

BUDGET 2019

Economic and Fiscal Outlook

(Incorporating the Department of Finance's Autumn Forecasts)

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¹ In line with the Governments Open Data Initiative the data underpinning charts in this document are available on the Department of Finance website.

Chapter 1

Overview and General Policy Strategy

1.1 Policy Strategy

In less than six months, Ireland's single most important trading partner² will formally leave the European Union. The central scenario underpinning budgetary planning is that an agreement is reached that facilitates an 'orderly' exit of the UK; this would involve a transition period during which the *status quo* is preserved until end-2020 and, thereafter, a 'soft' exit involving some form of bilateral trade agreement between the UK and EU27.

While even such a relatively benign scenario would impose significant costs on the Irish economy, a 'disorderly' exit – involving the absence of a transition period or an exit without a trading agreement – would have potentially more severe implications for output, employment and living standards in Ireland. Against this backdrop, it is imperative to boost the resilience of the Irish economy in order to minimise – in so far as is possible – any future disruption brought on by the UK's departure from the Union.

This is why eliminating the budgetary deficit forms a key part of the Government's policy response. The Government is also establishing a Rainy Day Fund in order to mitigate any future downturn in economic activity. At the same time, the Government is committed to using receipts from the disposal of assets for public debt reduction.

Boosting the competitiveness of the economy also forms part of the mitigation strategy. To this end, the Government is increasing capital spending by around €1.5 billion this year – an increase of nearly 25 per cent – and will maintain capital spending at high levels over the medium term. Indeed, it is worth pointing out that a general government surplus of 0.4 per cent would be in prospect for next year had the level of capital spending simply been maintained at this year's level. This additional spending will help to eliminate capacity constraints (including in the housing market), improve productivity and enhance the resilience of the economy.

It is imperative that high quality public services are provided in an efficient manner that ensures value-for-money for taxpayers. This is why the Government places a high premium on reforming the way public services are delivered. Furthermore, the Government is acutely aware that not all problems can simply be monetised; improving efficiency in the delivery of public services can ensure better quality outcomes for citizens while limiting costs to taxpayers.

Reforming the income taxation system *inter alia* in order to ensure that work pays – especially for middle-income earners who are often faced with high marginal income tax rates – is a key priority for Government. This must be achieved in a steady, incremental way that ensures sustainable public finances, and the measures set out in *Budget 2019* are an important step in the right direction.

1.2 Short-term Economic and Budgetary Outlook

While still reasonably positive, the external environment in which the Irish economy operates is somewhat less benign than at the time of the Department's spring forecasts.³ The pace of growth in

² While other regions can sometimes overtake the UK in terms of Irish trade volumes, the composition (labour-intensity) of Irish trade with the UK means this region remains Ireland's single most important trading partner.

³ The Department of Finance produces two sets of economic and fiscal forecasts each year; its spring forecasts are set out in the *April Update of the Stability Programme* while its autumn forecasts are set out in the *Economic and Fiscal Outlook* which is published alongside the Budget each October.

the UK and euro area has been relatively subdued this year, while rising trade tensions and the 'normalisation' of monetary policy in the US have exposed underlying vulnerabilities in several emerging market economies. On the other hand, growth in the US has surprised on the upside this year, in part due to fiscal stimulus.

On the domestic front, incoming macro-economic data have been stronger-than-assumed and, accordingly, the growth projections for this year have been revised upwards. GDP is projected to increase by 7.5 per cent this year; for next year, the corresponding figure is 4.2 per cent. Conditions in the labour market, which is a better barometer of macroeconomic trends than GDP (as the former is largely unaffected by the multinational sector), remain positive with the level of employment surpassing its pre-crisis peak earlier this year. Further output growth should continue to pay dividends in the labour market next year, with over 60,000 jobs likely to be created and an unemployment rate converging towards 5 per cent. The macroeconomic forecasts underpinning the Budget have been endorsed by the Irish Fiscal Advisory Council.

Table 1: summary – main economic and fiscal variables, per cent change (unless stated)

	2017	2018	2019	2020	2021	2022	2023
<i>Economic Activity</i>							
Real GDP	7.2	7.5	4.2	3.6	2.5	2.6	2.7
Real GNP	4.4	5.9	3.9	3.3	2.3	2.4	2.5
<i>Prices</i>							
HICP	0.3	0.7	1.5	1.7	2.9	2.4	2.6
Core HICP [^]	0.0	0.4	1.4	1.8	3.0	2.4	2.6
GDP deflator	0.4	1.8	1.9	1.8	1.8	1.7	1.7
<i>Balance of Payments</i>							
Trade balance (per cent of GDP)	30.4	34.8	34.6	34.5	34.1	33.7	33.3
Current account (per cent of GDP)	8.5	12.0	11.7	11.5	10.9	10.5	10.0
<i>Labour Market</i>							
Total Employment ('000)	2,194	2,259	2,321	2,373	2,410	2,449	2,492
Employment	2.9	3.0	2.8	2.2	1.5	1.6	1.7
Unemployment (per cent)	6.7	5.8	5.2	5.0	5.0	5.0	5.0
<i>Public Finances (per cent of GDP)</i>							
General government balance	-0.2	-0.1	0.0	0.3	0.4	1.1	1.4
Structural balance ^{^^}	0.4	-1.0	-0.7	0.0	0.2	1.0	1.4
Debt ratio (year-end)	68.4	64.0	61.4	56.5	55.3	53.1	51.1
Net debt position (year-end)*	59.7	55.2					

[^] core inflation excludes energy and unprocessed food from the index.

^{^^} on a 'harmonised' basis.

* net debt figures for 2017 and 2018 only.

Source: CSO and Department of Finance.

Taxation receipts this year are projected at €55.1 billion. This figure takes into account the end-September outturn together with a likely overshoot of corporation tax receipts, some of which is temporary. For next year, taxation receipts are forecast at €57.9 billion once allowance is made for the income tax reductions and revenue-raising measures announced in Budget 2019.

On the expenditure side, voted current expenditure is projected to increase by 5.4 per cent this year and by 4.1 per cent next year. Capital expenditure is forecast to increase by 28.9 per cent this year and by around one-quarter next year, in line with the Government's approach to increase productive investment as set out in the *National Development Plan 2018-2027*.

Overall, therefore, a general government deficit of 0.1 per cent of GDP is assumed for this year and the Government is on track to eliminate the headline deficit next year.

Public indebtedness remains high, with a debt-to-modified GNI ratio of 105.2 per cent in prospect for this year. Reducing public debt is a key priority for Government, and any windfall receipts – including those arising from any future asset disposals – will be used to retire debt. Net public indebtedness, i.e. gross general government financial liabilities less general government financial assets, is projected at around 55.2 per cent of GDP (90.7 per cent of modified GNI) at the end of this year.

Chapter 2

Economic Outlook

2.1 Summary

Incoming data have surprised on the upside and point to continued robust growth in the Irish economy. For this year, GDP is projected to increase by 7.5 per cent; the baseline scenario is for growth of 4.2 per cent next year.

While GDP figures continue to be distorted by the activities of a small number of multinationals, a range of other indicators – labour market data, tax revenue developments and trends in consumption and modified investment – confirm the broad-based strength of economic activity and, importantly, that the indigenous sectors are also playing a significant part in the growth trajectory.

The level of employment is projected to expand by over 60,000 jobs next year. In parallel, unemployment is expected to continue its downward trajectory, although the pace of decline should moderate as the economy closes in on full employment; an average unemployment rate of 5.2 per cent is in prospect for next year. Continued tightening in the labour market is expected to result in a modest acceleration in both wage and consumer price inflation next year.

Risks to the outlook have intensified since the Department's spring forecasts and are firmly tilted to the downside. In particular, the probability of a 'disorderly' UK exit from the EU next year has increased in recent months.⁴

2.2 Macroeconomic Outturn: 2018

GDP is forecast to increase by 7.5 per cent this year, an upward revision of almost 2 percentage points relative to the Department's spring forecasts. The upward revision reflects both statistical factors and, more importantly, a stronger-than-assumed expansion in 'underlying' (or modified) domestic demand. The latter category, which measures domestic demand but excludes the volatile components of investment spending, is projected to increase by over 5 per cent this year. This economic aggregate is often seen as a better approximation of activity in the Irish economy given that GDP continues to be inflated by statistical factors (see box 2).

Consumer spending is forecast to increase by 3.5 per cent this year, driven by gains in household disposable income, solid consumer confidence and muted inflation. Headline investment spending is set to contract this year; this is because of the assumed decline in business expenditure on intangible assets (these transactions are GDP-neutral in the short-term as the assets are sourced from abroad and, accordingly, classified as imports). Excluding these purchases, underlying investment is set to accelerate this year, with both the building and construction and the machinery and equipment components set to record double-digit growth rates.

Exports are forecast to expand by 7.0 per cent this year, with a significant contribution expected from the pharmaceutical sector. Exports associated with 'contract manufacturing' – exports of goods produced abroad under contract from an Irish-based entity⁵ – are assumed to make no contribution to export growth, in line with the pattern evident during the first half of the year. Notwithstanding a significant increase in exports of computer services and royalties, exports of services are forecast to

⁴ Risks to the macro-fiscal projections are outlined in more detail in chapter 6.

⁵ See '*GDP and Modified GNI – explanatory note*', Department of Finance, May 2018, available at: <https://www.finance.gov.ie/wp-content/uploads/2018/05/180504-GDP-and-Modified-GNI-Explanatory-Note-May-2018.pdf>

record their weakest performance since 2012, in large part due to a substantial decline in exports of business services.

On the other side of the trade equation, imports of goods and services are set to remain weak this year. This is largely down to a decline in imports of services, mainly arising from the significant drop in intellectual property imports (the counter-part to the assumed fall in intangible investment).

2.3 Macroeconomic Projections: 2019

The external backdrop for next year is something of a mixed bag at present (table 2). In terms of demand in key external markets, growth is set to remain modest in the UK, as uncertainty surrounding arrangements for its exit from the EU clouds the outlook. Having outperformed expectations last year, the cyclical recovery in the euro area has lost some momentum and a modest deceleration is in prospect for next year. Prospects for the US economy remain favourable, with fiscal stimulus likely to provide continued support in the short-term.

Prospects among advanced economies have, therefore, become less synchronised of late and this diverging pattern is also becoming a feature of emerging market economies (EMEs). In particular, several EMEs whose growth rates had, heretofore, been driven by capital inflows and debt accumulation, have seen sharp capital outflows, currency depreciation and rising domestic interest rates in recent months.

Downside risks to the global outlook have become more pronounced over the summer. Trade tensions have risen and a further escalation cannot be ruled out. The changing stance of monetary policy in advanced economies has exposed vulnerabilities in some regions; while the impact has been contained so far, spill-overs to other regions could have damaging effects. In the euro area, the scheduled ending of net asset purchases under quantitative easing at the end of this year could potentially expose some of the weak links in the single currency's architecture. Finally, and particularly relevant from an Irish perspective, a 'crash' exit of the UK from the EU would generate severe headwinds for the Irish economy.

Table 2: external assumptions, per cent change (unless stated)

	2017	2018	2019	2020	2021	2022	2023
External GDP growth							
United States	2.2	2.9	2.5	1.9	1.7	1.5	1.4
Euro area	2.4	2.0	1.9	1.7	1.5	1.5	1.4
United Kingdom	1.7	1.4	1.5	1.5	1.6	1.6	1.6
Technical assumptions							
Euro-sterling exchange rate (€1=)	0.88	0.89	0.89	0.89	0.89	0.89	0.89
Euro-dollar exchange rate (€1=)	1.13	1.19	1.16	1.16	1.16	1.16	1.16
Brent crude (dollars per barrel)	54.8	73.5	74.7	71.3	68.3	68.3	68.3

Oil prices (futures) in 2018 - 2021 are calculated on the basis of futures markets as of mid-September 2018. Oil prices are held constant from 2022 onwards.

Exchange rate outturns as of mid-September 2018 and unchanged thereafter.

Source: IMF World Economic Outlook (October) for 2018-2019. Projections from 2020 to 2023 are taken from the IMF World Economic Outlook (April 2018).

Commodity prices have increased sharply this year with, for instance, the dollar price of oil now at its highest level since 2014 (figure 1), reflecting *inter alia* heightened geopolitical tensions. Important exchange rate realignments have occurred over the summer, most notably the depreciation of the

euro vis-à-vis the dollar, which is mainly the result of market expectations regarding the interest rate cycle in the US. Because a large proportion of Irish exports are priced in dollars, an immediate effect of this will be to increase the euro price of Irish exports, although this positive terms-of-trade effect will likely be offset by higher oil prices. On the other hand, there has been a modest appreciation of the euro against sterling over the summer.

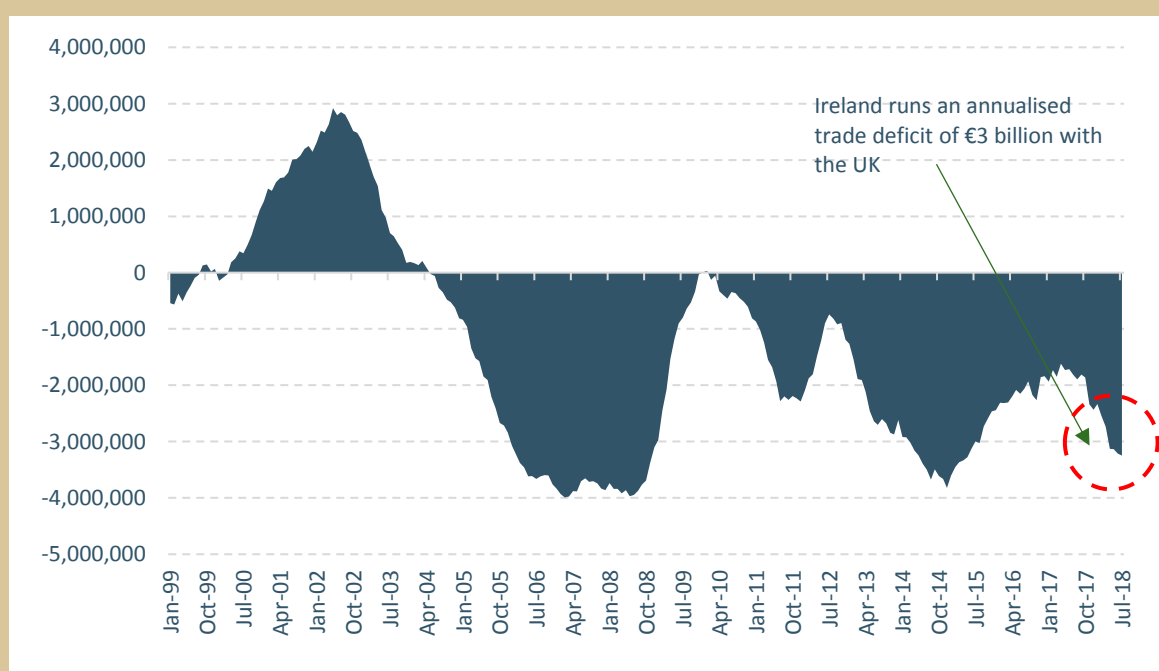
Against this generally favourable external backdrop, Irish exports are expected to increase by 5.6 per cent next year with strong contributions from both merchandise and service exports.

Box 1: Ireland's merchandise trade balance with the UK during EMU

On an annualised basis, Ireland runs a merchandise trade deficit with the UK – Irish merchandise imports from the UK exceed Irish exports to the UK – which amounts to around €3 billion at present.

There is, of course, considerable heterogeneity across the different merchandise categories. For instance, Ireland runs a large trade surplus with the UK in the medicinal / pharmaceutical products and meat / meat preparations categories; on the other hand, Ireland runs a significant trade deficit with the UK in energy-related products (petroleum, petroleum products and natural and manufactured gas).

IE-UK trade balance (goods), rolling 12-month total, € 000



Source: CSO

How has the trade balance evolved over time? The graph shows the net merchandise trade position since the beginning of monetary union. While sector-specific issues are relevant from time-to-time, a number of key macro-economic developments are noteworthy.

In the first few years of monetary union, Ireland ran a trade surplus with the UK, peaking at an annualised €3 billion in mid-2002. In part, this reflected the depreciation of the euro vis-à-vis sterling in the first years of monetary union as well as the relative competitiveness of the Irish economy at the time. Ireland's trade balance with the UK deteriorated between 2004 and 2008 reflecting the appreciation of euro against sterling as well as a generalised loss in competitiveness at the time. The impact of the collapse in domestic demand, exchange rate realignment and oil price developments largely eliminated the trade deficit, albeit temporarily.

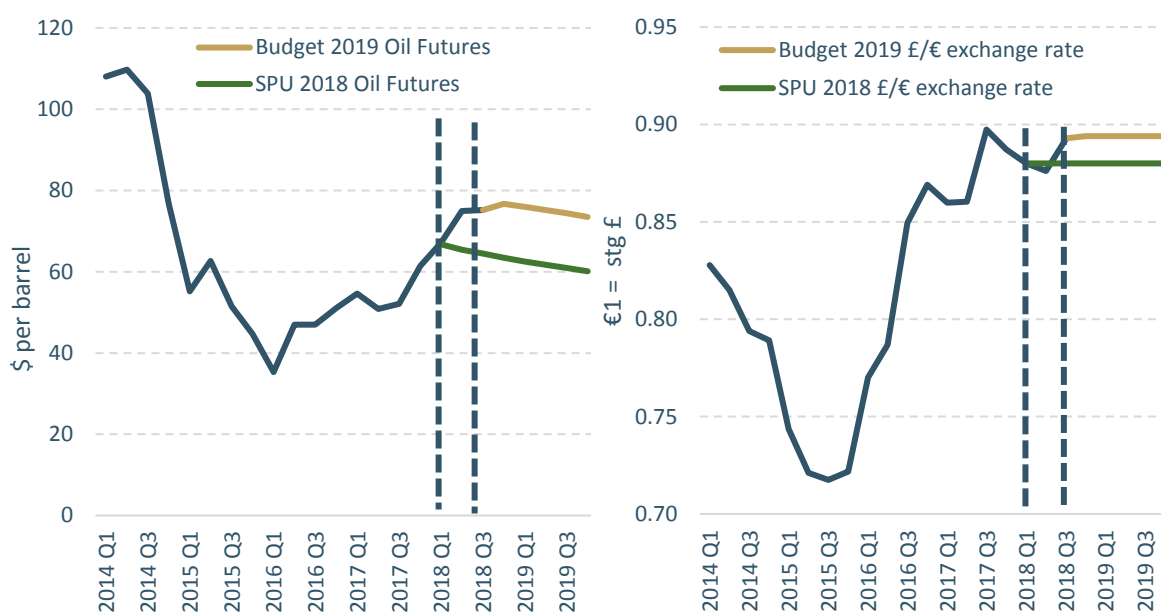
The recovery from the crisis has seen Ireland's goods trade with the UK once again turn strongly negative with the latest figures showing an annualised deficit reaching €3 billion in the mid-part of this year.

Modified domestic demand is projected to increase by just over 4 per cent next year. Personal consumer spending is projected to remain robust, rising by 3 per cent, as household income continues to benefit from *inter alia* higher levels of employment, an acceleration in wage growth and relatively subdued price inflation.

Investment is projected to increase by just over 7 per cent next year, with strong contributions across all sub-components of business spending. New house building and higher levels of public capital expenditure will continue to support building and construction investment, which is projected to increase by 8.4 per cent next year. Investment in machinery and equipment should expand next year as firms continue building productive capacity in order to meet anticipated future demand, both domestic and external. The forecasts for next year assume that on-shoring of intellectual property remains limited and, as a result, investment in intangible assets is assumed to return to more 'normal' rates of growth.

Imports of goods and services are projected to grow by 6.2 per cent next year broadly in line with final demand. Overall, therefore, GDP is forecast to increase by 4.2 per cent next year, with GNP projected to increase by 3.9 per cent.

Figure 1: change in external assumptions relative to spring forecasts



SPU relates to Stability Programme Update, which incorporates the Department's spring forecasts. In relation to exchange rates, the standard approach is to hold these constant at rates prevailing at a certain cut-off point (mid-March for the Department's spring forecasts and mid-September for the Department's autumn forecasts). Thus, given the appreciation of the euro against sterling since the spring, holding the exchange rate unchanged at mid-September levels would imply an appreciation of 1.6 per cent for 2019 relative to what had been assumed in the spring. Source: Macrobond (for oil prices) and Central Bank of Ireland (for exchange rate data).

Table 3: macroeconomic prospects

	2017	2018	2019	2020	2021	2022	2023
year-on-year per cent change							
real GDP	7.2	7.5	4.2	3.6	2.5	2.6	2.7
nominal GDP	7.6	9.3	6.2	5.4	4.4	4.4	4.5
real GNP	4.4	5.9	3.9	3.3	2.3	2.4	2.5
<i>components of GDP</i>							
personal consumption	1.6	3.5	3.0	2.6	2.1	2.2	2.4
government consumption	3.9	3.5	2.9	1.9	1.8	1.8	1.8
investment	-31.0	-8.9	7.1	5.7	4.4	4.3	4.3
stock changes [^]	-1.1	0.5	0.0	0.0	0.0	0.0	0.0
exports	7.8	7.0	5.6	4.8	3.8	3.7	3.6
imports	-9.4	0.9	6.2	5.3	4.5	4.3	4.1
<i>contributions to real GDP growth</i>							
domestic demand	-10.1	-0.5	2.7	2.2	1.8	1.8	1.9
net exports	19.1	7.5	1.4	1.3	0.7	0.8	0.8
stock changes	-1.1	0.5	0.0	0.0	0.0	0.0	0.0
statistical discrepancy	-0.8	0.0	0.0	0.0	0.0	0.0	0.0

Rounding can affect totals.

[^] contribution to GDP growth.

Source: 2017 - CSO; 2018 to 2023 - Department of Finance.

2.4 Balance of Payments

The trade surplus is set to increase to almost 35 per cent of GDP this year – its highest share on record – driven by robust growth in exports and the weakness of imports, the latter being linked to the decline in on-shoring activity. While profit outflows, in net terms, are expected to increase this year, they will continue to be restrained by high levels of depreciation of foreign-owned capital assets in Ireland (as depreciation is a charge against profits, higher levels of depreciation depress profitability and, hence, cross border profit flows). On this basis, a current account surplus of 12 per cent of GDP is projected for this year; if confirmed, it would be the largest surplus on record.

For next year, the headline current account surplus is expected to remain in the double-digits. Indeed, assuming that there are no further level shifts in the on-shoring of intellectual property assets, the current account will likely remain in significant surplus over the medium term.

Box 2: The growing importance of royalty payments in value-added

The domestic value-added captured in Irish exports is low relative to other countries, including other small open economies. This arises because the economy is deeply integrated in global supply-chains, with Irish exports heavily reliant on imports of intermediate goods.

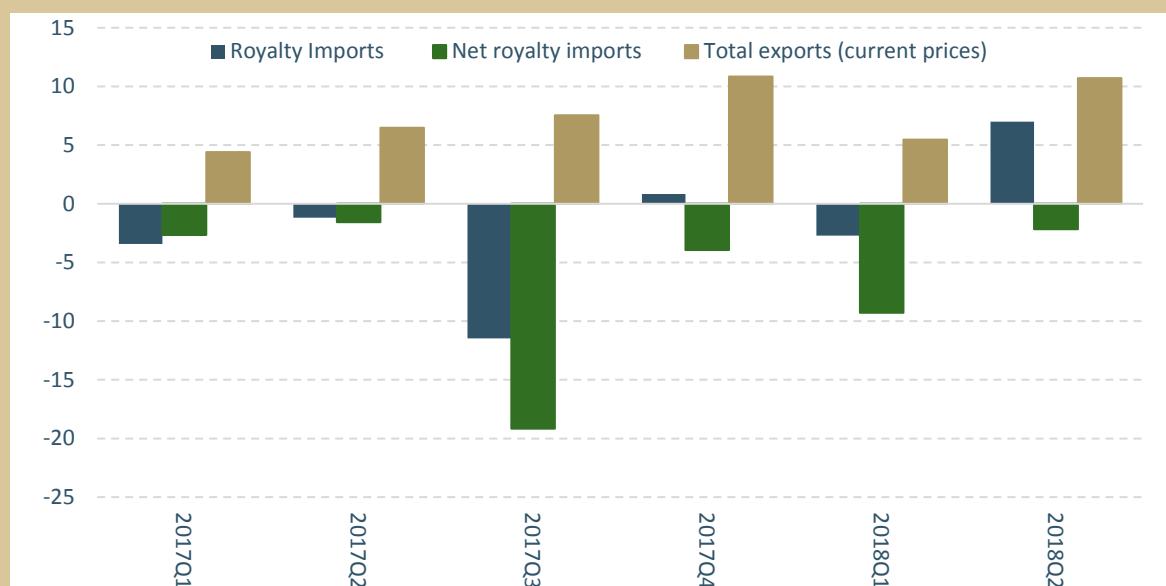
Intellectual property (IP) has become an increasingly important input to production – in Ireland and elsewhere – over the past decade or so. In order to produce goods and services for export, Irish-resident firms have typically made royalty payments to non-resident sister firms, which own the intellectual property. This payment is classified as an import and reduces the value-added embedded in the Irish exports.

The recent wave of IP on-shoring to Ireland means that production of goods and services using this on-shored IP no longer requires a royalty payment to non-residents. As a result, royalty imports have increased at a much lower rate than overall exports in recent quarters, raising the value-added of Irish exports, i.e. boosting GDP. As a simple example, if royalty imports had increased in line with the growth of exports in the first half

of this year, then *ceteris paribus* GDP growth would have been almost 1½ percentage points lower than was the case.

More recently, the export of royalty payments has become an additional channel through which the on-shoring of IP has raised value-added. Because Ireland is now housing a significant amount of IP, non-resident firms – often other parts of the same group – must pay the Irish-based entity a payment for use of the intellectual property, boosting exports accordingly.

Exports vs. (net) royalty imports, year-on-year growth



Source: CSO

As the graph illustrates, this has suppressed net royalty imports, i.e. imports less exports, even further. For instance, royalty exports have recorded an annual increase of over 60 per cent (€2.4 billion) in the first half of this year. As there are limited imports associated with these payments – other than the initial on-shoring decisions, which are GDP neutral in a direct sense – the increase in royalty exports has led to a similar increase in GDP, inflating growth by almost 2 percentage points over the same period.

In summary, notwithstanding the absence of significant IP on-shoring since 2017, foreign-owned intellectual property assets located in Ireland continue to distort the national accounts, by inflating both the level and growth rate of GDP. The Department’s estimates suggest that the weakness in net royalty imports boosted GDP growth by approximately 3 percentage points in the first half of this year.

The headline current account balance needs to be treated with caution, as it is inflated by the inclusion of foreign profits of ‘inverted’ firms (notwithstanding that the profits do not benefit Irish residents) and the depreciation bill associated with foreign-owned assets that are included in the Irish capital stock (notwithstanding that the bill must be borne by non-residents and not by Irish residents).⁶ On a modified basis – that is excluding these statistical distortions – a current account surplus of 1.3 per cent is forecast this year with a modest fall to 1.0 per cent in prospect for next year.⁷

⁶ However, the current account balance is also artificially lowered by significant R&D and aircraft leasing (net) imports.

⁷ This is based on the purely technical assumption that depreciation of foreign-owned, Irish-based capital assets and income from re-domiciled PLC’s both increase in line with GNP/GNI.

Table 4: savings, investment and the balance of payments, per cent of GDP (unless stated)

	2017	2018	2019	2020	2021	2022	2023
Gross Savings	34.1	34.9	35.2	35.4	35.1	35.1	34.9
<i>of which:</i>							
- households	3.5	3.2	3.1	2.9	2.5	2.5	2.4
- corporate	28.8	29.4	29.5	29.4	29.2	28.9	28.4
- government	1.8	2.3	2.6	3.1	3.3	3.7	4.0
Investment [^]	25.6	22.9	23.5	23.9	24.2	24.5	24.8
<i>of which:</i>							
- building and construction	7.4	8.1	8.7	9.1	9.4	9.7	10.1
- other investment	16.1	12.3	12.5	12.7	12.8	12.8	12.9
: investment in tangible assets	6.0	6.6	6.5	6.5	6.5	6.5	6.5
: investment in intangible assets	10.1	5.8	6.0	6.1	6.2	6.3	6.4
- change in stocks	1.2	1.6	1.5	1.4	1.3	1.3	1.2
- statistical discrepancy	0.9	0.9	0.8	0.8	0.7	0.7	0.7
Current account	8.5	12.0	11.7	11.5	10.9	10.5	10.0
<i>of which:</i>							
- trade balance	30.4	34.8	34.6	34.5	34.1	33.7	33.3
- income balance	-21.9	-22.8	-22.9	-23.1	-23.2	-23.3	-23.3
memo item:							
Modified current account ^{^^}	1.2	1.3	1.0	0.9	0.1	-0.5	-1.1

Rounding can affect totals.

[^] More specifically, gross capital formation which is the sum of gross domestic fixed capital formation, changes in stocks and the statistical discrepancy.

^{^^} expressed as per cent of modified GNI.

Source: 2017 - CSO; 2018 to 2023 - Department of Finance.

2.5 The Labour Market

The labour market is widely seen as the best barometer of the Irish economy at present, as it is unaffected by the statistical distortions which limit the information content of the national accounts. In this regard, recent trends are largely favourable. Employment increased by 3.1 per cent in the first half of the year, with the level of full-time equivalent employment increasing by 3.3 per cent. As a result, there are now more people working in Ireland than ever before. For this year as a whole, employment is projected to rise by 3.0 per cent (65,000 jobs). An average unemployment rate of 5.8 per cent is projected.

Table 5: labour market prospects, per cent change (unless stated)

	2017	2018	2019	2020	2021	2022	2023
Employment	2.9	3.0	2.8	2.2	1.5	1.6	1.7
Unemployment rate (LFS basis)	6.7	5.8	5.2	5.0	5.0	5.0	5.0
Labour productivity [^]	4.2	4.4	1.4	1.3	1.0	0.9	0.9
Compensation of employees*	4.7	6.0	6.4	5.6	4.8	5.3	5.6
Compensation per employee*	0.2	2.4	3.0	3.3	3.3	3.6	3.8

[^] GDP per person employed.

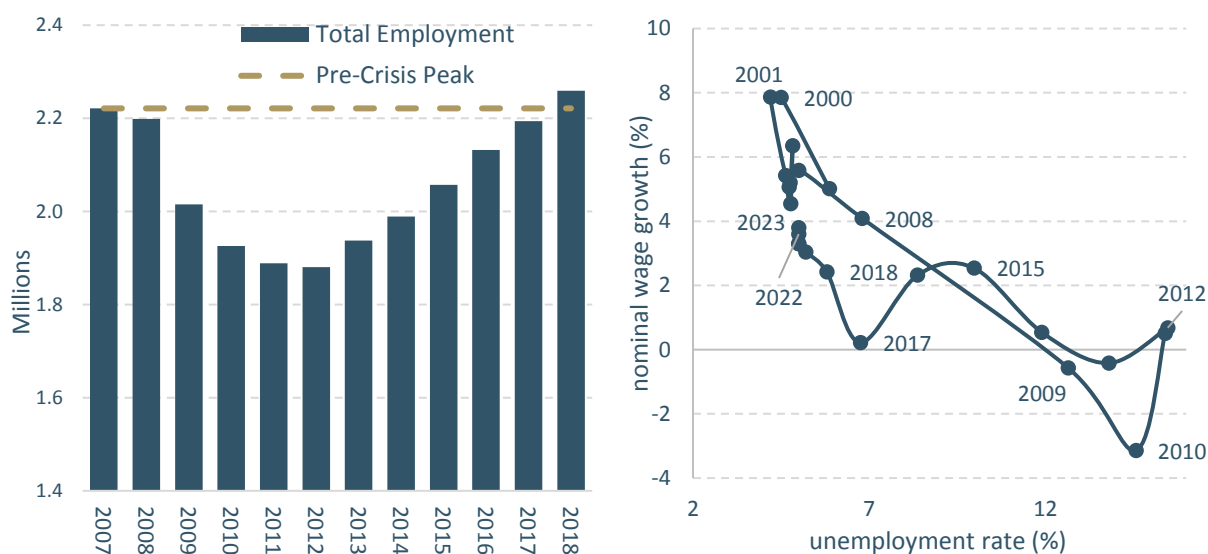
*Non-agricultural sector.

Source: 2017 - CSO; 2018 to 2023 - Department of Finance.

For next year, strong output growth should continue to support job creation, with employment projected to increase by 2.8 per cent (62,000 jobs). As is typically the case in Ireland, labour supply should react positively to job creation, with inward migration and higher participation rates assumed to boost the labour force by 2.1 per cent. As a result, unemployment is forecast to average 5.2 per cent next year, a significant decrease from the peak unemployment rate of 16 per cent recorded in early-2012.

The decline in the unemployment rate and the reduction in spare capacity in the economy is expected to put upward pressure on wages, with wage inflation set to accelerate from 2.4 per cent this year to 3.0 per cent next year.

Figure 2: employment and the phillips curve



Source: CSO and Department of Finance.

2.6 Price Developments

Inflationary pressures remain relatively contained, with the annual rate of inflation, as measured by the harmonised index of consumer prices (HICP), averaging just 0.6 per cent in the first eight months of the year. When the impact of rising oil prices is excluded, core inflation (which excludes the impact of energy and unprocessed food prices) averaged just 0.3 per cent over the same period. A modest pick-up in prices is expected over the remainder of the year, so that headline HICP inflation is projected to average 0.7 per cent (core inflation of 0.4 per cent) this year.

Futures markets suggest a modest increase in oil prices next year. On the other hand, the strong growth in domestic demand and an assumed pickup in wages should give rise to upward pressure on services prices. The drag from non-energy industrial goods is expected to gradually wane over the short-term in the absence of further exchange rate movements (a technical assumption). Taking all these factors into account, including the impact of indirect tax changes, headline inflation is expected to accelerate to 1.5 per cent in 2019, with core inflation averaging 1.4 per cent.

The GDP deflator – which accounts for price changes in all components of demand and, as such, is the broadest measure of price developments in the economy – is forecast to increase by 1.8 per cent this year, mainly driven by a pick-up in domestic prices. On the basis of the technical assumption of unchanged exchange rates from mid-September onwards, the terms-of-trade is projected to remain unchanged (export prices moving in line with import prices) next year. As a result, the GDP deflator is assumed to increase by 1.9 per cent next year, reflecting a positive contribution from domestic prices.

Table 6: price developments, per cent change

	2017	2018	2019	2020	2021	2022	2023
GDP deflator	0.4	1.8	1.9	1.8	1.8	1.7	1.7
Personal consumption deflator	1.4	1.5	2.0	2.1	2.9	2.4	2.6
Harmonised index of consumer prices (HICP)	0.3	0.7	1.5	1.7	2.9	2.4	2.6
Core HICP inflation [^]	0.0	0.4	1.4	1.8	3.0	2.4	2.6
Export price deflator (goods and services)	-0.3	0.5	1.4	1.4	1.5	1.4	1.4
Import price deflator (goods and services)	1.6	0.5	1.4	1.4	1.7	1.5	1.6
Terms-of-trade (good and services)	-1.9	0.0	0.0	0.0	-0.2	-0.1	-0.2

[^] 'Core' inflation excludes the impact of energy and unprocessed food.

Source: 2017 - CSO; 2018 to 2023 - Department of Finance.

2.7 Medium-Term Growth Prospects: 2020 – 2023

In any assessment of Ireland's medium-term growth prospects, it must be acknowledged that measurement of potential output is more complex for a small, open economy such as Ireland, which *inter alia* is characterised by significant cross-border mobility of labour and capital. In addition, statistical distortions arising from parts of the multinational sector add an additional layer of complexity to estimating the economy's supply capacity.

With this in mind, the Department's preferred estimates – based on the application of a multivariate statistical filter – suggest potential growth averaging around 3 per cent per annum over 2019-2023.⁸ As regards the cyclical position of the economy, the model estimates suggest a modest negative output gap in 2018, consistent with limited inflationary pressures in the economy and remaining slack in the labour market. However, the estimated output gap turns slightly positive next year and this widens thereafter, pointing to signs of overheating in the medium term.

The conventional approach to medium-term projections assumes that growth converges towards potential, i.e. output gap closure. However, there are two important potential developments on the horizon – that have been incorporated into the Department's baseline forecasts – which are likely to lead to a divergence in growth from potential.

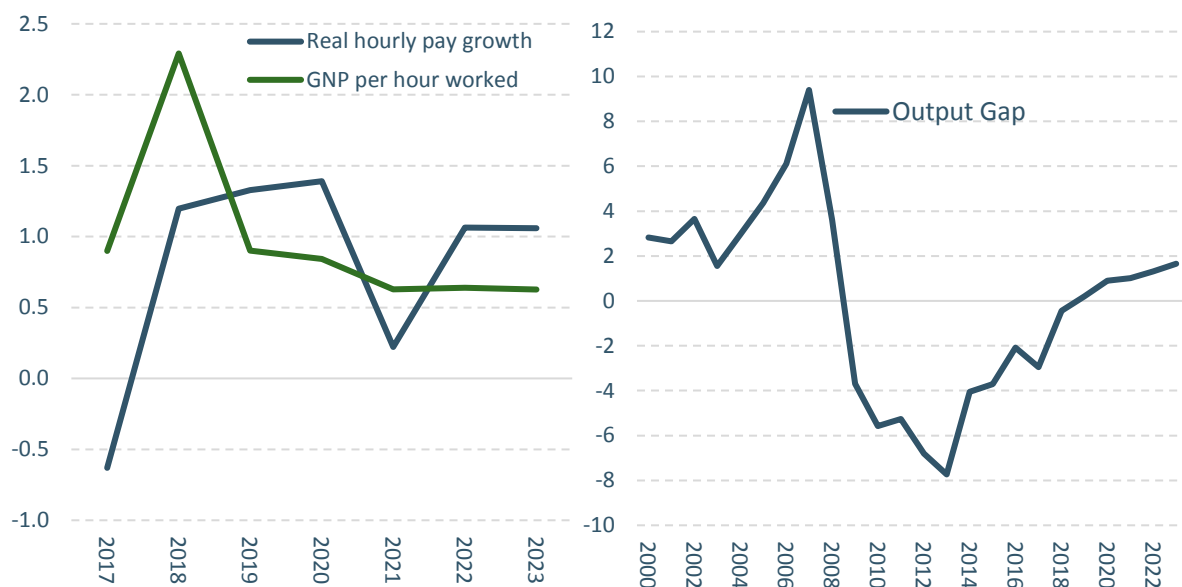
First and foremost is the potential impact of Brexit. Over the medium-term, the central scenario assumes that a transition period will be agreed that extends or replicates existing frameworks until end-2020, i.e. the UK is assumed to remain in the single market and customs union during this period. From 2021 onwards, the baseline forecasts assume that the EU and UK conclude a free trade agreement. This form of agreement is assumed to lower the level of GDP by almost 2 per cent over the 2021-2023 period relative to a no-Brexit baseline.

Second, following almost a decade of under-investment in the residential sector, house completions are projected to increase over the medium-term, exceeding equilibrium demand by the early part of the next decade and reaching almost 50,000 units by the end of the forecast horizon. While overshooting is necessary to meet significant unmet demand, if realised this will lead to a substantial reallocation of capital and labour from the traded sector to the less productive non-traded sector.

⁸ The limitations of the European Commission's 'harmonised' methodology for estimating potential output are discussed in Box 3. A technical paper providing more detail on the alternative methodology employed by the Department will be published shortly.

As the economy is expected to be operating at full employment from 2020 onwards, this is likely to give rise to upward pressure on domestic prices and wages, with the resulting loss of competitiveness leading to a deterioration in the current account balance. While boosting growth over the projection period, these overheating pressures could generate significant economic imbalances in the years ahead and it is important that these are monitored (see heat map in chapter 6).

Figure 3: medium term imbalances[^]



[^] GDP based output gap estimates, Department's alternative methodology.

Source: CSO and Department of Finance.

2.8 Comparison of Forecasts

This section compares the Department's forecast with those of other forecasting institutions as well as comparing how the Department's forecasts for this year and next have evolved since the last set of forecasts.⁹

Table 7 shows the Department's short-term forecasts relative to those of other public sector institutions. For this year, the differences in GDP growth primarily relate to timing. In particular, the Department's forecasts take into account the stronger than expected outturns in the first half of this year (these figures were not available at the time of the latest Central Bank, Commission and OECD forecasts). For next year, while timing remains an important factor, there is less variance in the forecasts with the range extending from 2.9 per cent to 4.5 per cent.

Figure 4 compares the Department's current forecasts with its spring forecasts published in the SPU at end-April. GDP growth for this year is almost 2 percentage points higher reflecting statistical factors and, more importantly, a stronger than assumed expansion in modified domestic demand. For next year, GDP growth is 0.2 percentage points higher due to *inter alia* stronger consumption and exports.

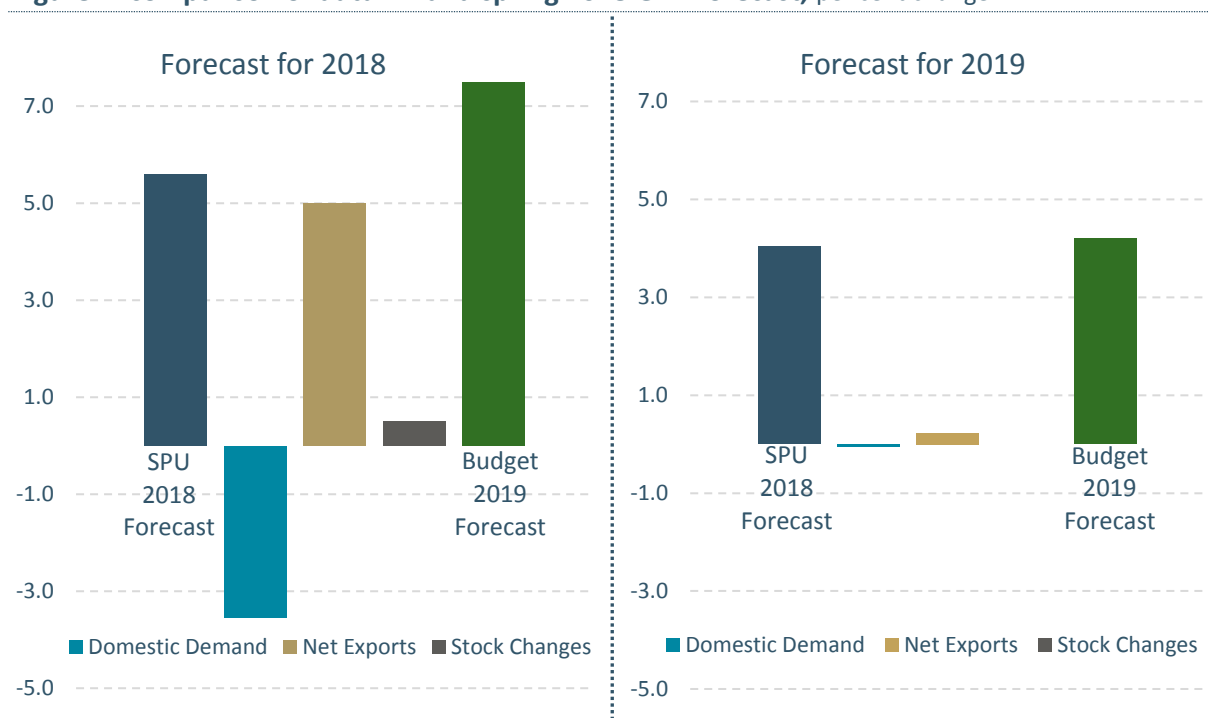
⁹ The Department publishes two sets of forecasts per annum – in the autumn (as part of the Budget) and in the spring (as part of the SPU).

Table 7: range of forecasts, per cent change

2018	GDP	GNP	HICP	Employment
Department of Finance	7.5	5.9	0.7	3.0
Central Bank of Ireland	4.7	4.2	0.7	2.6
IMF	4.7	n.a.	0.7	n.a.
ESRI	8.9	8.9	0.7	2.9
European Commission	5.6	n.a.	1.0	n.a.
OECD	4.0	n.a.	1.2	n.a.
2019	GDP	GNP	HICP	Employment
Department of Finance	4.2	3.9	1.5	2.8
Central Bank of Ireland	4.2	4.0	0.8	1.9
IMF	4.0	n.a.	1.2	n.a.
ESRI	4.5	4.7	1.1	2.5
European Commission	4.0	n.a.	1.3	n.a.
OECD	2.9	n.a.	2.1	n.a.

Source: latest set of projections from institutions cited.

Figure 4: comparison of autumn and spring 2018 GDP forecast, per cent change



Source: Department of Finance.

Chapter 3

Exchequer Developments and Outlook

3.1 Summary

An Exchequer deficit of €0.6 billion is projected for this year versus a €1.9 billion surplus recorded in 2017. When adjusted for the positive impact of €3.4 billion received from AIB share sale in 2017, the underlying position is an annual €0.9 billion improvement. A large portion of this can be attributed to an increase in capital resources arising from the expected return to the Exchequer of credit union funds later this year, along with various favourable developments on the revenue side.

Turning to 2019, an Exchequer Borrowing Requirement (EBR) of €2.3 billion is anticipated. The year-on-year widening of the 2019 EBR reflects *inter alia* the continued ramping-up of capital expenditure under the *National Development Plan 2018-2027* (NDP) and a €0.5 billion contribution from the Exchequer to the Rainy Day Fund (RDF), *albeit* partially offset elsewhere on the Exchequer account.

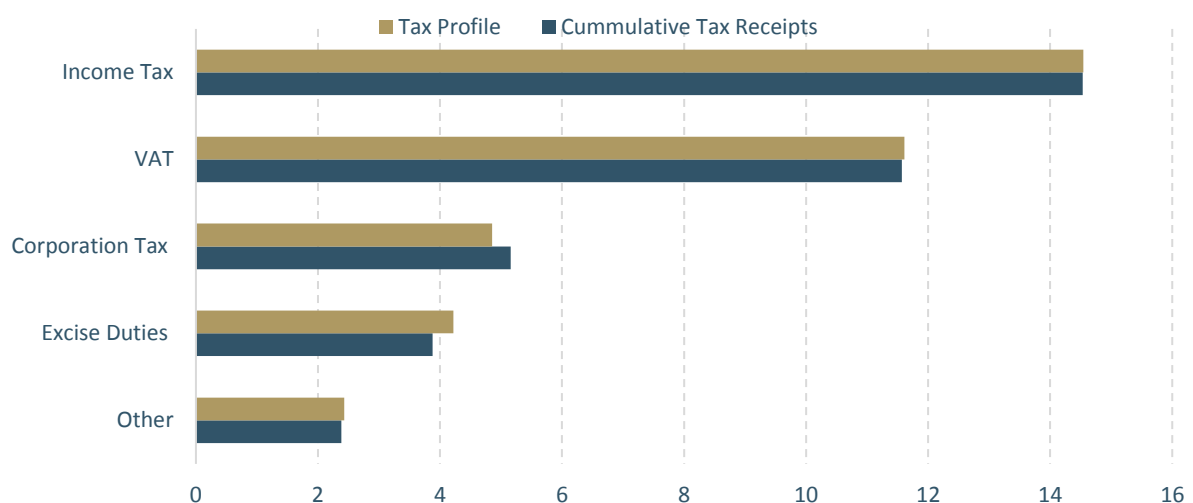
3.2 Exchequer Outturn: 2018

At end-September, total Exchequer tax revenues were broadly in-line with the Budget 2018 profile, with receipts up 5.2 per cent (€1.9 billion) relative to the same period last year. At the disaggregated level, the ‘big four’ tax heads (which combined, account for over 90 per cent of total taxation revenue) are up significantly in annual terms and are broadly in-line, if not ahead of, profile. The one exception is excise duties which have under-performed relative to expectations this year.

Income tax, the largest direct tax heading, performed solidly once again this year, finishing the year to end-September in line with profile. Receipts were up 6.8 per cent (€0.9 billion) year-on-year at end-September. PAYE income tax revenues, which account for about two-thirds of total income tax receipts, were up 10 per cent (€1.0 billion) annually, reflecting robust labour market conditions.

Corporation tax receipts are performing very strongly, driven by increased company profitability and a number of favourable ‘one-off’ developments. In the year to end-September, receipts in this heading were up 10.5 per cent (€0.5 billion) relative to the same period last year, boosted in part by the one-off impact of the adoption of the new International Financial Reporting Standard (IFRS 15) by some corporate taxpayers and separate company / sector-specific developments.

Figure 5: end-September cumulative tax receipts relative to profile, € billions



Source: Department of Finance.

Based on the performance in the year-to-date and information coming available to the Revenue Commissioners, a strong final quarter is now expected with receipts projected to finish the year approximately €1 billion ahead of expectations¹⁰. As the vast bulk of this over-performance is considered to be non-recurring in nature, this portion will not enter the forecast base for 2019.

Turning to indirect taxes, VAT receipts to end-September are in line with expectations. In line with the broadly-based economic recovery, growth is evident across a wide range of sectors. At end-September, total VAT receipts are up 5.0 per cent (€0.6 billion) relative to the same period last year. Given these trends, the projected full-year VAT yield is unchanged relative to this time last year.

Excise duties have lagged all year due, in the main, to the impact of the front-loading of tobacco stock in anticipation of the introduction of plain packaging in 2017. This activity, which helped boost receipts last year, has weighed on the 2018 yield. The shortfall is not expected to be recovered over the final quarter; as a result, the projection for excise duty receipts this year has been revised downwards by €0.2 billion.

In aggregate terms, the remaining tax heads – which includes capital, customs and motor taxes – are expected to close the year broadly in line with the original target (as set out in Budget 2018). Taking into account developments in the year to end-September, including anticipated tax developments over Quarter 4, the 2018 tax revenue forecast has been revised upwards to €55.1 billion.

The projection for non-tax revenue, including capital resources, has increased by €0.9 billion from the spring forecasts. This is primarily due to the expected return to the Exchequer of c. €0.5 billion in the Credit Union and Credit Institutions Resolution Funds, along with a further €0.1 billion in payments from IBRC. These increased receipts, while Exchequer positive, are neutral from a general government perspective, as under the *Eurostat* statistical treatment, they are classified as a financial transaction.

Projected total voted expenditure for this year, as provided for under the Government Expenditure Ceiling (GEC), is €62.8 billion. This is composed of €56.9 billion and €5.9 billion in current and capital expenditure respectively. This represents a 1.7 per cent (€1.0 billion) increase to the level of central government expenditure relative to the spring projection. This within-year increase, mainly on the current side, is primarily due to over-spending within the health sector, as previously signalled in both the *Summer Economic Statement* and *Mid-Year Expenditure Report*.

Non-voted current expenditure is projected to reach approximately €9 billion this year. This is €0.1 billion lower than assumed in the previous spring forecast and is due to a number of factors including a lower EU budget contribution and some debt service savings (these components together account for about 95 per cent of central fund expenditure). The projection for non-voted capital expenditure has increased by c. €0.2 billion relative to the previous vintage, due to an expected short-term, technical cash flow advance from the Exchequer to the supply account.

Considering all these developments, an Exchequer deficit of approximately €0.6 billion is projected for this year. This represents an €0.9 billion improvement on the SPU projection.

¹⁰ As successively noted in the fiscal risk assessment – see Table 22, the volatility and unpredictability of Irish corporation tax (CT) revenues can be partially accounted for by the concentration of receipts among a small number of firms. This feature of our CT tax base is widely recognised by commentators, including the Irish Fiscal Advisory Council, as creating a greater exposure to firm or sector-specific, idiosyncratic developments, which in turn is manifest through this specific direct tax channel.

Table 8: exchequer balance 2018-2023, € million

	2018	2019	2020	2021	2022	2023
CURRENT BUDGET						
Expenditure						
Gross voted current expenditure	56,900	59,260	60,705	62,145	63,700	65,295
Non-voted current expenditure*	8,935	8,435	8,480	8,030	8,415	8,820
Gross current expenditure	65,835	67,695	69,190	70,180	72,115	74,115
Less expenditure receipts and balances	12,385	12,735	12,890	13,045	13,205	13,360
Net current expenditure	53,455	54,960	56,295	57,130	58,910	60,760
Revenue						
Tax revenue	55,070	57,945	60,950	63,795	66,800	70,170
Non-tax revenue	2,835	2,550	1,430	1,280	1,265	1,220
Net current revenue	57,905	60,495	62,380	65,075	68,065	71,385
CURRENT BUDGET BALANCE	4,450	5,535	6,080	7,945	9,155	10,630
CAPITAL BUDGET						
Expenditure						
Gross voted capital expenditure	5,910	7,300	8,050	8,665	8,940	9,400
Non-voted capital expenditure*	1,050	1,130	1,145	1,125	1,155	1,190
Gross capital expenditure	6,960	8,430	9,195	9,795	10,095	10,590
Less capital receipts	20	20	20	20	20	20
Net capital expenditure	6,935	8,410	9,175	9,770	10,075	10,570
Revenue						
Capital resources	1,855	1,125	2,920	3,140	1,140	1,145
CAPITAL BUDGET BALANCE	-5,080	-7,285	-6,255	-6,630	-8,930	-9,425
RAINY DAY FUND	0	500	500	500	500	500
EXCHEQUER BALANCE	-630	-2,250	-670	810	-275	705
General Government Balance (GGB)	-315	-75	1,065	1,615	4,165	5,805
GGB, per cent of GDP	-0.1	0.0	0.3	0.4	1.1	1.4
GG debt, per cent of GDP	64.0	61.4	56.5	55.3	53.1	51.1
Government Expenditure Ceiling**	62,810	66,560	68,755	70,810	72,640	74,695
GDP nominal (nearest €25 million)	321,575	341,475	359,975	375,775	392,225	409,725

Rounded to nearest €5 million which may affect totals.

* Central Fund.

** GEC for years 2018 to 2021 as approved by Government. GEC for 2022 - 2023 is a technical assumption.

See Paragraph 7.2 of Chapter 7 regarding proposed general government neutral changes to be incorporated in the REV.

Source: Department of Finance.

3.3 Exchequer Outlook: 2019

Looking to next year, tax revenue is projected at €57.9 billion, once account is taken of measures announced in the Budget. Table 9 sets out the estimated impact of these taxation measures on next year's fiscal position.

In terms of the main tax headings, income tax is projected to increase by 6.8 per cent reflecting, in particular, the assumed continuation of strong employment and earnings growth.¹¹ Corporation tax receipts are currently forecast to decline next year: while profitability will continue to rise, around €0.7 billion of the 2018 corporation tax over-performance is estimated as one-off and does not feature in the projected receipts for next year. After adjusting for this non-recurring component of the 2018 revenues, corporation tax receipts are forecast to decline by 1.3 per cent next year.

On the indirect tax side, further growth in personal consumer spending should support a 7.4 per cent increase in VAT receipts. Following the unwinding of the distortionary impact from tobacco health measures, excises are projected to increase by 5.7 per cent on the adjusted 2018 outturn

Non-tax revenue for 2019, including capital resources, is now estimated at €3.7 billion, around €0.4 billion higher than previously forecast, due mainly to expectations of higher Central Bank surplus income and other dividend income.

Taking into account increases announced as part of the Budget, total voted expenditure next year is projected at €66.6 billion. Voted current expenditure is forecast at €59.3 billion, an annual increase of 4.1 per cent. Voted capital expenditure is forecast at €7.3 billion, an annual increase of 23.5 per cent as investment under the NDP continues to ramp up.

Non-voted current expenditure is projected at €8.4 billion next year, a €0.5 billion reduction from the previous baseline estimate. This is mainly due to a reduced EU budget contribution and lower debt servicing costs, partially offset by minor increases in other non-voted expenditure for planned referenda and Oireachtas spending.

Projected non-voted capital expenditure, at around €1.1 billion, has increased by almost €0.3 billion from the SPU due to increased Exchequer loans. These transactions are neutral from a general government perspective. In overall terms, therefore, an Exchequer deficit of €2.3 billion is projected for next year primarily due to a decline on the capital balance due to a combination of increased NDP investment and lower capital resource income combined with the commencement of annual contributions to the Rainy Day Fund.

3.4 Fiscal Outlook: 2020 – 2023

Capital resources in 2020 – 2021 are boosted by the distribution of a projected €3.5 billion surplus arising from the winding down of the National Asset Management Agency (NAMA). While benefitting the Exchequer cash position, this income does not impact upon the general government balance as it is treated as a financial transaction under ESA2010 accounting rules.

¹¹ Fiscal forecasts since SES 2016 have been presented on an ex post basis. These incorporate the use of projected allocations of fiscal space on a 2:1 ratio between spending and tax measures. For Budget 2019 the full €0.6bn, that had been included on an indicative basis to income tax measures in 2019, was not fully utilised, meaning that the remainder can be used to partially accommodate expenditure measures. However, the subsequent years over the forecast horizon still assume, on a technical basis, an average of €0.62bn in fiscal space directed towards tax reduction measures. This naturally assumes any policy decision will be confirmed by Government in advance of each respective Budget.

Given Ireland's elevated public indebtedness, it is the stated policy of Government that these proceeds, along with others arising from the resolution of the financial crisis, will be directed towards lowering our elevated stock of debt. This is in order to help ensure fiscal sustainability and to reduce the debt servicing burden, particularly as we face a number of potential external challenges, including Brexit.

Table 9: estimated impact of Budget 2019 on fiscal position in 2019, € million (unless stated)

	€m	€m
Tax reductions		-365
Revenue increases		715
VAT		460
Excise Duties		130
Other including compliance measures		50
National Training Fund Levy / PRSI Changes*		75
Net Revenue change		350
New expenditure measures		1,415
Current		1,385
Capital		35
<i>Impact of new measures on Budget 2019 forecast (=tax buoyancy)</i>		295
	White Paper	Budget 2019
Current expenditure		
Net voted current expenditure	45,400	46,525
Non-voted current expenditure	8,425	8,440
Net current expenditure	53,825	54,960
Current revenue		
Tax revenue	57,375	57,945
Non-tax revenue	2,550	2,550
Net current revenue	59,925	60,495
CURRENT BUDGET BALANCE	6,100	5,535
Capital expenditure		
Net voted capital expenditure	7,270	7,280
Non-voted capital expenditure	1,130	1,130
Net capital expenditure	8,900	8,410
Capital resources	1,125	1,125
CAPITAL BUDGET BALANCE	-7,270	7,285
EXCHEQUER BALANCE[^]	-1,670	-2,250
General Government Balance	640	-75
per cent of GDP	0.2%	0.0%

Rounded to nearest €5 million which affects totals.

*While the National Training Fund Levy / PRSI measures are part of the measures being announced in Budget 2019, the revenues generated are captured in the estimates of expenditure and receipts set out in table 8. They do not form part of the €57.9 billion post-Budget 2019 tax revenue forecast.

[^]Inclusive of an assumed €0.5 billion contribution to the Rainy Day Fund, to be included under non-voted capital expenditure on establishment.

Source: Department of Finance and the Department of Public Expenditure and Reform.

Table 10: alternative presentation of exchequer position, € million

	2018	2019	2020	2021	2022	2023
Revenue	69,025	72,085	74,770	77,565	80,695	84,140
: tax revenue	55,070	57,945	60,950	63,795	66,800	70,170
- Income tax	21,445	22,905	24,230	25,550	27,100	28,830
- VAT	14,090	15,140	15,970	16,740	17,530	18,400
- Corporation tax	9,605	9,480	9,990	10,420	10,840	11,270
- Excise duties	5,620	5,940	6,135	6,275	6,430	6,595
- Stamp duties	1,575	1,675	1,765	1,845	1,835	1,900
- Motor Tax	980	940	900	915	930	945
- Customs	345	365	385	405	425	440
- Capital gains tax	945	1,000	1,055	1,100	1,145	1,195
- Capital acquisitions tax	470	495	520	540	565	590
: A-in-As (inc. PRSI, NTF and balances)	12,405	12,755	12,910	13,070	13,225	13,380
: non-tax revenue	1,405	1,315	845	635	600	520
- Central bank surplus income	670	565	315	135	80	-40
- Dividends	280	285	290	255	275	310
- other	455	460	240	245	245	245
: capital resources	145	75	65	70	70	75
Expenditure	71,735	74,990	77,230	78,840	81,045	83,510
: gross voted current expenditure	56,900	59,260	60,705	62,145	63,700	65,295
: non-voted current expenditure	8,925	8,430	8,475	8,025	8,405	8,815
- national debt interest	5,815	5,320	5,090	4,430	4,685	4,945
- debt management expenses	185	200	170	165	160	160
- EU budget contribution	2,575	2,575	2,875	3,050	3,200	3,350
- Oireachtas	135	150	140	140	140	140
- other	215	185	200	245	225	220
: gross voted capital expenditure	5,910	7,300	8,050	8,665	8,940	9,400
Balance excluding transactions with no GG impact	-2,710	-2,905	-2,460	-1,270	-355	630
Revenue transactions with no GG impact	3,140	2,290	3,440	3,715	1,740	1,770
: non-tax revenue	1,430	1,240	590	645	665	700
- Central bank surplus income	1,430	1,240	590	645	665	700
: capital resources	1,710	1,055	2,850	3,070	1,070	1,070
- NAMA	0	0	1,500	2,000	0	0
- FEOGA	740	800	800	800	800	800
- Loan repayments	970	245	550	270	270	270
- Other	0	10	0	0	0	0
Expenditure transactions with no GG impact	1,060	1,635	1,650	1,635	1,660	1,695
: non-voted current expenditure	10	5	5	5	5	5
- Other	10	5	5	5	5	5
: non-voted capital expenditure	1,050	1,130	1,145	1,125	1,155	1,190
- FEOGA	800	800	800	800	800	800
- Loans to Irish Water	240	310	335	315	345	385
- Other	10	20	15	10	5	5
: transfer to Rainy Day Fund	0	500	500	500	500	500
Transactions with no GG impact	2,080	655	1,790	2,085	80	75
Exchequer balance	-630	-2,250	-670	810	-275	705

Point-in-time forecasts based on information available at October 2019, rounded to the nearest €5 million which affects totals.

Source: Department of Finance.

3.5 Rainy Day Fund

Legislation to establish a Rainy Day Fund (RDF) is currently being prepared. The National Surplus (Reserve Fund for Exceptional Contingencies) Bill 2018, will be published in the coming weeks, with a view to commencing the legislative process shortly thereafter. Upon its establishment, the Fund will be seeded with an initial €1.5 billion contribution from the Ireland Strategic Investment Fund (ISIF).

In addition, the Government has announced it is setting aside some of the historically high levels of corporation tax for the purpose of capitalising the RDF. With this in mind, a contribution of €500 million per annum to the fund will be provided for in Budget 2019 commencing next year and continuing over the current forecast horizon. From the perspective of the sustainability of the public finances, this means the risk of permanently increasing expenditure on the basis of transient receipts is reduced.

The RDF will be capped at an overall level of €8 billion which provides sufficient scope to deal with its intended remit. Annual transfers from the Exchequer to the Fund, while impacting the EBR, are neutral from a general government perspective as they are transfers from one branch of general government to another.

Chapter 4

General Government Developments and Outlook

4.1 Summary

A general government deficit of 0.1 per cent of GDP is projected for this year. Next year it is anticipated that the headline deficit will be eliminated – the first time since 2007. After adjusting for the impact of the cycle, the estimated structural balance next year is broadly in line with achievement of the medium term objective of a balanced budget in structural terms.

4.2 General Government Balance: 2018

General government revenue is projected at €80,830 million this year, an annual increase of 5.6 per cent. General government expenditure is projected at €81,145 million this year, 5.0 per cent higher than last year. As a result, a general government deficit of €315 million is projected for 2018, the equivalent of 0.1 per cent of GDP.

Table 11: exchequer balance to GGB 2017-2023, € million (unless stated)

Description	2017	2018	2019	2020	2021	2022	2023
Exchequer balance	1,910	-630	-2,250	-670	810	-275	705
Walk ¹	-2,640	315	2,175	1,735	805	4,440	5,100
General Government balance	-730	-315	-75	1,065	1,615	4,165	5,805
of which:							
General Government revenue	76,545	80,830	85,235	88,900	92,600	96,645	100,675
Taxes on production and imports	24,680	25,165	26,485	27,580	28,610	29,570	30,630
Current taxes on income, wealth	30,800	34,235	35,550	37,405	39,210	41,240	43,465
Capital taxes	450	450	475	500	520	545	570
Social contributions	12,640	13,265	14,700	15,485	16,290	17,125	17,905
Property Income	1,770	1,515	1,465	1,265	1,080	1,085	1,015
Other	6,205	6,205	6,555	6,665	6,885	7,085	7,095
General Government expenditure	77,275	81,145	85,310	87,840	90,985	92,480	94,865
Compensation of employees	20,680	21,955	23,030	23,425	23,655	23,685	23,715
Intermediate consumption	9,865	10,955	12,885	13,270	13,680	14,030	13,965
Social payments	29,005	29,100	29,625	30,180	30,500	30,585	30,745
Interest expenditure	5,805	5,290	4,985	4,735	4,535	4,845	5,085
Subsidies	1,825	1,835	1,830	1,850	1,840	1,795	1,875
Gross fixed capital formation	5,360	6,805	7,745	7,990	8,345	8,710	9,305
Capital transfers	1,600	1,465	1,660	1,910	3,080	2,285	2,365
Other	3,130	3,740	3,555	3,870	4,015	4,120	4,245
Resources not allocated	0	0	0	605	1,330	2,430	3,570
memo items							
GG balance, per cent GDP	-0.2	-0.1	0.0	0.3	0.4	1.1	1.4
GG balance, per cent GNI* ²	-0.4	-0.2	0.0	0.5	0.7	1.8	2.3
Total revenue, per cent GDP	26.0	25.1	25.0	24.7	24.6	24.6	24.6
Total revenue, per cent GNI* ²	42.2	41.3	41.1	40.7	40.7	40.7	40.6
Total expenditure, per cent GDP	26.3	25.2	25.0	24.4	24.2	23.6	23.2
Total expenditure, per cent GNI* ²	42.7	41.4	41.1	40.2	40.0	39.0	38.3

1. The 'walk' from the exchequer balance to the general government balance is set out in table A1 in the appendix.

2. Forecast of modified GNI (GNI*) is a purely technical assumption, for illustrative purposes only, moving in line with GNI. See Annex 4 for nominal GDP and GNI*.

Source: Department of Finance

4.3 General Government Balance: 2019

For next year, general government revenue is forecast at €85,235 million, an annual increase of 5.4 per cent. The increase is mainly attributable to stronger general government tax receipts. General government primary expenditure is forecast at €80,325 million, 5.9 per cent higher than last year. With interest expenditure amounting to a projected €4,985 million, total general government expenditure is forecast at €85,310. As a result, the headline deficit will be eliminated next year for the first time since 2007.

Table 12 presents the estimates of local government income and expenditure for next year (these figures will be updated in the Revised Estimates Volume). This information is published in line with the requirements of Regulation (EU) 473/2013 on common provisions for monitoring and assessing draft budgetary plans and ensuring the correction of excessive deficit of the euro area Member States, which requires the main parameters of sub-sectors of general government to be included in the Budget (for Ireland, the local government is the only sub-sector of general government).

Table 12: estimate of local government[^] income and expenditure for 2019, € million

	2019
General government revenues / inflows	8,329
Rates / NPPR (net of bad debt provision for rates)	1,549
Property income	1,432
Other receipts	656
Inflows from central government ¹	4,579
Inflows from operations in financial instruments ²	112
General government expenditure / outflows	8,643
Compensation of employees ³	1,959
Interest paid to non-government ⁴	4
Social benefits (transfers in kind to households)	780
Capital transfers (capital grants paid)	3,095
Other expenditure (net of bad debt provision for rates)	2,704
Outflows to central government ⁵	58
Outflows from operations in financial instruments ⁶	44
Local government balance	-313

Figures may not sum due to rounding.

[^] As set out in the Stability Programme Update 2018 this sector includes approved housing bodies.

1. Grants and subsidies.

2. Loans.

3. Including pensions.

4. Interest paid other than to the HFA, OPW or NTMA.

5. Interest and principal paid to the HFA, OPW and NTMA.

6. Principal repaid, other than to the HFA, OPW or NTMA.

Source: Department of Housing, Planning and Local Government.

4.4 Compliance with fiscal rules

Estimates of the structural balance are highly uncertain in an Irish context (see box 3). Nevertheless, estimates on a harmonised basis – set out in annex 5 – show that the MTO is broadly achieved next year.

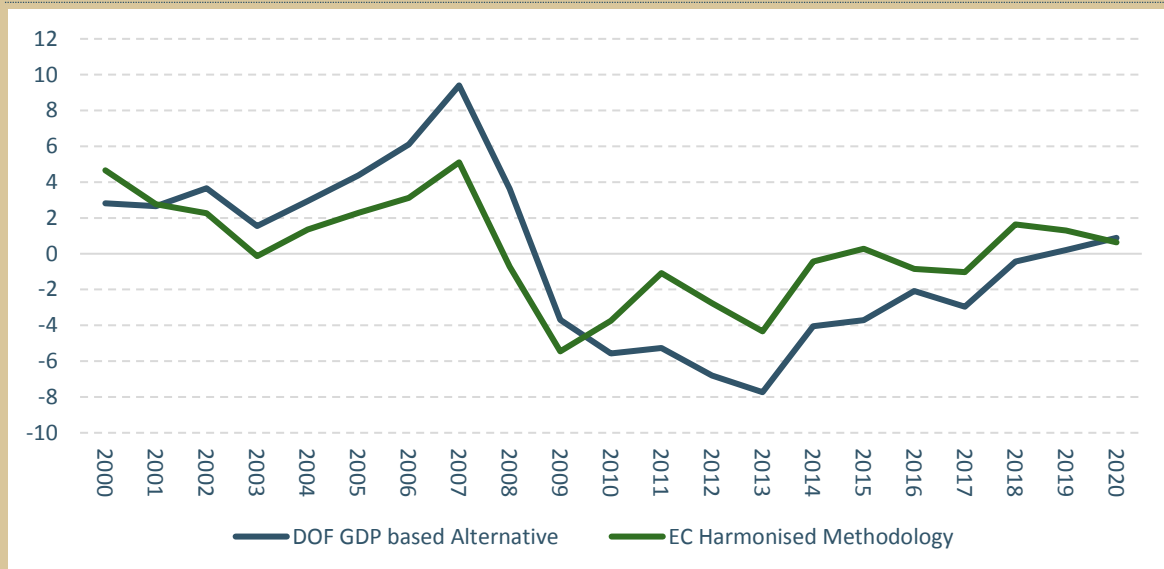
Box 3: The limitations of the Harmonised Methodology for Ireland

Since 2015, the public finances in Ireland have been subject to the preventive arm of the Stability and Growth Pact (SGP). A key requirement of preventive arm is that Member States meet or progress towards their Medium Term Budgetary Objective (MTO). As the MTO is set in cyclically-adjusted terms, an estimate of the economic cycle – the output gap – is needed. Compliance with the preventive arm is undertaken on the basis of the European Commission’s ‘harmonised’ production function approach for estimating the output gap.

As documented on many occasions, this (largely) one-size-fits-all approach often provides counter-intuitive results for an economy like Ireland’s, characterised inter alia by an elastic labour supply and cross-border mobility of capital. The mobility of the factors of production can lead to pro-cyclical estimates of potential output (i.e. potential output growth closes tracks actual output growth) and difficulties in the estimation of total factor productivity and the measurement of capital stock. In more recent years, the methodology has struggled to adequately deal with distortions in Ireland’s GDP.

The Department has worked to produce an alternative methodology (paper forthcoming) although compliance with the preventive arm will still be undertaken on the basis of the existing approach.

Estimating the Output Gap for Ireland



Source: Department of Finance calculations.

In terms of the trajectories for the output gap using the different approaches, the most recent estimates of Ireland’s output gap produced by the harmonised methodology suggest that the output gap turned positive in 2015 and will peak in 2018 before closing over the medium term. Such a narrative would appear to be inconsistent with the lack of inflationary pressure in the economy at the time and the slow recovery of the economy after the recession. In contrast, the Department’s alternative output gap estimates based on GDP suggest a more intuitive narrative – depicting an economy which gradually returns to its potential by 2019 with the output gap widening thereafter.

Given shortcomings with the structural balance, the expenditure benchmark is the preferred yardstick for guiding compliance with the fiscal rules. Table 13 shows the Department’s assessment of fiscal policy, given the very open nature of the Irish economy and the corresponding volatility in measuring of potential GDP. Based on the projections set out in the *Summer Economic Statement* the budgetary forecasts for 2018 and 2019 were broadly compliant.

While from a deficit perspective the emerging expenditure pressures have been largely met by tax buoyancy, the benchmark does not take this factor into consideration. Therefore, under the current assumptions for the remainder of the year a deviation of 0.4 per cent of GDP for 2018 is likely. At this stage, the *ex ante* two-year assessment of 2017 and 2018 combined shows a projected deviation of

0.4 per cent of GDP, although the *ex post* assessment will be undertaken by the Commission on the basis of outturn (rather than forecast) data.

As the assessment of 2019 is relative to 2018 the current projections indicate compliance by 0.2 per cent of GDP. On the two-year basis there is a deviation of -0.1 per cent.

Table 13: comparison of expenditure benchmark compliance, per cent of GDP

	2018		2019	
	SES	Budget	SES	Budget
One year assessment (year t)	-0.1	-0.4	0.4	0.2
Two year average (year t-1 and t)	-0.3	-0.4	0.2	-0.1

Note: a negative indicates a breach of the expenditure benchmark. The threshold for a significant deviation is at least 0.5 per cent of GDP in a single year or cumulatively in two consecutive years.

Source: Department of Finance

4.5 Comparison of forecasts

Table 14 shows how the Department's fiscal forecasts compare with those of other public sector institutions. For the headline balance, there is very little variance amongst the set of forecasts for this year. For general government debt, the range extends from 64.0 per cent of GDP to 66.3 per cent (debt dynamics are set out in chapter 5).

Table 14: comparison of budgetary forecasts, per cent of GDP

2018		GG debt	GG Balance
Department of Finance	Oct-18	64.0	-0.1
IMF	Jun-18	65.9	-0.2
ESRI	Oct-18	64.2	-0.2
European Commission	May-18	65.6	-0.2
OECD	May-18	66.3	-0.3

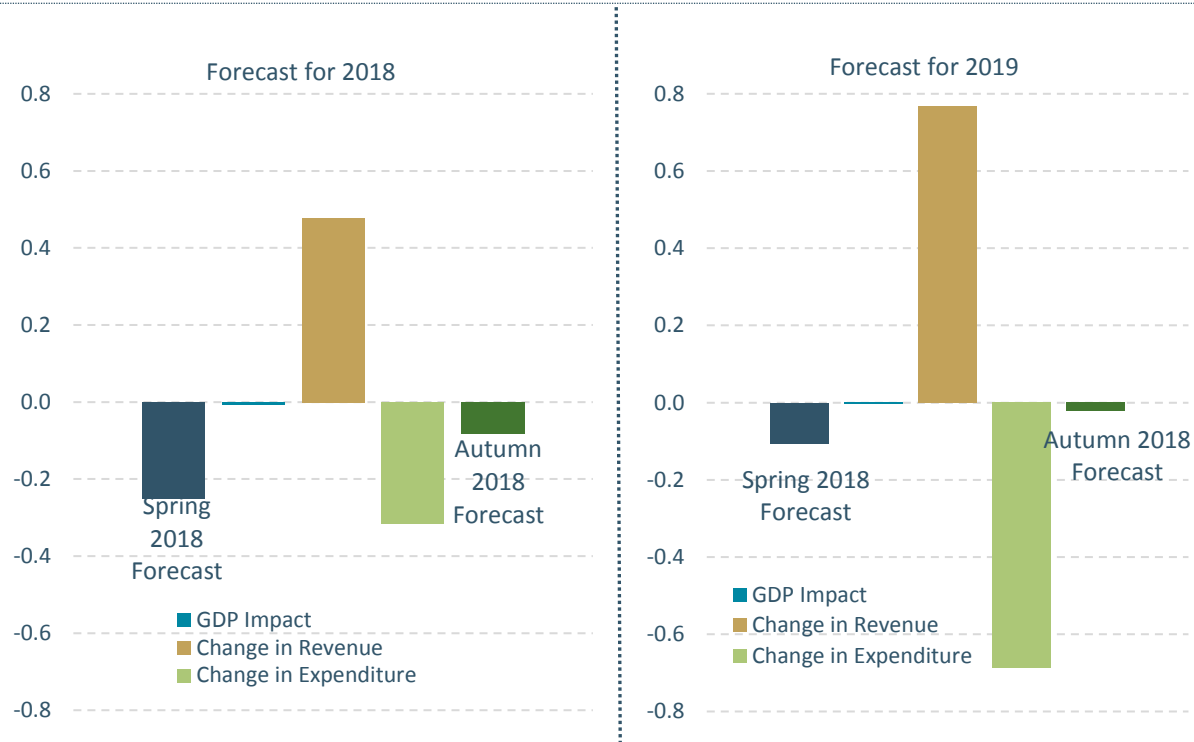
2019		GG debt	GG Balance
Department of Finance	Oct-18	61.4	0.0
IMF	Jun-18	63.5	-0.1
ESRI	Oct-18	60.7	0.1
European Commission	May-18	63.2	-0.2
OECD	May-18	63.7	-0.2

GG = general government.

Source: latest forecasts of institutions cited.

Figure 6 below compares the Department's autumn forecasts for the general government balance with its spring forecasts published in the SPU at end April. The forecast for the general government balance is slightly better than assumed in the spring forecasts while the forecast for next year has slightly improved (0.1 pp)

Figure 6: comparison of autumn and spring 2018 GG balance forecast, per cent change



Source: Department of Finance.

Chapter 5 General Government Debt

5.1 Summary

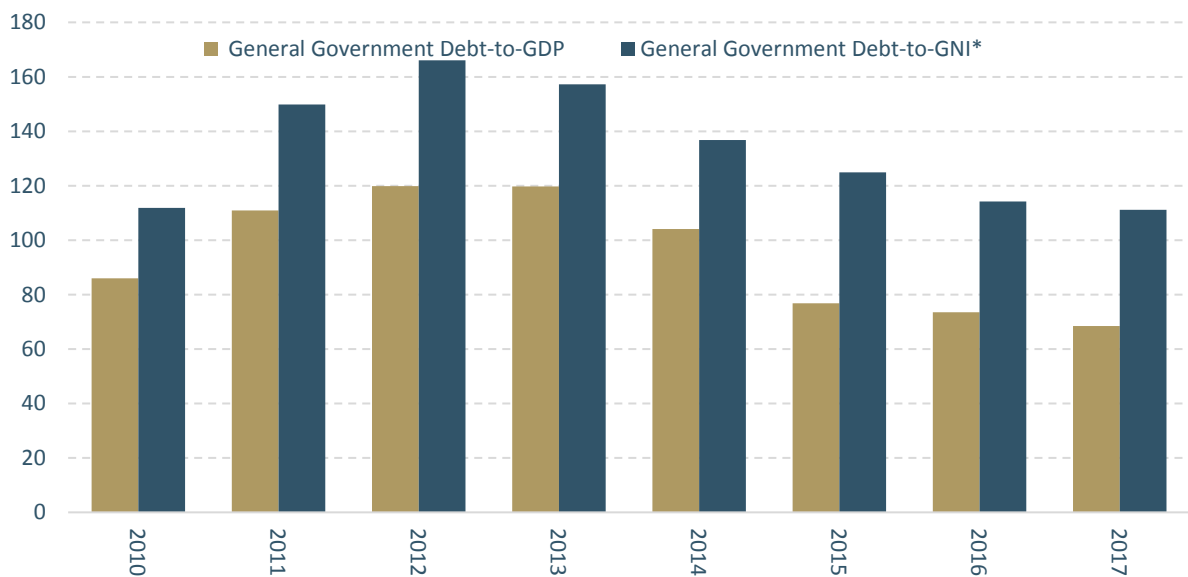
While the debt-to-income ratio continues to fall, the decline is solely due to income growth. The level of public debt in Ireland, at over €200 billion, remains high both by historical and international standards; on a per capita basis, for instance, Irish public debt is one of the highest among the world's most advanced economies.

5.2 Debt Developments

At end-2017, Ireland's general government gross debt stood at €201.3 billion, or 68.4 per cent of GDP. While the absolute level of debt is expected to increase slightly this year, the ratio is set to decline further to 64.0 per cent by year end. The ratio has fallen considerably since the peak of just below 120 per cent in 2012, particularly so in 2015 because of the unprecedented GDP growth rate that year.

Modified gross national income (GNI*) is a better measure of repayment capacity in Ireland, as it excludes many of the factors that artificially inflate the level of GDP in Ireland. On this basis, the debt ratio is projected at 105.2 per cent at the end of this year. Therefore, while debt remains manageable in Ireland, it is crucial that the burden of debt is reduced further.

Figure 7: general government debt-to-GDP and debt-to-GNI*, per cent



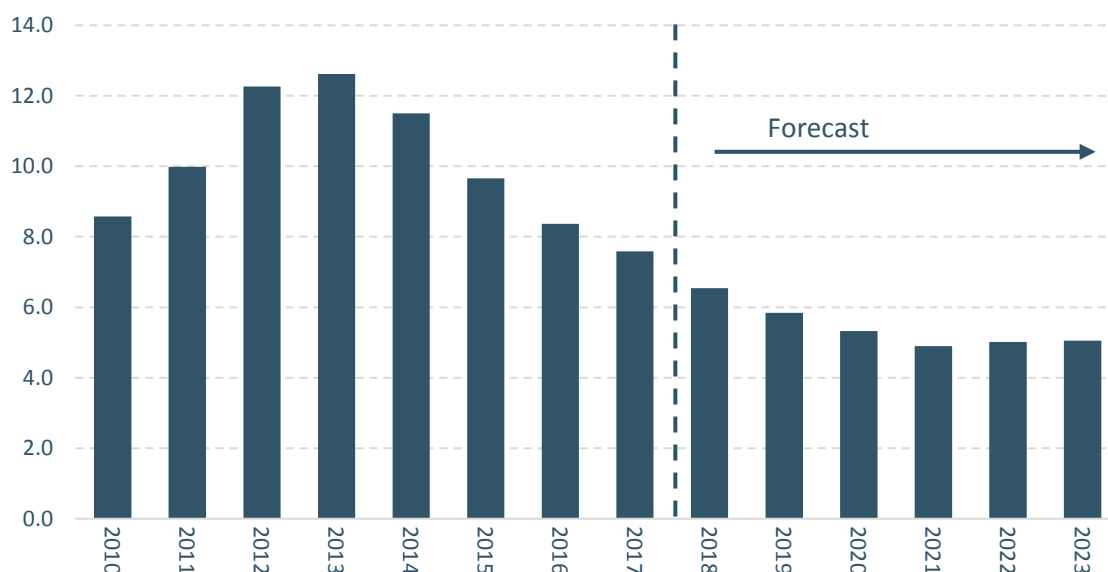
Source: Department of Finance, CSO

Debt interest payments as a percentage of total general government revenue is a useful way of assessing debt sustainability. As this measure is dependent on domestic revenue streams, it is less prone to distortion by the effects of globalisation on the Irish economy. Accordingly, it provides a better insight than the debt-to-GDP measure into repayment capacity.

Figure 8 shows the portion of general government revenue absorbed by debt interest payments over the period 2010 – 2023. After peaking in 2013 at close to 13 per cent, this metric has subsequently

been on a downward trajectory, reflecting a combination of higher general government revenue and lower interest payments. This year it will be below 7 per cent.

Figure 8: debt interest to revenue ratio, per cent



Source: Department of Finance, CSO

While it is important to analyse debt dynamics using a wider set of variables, legal obligations – as set out in the *Stability and Growth Pact* – are set with reference to movements in the debt-to-GDP ratio. In this regard, the debt ratio is projected to fall to 64.0 per cent of GDP this year and to 61.4 per cent of GDP next year. The main factors driving the debt ratio lower are the projected primary surpluses, both this year and next, as well as the strong forecast nominal output growth. The forecast movements in debt levels and debt dynamics are set out in Table 15.

Table 15: general government debt developments, per cent of GDP (unless stated)

	2017	2018	2019	2020	2021	2022	2023
Gross Debt (€ billions)	201.3	205.9	209.6	203.3	207.7	208.4	209.4
Gross debt ratio	68.4	64.0	61.4	56.5	55.3	53.1	51.1
Change in gross debt ratio(=1+2+3)	-5.0	-4.4	-2.6	-4.9	-1.2	-2.2	-2.0
Contributions to change in gross debt ratio: ¹							
General Government deficit (1=1a+1b)	0.2	0.1	0.0	-0.3	-0.4	-1.1	-1.4
:interest expenditure (1a)	2.0	1.6	1.5	1.3	1.2	1.2	1.2
:primary balance (1b)	-1.7	-1.5	-1.4	-1.6	-1.6	-2.3	-2.7
Stock-flow adjustment (2=2a+2b+2c+2d+2e+2f+2g)	0.0	1.3	1.1	-1.5	1.6	1.2	1.7
:change in liquid assets (2a)	0.7	0.8	0.0	-2.4	0.9	-0.2	0.1
:interest adjustments (2b)	0.1	0.2	0.1	0.1	0.0	0.0	0.0
:equity transactions (2c)	-1.6	-0.7	-0.3	-0.6	-0.7	-0.1	-0.1
:accrual adjustments (2d)	0.2	0.2	0.2	0.2	-0.1	0.2	0.2
:impact of ISIF (2e)	0.1	0.1	0.1	0.1	0.1	0.1	0.1
:collateral held (2f)	-0.2	0.0	0.0	0.0	0.0	0.0	0.0
:other (2g)	0.8	0.6	0.8	1.1	1.3	1.3	1.4
Nominal GDP contribution (3)	-5.2	-5.8	-3.7	-3.2	-2.4	-2.3	-2.3
Memorandum items:							
:average interest rate	2.9	2.6	2.4	2.3	2.2	2.3	2.4
:Gross debt per cent of GNI*	111.1	105.2	101.0	93.1	91.2	87.8	84.5

Figures may not sum due to rounding.

1. A positive sign indicates that a component is increasing the debt ratio and vice versa.

2. Modified GNI (GNI*) is a purely technical assumption, for illustrative purposes only, moving in line with GNI. Nominal GNI* is presented in Annex 4.

Sources: CSO, Department of Finance and NTMA (National debt data provider).

General Government debt, as defined under the Excessive Deficit Procedure (EDP) regulation, is a gross measure of government liabilities. Net general government debt (obtained by deducing the value of the financial assets corresponding to the categories of financial liabilities which comprise gross debt) is reported in table 16. The assets deducted include:

- Exchequer cash
- Ireland Strategic Investment Fund (ISIF) cash and non-equity investments;
- Other cash and assets held by general government.

Table 16: gross and net general government debt, per cent of GDP at end-year

	2017	2018	2019	2020	2021	2022	2023
General government debt (gross)	68.4	64.0	61.4	56.5	55.3	53.1	51.1
EDP debt instrument assets	8.7	8.8	8.3	5.5	6.2	5.6	5.4
Net debt position	59.7	55.2	53.1	51.0	49.1	47.5	45.7

Source: CSO and Department of Finance and NTMA (National debt data provider).

Credit Ratings

Ireland's long-term credit rating is firmly in the 'A' category with all of the main credit rating agencies. The current ratings with the three main rating agencies are listed below.

Table 17: credit ratings

Rating Agency	Long-term rating	Short-term rating	Outlook
Standard & Poor's	A+	A-1	Stable
Moody's	A2	P-1	Stable
Fitch Ratings	A+	F1+	Stable

As at end-September 2018

Source: institutions cited and NTMA

5.3 Funding Developments

The NTMA has so far this year issued just over €13.5 billion in Government bonds from its target funding range for the year of €14 – €18 billion. This issuance had a weighted average yield of just over 1 per cent and a weighted average maturity of close to 12 years.

A new 10-year benchmark bond issued in January raised €4 billion at a yield of 0.94 per cent, while a new 15-year benchmark bond issued in April raised a further €4 billion at a yield of 1.32 per cent. There have also been five bond auctions so far this year, with the sale of bonds maturing in 2022, 2028, 2037 and 2045 raising just over €5.5 billion.

The NTMA plans to hold one further bond auction this year (November). It also plans to issue, subject to market conditions, a new Irish Sovereign Green Bond by syndicated sale before year-end.

Reflecting the maturity extensions granted in 2013, the EU has this year completed the refinancing of €3.9 billion of Ireland's loans from the EFSM. It is not expected that Ireland will have to refinance any of its EFSM loans before 2027.

The NTMA has continued to take advantage of favourable market conditions to reduce the 2019 / 2020 refinancing requirement, lower the interest bill and issue longer-term debt. Over the past year the balance on the 2019 / 2020 maturing bonds has been reduced by a further €1.8 billion through bilateral bond switching.

ECB bond purchasing under its Quantitative Easing (QE) programme – which has been running since March 2015 – has helped to keep sovereign bond yields low. The programme is scheduled to conclude at the end of this year.

Box 4: short-term refinancing requirements

A large significant volume of debt falls due over the next two years (see figure 8 in main text), as four bonds as well as the bulk of the UK bilateral loans mature in 2019 / 2020. Together these redemptions amount to some €34 billion. In the absence of budgetary surpluses, these bond and loan redemptions must be funded by issuing new debt or running down existing government savings (held by the NTMA which, of course, have arisen due to previous debt issuance).

The table below provides more granular detail on these forthcoming redemptions. The €8.8 billion bond maturing in October has already been funded. There are two bonds maturing in 2019, the first in June (€7.1 billion) and the second in October (€6 billion). The first three tranches of the UK bilateral loan also mature in 2019.

Bond and UK bilateral loan maturities (2018 – 2020) € billion

	Fixed rate	UK bilateral loan
October 2018	8.8	
June 2019	7.1	
October 2019	6.0	
Jan-Dec 2019		1.6
April 2020	10.7	
October 2020	6.8	
Jan-Dec 2020		1.9

Amortising bonds not included.

UK bilateral loan includes the effect of currency hedging transactions. Three tranches of the UK loan mature over the course of 2019 and a further four tranches in 2020.

Source: NTMA.

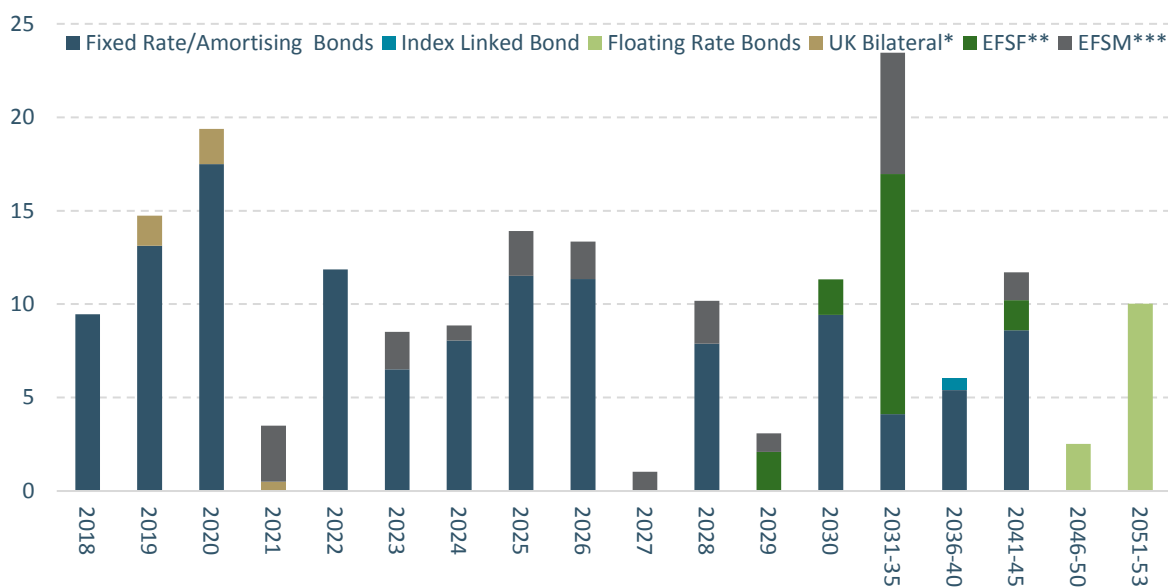
Looking further ahead, there are two more Government bonds maturing in 2020. The first matures in April (€10.7 billion) while the second matures in October (€6.8 billion). In addition, a further four tranches of the UK bilateral loan are due to mature in 2020.

The NTMA has significantly reduced the volume of maturing debt in 2019 / 2020 through:

- (i) early repayment of loans from the IMF and Sweden and Denmark and their replacement with cheaper marketable debt;
- (ii) bilateral bond switching.

As a result, the combined outstanding volume of maturing bonds and programme loans in 2019 / 2020 is now €34 billion, having been as high as €47 billion in late 2014. In addition, the NTMA expects to hold cash balances of approximately €13 billion at year-end, consistent with its strategy of pre-funding ahead of future redemptions.

Figure 9: maturity profile of long-term marketable and official debt, € billion at end-September



Note that the figures in the table are unaudited figures. Rounding can affect totals.

*Includes the effect of currency hedging transactions.

**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. The graph above reflects both original and revised maturity dates of individual EFSM loans.

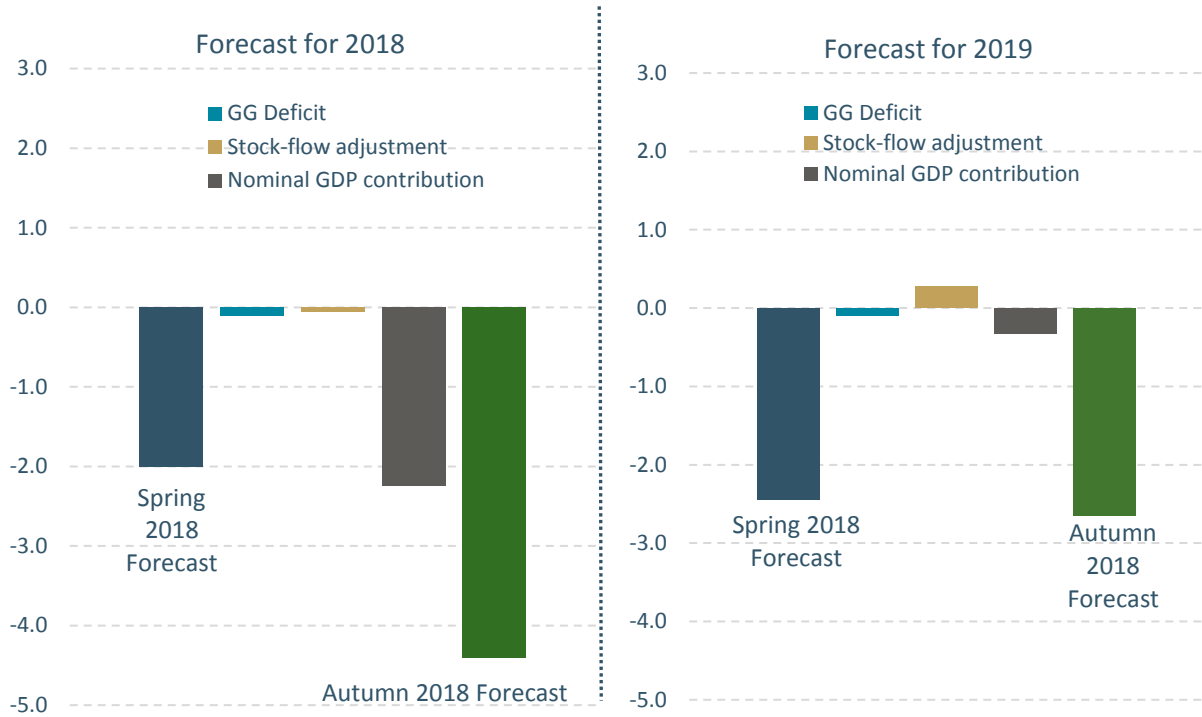
Source: NTMA (National Debt data provider).

5.4 Comparison of Forecasts

Figure 10 below compares the Department’s latest forecast change in the debt ratios in 2018 and 2019 against its previous forecasts published in the SPU in the spring. For this year, the debt ratio is now projected at 64.0 per cent, a 4.4 percentage point improvement on the end-2017 position. This compares to an expected 2.0 percentage point improvement at the time of the spring forecasts. The main reason for this improvement is the denominator effect of stronger nominal GDP growth.

For 2019, the current debt ratio estimate of 61.4 per cent represents a 2.6 percentage point improvement on the forecast end-2018 position. This is in line with the spring forecasts.

Figure 10: comparison of autumn and spring 2018 change in GG debt forecast, per cent of GDP



Source: Department of Finance.

Chapter 6

Risks and Sensitivity Analysis

6.1 Summary

The forecast GDP growth of 4.2 per cent for next year represents the Department's central scenario. As always, it is a contingent forecast: it is based on assumptions for key inputs such as external demand, exchange rate developments, the evolution of commodity prices, etc.

The purpose of this chapter is to set out the main identifiable risks which, if they were to materialise, could alter the economic and fiscal trajectory in Ireland over the short- and medium-term.¹² Quantitative estimates of the impact of particular shocks on the Irish economy and on the public finances are also provided, prepared using the ESRI's COSMO¹³ model. An assessment of imbalances is undertaken in section 6.4, which looks at developments in the indicators analysed in the 'macro-imbalances procedure'.

6.2 Risks to the Economic and Fiscal Forecasts

Short-term risks to the central scenario are firmly tilted to the downside. In particular, the probability of a 'disorderly' Brexit – failure to agree either a transitional arrangement or trade agreement (or both) between the EU and the UK – has increased in recent months and, even at this late stage, there remains considerable uncertainty regarding what form any post-exit arrangement will take.

Box 5: Brexit Impact on Irish Output – alternative scenarios

The Department's budget forecasts incorporate, as a central scenario, that the UK will make an 'orderly' exit from the EU. This central scenario involves a transition period being agreed that extends or replicates existing frameworks until end-2020, i.e. the UK is assumed to remain in the single market and customs union during this period. From 2021 onwards, the baseline forecasts assume that the EU and UK will conclude a free trade agreement.

However, the nature of the UK's exit remains uncertain, and the risks of a harder Brexit, or of a Brexit without agreement, have increased. The Department has, therefore, conducted an assessment of the potential economic impact of Brexit of the central ('orderly' exit) scenario and an alternative ('disorderly') exit scenario.¹⁴

- i. *Central scenario = Orderly exit: transition period followed by a Free Trade Area (FTA);*
- ii. *Disorderly exit = Exit of the UK without a transition period or trade agreement -WTO arrangements apply with immediate effect.*

Over the medium term (i.e. after five years) results show that, under the central scenario, which is incorporated in the forecasts, the level of Irish output, would be close to 2 per cent below what would be the case under a no Brexit situation. Under the 'disorderly' exit scenario, the level of Irish output would be around 3¼ per cent lower than under the no Brexit situation.

It is important to stress that the economic models may not fully capture the full impact, given the difficulty in modelling financial market effects, non-tariff barriers and other factors. Therefore, these quantitative effects should be seen as a minimum as opposed to a maximum impact.

¹² The National Risk Assessment 2018, which was published in June 2018, represents a comprehensive cross-government assessment of the strategic risks that Ireland faces over the short, medium and long-term.

¹³ **Core Structural Model.**

¹⁴ These scenarios incorporate model based estimates from previous work published by the ESRI and Department of Finance. Available at: [Modelling the Medium to Long Term Potential Macroeconomic Impact of Brexit on Ireland – November 2016](#)

In this context, it should be highlighted that, in the event of a disorderly Brexit, there would be further negative material impacts on Ireland, particularly in the early years, arising from issues such as regulatory divergence along with significant market volatility, further sterling depreciation, and disruption to trade with the UK. Further, these impacts would be asymmetric relative to the rest of the EU. There would be additional negative impacts on consumer spending, investment and competitiveness, with consequent spill-overs to the labour market and the public finances, in addition to what is indicated in the scenario above.

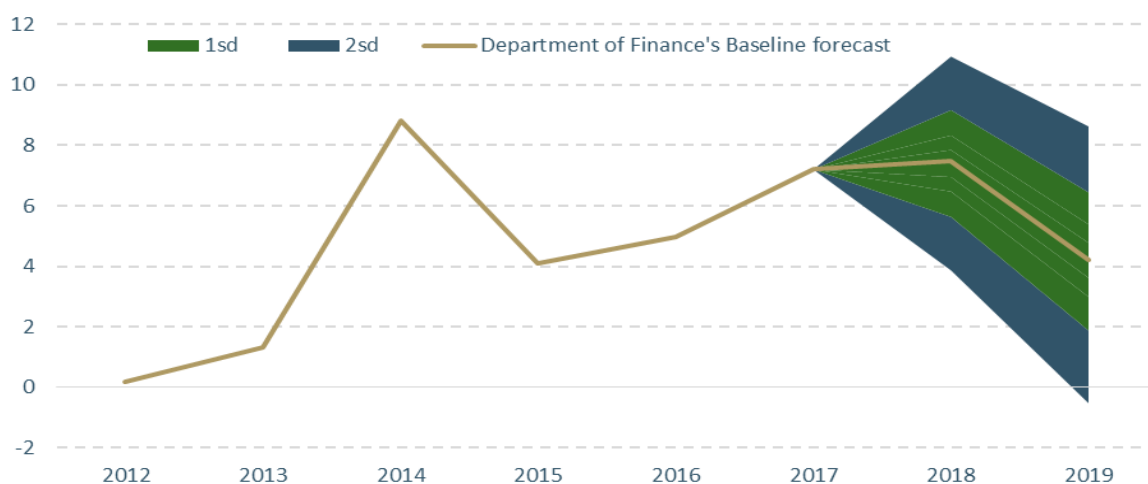
In addition, research by the Department of Finance shows that those sectors with strong export ties to the UK, such as agri-food, and manufacturing, would be especially exposed, in particular at the regional level.¹⁵

In addition, trade tensions have become more acute in recent months, following the imposition of tariffs on over €300 billion of goods by the US and China. Research by the IMF shows that the impact of this has largely been contained to the economies involved;¹⁶ however, any further escalation could spill-over to other economies. A particular concern from an Irish perspective would be that rising protectionist sentiment results in a disruption to global supply chains, given Ireland’s deep integration in the world economy.

Over the medium term, risks remain firmly tilted to the downside and are primarily external in nature. The main identifiable risks on the medium term horizon include the possibility a more adverse-than-assumed outcome of the Brexit discussions currently underway, a faster-than-expected ‘normalisation’ of monetary policy and changes in other jurisdictions that affect the competitiveness of Ireland’s corporate tax regime. On the domestic front, while the baseline projections assume some overheating pressures will emerge over the medium-term, these imbalances could prove to be larger than expected.

A risk assessment matrix – listing the principal identifiable economic risks along with an assessment of their relative likelihood and economic impact – is set out in table 21.

Figure 11: Fan chart of Real GDP, per cent change



sd = standard deviation.

Note: The growth rate for 2015 is based on modified total domestic demand

Source: Department of Finance calculations.

¹⁵ 'UK EU Exit: Trade Exposures of Sectors of the Irish Economy in a European Context' – Department of Finance Research Working Paper, September 2017

¹⁶ World Economic Outlook, October 2018, IMF.

6.3 Sensitivity Analysis

To assess the sensitivity of the forecasts to changes in baseline inputs, the ESRI COSMO macroeconomic model is used to simulate the impact of stylised shocks to the following three exogenous inputs:

- External shock (1 per cent deterioration in world demand);
- Competitiveness shock (1 per cent increase in average wages); and,
- Monetary policy shock (1 percentage point increase in the ECB interest rate).

Figures presented in table 18 below, show the response, relative to baseline projections, for a range of key macro-fiscal variables to the simulated shocks to world demand, average wages and interest rates. In each of the simulations presented, Government solvency/budget rules are not imposed; in other words, there is no fiscal policy response to the change in the economic environment. Therefore, the results give the full impact of the shock, free from the addition of presumptive policy changes. Each of the shocks are introduced in year 't'.

External shock (1 per cent deterioration in world demand)

An external shock is simulated by assuming a permanent reduction in the level of global output of 1 per cent relative to baseline projections. This results in a dampening effect on Irish growth with the effects transmitted primarily through the trade channel. In the traded sector, a decrease in external demand contributes to reductions in both the demand for Irish produced goods and services which, in turn, lead to falls in investment, employment and wages in that sector.

These effects in the traded sector result in lower domestic demand and, accordingly, reduced employment (relative to baseline) and a rise in the unemployment rate. Lower employment wages lead to a decrease in personal incomes and depress consumption which, in turn, negatively affect the tax base. Overall, the level of output would be around 1.0 per cent lower after 5 years relative to a baseline projection. The level of employment would be 0.6 per cent lower after 5 years, with the unemployment rate increasing by 0.4 percentage points. The deficit to GDP ratio worsens by 0.2 percentage points with the debt to GDP ratio rising by 1.3 percentage points.

Table 18: sensitivity analysis, relative to baseline

	T	T+1	T+2	T+3	T+4	T+5
1 per cent decrease in world demand						
<i>per cent deviation from baseline</i>						
GDP	-0.3	-0.5	-0.7	-0.8	-0.9	-1.0
Employment	-0.1	-0.2	-0.3	-0.4	-0.5	-0.6
<i>percentage point deviation from baseline</i>						
General Government Balance, per cent GDP	0.0	-0.1	-0.1	-0.1	-0.2	-0.2
General Government Gross Debt, per cent GDP	0.1	0.3	0.6	0.8	1.0	1.3
Unemployment Rate, per cent	0.0	0.1	0.2	0.3	0.3	0.4
1 per cent increase in average wages						
<i>per cent deviation from baseline</i>						
GDP	0.0	0.0	-0.1	-0.1	-0.2	-0.2
Employment	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
<i>percentage point deviation from baseline</i>						
General Government Balance, per cent GDP	0.01	0.01	0.01	0.0	-0.01	-0.01
General Government Gross Debt, per cent GDP	-0.3	-0.4	-0.4	-0.4	-0.3	-0.3
Unemployment Rate, per cent	0.1	0.1	0.2	0.2	0.2	0.2
1 percentage point increase in interest rates						
<i>per cent deviation from baseline</i>						
GDP	-0.6	-1.1	-1.3	-1.3	-1.1	-0.8
Employment	-0.1	-0.4	-0.6	-0.7	-0.6	-0.4
<i>percentage point deviation from baseline</i>						
General Government Balance, per cent GDP	0.0	-0.2	-0.3	-0.3	-0.3	-0.2
General Government Gross Debt, per cent GDP	0.3	1.0	1.5	1.8	2.1	2.2
Unemployment Rate, per cent	0.1	0.3	0.4	0.5	0.5	0.3

Source: Results based on analysis by Department of Finance using COSMO, the ESRI macro-economic model

Competitiveness shock (1 per cent increase in average wages)

A shock to domestic competitiveness is simulated by assuming a 1 per cent increase in the domestic wage level (relative to baseline) that is not offset by higher productivity. In this scenario, higher labour costs result in lower employment over the medium- to long-run, and a slightly higher unemployment rate. The level of GDP is negatively affected via a decrease in the competitiveness of the Irish economy, which reduces exports and lowers output in the traded sector.

Production in the non-traded sector also declines due to the impact of higher labour costs. There is a limited positive impact on the fiscal position in the short-run, which turns to a negative impact in the medium term due to output being below where it otherwise would have been. Overall, the level of output would be 0.2 per cent below baseline after 5 years. Employment falls by 0.1 per cent lower below baseline after 5 years, with the unemployment rate increasing by 0.2 percentage points. After an initial modest improvement in the fiscal position, results show that the deficit to GDP ratio slightly worsens by 0.01 percentage points, and the debt to GDP ratio falls by 0.3 percentage points after 5 years.

Monetary policy shock (1 percentage point interest rate increase)

A monetary policy shock is simulated by assuming that the ECB policy rate increases by 1 percentage point over a 5 year horizon. The impact of the higher interest rate adversely affects the level of Irish economic activity growth over the medium term. In the model, the main transmission mechanism is the trade channel: lower output in the euro area as a result of higher interest rates leading to a reduction in external demand for Irish exports. Exchange rate appreciation also depresses exports relative to baseline.

Overall, the impact reduces the level of GDP by 0.8 per cent relative to baseline after 5 years. Employment would fall by 0.4 per cent after 5 years. The deficit to GDP ratio worsens by 0.2 percentage points, with the debt to GDP ratio rising by 2.2 percentage points after 5 years.

6.4 Monitoring imbalances in the Irish economy

A common feature in Ireland and elsewhere since the crisis is a weakening of the signalling power of inflation. Prior to the crisis, at this stage in the economic cycle emerging supply constraints would be reflected in higher prices. Globalisation, technological change and other factors suggest possible structural changes may be underway, altering (at least to some extent) traditional economic relationships. In these circumstances, it is important to assess possible mismatches between demand and supply using a wider suite of indicators.

The purpose of this section is to complement output gap and price information with an analysis of a wider suite of indicators to assess imbalance in the Irish economy. The starting point are the variables included in the Macroeconomic Imbalance Procedure. The Department's short-term forecasts (as these have been endorsed by the Irish Fiscal Advisory Council) are also included in the analysis.

Macroeconomic Imbalance Procedure

As part of the European Semester, the Macroeconomic Imbalance Procedure (MIP) seeks to identify potential macroeconomic imbalances and prevent their development across all EU Member States. A scoreboard of fourteen macroeconomic indicators is published annually, covering external imbalances and competitiveness, internal imbalances, and employment and social developments. Thresholds are set for these indicators which, if breached, indicate that imbalances are emerging that warrant a closer inspection and, possibly, a policy response. This closer inspection – the 'in-depth review' – is produced by the European Commission.

Identifying Imbalances

Heat-maps are a useful tool for the visualisation of potential imbalances. By highlighting the deviation of economic indicators from their long-run values at any point in time, the heat-map provides a high-level overview of possible imbalances. At the outset, it is important to stress that a variable 'flashing red' isn't necessarily problematic: a variable can deviate from its long run average due to structural changes in the economy.

Whilst the MIP scoreboard simply indicates whether an indicator is above or below its threshold,¹⁷ the heat-map adds depth to the analysis by visualising the scale of the deviation from long-run averages. Formally, this is measured by the number of standard deviations the indicator is from its long-run mean, with the long run here dating back to 1995.¹⁸

Red or green shading shows that the indicator is below or above its long-run average, respectively. Darker colours suggest imbalances while light yellow shading represents values broadly in line with the average. Some indicators have been inverted (unit labour costs, debt, and unemployment) for consistency in having red colours associated with a negative economic development, e.g. the unemployment rate being above its long-run average. Dark green colours, however, can also suggest imbalances in terms of overheating, e.g. above-average house price growth. In cases where the MIP scoreboard uses a multi-year change or average value, the heat-map instead uses a one-year change or year-end value, respectively, to facilitate a better evaluation of recent changes in variables.

Development of Irish Imbalances

The heat-map can be used to trace the imbalances that emerged in the Irish economy both in the build-up to and aftermath of the financial crisis. Firstly, some signs of overheating can be seen beginning around 2005. Nominal unit labour cost growth is above its long-run average, indicating a loss of international competitiveness as wages rose. House prices also showed above-average growth, while the dark red in private sector credit flow illustrates the rapid rise in bank lending to households and firms. The deepening current account deficit in this period can also be seen as the country borrowed more than it saved.

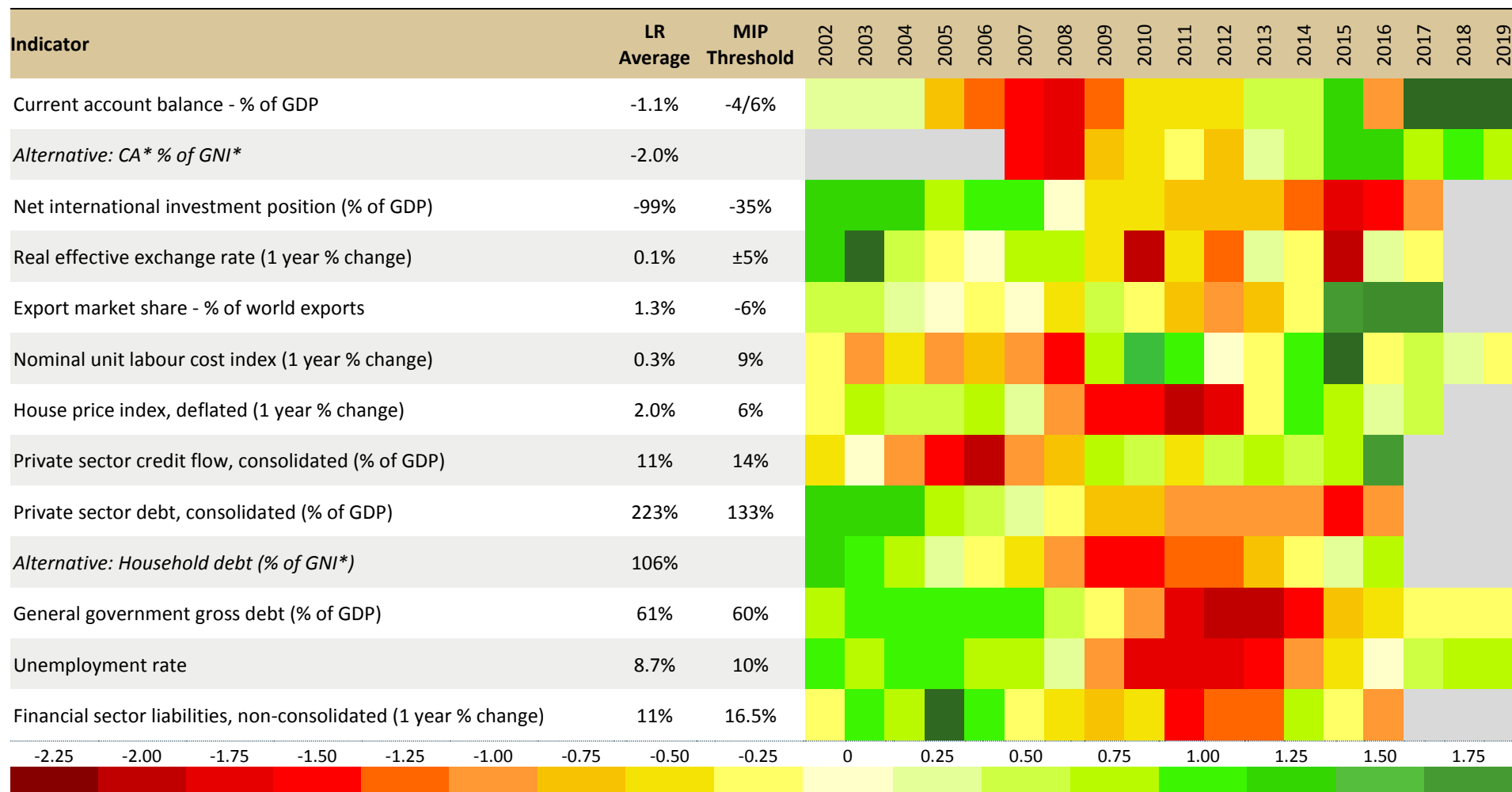
A sharp reversal in a number of these variables can be seen post-2008, with many variables turning dark red in this period. Unemployment and house prices are among the first to turn red, as unemployment rose rapidly and house prices fell. Variables slower to respond were government and private sector debt, where rises in debt to GDP ratios followed the initial contraction in lending indicated by the green private sector credit flow. The shift in unit labour cost growth from red to green shows the competitiveness gain to the economy due to the fall in wages and employment.

The recovery in recent years is reflected in the moderation of a number of these variables to lighter colours and yellows, including government debt, unit labour costs and unemployment. Forecasts can be used, where available, to assess potential future overheating, for instance in indicators that turn to darker shades of green. It is also important to note that such visualisation tools, given their high-level nature, are limited in the extent to which they can predict future imbalances, and as such should be assessed in conjunction with other economic policy tools.¹⁹

¹⁷ MIP thresholds are set on an EU-wide basis and usually represent observations in the top / bottom quartile of observations for all Member States over time.

¹⁸ Or, due to data limitations, the earliest available data post-1995.

¹⁹ A more detailed analysis of the MIP indicators using this approach will be provided in a forthcoming Department of Finance publication.

Table 19: Heat-map of Macroeconomic Indicators, 2002-2019


Source: Department of Finance calculations, Eurostat. Note: the indicators for unit labour costs, private sector credit and debt, household debt, government debt, and unemployment have been inverted such that red represents a value above the long-run average, and vice versa. The three additional employment indicators in the MIP scoreboard are not shown here.

6.5 Contingent and other liabilities

A contingent liability arises in a situation where past or current actions or events create the risk of a call on the Exchequer funds in the future. The 2017 Appropriation Accounts for the year ended 31 December 2017²⁰ were published in September. While the amounts are not all quantifiable, notes on the contingent liabilities are listed in the Appropriation Accounts of the various votes.

The Other²¹ category in Table 20 relates to entities such as CIE, Insurance Acts, Housing Finance Agency and the Credit Guarantee Act. Additional details on most of these can be accessed in the 2017 Finance Accounts (Statement 1.11).

Table 20: Contingent Liabilities, per cent of GDP at end-year

	2015	2016	2017
Public guarantees	4.8	1.9	0.5
<i>of which:</i>			
Eligible Liabilities Guarantee	1.2	0.6	0.1
National Asset Management Agency	3.1	0.9	0.0
Other	0.5	0.4	0.4

Note: Rounding may affect totals.

Source: Department of Finance, CSO.

In October last year, the National Asset Management Agency (NAMA) redeemed the final €500 million of senior debt originally issued in 2010 and 2011 to acquire bank loans, which means that this guarantee is no longer active.

The State has certain other long-term future payment liabilities which are contractually conditional on the continued availability to the State of public infrastructure provided under public private partnerships (PPPs). PPPs involve contractual arrangements between the public and private sectors for the purpose of delivering infrastructure or services which were traditionally provided by public sector procurement. Under PPPs, infrastructure is delivered by a private sector firm and the asset is made available for public use, paid for by the State by way of an annual unitary payment over the period of the contract (typically 20-25 years).

The Department of Public Expenditure and Reform (DPER) publishes information on the PPP²² programme including the level of estimated outstanding future financial commitments in nominal terms arising under existing PPP contracts. The calculation of the contractual capital value of all Irish PPPs as at December 2017 is €0.5 billion on the government balance sheet, and €5 billion off-balance sheet amounting to a total of €5.5 billion.

The Department of Public Expenditure and Reform measures the accrued liability of the occupational pension promises that the State has made to its serving and former employees. An actuarial review of the State's pension liabilities was completed last year using 2015 data. It concluded that the value of accrued public service pension obligations is estimated to be €114.5 billion as at 31st December 2015. An underlying assumption built into this scenario was that future pension increases will continue to be in line with pay parity. The value of the accrued liability was also calculated under the

²⁰ <http://www.audgen.gov.ie/viewdoc.asp?DocID=2931&CatID=3&StartDate=01+January+2018>

²¹ <https://www.finance.gov.ie/wp-content/uploads/2018/07/FINANCE-ACCOUNTS-2017-FINAL-1.pdf>

²² www.ppp.gov.ie

assumption that pensions in payment will increase in line with the Consumer Price Index (CPI). In this scenario, the accrued liability figure falls to €97.2 bn as at 31st December 2015.

The separate obligation for the contributory and non-contributory old age State pension is assessed as part of the actuarial reviews of the Social Insurance Fund (SIF) which are carried out at 5 yearly intervals. An actuarial review of the SIF was published by the Department of Employment Affairs and Social Protection in 2017 based on data at 31st December 2015. A key result from this review is the net present value of future projected shortfalls, which is €335 billion from 2015 to 2071.

Ireland also has a commitment to provide capital to the various international organisations of which it claims membership. This can take the form either of paid-in capital or callable capital. Paid-in capital is funding which has already been contributed to organisations, whereas callable capital is funding which may be called on only as and when required by the organisations.²³ The most significant of these contingent or potential liabilities is Ireland's callable commitment of approximately €9.87 billion to the European Stability Mechanism.

²³ <https://www.finance.gov.ie/wp-content/uploads/2018/07/FINANCE-ACCOUNTS-2017-FINAL-1.pdf>

Table 21: Macro-economic Risk Assessment Matrix

Risk	Likelihood	Impact and main transmission channel
External		
External demand shock	Medium	High – while global growth is proving more durable than expected, it remains subject to downside risk over the medium term.
Geopolitical factors	Medium	High – increased geopolitical uncertainty has the potential to disrupt growth in key regions and generate headwinds for output and employment in Ireland.
Disruption to world trade	Medium	High – the Irish economy is deeply embedded in the international economy and has benefited enormously from globalisation, so that any further escalation in protectionism could potentially have a detrimental impact on living standards.
“Disorderly-Brexit”	Medium	High – An outcome to the ongoing EU-UK negotiations which resulted in a WTO-type arrangement between the EU and UK would have a particularly detrimental impact on Irish-UK trade. This could potentially arise over the short-term if the EU and UK do not agree to a transitional arrangement.
Global financial market conditions	Medium	Medium – the stance of monetary policy is expected to become less accommodative in advanced economies and the ‘normalisation’ process for the global financial system may not be smooth. Indeed, the tightening of monetary policy in the US in recent months has already exposed vulnerabilities and led to a reversal of capital flows in several emerging market economies.
Domestic		
Concentrated production base	Low	High – Ireland’s production base is highly concentrated in a small number of high-tech sectors, with the result that output and employment are exposed to firm- and sector-specific shocks.
Loss of competitiveness	Medium	High – as a small and open economy, Ireland’s business model is very much geared towards export-led growth, which, in turn, is sensitive to the evolution of cost competitiveness.
Housing supply pressures	High	Medium – supply constraints in the housing sector could adversely impact on competitiveness over the short-run by <i>inter alia</i> restricting the mobility of labour.
Overheating economy	Medium	High – Overheating pressures could be more significant than expected with the potential to generate dangerous imbalances over the coming years. In particular, pent-up demand for housing could result in a more substantial overshooting in residential investment over the medium-term.

Source: Department of Finance

Table 22: Fiscal Risk Assessment Matrix

Risk	Likelihood	Impact and main transmission channel
Domestic		
Budgetary pressures	Medium	High – potential downside risk arising from excessive public expectations regarding budgetary policy. Significant outlays are needed simply to address changes in the structure of the population.
Tax forecast and payment timeline asymmetry	Medium	Medium – the asymmetry between the ‘two pack’ requirement for an October budget and the distribution of certain receipts (self-employed and corporation tax) towards end-year increases risks to the forecast.
Corporation tax concentration risks	High	Medium – corporation tax revenue has increased significantly in recent years and the ‘Top 10’ payers contribute just under 40 per cent of this tax, leaving this component of the public finances exposed to idiosyncratic shocks creating a concentration risk.
Dividend payments	Low	Medium – lower-than-expected dividend payment arising from the State’s shareholdings in banks or commercial semi-state companies.
Receipts from resolution of financial sector crisis	Low	Medium – budgetary projections prudently exclude any assumptions around the State’s disposal of shareholding in a number of financial institutions. All of these represent a likely upside risk to the baseline scenario.
EU Budget Contributions	Medium	Medium – stronger-than-expected growth in national income (or statistical changes) can increase the Irish contribution to the EU budget, while there is no clarity on how the UK’s exit will impact upon the EU Budget.
Contingent liabilities	Low	Medium – contingent liabilities continue to decline although the public finances would be adversely affected in the event these liabilities were ‘called’ (table 19 provides more detail).
External		
Bond market conditions	Low	Medium – government financing has benefitted from supportive bond market conditions. Any change to this environment could lead to an unanticipated rise in debt interest costs. However, as the bulk of outstanding public debt is at fixed rates, this helps to mitigate this risk.
Changes to tax ‘drivers’	Medium	Medium – macroeconomic ‘drivers’ are used to forecast taxation receipts and changes in the composition of economic activity can impact upon the public finances.
Statistical classifications	Medium	Low – Ireland’s compliance with the EU fiscal rules is measured under the ESA 2010 statistical framework. Therefore statistical revisions, updated guidance and classification decisions, including by Eurostat, represent a fiscal risk with both down and upside potential.
EU climate change and renewable energy targets	High	High – Ireland is obliged to reduce greenhouse gas emissions by 20 per cent on 2005 levels by 2020. Separately, Ireland has a binding 2020 target that 16 per cent of all energy be from renewable sources. Failure to meet these targets will imply financial costs or sanctions.
Litigation Risk	Medium	Medium - An adverse or unexpected outcome of litigation against the State which resulted in additional expenditure over and above that provided could pose a risk to the achievement of budgetary targets.

Source: Department of Finance

Annex 1

Irish Fiscal Advisory Council's Endorsement of the Macroeconomic Forecast



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Whitaker Square, Sir John Rogerson's Quay, Dublin D02 K138, Ireland.

2nd October 2018

Dear Secretary General Moran,

The Council has a statutory obligation to endorse, as appropriate, the macroeconomic forecasts prepared by the Department of Finance on which *Budget 2019* will be based.¹ The Department provided its *Budget 2019* forecasts—which cover a five-year-ahead forecast horizon—to the Council on 20th September 2018. The Council discussed these forecasts with Department of Finance staff on 28th September 2018, ahead of the Council's endorsement meeting.

The Council's approach to endorsement of the macroeconomic forecasts has three elements:

- a comparison of the Department of Finance's macroeconomic forecasts to the Council's Benchmark projections;
- a consideration of the methodology used to produce the forecasts; and
- a review of past forecast errors for evidence of systematic bias.

The Irish Fiscal Advisory Council endorses as within the range of appropriate forecasts the set of macroeconomic projections prepared by the Department of Finance for *Budget 2019* for the years 2018 and 2019.

The Council is satisfied that the forecasts are within an endorsable range, taking into account the methodology and the plausibility of the judgements made.

The Council welcomes the Department's supply-side estimates based on their own methodology and consistent with their own assessment of the economy. These are to be published in *Budget 2019* as part of its main economic assessment, while estimates produced under the EU Commonly Agreed Methodology (CAM) are to be reported in an annex for compliance purposes.² The Council verified the Department's mechanical application of the CAM to estimate trend supply-side variables.

The Council will discuss the endorsement process and assess the macroeconomic projections in its forthcoming Fiscal Assessment Report, due in November 2018.

Yours sincerely,

A handwritten signature in blue ink that reads "Seamus Coffey".

Seamus Coffey, Chairperson.

¹ The *Fiscal Responsibility Act 2012*, as amended by the *Ministers and Secretaries (Amendment) Act 2013*, states that: "The Fiscal Council shall— (a) endorse, as it considers appropriate, the macroeconomic forecasts prepared by the Department of Finance on which the Budget and stability programme will be based".

² The CAM is primarily a tool used for fiscal surveillance by the European Commission. As highlighted by the Council in previous Fiscal Assessment Reports and on numerous occasions by the Department of Finance, the CAM is not well equipped to estimate the supply side of the Irish economy. Furthermore, the results do not reflect the Department's own views regarding the cyclical position of the economy.

IFAC-endorsed and final macroeconomic forecasts

The following tables set out the forecast which have been endorsed by the IFAC and the final forecasts which underpin the Budget. Both endorsed and final forecasts are based on external assumptions which were finalised in mid- September. A reconciliation between the final and endorsed forecasts is included in the tables below (forecasts covering the period 2020-2023 are not subject to endorsement by IFAC).

Table 23: Macroeconomic developments, per cent change (unless stated)

	2018 <i>final</i>	2019 <i>final</i>	2019 <i>endorsed</i>	Difference (pp)
Real GDP	7.5	4.2	4.2	-
Nominal GDP	9.3	6.2	6.1	+0.1
<i>Components of real GDP</i>				
Personal consumption	3.5	3.0	3.0	-
Government consumption	3.5	2.9	2.5	+0.4
Gross fixed capital formation	-8.9	7.1	7.1	-
Stock changes (per cent of GDP)	1.6	1.5	1.5	-
Exports of goods and services	7.0	5.6	5.6	-
Imports of goods and services	0.9	6.2	6.1	+0.1

Source: Department of Finance forecasts.

Table 24: Price developments, per cent change

	2018 <i>final</i>	2019 <i>final</i>	2019 <i>endorsed</i>	Difference (pp)
GDP deflator	1.8	1.9	1.8	+0.1
Personal consumption deflator	1.5	2.0	1.8	+0.2
HICP	0.7	1.5	1.2	+0.3
Export price deflator	0.5	1.4	1.4	-
Import price deflator	0.5	1.4	1.4	-

Source: Department of Finance forecasts.

Table 25: Labour market developments, per cent change (unless stated)

	2018 <i>final</i>	2019 <i>final</i>	2019 <i>endorsed</i>	Difference (pp)
Unemployment rate, per cent	5.8	5.2	5.3	-0.1
Labour productivity, persons [^]	4.4	1.4	1.5	-0.1
Compensation of employees*	6.0	6.4	6.2	+0.2
Compensation per employee*	2.4	3.0	3.0	-
Employment, persons	2,259	2,321	2,319	+2

[^] GDP per person employed.

*Non-agricultural sector.

Source: Department of Finance forecasts.

Table 26: Sectoral balances, per cent of GDP

	2018 <i>final</i>	2019 <i>final</i>	2019 <i>endorsed</i>	Difference (pp)
Current account	12.0	11.7	11.7	-

Source: Department of Finance forecasts.

Annex 2

Income Tax, Inequality, and Progressivity Issues

A2.1 Introduction

This annex examines the redistribution and progressivity of the Irish taxation system and its effects on the income distribution. A progressive tax system implies that the proportion of tax paid rises as income increases. Thus, those with higher incomes pay proportionately more of their income towards tax than those on lower incomes. This annex will measure income inequality within Ireland and its standing relative to international counterparts, followed by an analysis of Irish income tax progressivity.

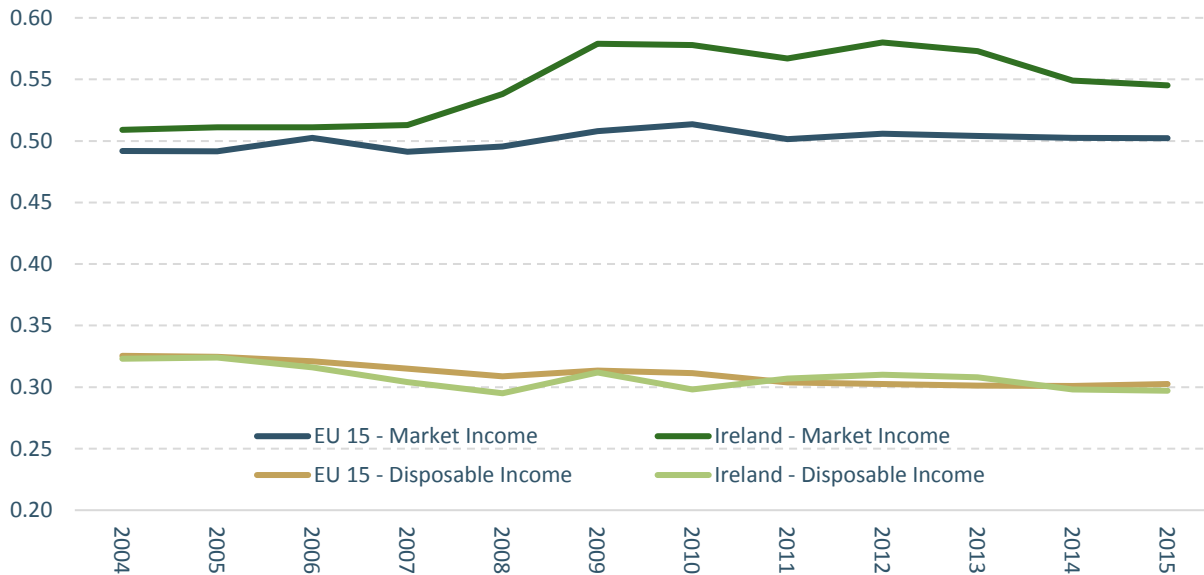
A2.2 Income Distribution and Inequality

The Gini coefficient is a measure of income inequality, whereby the minimum value of 0 denotes that all households have an equal level income and the maximum value (either 1 or 100, depending on the scale) indicates that one household holds all national income. The former corresponds to a situation of full income equality, and the latter denotes peak income inequality. The Gini coefficient can be calculated based on market income (before taxes and transfers) or disposable income (after taxes and transfers). The latter is the most relevant for assessing the redistributive capacity of the tax and welfare system.

Figure 12 plots both the market and disposable equivalised income Gini coefficients for Ireland and the European Union (EU) 15 countries from 2004 to 2015.²⁴ It is evident that Ireland's market income inequality, measured by the market income Gini coefficient, increased during the financial crisis and has been recovering gradually since 2012. Irish market income inequality at the level of 0.55 remains higher than that of the EU-15 in 2015. However, Ireland's disposable income inequality has been much lower than the market level throughout the period examined. Furthermore, despite the sharp rise in market income inequality, Ireland's disposable income Gini coefficient remained relatively stable and in fact decreased slightly from 2004 to 2015 to reach 0.3. These trends suggest that the redistributive capacity of the combined Irish tax and welfare system has been highly effective at mitigating income inequality despite stark changes to the market income distribution throughout the recession.

²⁴ The choice of comparator sample is constrained by OECD data availability for recent years. The EU 15 was deemed the most appropriate and complete country sample which offered available data for the most recent available year.

Figure 12: Gini Coefficients of Equivalised Market and Disposable Incomes



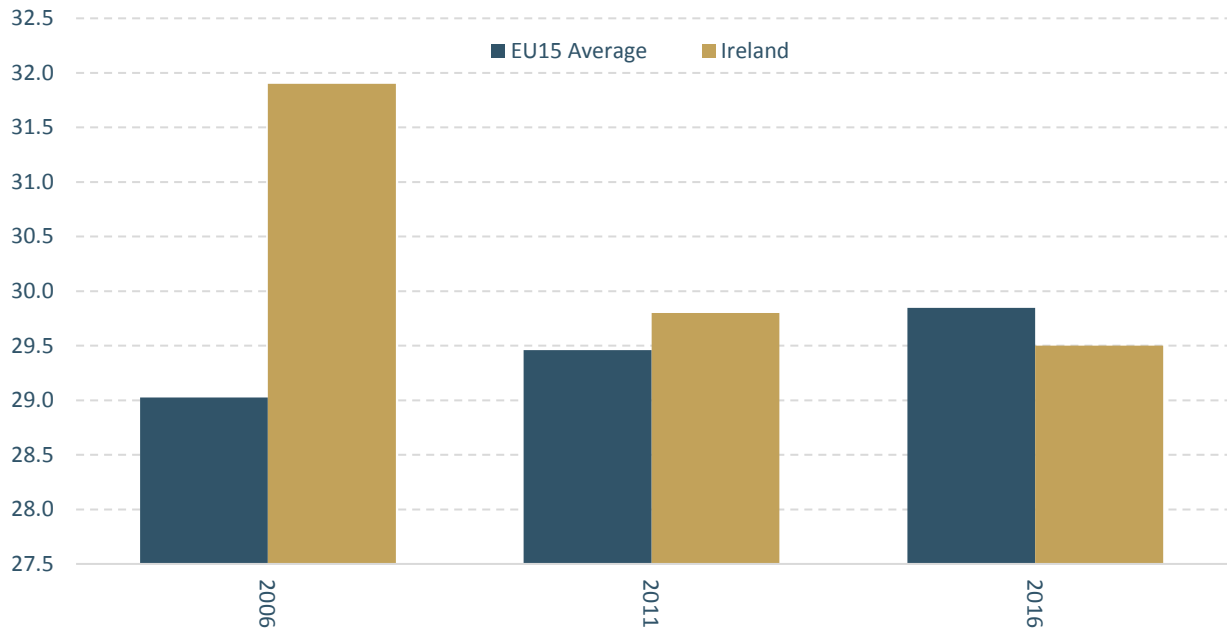
Source: OECD Income Distribution and Poverty data.

Note: Latest year for which an appropriate sample of data are available.

Figure 13 below further highlights the income inequality reduction and relative performance of the Irish redistribution system, while accounting for the latest data available from 2016. The Eurostat data below are based on household equivalised disposable income.²⁵ The figure shows Ireland’s high level of equivalised disposable income inequality in 2006 relative to the EU-15. While the EU-15’s level of inequality remained relatively stable over the following years, the latest available data shows that Ireland’s Gini coefficient is lower than that of the EU-15 in 2016.

²⁵ Note that Eurostat uses a different equivalence scale methodology to the OECD, and calculates Gini coefficients in the range of 0 – 100 rather than 0 – 1.

Figure 13: Gini Coefficient Equivalised Disposable Income - Eurostat



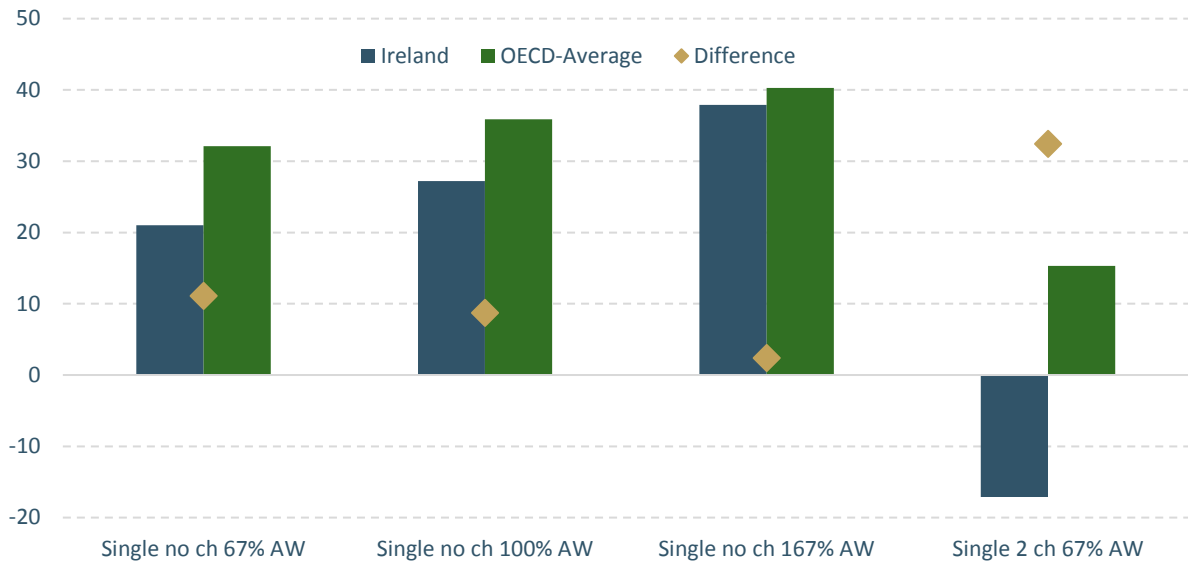
Source: Eurostat Income and Living Conditions data [ilc_di12]. Latest available.

A2.3 Income Tax Progressivity as Measured by the Tax Wedges

We can examine the tax wedge for labour income in order to gain insights into the progressivity of the tax system. The tax wedge is defined as total taxes and social security contributions paid by employees and employers, minus family benefits received, as a percentage of the total labour costs to the employer. Figure 14 below highlights the relative progressivity of the Irish tax system, as measured by the difference between the Irish and OECD average tax wedges. This difference is significant at 11.1 per cent for single workers on 67 per cent of the average wage (AW). However, the percentage difference decreases to 8.7 per cent and 2.4 per cent as workers move up to 100 per cent and 167 per cent of the average wage respectively. Thus, the relatively progressive nature of the Irish tax system reduces the tax wedge disparity between Ireland and the OECD average at higher income levels.

Additionally, the average tax wedge for single persons at 67 per cent of the average wage with two children is -17.1 per cent of labour costs - indicating that cash transfers exceed taxes paid. This is still the second-most generous level of direct State transfers to low income single parents in the OECD. This emphasizes not only the progressive nature of the tax system, but provides further evidence of the tax and welfare system's high redistributive capacity.

Figure 14: Average Tax Wedges 2017



Source: OECD Taxing Wages data. Latest available data.

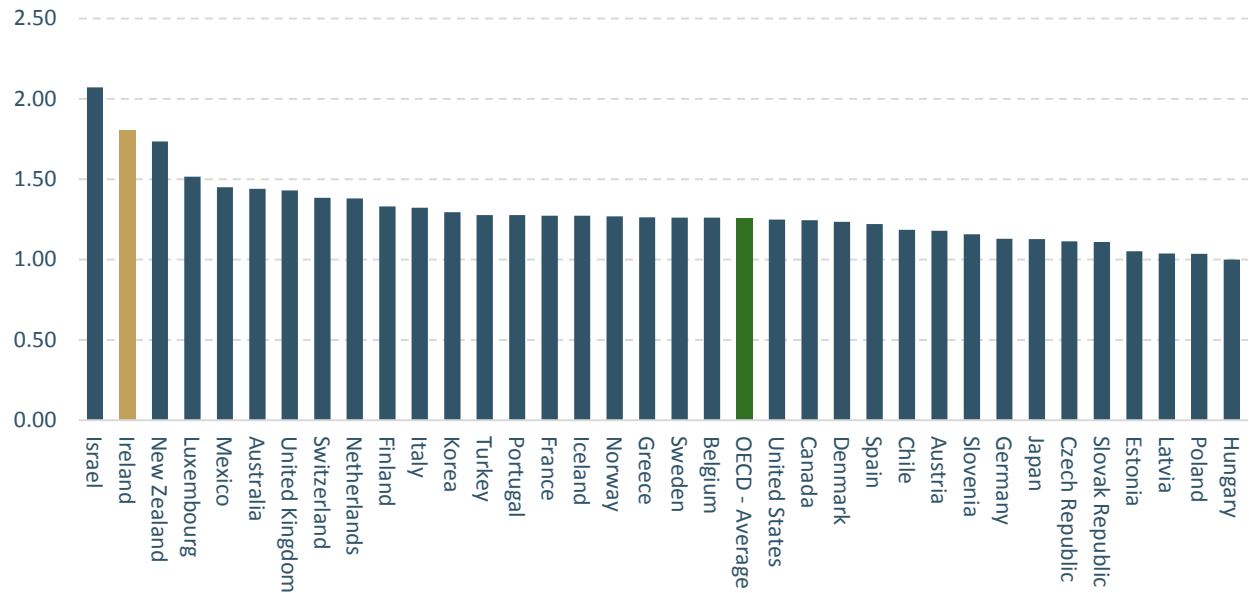
The OECD’s measure of income tax progressivity is calculated as the ratio of the tax wedge for individuals with no children at 167 per cent of the average wage to similar individuals on 67 per cent of the average wage.²⁶ Figure D indicates that Ireland’s income tax progressivity, at a ratio of 1.8, is the second highest amongst the OECD and the highest amongst EU countries.

It should be noted that these comparisons are based on the income tax schedule only. Thus, they do not account for income tax expenditures, such as pension contribution relief, which reduces the final amount of tax paid. As such, effective tax rates and the effective tax wedge are likely to be lower. This would be expected to subsequently reduce progressivity as individuals with higher incomes may have a larger potential to reduce their tax paid. However, disparities amongst income tax schedule rates and effective rates exist in all countries with any form of income tax expenditures. Research from the Department of Finance and the Economic and Social research Institute (ESRI) has suggested a policy trade-off between the progressivity and revenue stability of a taxation system.²⁷ This is due to the existence of income tax credits which, when exhausted, can cause large changes in proportionate tax liability resulting from only small changes in income.

²⁶ Based on the OECD’s figure for average earnings of €36,358 in Ireland for the year 2017, this involves the ratio of tax wedges for approximately €24,360 and €60,718.

²⁷ Acheson, J., Deli, Y., Lambert, D., Morgenroth, E. (2017). *Income Tax Revenue Elasticities in Ireland*, ESRI Research Series, No. 59. Produced as part of the Department of Finance and ESRI Joint Research Programme.

Figure 15: Progressivity - Ratio of Tax Wedges at 167 and 67 per cent of average wage, 2017



Source: OECD Income Distribution and Poverty data. Latest available data.

A2.4 Perceptions of Progressivity

It is worth highlighting that several studies provide evidence that people state different preferences regarding how progressive the tax system should be depending on whether tax liabilities are described in absolute or in relative terms. When asked how much tax should be paid at different income levels, people appear to favour more progressivity when they express liabilities as a percentage of income rather than if describing them in absolute terms (in euro terms) because they perceive percentage terms to be less progressive than euro terms (McCaffery and Baron, 2006)²⁸. This implies that that the existing tax system will be perceived as more progressive when described in euro terms and more regressive when described in percentage terms.

A2.5 Summary

This annex has provided an overview of the redistributive and progressive nature of the Irish taxation system and how this can influence the income distribution. While the measures explored do not account for the dynamic nature of income changes over an individual’s lifetime, results still provide evidence of the high redistributive and inequality reducing capacity of the Irish tax and welfare system. Ireland’s income tax system has become more progressive over time and performs as one of the most progressive amongst the OECD.

²⁸ McCaffery, E.J. and Baron, J. (2006). ‘Thinking about Tax’, *Psychology, Public Policy, and Law*, 12(1), 106.

Annex 3

Additional Fiscal Statistics and Tables

Table A1: Difference between Exchequer balance and general government balance, € millions (unless stated)

	2017	2018	2019	2020	2021	2022	2023
Exchequer balance	1,910	-630	-2,250	-670	810	-275	705
Exclude equity and loan transactions	-4,670	-2,145	-1,155	-2,290	-2,585	-585	-580
Adjust for interest accrual	220	495	325	400	10	0	40
Adjust for tax accruals	275	575	460	440	450	475	450
Adjust for other accruals	245	95	135	170	-760	190	180
Net lending/borrowing of non-commercial State bodies	-105	-5	20	90	125	85	-30
Impact of ISIF	330	385	385	385	390	395	395
Net surplus of the Social Insurance Fund	695	1,345	1,710	2,195	2,685	3,255	3,910
Net surplus of other EBF's	160	65	105	120	125	125	150
Net lending/borrowing of Local Government	210	-495	-310	-275	-130	5	85
Rainy Day Fund	0	0	500	500	500	500	500
General government balance	-730	-315	-75	1,065	1,615	4,165	5,805
General government balance as per cent of GDP	-0.2	-0.1	0.0	0.3	0.4	1.1	1.4
Nominal GDP	294,100	321,575	341,475	359,975	375,775	392,225	409,725

Rounding may affect totals. GDP is rounded to nearest €25m

Source: Department of Finance, Department of Public Expenditure and Reform, Central Statistics Office (CSO) and National Treasury Management Agency (NTMA) estimates.

Table A2: General government balance 2017-2023, per cent of GDP (unless stated)

	2017	2017	2018	2019	2020	2021	2022	2023
Net lending by sub-sector[^]								
	€m							
General government balance	-730	-0.2	-0.1	0.0	0.3	0.4	1.1	1.4
Central government	-940	-0.3	0.1	0.1	0.4	0.5	1.1	1.4
Local government	210	0.1	-0.2	-0.1	-0.1	0.0	0.0	0.0
General government								
Total Revenue	76,545	26.0	25.1	25.0	24.7	24.6	24.6	24.6
Total Expenditure	77,275	26.3	25.2	25.0	24.4	24.2	23.6	23.2
Net lending/borrowing	-730	-0.2	-0.1	0.0	0.3	0.4	1.1	1.4
Interest expenditure	5,805	2.0	1.6	1.5	1.3	1.2	1.2	1.2
Primary balance	5,075	1.7	1.5	1.4	1.6	1.6	2.3	2.7
One-off and other temporary measures	-180	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
Selected components of revenue								
Total taxes	55,930	19.0	18.6	18.3	18.2	18.2	18.2	18.2
Taxes on production and imports	24,680	8.4	7.8	7.8	7.7	7.6	7.5	7.5
Current taxes on income, wealth etc.	30,800	10.5	10.6	10.4	10.4	10.4	10.5	10.6
Capital taxes	450	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Social contributions	12,640	4.3	4.1	4.3	4.3	4.3	4.4	4.4
Property Income	1,770	0.6	0.5	0.4	0.4	0.3	0.3	0.2
Other	6,205	2.1	1.9	1.9	1.9	1.8	1.8	1.7
Total revenue	76,545	26.0	25.1	25.0	24.7	24.6	24.6	24.6
p.m.: Tax burden	69,120	23.5	23.0	22.8	22.7	22.7	22.8	22.8
Selected Components of Expenditure								
Compensation of employees	20,680	7.0	6.8	6.7	6.5	6.3	6.0	5.8
Intermediate consumption	9,865	3.4	3.4	3.8	3.7	3.6	3.6	3.4
Social payments	29,005	9.9	9.0	8.7	8.4	8.1	7.8	7.5
Social transfers in kind via market producers	6,060	2.1	1.9	1.9	1.8	1.7	1.7	1.6
Social transfers other than in kind	22,945	7.8	7.1	6.8	6.6	6.4	6.1	5.9
Interest expenditure	5,805	2.0	1.6	1.5	1.3	1.2	1.2	1.2
Subsidies	1,825	0.6	0.6	0.5	0.5	0.5	0.5	0.5
Gross fixed capital formation	5,360	1.8	2.1	2.3	2.2	2.2	2.2	2.3
Capital Transfers	1,600	0.5	0.5	0.5	0.5	0.8	0.6	0.6
Other	3,130	1.1	1.2	1.0	1.1	1.1	1.0	1.0
Resources to be allocated	0	0.0	0.0	0.0	0.2	0.4	0.6	0.9
Total expenditure	77,275	26.3	25.2	25.0	24.4	24.2	23.6	23.2
p.m. : Government consumption	36,250	12.3	11.4	11.3	10.9	10.2	9.4	9.5
Gross domestic product at current market prices	294,100	294,100	321,575	341,475	359,975	375,775	392,225	409,725

Rounding may affect totals.

[^] Central and local government are the only subsectors of general government in Ireland.

Source: Department of Finance, Department of Public Expenditure and Reform, CSO and NTMA estimates.

Table A3: Comparison of Vintages of Receipts and Expenditures for 2018, € millions (unless stated)

	SPU 2018	Budget 2019	Total Δ	New Data ¹ Δ
General Government Revenue				
Taxes on production and imports	25,120	25,165	45	45
Current taxes on income, wealth	33,290	34,235	945	945
Capital taxes	450	450	0	0
Social contributions	13,165	13,265	100	100
Property Income	1,360	1,515	155	155
Other	5,910	6,205	295	295
Total revenue	79,295	80,830	1,535	1,535
General Government Expenditure				
Compensation of employees	21,405	21,955	550	550
Intermediate consumption	10,720	10,955	235	235
Social payments	29,010	29,100	90	90
Interest expenditure	5,350	5,290	-60	-60
Subsidies	1,795	1,835	40	40
Gross fixed capital formation	6,790	6,805	15	15
Capital transfers	1,295	1,465	170	170
Other	3,710	3,740	30	30
Total expenditure	80,080	81,145	1,065	1,065
General government balance	-780	-315	465	

Rounding may affect totals

1. Reflects more up to date information available since the 2018 SPU

Source: Department of Finance, Department of Public Expenditure and Reform and NTMA.

Table A4: General Government interest expenditure 2017-2023, € millions (unless stated)

	2017	2018	2019	2020	2021	2022	2023
National Debt Cash Interest	6,090	5,816	5,322	5,092	4,428	4,683	4,947
<i>per cent tax revenue</i>	12.0	10.6	9.2	8.4	6.9	7.0	7.1
<i>per cent of GDP</i>	2.1	1.8	1.6	1.4	1.2	1.2	1.2
National Debt Cash Interest Accruals	31	-296	-197	-334	3	5	-40
Consolidation and Grossing Adjustments	-114	-37	-26	24	90	124	137
Accrued promissory note interest	0	0	0	0	0	0	0
Other	-202	-191	-116	-49	12	33	42
Total Interest on ESA2010 basis	5,805	5,293	4,984	4,733	4,534	4,845	5,086
<i>per cent of total general government revenue</i>	7.6	6.5	5.8	5.3	4.9	5.0	5.1
<i>per cent of GDP</i>	2.0	1.6	1.5	1.3	1.2	1.2	1.2

Rounding may affect totals.

Source: Department of Finance, Department of Public Expenditure and Reform, CSO and NTMA.

Table A5: Projected movement in General Government Debt 2017-2023, € billions

	2017	2018	2019	2020	2021	2022	2023
Opening general government debt	200.7	201.3	205.9	209.6	203.3	207.7	208.4
Exchequer borrowing requirement	-1.9	0.6	2.2	0.7	-0.8	0.3	-0.7
Change in Exchequer Deposits	2.1	2.6	0.0	-8.6	3.3	-0.9	0.5
Net lending of NCSSBs	0.2	-0.2	-0.1	-0.1	0.0	-0.1	-0.1
Net lending of local government	-0.2	0.5	0.3	0.3	0.1	0.0	-0.1
Change in collateral held	-0.5	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.8	1.0	1.3	1.4	1.8	1.3	1.5
Closing general government debt	201.3	205.9	209.6	203.3	207.7	208.4	209.4
General government debt to GDP ratio	68.4	64.0	61.4	56.5	55.3	53.1	51.1

*NCSSBs = Non-commercial semi-state bodies.

Source: Department of Finance, CSO and NTMA (National debt data provider).

Table A6: Breakdown of revenue, per cent of GDP (unless stated)

	2017	2017	2018	2019	2020	2021	2022	2023
	<i>€ million</i>							
Total Revenue at Unchanged Policies	76,623	26.1	24.9	24.7	24.6	24.6	24.7	24.6
Discretionary revenue	-78	0.0	0.3	0.3	0.1	0.0	0.0	0.0

Source: Department of Finance.

Table A7: Expenditure developments, per cent of GDP (unless stated)

	2017	2017	2018	2019	2020	2021	2022	2023
	€ billion							
Expenditure on EU Programs fully matched by revenue from EU funds	0.5	0.2	0.1	0.1	0.2	0.2	0.2	0.2
Expenditure fully matched by mandated revenue increases	0	0.0	0.0	0.0	0.0	0.0	1.0	2.0
Non-discretionary changes in unemployment benefit expenditure	-0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1

Rounding may affect totals.

Source: Department of Finance, CSO and NTMA.

Table A8: Application of Expenditure Benchmark, € billions (unless stated)

	2017	2018	2019	2020	2021	2022	2023
Fiscal Developments							
General Government Expenditure	77.3	81.1	85.3	87.8	91.0	92.5	94.9
Interest Expenditure	5.8	5.3	5.0	4.7	4.5	4.8	5.1
Expenditure co-financed by EU	0.5	0.5	0.5	0.5	0.6	0.6	0.6
Gross Fixed Capital Formation (GFCF)	5.4	6.8	7.7	8.0	8.3	8.7	9.3
Annual Average GFCF (t-3 to t)	4.9	5.5	6.3	7.0	7.7	8.2	8.6
Cyclical Unemployment Expenditure	-0.1	-0.1	0.0	0.3	0.5	0.5	0.5
Discretionary Revenue Measures (DRM)	-0.1	0.9	1.0	0.3	0.1	-0.2	0.0
Corrected Expenditure Aggregate	70.4	74.2	78.3	81.2	84.7	86.0	88.0
Corrected Expenditure Aggregate net of DRMs	70.5	73.3	77.3	80.9	84.6	86.2	88.0
Macro-Economic Developments¹							
Net Public Expenditure Annual Growth per cent	4.3	4.1	4.2	3.3	4.2	1.8	2.3
GDP Deflator (per cent change)	1.2	1.3	1.3	1.8	1.8	1.7	1.7
Expenditure Aggregate, Annual Growth in per cent (real)	3.1	2.8	2.8	1.5	2.3	0.1	0.6
Expenditure Benchmark growth rate per cent	1.3	1.2	4.0	3.7	4.6	4.4	4.1
Deviation in year t (Negative = breach of EB)²	-1.2	-1.2	0.8	1.7	1.8	3.6	3.0
Deviation in year t per cent GDP (Negative = breach of EB)	-0.4	-0.4	0.2	0.5	0.5	0.9	0.7
Average deviation in t-1 and t per cent of GDP	-0.1	-0.4	-0.1	0.4	0.5	0.7	0.8

Rounding may affect totals.

1. Reference rate values from 2018 onwards using an interpolated linear average for 2016 (not the 25 per cent potential growth figure for 2016).

2. Allocation of fiscal space is unchanged from that presented in Summer Economic Statement 2018. Rainy Day Fund contributions need to be excluded from 2019 – 2023.

Source: Department of Finance

Annex 4 - Macroeconomic aggregates 2017 to 2023

	2017	2018	2019	2020	2021	2022	2023
	year-on-year change						
Real GNP	4.4	5.9	3.9	3.3	2.3	2.4	2.5
Real GDP	7.2	7.5	4.2	3.6	2.5	2.6	2.7
Nominal GDP (rounded to nearest €25m)	294,100	321,575	341,475	359,975	375,775	392,225	409,725
Nominal GNP (rounded to nearest €25m)	233,150	252,050	267,275	281,300	293,200	305,825	319,200
Nominal GNI* (rounded to nearest €25m)	181,175	195,800	207,600	218,425	227,650	237,400	247,750
Components of GDP							
Personal consumption	1.6	3.5	3.0	2.6	2.1	2.2	2.4
Government consumption	3.9	3.5	2.9	1.9	1.8	1.8	1.8
Investment	-31.0	-8.9	7.1	5.7	4.4	4.3	4.3
<i>Modified domestic demand</i>	3.2	5.2	4.1	3.3	2.7	2.7	2.9
Exports	7.8	7.0	5.6	4.8	3.8	3.7	3.6
Imports	-9.4	0.9	6.2	5.3	4.5	4.3	4.1
Contributions to real GDP growth							
Domestic demand	-10.1	-0.5	2.7	2.2	1.8	1.8	1.9
Stock changes	-1.1	0.5	0.0	0.0	0.0	0.0	0.0
Net exports	19.1	7.5	1.4	1.3	0.7	0.8	0.8
Price developments							
HICP	0.3	0.7	1.5	1.7	2.9	2.4	2.6
GDP deflator	0.4	1.8	1.9	1.8	1.8	1.7	1.7
Personal Consumption Deflator	1.4	1.5	2.0	2.1	2.9	2.4	2.6
Labour market							
Employment	2.9	3.0	2.8	2.2	1.5	1.6	1.7
Unemployment (LFS basis)	6.7	5.8	5.2	5.0	5.0	5.0	5.0
Labour Productivity (GDP per person employed)	4.2	4.4	1.4	1.3	1.0	0.9	0.9
Compensation of Employees	4.7	6.0	6.4	5.6	4.8	5.3	5.6
Compensation per Employee	0.2	2.4	3.0	3.3	3.3	3.6	3.8
External							
	per cent of GDP						
Current Account (per cent of GDP)	8.5	12.0	11.7	11.5	10.9	10.5	10.0
Cyclical Developments							
Output Gap Estimate	-3.0	-0.4	0.2	0.9	1.0	1.3	1.7

Rounding may affect totals. GNI* is a purely technical forecast, for illustrative purposes, assumed to move in line with GNP.

Output gap estimates based on the application of extended Hodrick Prescott filter models using GDP

Source: CSO (for 2017) and Department of Finance for 2018-2023.

Annex 5

Structural Budget Balance and Medium Term Budgetary Objective (MTO)

The Medium Term (Budgetary) Objective (MTO) is the cornerstone of the preventive arm of the Stability and Growth Pact (SGP). Ireland's MTO is a structural deficit of 0.5 per cent of GDP. The table below shows the evolution of the structural balance over 2017 – 2023; output gap estimates are based on the harmonised methodology required under the SGP.

Table A9: structural budget balance, per cent of GDP (unless stated)

	2017	2018	2019	2020	2021	2022	2023
Headline fiscal developments							
General government balance	-0.2	-0.1	0.0	0.3	0.4	1.1	1.4
One-off / temporary measures	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
Interest expenditure	2.0	1.6	1.5	1.3	1.2	1.2	1.2
General government primary balance	1.7	1.5	1.4	1.6	1.6	2.3	2.7
Economic cycle							
GDP growth rate	7.2	7.5	4.2	3.6	2.5	2.6	2.7
Potential GDP growth (%)	7.4	4.6	4.5	4.3	3.5	3.2	3.3
- contribution from labour	2.2	2.1	2.2	2.0	1.7	0.8	0.4
- contribution from capital accumulation	-0.1	-0.3	-0.1	0.0	0.2	0.4	0.5
- contribution from total factor productivity	5.4	2.7	2.6	2.5	2.4	2.4	2.4
Output gap	-1.0	1.6	1.3	0.6	0.4	0.2	0.0
Structural fiscal development							
Cyclical budgetary component	-0.5	0.9	0.7	0.3	0.2	0.1	0.0
Structural budget balance	0.4	-1.0	-0.7	0.0	0.2	1.0	1.4
Structural primary balance	2.3	0.7	0.8	1.3	1.4	2.2	2.7

Estimates of output gap based on harmonised methodology and assumed mechanical closure of output gap from 2021 onwards.

Figures may not sum due to rounding.

Source: Department of Finance.

On the basis of the projections for actual GDP set out in this document, a structural deficit of 1.0 per cent of GDP is in prospect for this year, closing to 0.7 per cent of GDP next year. While slightly outside the 0.5 per cent target, the European Commission applies a discretionary margin of $\frac{1}{4}$ percentage points when assessing achievement of the MTO, given uncertainty surrounding estimates of the output gap.

Finally, it is worth pointing out that Member States are required to revise their country-specific MTOs every three years, with the next iteration due in 2019. Under the Fiscal Compact, the minimum MTO for a euro area Member State is -0.5 per cent of GDP.