healthcare and by prioritising government capital expenditure in R&D and in public infrastructure, in particular transport, water services and housing.</p>	<p>Ireland has made some progress in addressing CSR 1 (this overall assessment of CSR1 does not include an assessment of compliance with the Stability and Growth Pact):</p>
<ul style="list-style-type: none"> Following the correction of the excessive deficit, achieve an annual fiscal adjustment of 0.6 % of GDP towards the medium-term budgetary objective in 2016 and in 2017. 	<ul style="list-style-type: none"> The compliance assessment with the Stability and Growth Pact will be included in Spring when final data for 2016 will be available.
<ul style="list-style-type: none"> Use windfall gains from strong economic and financial conditions, as well as from asset sales, to accelerate debt reduction. 	<ul style="list-style-type: none"> The compliance assessment with the Stability and Growth Pact will be included in Spring when final data for 2016 will be available.
<ul style="list-style-type: none"> Reduce vulnerability to economic fluctuations and shocks, inter alia by broadening the tax base. 	<ul style="list-style-type: none"> Limited progress in reducing the vulnerability to economic fluctuations and shocks. The announced establishment of a 'rainy-day fund', if appropriately designed, could provide a fiscal buffer during a future economic downturn. Together with the announced long-term target

⁽⁶¹⁾ The following categories are used to assess progress in implementing the 2015 country-specific recommendations:

No progress: The Member State has not credibly announced nor adopted any measures to address the CSR. Below a number of non-exhaustive typical situations that could be covered under this, to be interpreted on a case by case basis taking into account country-specific conditions:

- no legal, administrative, or budgetary measures have been announced in the National Reform Programme or in other official communication to the national Parliament / relevant parliamentary committees, the European Commission, or announced in public (e.g. in a press statement, information or on government's website);
- no non-legislative acts have been presented by the governing or legislator 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 that would need to be taken (unless the CSR explicitly asks for orientations or exploratory actions), while clearly-specified measure(s) to address the CSR has not been proposed.

Limited progress: The Member State has:

- announced certain measures but these only address the CSR to a limited extent; and/or
- presented legislative acts in the governing or legislator body but these have not been adopted yet and substantial non-legislative further work is needed before the CSR will be implemented;
- presented non-legislative acts, yet with no further follow-up in terms of implementation which is needed to address the CSR.

Some progress: The Member State has adopted measures that partly address the CSR

and/or

the Member State has adopted measures that address the CSR, but a fair amount of work is still needed to fully address the CSR as only a few of the adopted measures have been implemented. For instance: adopted by national parliament; by ministerial decision; but no implementing decisions are in place.

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

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

	<p>of 45 % for the debt-to-GDP ratio, the fund could help to reduce vulnerability to economic fluctuations. However, in the short term, the Draft Budgetary Plan for 2017 has introduced a wide range of tax expenditure measures, including a tax rebate for first-time buyers of newly-built homes, and increases in tax credits for the self-employed and home carers. These are likely to narrow the income tax base, thereby increasing the exposure of public finances to shocks. This is in addition to the suspension of water charge payments earlier this year, and the decision to further delay, until November 2019, the revaluation of self-assessed property values used to calculate local property tax liabilities. In isolation, the phasing out of the Universal Social Charge will undermine the commitment to maintain a broad tax base.</p>
<ul style="list-style-type: none"> • Enhance the quality of expenditure, particularly by increasing cost-effectiveness of healthcare 	<ul style="list-style-type: none"> • Some progress in enhancing the quality of expenditure through a reform of the budgetary process. This can help to improve communication on expenditure targets, increase stakeholder engagement and harness public support to improve the quality of expenditure. A 'culture of spending' to, for example, increase responsibility across the public administration for assessing the efficiency and effectiveness of public expenditure is being developed. The roll-out of activity-based funding, the development of new eHealth architecture, the streamlining of financial management and information systems and the new cost-saving deal with the pharmaceutical industry are also steps forward.
<ul style="list-style-type: none"> • And by prioritising government capital expenditure in R&D and in public infrastructure, in particular transport, water services and housing. 	<ul style="list-style-type: none"> • Some progress in prioritising government capital expenditure. Public expenditure marginally grew from EUR 814 million in 2014 to EUR 843 million in 2015. Specific R&D Programmes being funded by the Capital Plan include commitments in respect of Cycle 5 of the Programme for Research in Third Level Institutions. However, low public R&D intensity continues to cause concern (decreasing at 0.33 % GDP in 2015). According to the Draft Budgetary Plan for 2017, capital expenditure will increase by 9 % compared to 2016. Investment will focus primarily on social

	<p>housing and education. Ireland is planning to increase public investment while rebalancing priorities between current and capital spending. On 19 July the government published a housing action plan involving the allocation of a further EUR 2.2 billion (approximately 40 % of total capital spending) to social housing over the next four years, in addition to the EUR 3.8 billion already committed by the last government. The action plan envisages an increase in social housing units by approximately 47 000 and an increase in housing output of around 25 000 per year. It aims to create a EUR 200 million Local Infrastructure Housing Activation Fund, which will contribute to the delivery of transport, water and other infrastructure essential to an increase in housing supply. The government proposes to expedite the development of a number of large urban sites with the capacity to deliver up to 20 000 new homes.</p>
<p>CSR 2: Expand and accelerate the implementation of activation policies to increase the work intensity of households and address the poverty risk of children. Pursue measures to incentivise employment by tapering the withdrawal of benefits and supplementary payments. Improve the provision of quality, affordable full-time childcare.</p>	<p>Ireland has made some progress in addressing CSR 2.</p>
<ul style="list-style-type: none"> Expand and accelerate the implementation of activation policies to increase the work intensity of households 	<ul style="list-style-type: none"> Some progress in increasing households work intensity. Labour activation programmes have been rolled out further but their effects have not yet been assessed by the government. New announced measures, such as 'Pathways to Work for Jobless Households', are likely to increase the work intensity of households.
<ul style="list-style-type: none"> And address the poverty risk of children. 	<ul style="list-style-type: none"> Some progress in reducing child poverty. The government continues to implement previous measures but child benefit remains at EUR 140 per month. The benefits for lone parents is envisaged to increase from 2017.
<ul style="list-style-type: none"> Pursue measures to incentivise employment by tapering the withdrawal of benefits and supplementary payments. 	<ul style="list-style-type: none"> Some progress in incentivising employment. The Back to Work Family Dividend, set up in 2015, currently reaches 21 000 dependent young people. Budget 2017 announced additional funding for the Housing Assistance

	Payment, which is designed to tackle work disincentives arising from housing subsidies for the unemployed. This support is expected to reach an additional 15 000 people.
<ul style="list-style-type: none"> Improve the provision of quality, affordable full-time childcare. 	<ul style="list-style-type: none"> Some progress in improving childcare provision. Ireland has taken steps to make childcare more affordable and improve its quality, but sustained efforts are needed over coming years to meet existing needs, especially among disadvantaged families. Measures are also underway to improve the quality of childcare provision.
CSR 3: Finalise durable restructuring solutions to lower non-performing loans, to ensure debt sustainability of households and to encourage lenders to reduce the debt of excessively leveraged yet viable businesses. Accelerate the phasing-in of a fully operational central credit registry covering all categories of lenders and debtors.	Ireland has made some progress in addressing CSR 3.
<ul style="list-style-type: none"> Finalise durable restructuring solutions to lower non-performing loans, to ensure debt sustainability of households and to encourage lenders to reduce the debt of excessively leveraged yet viable businesses. 	<ul style="list-style-type: none"> Some progress in adopting restructuring solutions sustainable in the long term. As the overall level of non-performing decreases, the more difficult long-term arrears cases make up an increasingly higher share of the remaining stock. Repossessions remain low and the legal route lengthy. Following a pilot phase, the Money Advice and Budgeting Service for distressed debtors was launched nationally. In the first couple of months it registered significant interest, with over 2 800 free advice vouchers given out, of which the majority were used for financial counselling.
<ul style="list-style-type: none"> Accelerate the phasing-in of a fully operational central credit registry covering all categories of lenders and debtors. 	<ul style="list-style-type: none"> Some progress in phasing-in the central credit registry. The consultation with the data Protection Commissioner has been concluded the regulations published by the Central Bank of Ireland. However, delays in implementing the central credit register mean that it will not be fully operational until late 2018.
Europe 2020 (national targets and progress)	
Employment rate target: between 69 % and 71 %	The employment rate (Eurostat definition, age group 20-64) rose to 70.7 % in Q3-2016 compared with an average of 63.7 % in 2011-2012.

R&D investment target: 2.0 % of GDP (2.5 % GNP)	<p>Ireland has set a national R&D intensity target for 2020 of 2.0 % of GDP but has made no recent progress towards that target.</p> <p>R&D intensity was 1.51 % in 2014 down from 1.56 % in 2013. This is mainly due to the low public sector R&D intensity.</p> <p>Public sector R&D intensity continues on a downward trend and in 2015 decreased to 0.33 % from 0.51 % in 2009. Business R&D intensity (1.09 % in 2014) has evolved more favourably than public expenditure in recent years, indirectly supported by an R&D tax credit scheme that has seen large uptake.</p>
Reduction of greenhouse gas (GHG) emissions in sectors that are not covered by the Emission Trading System by 20 % in 2020 compared to 2005 levels.	According to the most recent estimates, non-Emission Trading System greenhouse gas emissions decreased by 11 % between 2005 and 2013. According to national projections, emissions will decrease by 8 % between 2005 and 2020. The target is thus expected to be missed by 12 pps.
Renewable energy target: 16 % proportion of renewable energy in total gross energy consumption in 2020.	The proportion of renewable energy in 2015 is estimated to have reached 9 % ⁽⁶²⁾ . Ireland is close to its 2013-2014 interim targets as set out in the Renewable Energy Directive. However, Ireland might need to step up its efforts, particularly in the electricity and heating and cooling sectors, to enable the stepwise achievement of the 2020 target.
Energy efficiency target: 13.9 million tons of oil equivalent expressed in primary energy consumption (11.7 million tons of oil equivalent in final energy consumption).	Ireland increased its primary energy consumption by 5 % from 13.35 Mtoe in 2014 to 13.96 Mtoe in 2015. Final energy consumption increased by 4% from 10.77 Mtoe in 2014 to 11.21 Mtoe in 2015. Ireland has to increase its effort to decrease its primary energy consumption further in order to achieve its indicative primary energy consumption 2020 target (13.9 Mtoe) and to keep its current final energy consumption below its final energy 2020 target (11.7 Mtoe).
Early school leaving target: 8 %	Ireland's early school leaving rate remained stable at 6.9 % in 2015, well below the EU average of 11 %.

⁽⁶²⁾ Renewable energy shares for 2015 are approximations and not official data, reflecting the available data (04.10.2016). See the Öko-Institut Report: Study on Technical Assistance in Realisation of the 2016 Report on Renewable Energy, <http://ec.europa.eu/energy/en/studies>.

Tertiary education attainment target: 60 %	Ireland had a very high tertiary attainment rate of 52.3 % in 2015, well above the EU average of 38.7 %. It is making progress towards its very ambitious national target of 60 %, which is the highest in the EU.
To reduce the number experiencing consistent poverty to 4 % by 2016 (interim target) and to 2 % or less by 2020, from the 2010 baseline rate of 6.2 %, which will lift at least 200 000 people out of the risk of poverty and exclusion between 2012 and 2020 (revised target).	The number of people at risk of poverty or social exclusion decreased from 1.27 million in 2014 to 1.20 million in 2015. This remains significantly above the pre-crisis level of 1.05 million in 2008. Achieving the national target remains ambitious.

ANNEX B

MIP Scoreboard

Table B.1: The MIP Scoreboard for Ireland

		Thresholds	2010	2011	2012	2013	2014	2015
External imbalances and competitiveness	Current account balance, 3 year average (% of GDP)	-4%/6%	-4.3	-2.8	-2.1	-0.8	0.4	4.7*
	Net international investment position (% of GDP)	-35%	-114.9	-138.3	-137.3	-131.7	-162.1	-208.0*
	Real effective exchange rate - 42 trading partners, HICP deflator 3 years % change	±5% & ±11%	-5.4	-9.6	-12.2	-3.9	-3.6	-5.9
	Export market share - % of world exports 5 years % change	-6%	-6.8	-10.5	-15.7	-7.5	-12.0	38.3*
	Nominal unit labour cost index (2010=100) 3 years % change	9% & 12%	-6.5	-13.5b	-8.3	4.0	-0.5	-18.1
Internal imbalances	Deflated house prices (% y-o-y change)	6%	-11.6	-16.9	-15.2	1.1	15.1	8.3
	Private sector credit flow as % of GDP, consolidated	14%	2.2	16.2	-0.6	-1.4	2.5	6.7
	Private sector debt as % of GDP, consolidated	133%	257.9	270.9	278.8	267.3	281.3	303.4
	General government sector debt as % of GDP	60%	86.3	109.6	119.5	119.5	105.2	78.6
	Unemployment rate 3 year average	10%	10.8	13.5	14.4	14.2	13.0	11.3
	Total financial sector liabilities (% y-o-y change)	16.5%	6.3	-2.2	-1.8	-2.7	23.1	9.5
New employment indicators	Activity rate - % of total population aged 15-64 (3 years change in p.p)	-0.2%	-3.2	-2.9	-1.4	0.4	0.6	0.8
	Long-term unemployment rate - % of active population aged 15-74 (3 years change in p.p)	0.5%	5.4	6.9	5.5	1.0	-2.0	-3.7
	Youth unemployment rate - % of active population aged 15-24 (3 years change in p.p)	2%	18.5	15.8	6.4	-0.8	-5.2	-9.5

Flags: b: break in time series.

* The change for 2015 is due to relocation to Ireland of balance sheets of large multinational enterprises and inclusion of corresponding transactions in the Irish balance of payments and IIP statistics. 1) Unit labour cost: 2011 break in time series. Since the indicator is a three-year % change, the break affects all the following years.

Source: European Commission, Eurostat and Directorate General for Economic and Financial Affairs (for real effective exchange rate), and International Monetary Fund*

ANNEX C

Standard tables

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

	2011	2012	2013	2014	2015	2016
Total assets of the banking sector (% of GDP)	758.9	665.7	564.3	558.9	424.9	398.2
Share of assets of the five largest banks (% of total assets)	46.7	46.4	47.8	47.6	46.0	-
Foreign ownership of banking system (% of total assets)	37.4	35.7	35.6	32.9	25.2	-
Financial soundness indicators: ⁽¹⁾						
- non-performing loans (% of total loans)	-	16.6	18.4	16.3	11.7	11.3
- capital adequacy ratio (%)	18.9	19.2	20.5	22.6	25.3	23.2
- return on equity (%) ⁽²⁾	-11.1	-14.6	-13.2	8.5	6.8	3.9
Bank loans to the private sector (year-on-year % change)	-4.7	-2.6	-6.8	-10.1	-6.9	-4.0
Lending for house purchase (year-on-year % change)	-0.9	6.6	-1.7	-3.9	-1.2	-3.6
Loan to deposit ratio	133.4	128.7	113.6	99.4	84.3	80.8
Central Bank liquidity as % of liabilities	18.7	17.0	7.4	4.1	2.4	1.8
Private debt (% of GDP)	270.9	278.8	267.3	281.3	303.4	-
Gross external debt (% of GDP) ⁽¹⁾ - public	59.7	71.2	69.8	74.0	55.8	52.3
- private	653.5	650.6	583.3	703.7	727.6	656.4
Long-term interest rate spread versus Bund (basis points)*	699.3	467.7	222.0	120.4	68.7	65.1
Credit default swap spreads for sovereign securities (5-year)*	673.9	406.0	120.4	53.5	37.0	45.7

(1) Latest data Q2 2016.

(2) Quarterly values are not annualised

* 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: Labour market and social indicators

	2011	2012	2013	2014	2015	2016 ⁴
Employment rate (% of population aged 20-64)	63.8	63.7	65.5	67.0	68.7	70.0
Employment growth (% change from previous year)	-0.5	-0.6	2.5	1.7	2.5	2.8
Employment rate of women (% of female population aged 20-64)	59.4	59.4	60.3	61.2	62.6	64.0
Employment rate of men (% of male population aged 20-64)	68.2	68.1	70.9	73.0	75.1	76.2
Employment rate of older workers (% of population aged 55-64)	50.0	49.3	51.3	53.0	55.6	57.1
Part-time employment (% of total employment, aged 15-64)	23.1	23.5	23.5	23.0	22.2	22.2
Fixed-term employment (% of employees with a fixed term contract, aged 15-64)	10.2	10.1	10.0	9.3	8.7	8.4
Transitions from temporary to permanent employment	:	:	41.2	39.7	:	:
Unemployment rate ¹ (% active population, age group 15-74)	14.7	14.7	13.1	11.3	9.4	8.0
Long-term unemployment rate ² (% of labour force)	8.6	9.0	7.8	6.6	5.3	4.4
Youth unemployment rate (% active population aged 15-24)	29.1	30.4	26.8	23.9	20.9	17.0
Youth NEET ³ rate (% of population aged 15-24)	18.8	18.7	16.1	15.2	14.3	:
Early leavers from education and training (% of pop. aged 18-24 with at most lower sec. educ. and not in further education or training)	10.8	9.7	8.4	6.9	6.9	:
Tertiary educational attainment (% of population aged 30-34 having successfully completed tertiary education)	49.7	51.1	52.6	52.2	52.3	:
Formal childcare (30 hours or over; % of population aged less than 3 years)	11.0	10.0	10.0	9.0	:	:

(1) The unemployed are all those who were not employed but had actively sought work and were ready to begin working immediately or within 2 weeks.

(2) Long-term unemployed are those who have been unemployed for at least 12 months.

(3) Not in education, employment or training.

(4) Average of first three quarters of 2016. Data for total unemployment and youth unemployment rates are seasonally adjusted.

Source: European Commission (EU Labour Force Survey).

Table C.3: Labour market and social indicators (continued)

Expenditure on social protection benefits (% of GDP)	2010	2011	2012	2013	2014	2015
Sickness/healthcare	7.6	7.5	7.4	7.1	6.7	:
Disability	1.3	1.2	1.2	1.2	1.2	:
Old age and survivors	6.2	6.2	6.3	6.1	5.8	:
Family/children	3.2	3.0	3.0	2.8	2.5	:
Unemployment	3.7	3.5	3.3	3.1	2.7	:
Housing	0.6	0.5	0.5	0.4	0.4	:
Social exclusion n.e.c.	0.3	0.3	0.3	0.2	0.2	:
Total	22.8	22.2	21.9	20.9	19.3	:
of which: means-tested benefits	6.8	6.9	6.8	6.6	6.0	:
Social inclusion indicators	2010	2011	2012	2013	2014	2015
People at risk of poverty or social exclusion ¹ (% of total population)	27.3	29.4	30.3	29.9	27.5	25.9
Children at risk of poverty or social exclusion (% of people aged 0-17)	34.1	34.1	33.5	34.4	30.2	28.7
At-risk-of-poverty rate ² (% of total population)	15.2	15.2	16.6	15.7	16.2	16.3
Severe material deprivation rate ³ (% of total population)	5.7	7.8	9.8	9.9	8.4	7.5
Proportion of people living in low work intensity households ⁴ (% of people aged 0-59)	22.9	24.2	23.4	23.9	21.0	19.1
In-work at-risk-of-poverty rate (% of persons employed)	5.5	5.6	5.6	5.0	5.2	4.8
Impact of social transfers (excluding pensions) on reducing poverty	61.9	61.6	58.0	59.0	56.3	55.0
Poverty thresholds, expressed in national currency at constant prices ⁵	11791	11528	11399	11253	11478	12193
Gross disposable income (households; growth %)	-4.1	-2.9	3.1	-0.5	3.7	5.4
Inequality of income distribution (S80/S20 income quintile share ratio)	4.7	4.6	4.8	4.7	4.8	4.5
GINI coefficient before taxes and transfers	57.8	58.2	57.0	58.2	57.5	:
GINI coefficient after taxes and transfers	30.4	29.8	29.9	30.0	30.8	:

(1) People at risk of poverty or social exclusion : individuals who are at risk of poverty and/or suffering from severe material deprivation and/or living in households with zero or very low work intensity.

(2) At-risk-of-poverty rate : proportion of people with an equivalised disposable income below 60 % of the national equivalised median income.

(3) 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.

(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) For EE, CY, MT, SI and SK, thresholds in nominal values in euros; harmonised index of consumer prices = 100 in 2006 (2007 survey refers to 2006 incomes)

Source: For expenditure for social protection benefits ESSPROS; for social inclusion EU-SILC.

Table C.4: Product market performance and policy indicators

Performance indicators	2010	2011	2012	2013	2014	2015
Labour productivity (real, per person employed, year-on-year % change)						
Labour productivity in industry	12.87	11.97	0.07	-9.25	5.35	63.47
Labour productivity in construction	0.64	-16.82	0.54	7.27	-3.12	-3.62
Labour productivity in market services	6.68	1.40	-5.32	-2.36	6.06	4.37
Unit labour costs (ULC) (whole economy, year-on-year % change)						
ULC in industry	-11.29	4.87	0.31	10.19	-4.09	-59.92
ULC in construction	-5.54	-4.77	-1.35	-4.02	4.34	4.72
ULC in market services	-8.65	5.33	7.23	4.30	-3.46	-0.71
Business environment	2010	2011	2012	2013	2014	2015
Time needed to enforce contracts ¹ (days)	515.0	650.0	650.0	650.0	650.0	650.0
Time needed to start a business ¹ (days)	13.0	13.0	10.0	10.0	6.0	6.0
Outcome of applications by SMEs for bank loans ²	0.95	1.49	1.24	0.79	1.23	0.73
Research and innovation	2010	2011	2012	2013	2014	2015
R&D intensity	1.60	1.54	1.56	1.56	1.51	:
Total public expenditure on education as % of GDP, for all levels of education combined	6.41	6.15	6.16	5.84	na	na
Number of science & technology people employed as % of total employment	47	50	51	51	51	52
Population having completed tertiary education ³	33	33	35	36	36	37
Young people with upper secondary education ⁴	86	87	87	89	93	93
Trade balance of high technology products as % of GDP	4.52	5.43	5.37	2.55	1.43	3.18
Product and service markets and competition				2003	2008	2013
OECD product market regulation (PMR) ⁵ , overall				na	1.35	1.45
OECD PMR ⁵ , retail				0.87	1.53	1.53
OECD PMR ⁵ , professional services				1.60	1.25	1.25
OECD PMR ⁵ , network industries ⁶				3.32	2.49	2.21

(1) The methodologies, including the assumptions, for this indicator are shown in detail at :

<http://www.doingbusiness.org/methodology>.

(2) 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 scored as follows: zero if received everything, one if received most of it, two if only received a limited part of it, three if refused or rejected and treated as missing values if the application is still pending or if the outcome is not known.

(3) Percentage population aged 15-64 having completed tertiary education.

(4) Percentage population aged 20-24 having attained at least upper secondary education.

(5) Index: 0 = not regulated; 6 = most regulated. The methodologies of the OECD product market regulation indicators are shown in detail at: <http://www.oecd.org/competition/reform/indicatorsofproductmarketregulationhomepage.htm>

(6) Aggregate OECD indicators of regulation in energy, transport and communications.

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.5: **Green growth**

Green growth performance		2010	2011	2012	2013	2014	2015
Macroeconomic							
Energy intensity	kgoe / €	0.09	0.08	0.08	0.08	0.07	0.06
Carbon intensity	kg / €	0.36	0.33	0.34	0.34	0.31	-
Resource intensity (reciprocal of resource productivity)	kg / €	0.62	0.58	0.54	0.59	0.53	0.44
Waste intensity	kg / €	0.11	-	0.08	-	-	-
Energy balance of trade	% GDP	-2.8	-3.2	-3.0	-3.2	-2.7	-
Weighting of energy in HICP	%	9.25	10.53	12.70	11.67	11.15	10.62
Difference between energy price change and inflation	%	3.3	8.3	7.9	3.0	1.0	-4.9
Real unit of energy cost	% of value added	6.3	6.4	6.7	7.2	7.1	-
Ratio of environmental taxes to labour taxes	ratio	0.20	0.19	0.18	0.19	0.19	-
Environmental taxes	% GDP	2.5	2.4	2.4	2.5	2.4	-
Sectoral							
Industry energy intensity	kgoe / €	0.06	0.06	0.06	0.07	0.06	0.03
Real unit energy cost for manufacturing industry excl. refining	% of value added	6.8	6.6	6.8	8.1	8.5	-
Share of energy-intensive industries in the economy	% GDP	-	-	-	-	-	-
Electricity prices for medium-sized industrial users	€ / kWh	0.11	0.12	0.14	0.14	0.14	0.14
Gas prices for medium-sized industrial users	€ / kWh	0.03	0.04	0.04	0.04	0.04	0.04
Public R&D for energy	% GDP	0.02	0.00	0.00	0.00	0.00	0.00
Public R&D for environmental protection	% GDP	0.01	0.01	0.01	0.00	0.00	0.00
Municipal waste recycling rate	%	35.7	36.1	36.6	-	-	-
Share of GHG emissions covered by ETS*	%	28.5	27.7	29.4	26.8	27.4	27.9
Transport energy intensity	kgoe / €	2.36	2.50	2.69	3.11	3.36	3.64
Transport carbon intensity	kg / €	5.76	6.50	7.09	8.18	8.53	-
Security of energy supply							
Energy import dependency	%	86.6	90.0	85.1	89.3	85.3	88.7
Aggregated supplier concentration index	HHI	8.0	14.5	19.9	15.4	13.9	-
Diversification of energy mix	HHI	0.38	0.36	0.34	0.35	0.34	-

All macro intensity indicators are expressed as a ratio of a physical quantity to GDP (in 2005 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 a percentage of total value added for the economy

Environmental taxes over labour taxes and GDP: from European Commission's database, 'Taxation trends in the European Union'

Industry energy intensity: final energy consumption of industry (in kgoe) divided by gross value added of industry (in 2005 EUR)

Real unit energy costs for manufacturing industry excluding refining: real costs as a percentage 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 500–20 000 MWh 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 greenhouse gas 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 (kgoe) divided by transport industry gross value added (in 2005 EUR)

Transport carbon intensity: GHG emissions in transport activity divided by gross value added of the transport sector

Energy import dependency: net energy imports divided by gross inland energy consumption incl. consumption of international bunker fuels

Aggregated supplier concentration index: covers oil, gas and coal. Smaller values indicate larger diversification and hence lower risk.

Diversification of the energy mix: Herfindahl index over natural gas, total petrol products, nuclear heat, renewable energies and solid fuels

* European Commission and European Environment Agency

Source: European Commission (Eurostat) unless indicated otherwise

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