

ASSESSMENT AND ENDORSEMENT OF MACROECONOMIC FORECASTS

KEY MESSAGES

- Central projections for economic activity in 2015 and 2016 are very positive, though the outlook is marked by considerable uncertainties. External factors are relatively favourable to growth at present: exchange rates have boosted competitiveness; a looser monetary policy stance has helped a strained credit environment; oil prices are roughly half their 2014 level; and growth in Ireland's major trading partners has been reasonable. Substantial risks surround the central projections contained in the Budget, however, and error margins around Irish growth rates remain among the largest of advanced economies. Each of the factors mentioned could reverse quickly, with negative consequences for baseline forecasts.
- The Council endorsed the draft *Budget 2016* macroeconomic forecasts to 2016. Taking into account the uncertainties and judgemental elements involved, it was satisfied that these forecasts were within an endorsable range. The central forecasts in *Budget 2016* covering 2015 and 2016 appear plausible. Domestic demand forecasts are slightly stronger than in IFAC Benchmark projections prepared by the Council's Secretariat, with net exports weaker.
- Additional expenditure measures for 2015 were embedded in the Department's 2015 macroeconomic projections, but were not fully communicated to the Council during the endorsement process. As part of the annual review of the Memorandum of Understanding, the Council will propose changes to ensure that the precise fiscal assumptions underlying the macroeconomic forecasts made by the Department are explicitly communicated to the Council.
- The Council noted the correct application of the commonly agreed methodology for supply-side projections. Contrary to some other indicators of slack in the economy, such as still high unemployment levels, supply-side estimates produced under the commonly agreed methodology show a large positive output gap in 2015 that subsequently narrows by the end of the forecasting horizon (2021). While there may still be some spare capacity in the economy at present, uncertainty around these estimates is high and the nature and pace of the recovery underway is likely to see any demand shortfall in the economy disappear over the near term.
- It is essential that the Government's forecasts for the medium term are well-founded to provide a sound basis for setting the public finances on a sustainable path. This requires the development of a fuller picture of the supply-side outside of the commonly agreed methodology, which is used primarily for fiscal surveillance. The Council note the progress made by the Department on this front since the last *Assessment Report*. Further progress is necessary as the credibility of estimates will remain an important issue in future endorsements.

2.1 INTRODUCTION

As part of its statutory mandate, the Council is required to undertake an endorsement exercise for the macroeconomic forecasts underlying the Stability Programme and annual Budget. It is also required to provide an assessment of the macroeconomic forecasts. This chapter reviews the endorsement exercise for *Budget 2016* and assesses the macroeconomic forecasts provided in the budgetary documentation. This fifth endorsement exercise undertaken by the Council covers a shorter horizon of forecasts (2015-2016) than in the *SPU 2015*.¹ The timeline for the endorsement process is detailed in Appendix C.

To support these endorsement and assessment functions, the Council has continued its development of a “suite of models” approach (IFAC, 2013b), with an expanded set of tools used for both short-term and medium-term forecasting. Since June, further efforts have been made to advance alternative supply-side estimates of the Irish economy. These are essential for assessing Ireland’s fiscal stance as well as for understanding the economy’s medium-term supply side potential. For the short term, new models of consumption have also been added.

Section 2.2 discusses the *Budget 2016* macroeconomic forecasts and puts these in context relative to other agency forecasts. Section 2.3 provides an assessment of the uncertainty and risks surrounding the outlook as well as an assessment of imbalances in the economy at present. Section 2.4 concludes by outlining the endorsement process as it applied to the *Budget 2016* projections. Two boxes are included: the first examines alternative approaches to estimating potential output for Ireland and the second documents practices among EU finance ministries in terms of their reporting of output gap estimates.

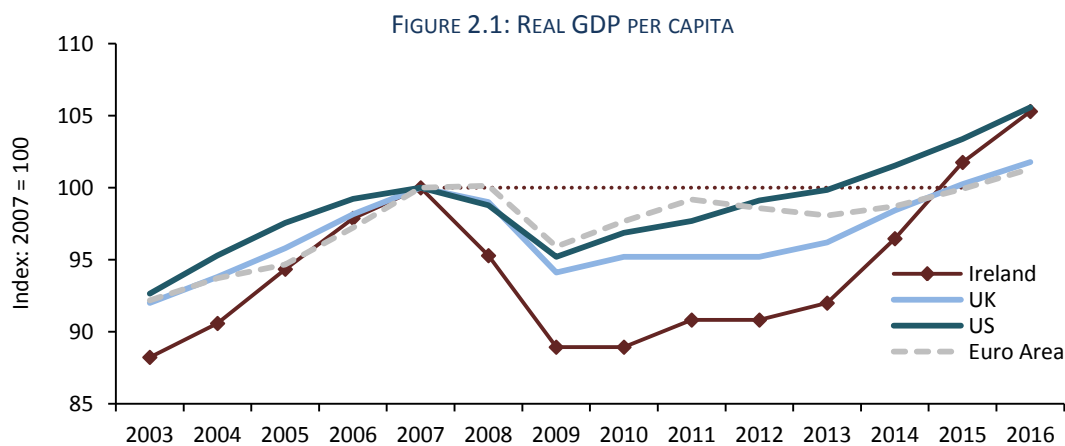
2.2 AN ASSESSMENT OF THE MACROECONOMIC FORECASTS IN *BUDGET 2016*

2.2.1 BACKGROUND TO FORECASTS

Recognising the slow growth that typically follows a financial crisis, many forecasters expected a period of sub-par performance as households and businesses restrained their spending as they repaired balance sheets that had deteriorated during the crisis. However, there is also a strand of evidence that suggests the strength of recoveries is dependent on the length and severity of preceding downturns. The concept of a post-recession ‘bounce-back’ is documented in literature

¹ The endorsement function is outlined in detail in IFAC (2013b) and in IFAC (2014a). As the SPU represents the national medium-term fiscal plan, the endorsement related it covers a longer time range than that of the Budget. Benchmark projections prepared by the Secretariat form a key part of the endorsement process (see IFAC, 2013b and 2014a). In addition to discussions with Council members, an important input into the preparation of the Benchmark projections involves rounds of discussions with other external forecasters, coming from a wide variety of different perspectives. For this round of forecasts, the Secretariat held discussions with economists and forecasters at the ESRI, Bank of Ireland and the IMF. The Secretariat also met with the CSO to gain further insights into recent *National Accounts* and *Balance of Payments* data.

examining historical US real GDP dynamics and this framework may help explain the recent dynamics of the Irish economy.² Given the severity of the crisis, a sharp ‘bounce-back’ might reasonably be expected, notwithstanding the need for balance sheet repair, which then eventually gives way to an expansion phase with more moderate growth rates in later years.³ This pattern appears consistent with recent developments in the Irish economy (Figure 2.1), while the prevailing outlook is also for sharp initial growth rates to moderate in coming years.



Sources: CSO; Budget 2016; IMF and internal IFAC calculations.

The sharpness of the recovery may reflect two further aspects: (i) Ireland’s capacity to regain competitiveness seems to set it apart from other economies, and could explain some of the relatively strong growth bounce-back, at least on the net export side; and (ii) mounting external supports including record low global interest rates, low oil prices, a sharp euro depreciation and recovering demand in Ireland’s key trading partners have also reinforced the recovery momentum. While output has responded strongly and climbed above its pre-crisis peak, unemployment levels remain high compared to pre-crisis levels.

In terms of composition, much of the impetus to growth has shifted towards domestic demand since 2013. This contrasts with the large contributions from traded sectors during the crisis years.

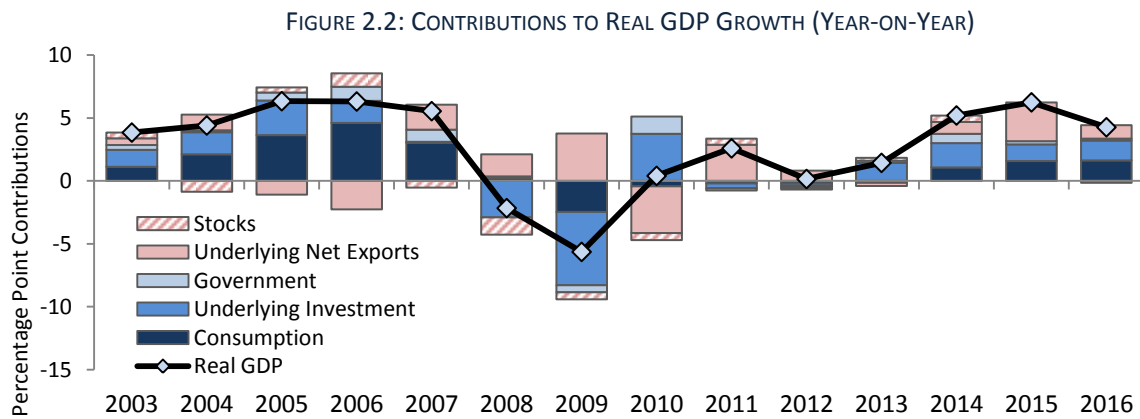
² An example of a model with discrete economic phases is provided in Sichel’s (1994) three-regime model, which allows for distinct expansion, recession, and recovery phases. Kim *et al.* (2005) extend the analysis, arguing that relating the strength of the recovery to the preceding recession mirrors actual business cycle features better than standard models. Applying the model to international data, they find the ‘bounce-back’ effect to be typically smaller outside of the US, corresponding to larger permanent effects of recessions. Additional support is provided in Galvao (2000); Beaudry and Koop (1993); Friedman (1964; 1993); and Wynne and Balke (1992; 1996).

³ “Balance sheet recessions” (Koo, 2011) following financial crises can dampen activity as private sector agents repair balance sheets by increasing savings or paying down debt. Substantial variation exists, but average recoveries in output per capita can take about 4½ years to exceed their pre-crisis peak following a financial crisis, compared to 1½ years for standard business cycle recessions (BIS, 2014). The recent Irish episode is likely to have taken 7-8 years using either GNP or GDP per capita. Household nominal debt has eased since 2008, however, while recent research (Lawless *et al.*, 2015) shows that 43 per cent of Irish households in 2013 held no debt (the reported Euro Area average incidence of debt is lower, with 56 per cent of households having no debt). Substantial variation is also evident across Irish age categories (the 34-44 year age category, for example, shows higher relative debt burdens).

The resurgence in domestic demand visible from 2013 has to date been predominantly driven by underlying investment expenditure (i.e., excluding aircraft and intangible investment), albeit a large share may stem from multinational-dominated sectors for whom financing conditions have been less constrained. From its trough in mid-2012, some two-thirds of the increase in underlying investment has arisen from increased expenditure on machinery and equipment investment (excluding aircraft) and close to a quarter from non-residential construction. Substantive contributions from consumer spending only began to emerge last year (Figure 2.2).

2.2.2 SHORT-TERM FORECASTS, 2015-2016

Budget 2016 forecasts the recent dynamism of the economy to sustain itself through 2015, before moderating slightly in 2016. The Department forecasts real GDP growth of 6.2 per cent for this year and 4.3 per cent for 2016. This follows last year's growth of 5.2 per cent.

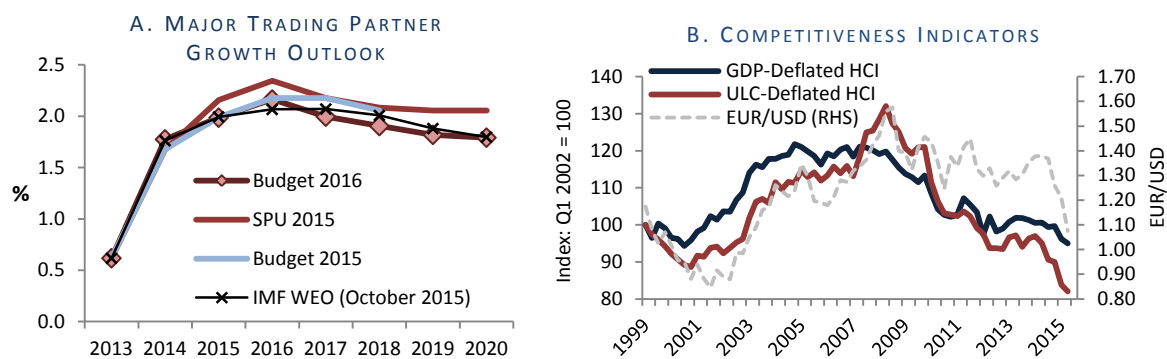


Sources: CSO; Department of Finance; internal IFAC calculations.

Note: "Underlying" investment and net exports strip out intangibles and aircraft purchases in full as these are, in the main, imported, with little impact on real GDP.

Looking ahead, the recovery in domestic demand is expected to continue. Ongoing supply pressures in commercial and residential sectors should fuel further expansions in investment even if machinery and equipment spending moderates. *Budget 2016* anticipates that real incomes will rise at a reasonable pace. In combination with a strong pace of employment creation, this should spur further expansions in private consumption. In addition, a weaker euro, lower oil prices, historically low global interest rates and continued growth in key trading partners are all expected to be factors that further boost trade performance in the near term.

FIGURE 2.3: EXTERNAL TRADE FUNDAMENTALS



Sources: Department of Finance (D/F); internal IFAC calculations.

Note: Trading partner forecasts are export-weighted EC/IMF real GDP forecasts for UK; US and Euro Area as used by D/F. HCI = Harmonised Competitiveness Indicators; ULC = Unit Labour Costs.

Net Exports are expected to aid real GDP growth this year and next. Central forecasts of external demand growth are still reasonably positive (Figure 2.3 A), even after accounting for some deterioration in Emerging Market (EM) prospects.⁴ Competitiveness is being bolstered by a sharp depreciation in the euro (Figure 2.3 B). Allied to the previous reversal of boom-time losses, this has restored competitiveness levels to those not seen since 2000 – a year described as ‘unsustainably super-competitive’ (O’ Farrell, 2015; O’Brien, 2010 ; Cassidy and O’Brien, 2007; and Lane, 2004).

Investment spending is expected to continue its cyclical recovery from a low base, with some degree of catch-up also possible given recent weaknesses. Various impediments⁵ mean that *Budget 2016* does not foresee investment in dwellings returning to long-run levels⁶ by 2021. The Department’s projections appear appropriately conservative in light of recent failures of housing supply to respond to demand, particularly in urban areas (ESRI, 2015). Shortages of commercial property, most notably in Dublin, are expected to prompt rising investment activity in the next few years, with many projects in early commencement stages.⁷

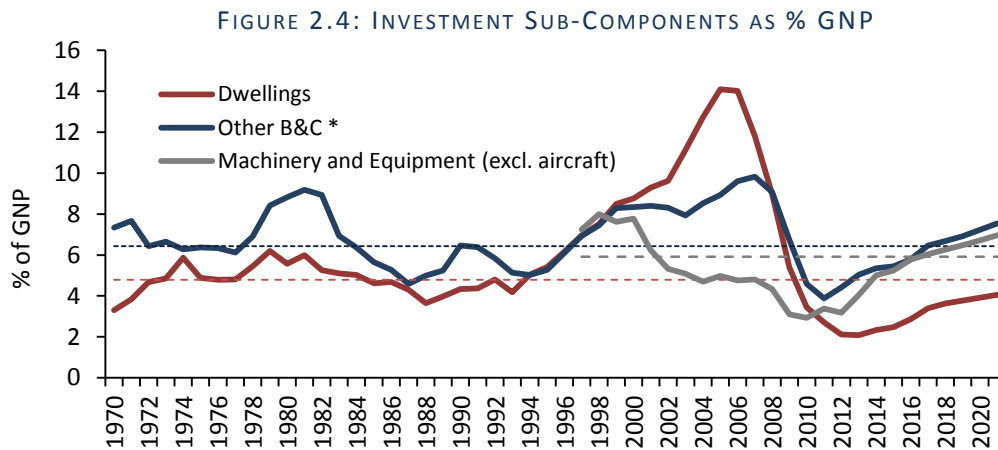
More encouraging is the pace of expansion in machinery and equipment investment. The latter is likely to be close to levels reached in the early-2000s next year. Diminished capital stock levels in industry and elsewhere should see investment continue to expand briskly in the near term.

⁴ Using weighted real GDP growth in the US, UK and Euro Area is one proxy for external demand. On this basis, demand growth averaging 2 per cent per annum over the forecast period would be slightly weaker than the average 2½ per cent annual growth rates that prevailed during the period 2000 to 2007.

⁵ Appendix B examines housing developments in further detail.

⁶ Long-run levels refer to the median excluding the “bubble” period (taken as 2003-2007) here, although the median is relatively unchanged under alternative interpretations such as the 2000-2008 period, for example.

⁷ The Central Bank (2015) highlight these supply pressures, noting in particular Dublin city centre office vacancy rates, which fell from a peak of over 23.5 per cent in 2010 to less than 10 per cent in Q1 2015. More recent reports suggest a pick-up in development activity in recent months, albeit from a low base (CBRE, 2015). NAMA has also announced significant commercial property development plans concentrated in the Dublin Docklands.



Sources: CSO; Budget 2016; internal IFAC calculations.

Note: Respective long-run median (in same colours) of each series shown by horizontal lines.

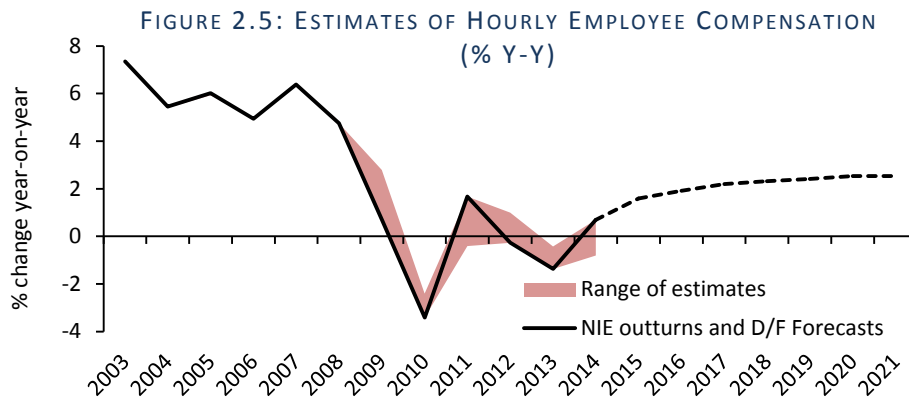
* The D/F definition of other B&C includes investment expenditure on roads, transfer costs as well as NIE-defined other building and construction (including commercial development).

Revised data show **personal consumption** spending for recent years, particularly on services, representing less of a drag to overall activity than previously indicated. The less volatile components of retail sales – which move more closely with aggregate consumption – have been growing at a pace of 2½-3½ per cent year-on-year in recent months. Furthermore, the implied quarterly growth rates behind the Department’s annual forecasts (see Table 2.1 forecast summary) remain close to half their pre-crisis averages.⁸ By raising disposable incomes, tax reductions and continued employment growth should also spur further consumption growth.

While consumption forecasts appear consistent with the income growth assumed by the Department, various official estimates give conflicting signals about actual earnings trends of late. Hourly compensation growth rates range from -0.8 per cent to +0.7 per cent for 2014 (Figure 2.5). This uncertainty around historical estimates clouds the outlook for consumption. In addition, more recent information on savings rates suggests that these may have already descended from crisis highs, limiting the scope to fuel consumption growth.⁹ Finally, although falling, household debt levels remain in excess of international and historical norms. For these reasons, the outlook on consumer spending appears more uncertain than usual, even if high-frequency indicators show continued strength.

⁸ Quarterly growth rates in consumption averaged 1.4 per cent over Q1 2000 – Q4 2007; 1.5 per cent over Q1 1998 – Q4 2007; and 1.6 per cent over Q1 1998 – Q4 2002. By comparison, the implied quarter-on-quarter growth rates in the Department’s projections suggest growth of 0.8 per cent per quarter.

⁹ The Institutional Sector Accounts show the household savings rate having descended to 5 per cent in 2014, which places it inside its long-run (1999-2014) annual average of 7½ per cent. Excluding elevated rates during the crisis period the long-run average would be closer to 6½ per cent.



The **GDP deflator** is showing an expected sharp rise in 2015 amid the boost to the terms of trade for goods following the reduction in oil prices and the weaker euro, particularly vis-à-vis the US dollar. Strong rental cost growth (which impacts imputed rents) is offsetting modest falls in other consumer prices. Next year, the GDP deflator is forecast to moderate as exchange rate effects fall out of the base.

The **Labour market** is expected to continue recovering through 2016. Economy-wide employment grew by 2.6 per cent in the first half of 2015, with 10 of the 14 sectors recording year-on-year increases. The contraction in the labour force appears to have stabilised, while an assumed reversal in net migration outflows should further boost labour capacity from next year.

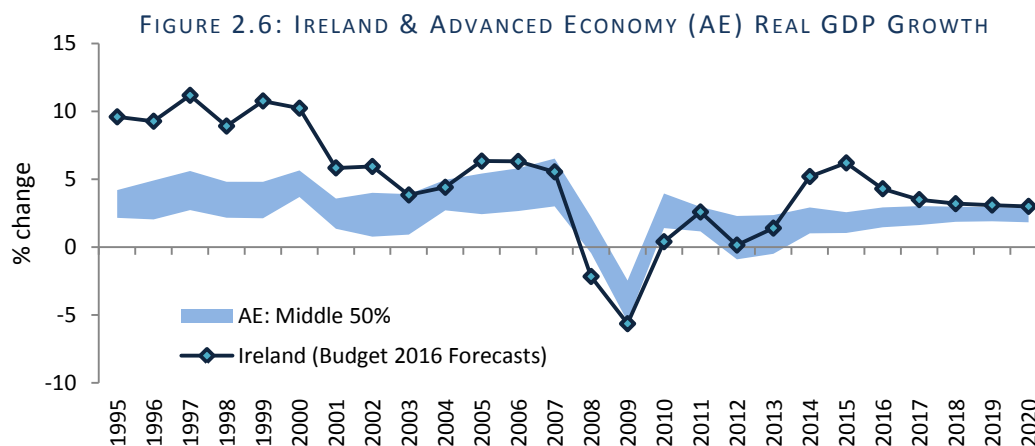
TABLE 2.1: BUDGET 2016 MACROECONOMIC FORECASTS (TO 2016)

% change in volumes unless stated	2013	2014	2015	2016
GDP	1.4	5.2	6.2	4.3
GDP Deflator	1.2	0.1	4.6	1.8
Nominal GDP	2.6	5.3	11.2	6.2
GNP	4.6	6.9	5.5	3.9
Consumption	-0.3	2.0	3.5	3.5
Investment	-6.6	14.3	13.0	12.5
Government	1.4	4.6	1.9	1.1
Exports	2.5	12.1	11.9	6.9
Imports	0.0	14.7	12.1	8.2
Current Account (% of GDP)	3.1	3.6	6.9	6.2
Employment	2.4	1.8	2.8	2.4
Unemployment Rate	13.0	11.3	9.5	8.3
Inflation (HICP)	0.5	0.3	0.1	1.2
Nominal GDP (€ billions)	179.4	189.0	210.2	223.1

Sources: CSO and Department of Finance (*Budget 2016*).

2.2.3 MEDIUM-TERM FORECASTS, 2017-2021

Budget 2016 forecasts annual real GDP growth to slow to approximately 3 per cent per annum by the end of the forecast horizon. This is similar to April's *SPU* projections and places Ireland below its average performance since the mid-1990s, but just inside the upper-25 per cent of projected growth rates for advanced economies (Figure 2.6).



Sources: CSO; *Budget 2016* forecasts; IMF (WEO, October 2015).

In the medium term, economic activity is expected to become more balanced in composition from 2018 on as the contribution of net exports to growth rises while growth in domestic activity moderates (Table 2.2). The composition of growth projected by the Department for the outer period does not contain as strong a net export contribution as assumed at *SPU*-time. As noted previously (IFAC, 2015b), there are numerous challenges to ensuring that net exports continue to contribute substantively to real GDP growth in later years as rising domestic pressures threaten recent competitiveness gains. Concerns that cost pressures are already emerging in relation to labour, property, health insurance, education and a range of business services come against a backdrop of expectations for low inflation across the EU.¹⁰

The Department reports estimates produced using the commonly agreed methodology as its supply-side forecasts. On the face of it, these estimates point to significant overheating in the economy, with a positive output gap of 2½ per cent estimated for both 2015 and 2016, which only unwinds by 2021. Furthermore, the estimate of potential output growth for 2016, at over 4 per cent, is at the very upper range of estimates typically assumed for Ireland. This results in the output gap increasing by just 0.2 percentage points between 2015 and 2016 and possibly understates the degree to which any cyclical upswing might be driving the recovery.

¹⁰ The National Competitiveness Council (2015) notes these concerns in detail in *Ireland's Competitiveness Scorecard 2015* and highlights the difficulty of achieving further cost reductions in light of expectations of low inflation throughout the EU. In relation to labour costs, the concern is primarily the extent to which these might outpace productivity growth.

While estimates under the Commonly Agreed Methodology (CAM) suggest significant overheating, a variety of indicators would suggest little unambiguous evidence of tensions on productive capacity (IFAC, 2015b). A lack of broad-based real wage and price pressures across the economy as well as a strengthening current account surplus – even if adjusted for the activities of redomiciled PLCs – imply tensions are not yet obvious. Furthermore, labour market conditions appear to show additional slack, with credit markets and the housing sector also lacking clear signs of overheating.¹¹ Even if unambiguous signs of pressures may not be immediately apparent, the pace that the output gap is closing (or opening up) is still likely to be quite fast given the strength of the near-term outlook. Looking beyond the CAM estimates, the nature of the recovery underway would likely see any demand shortfall in the economy disappear over the near term.

TABLE 2.2: BUDGET 2016 MEDIUM-TERM FORECASTS SUMMARISED

% change	2014	2015	2016	2017	2018	2019	2020	2021
Real GDP Growth	5.2	6.2	4.3	3.5	3.2	3.1	3.0	2.9
Domestic Demand (p.p.)¹	4.3	3.1	3.1	2.6	1.7	1.6	1.6	1.5
Net Exports (p.p.)¹	0.9	3.1	1.1	0.8	1.5	1.5	1.4	1.4
Potential GDP Growth	2.7	3.4	4.1	4.3	3.8	3.3	3.2	3.5
Output Gap (CAM)²	-0.4	2.3	2.5	1.6	1.0	0.8	0.6	0.0

Source: Department of Finance (*Budget 2016*).

¹ Contributions to real GDP growth rates differ from *Budget 2016* calculations as they adjust for imports of aircraft and intangibles in both investment and imports. Domestic demand includes changes in inventories.

² Output gap estimates in *Budget 2016* are estimated using the Commonly Agreed Methodology (CAM).

Recognising the uncertainty related to estimating the cyclical position of the economy, it is essential that the Government broaden its analysis of the supply-side. Forecasts for the medium term should be well-founded to provide a sound basis for setting the public finances on a sustainable path. Ensuring this requires the development of a fuller picture of the supply-side outside of the CAM, which is only required for fiscal surveillance and which the Department – among others – has been critical of in the past.¹² While necessary for fiscal surveillance requirements, such estimates do not have to represent the Department's only detailed supply-side views. As noted in Box B, many EU Finance Ministries report alternative supply-side estimates in their analysis of the macroeconomy as part of regular Stability/ Convergence Programmes.

The Council note the progress made by the Department in developing alternative supply-side estimates since the last *Assessment Report*. Further progress is necessary as the credibility of

¹¹ See also Appendix B on macroeconomic imbalances and Appendix C on house prices.

¹² Criticisms of the approach are well-documented, including those of the Department itself (Department of Finance, 2003) and in a number of the Council's previous reports (IFAC, 2015a, Chapter 2; IFAC 2014a, Chapter 2 and Analytical Note 2; IFAC, 2013a; and IFAC, 2011 Box 3.1). Bergin and FitzGerald (2014) also provide a very useful discussion in the context of the structural balance. Issues whereby medium-term demand forecasts may not be well aligned with supply-side figures produced under the methodology are also evident in the *Budget 2016* estimates. For example, this leads to potential output growth exceeding real GDP growth by more than half a percentage point in 2021 (Table 2.2). Typically, actual and potential output growth rates are assumed to converge beyond the business cycle horizon.

estimates will remain a pivotal issue in coming endorsements, including that covering the medium-term forecasts in next spring's *SPU*.

BOX A: ALTERNATIVE POTENTIAL OUTPUT ESTIMATES AND "A MODULAR APPROACH"

Estimates of potential output and the output gap represent critical inputs to the design of sustainable fiscal and macroeconomic policies. This box provides an update of the progress¹³ the Council is making towards developing appropriate measures for assessing the fiscal stance and in assessing medium-term forecasts produced by the Department of Finance.

ALTERNATIVE BASELINE ESTIMATES OF POTENTIAL OUTPUT

The Council has examined several approaches to producing estimates of potential output. It is anticipated that these will be supplemented with various indicators of disequilibrium, particularly those of relevance to the public finances. Before incorporating these, however, several methods of obtaining baseline estimates of potential are examined.

The nature of the Irish economy, in particular the large presence of multinational-dominated sectors, may warrant the use of alternative measures of economic activity other than GDP when estimating potential output. While GNP may be considered a better measure of domestic economic activity, it is also subject to its own accounting issues (FitzGerald, 2013). A focus on domestic sectors of the economy where fiscal impact is of greatest interest could also be satisfied by using a more specific separation of domestic and multinational-dominated sectors.

One approach, which mirrors approaches developed by the IMF (also Box B, IFAC, 2015b), is to use estimates of "domestic" GVA (i.e., the GVA of sectors not dominated by foreign-owned multinational enterprises (MNEs)). A basic Kalman filter (with drift) is employed to identify cyclical activity and underlying "potential domestic GVA". The output gap denominator then incorporates the GVA of MNE-dominated sectors.¹⁴

$$\frac{\text{"Domestic" GVA} - \text{Kalman Filtered ("Domestic" GVA)}}{\text{Kalman Filtered ("Domestic" GVA)} + \text{MNC GVA}} * 100$$

A second approach is to use standard measures of economic activity: real GDP and real GNP. Cumulative Foreign Direct Investment (FDI) inflows are controlled for in the filtering process to account for any associated structural changes in the economy over time.¹⁵

Figure A.1.A shows the output gap estimates produced under each method. The variation is not especially wide across estimation techniques, albeit the GDP and GNP approaches show a more pronounced peak and trough in potential than estimates under the "domestic GVA" approach. All estimates suggest that the economy approached equilibrium between 1998 and 1999, before a large positive gap opened up. The estimates are also relatively consistent for the most recent period, suggesting an output gap in 2016 that is either closed or slightly negative. Estimates of potential growth underpinning these approaches range between 2½ - 3½ per cent per annum over the medium term.

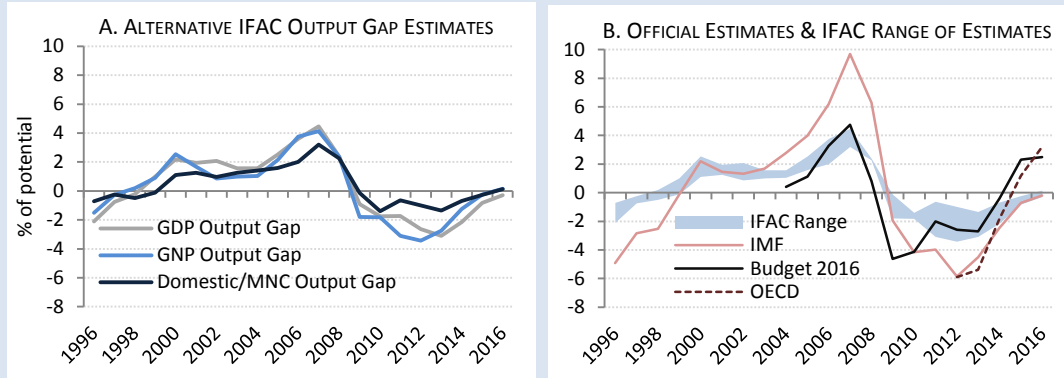
¹³ See, for example, IFAC (2015a), Box B, and IFAC (2014b), Analytical Note 2.

¹⁴ MNE activity is assumed to be relatively unconstrained by domestic resource utilisation and is taken to scale up or down the economy's overall level of potential output. By scaling the gap between actual "domestic" activity and its potential level against the sum of MNE-led activity plus the potential level of domestic activity, this gives a sense of how domestic activity is performing relative to wider economic potential. For forecast years, a simplifying assumption is made whereby domestic GVA is assumed to grow in line with final domestic demand less investment in intangibles and aircraft, to which its growth rates are highly correlated.

¹⁵ This approach is similar to that outlined in Šrámková *et al.* (2010) where cumulative greenfield FDI is used. The rationale is that FDI inflows contribute to changes in potential growth rates over time. For 2015 and 2016, FDI inflows are assumed to run at a similar pace to the most recent annual outturns.

Comparing the output gap estimates to official estimates produced by other institutions for GDP, we can see that the range of estimates outlined above displays relatively smaller magnitudes. For more recent years, the range lies closer to IMF estimates, which contrast with *Budget 2016* and OECD estimates that signal an emergence of large positive output gaps.

FIGURE A.1: ALTERNATIVE OUTPUT GAP ESTIMATES AND COMPARISONS WITH OFFICIAL ESTIMATES



Sources: Internal IFAC calculations; CSO; *Budget 2016* Projections; IMF (*WEO*, Oct 2015); OECD (Sep 2015).

TOWARDS A MODULAR APPROACH

The use of univariate filters similar to those used in the analysis above can lead to a failure to detect other critical imbalances that matter for public finances, such as housing bubbles. To counteract this, the Council is also developing a *Modular Approach* to better understand the cyclical position of the economy. This involves assessing key sources of imbalances that can explain the deviation of the economy from its potential, with a view to examining these “modules” in a more systematic manner. Means of incorporating this information directly into baseline estimates of potential output can then subsequently be explored.¹⁶

To better understand the current budget balance relative to a balance when the economy is operating at more normal levels, cyclical indicators that matter most for the public finances are of central importance. In this respect, indicators of credit, housing, labour market, and current account imbalances are among some of the initial areas of focus.

Incorporating additional indicators that might point to disequilibria in the economy formally into an econometric specification of potential output poses several difficulties. First, finding suitable indicators as well as measuring these correctly can be an extensive process. Second, incorporating the information into estimates of potential in an appropriate manner can also present problems. Third, chosen indicators of disequilibria may subsequently prove insignificant or inappropriate when included, requiring further iterations of earlier steps.

As an input to producing suitable indicators for estimates of potential and to ensure that imbalances are monitored more rigorously, the Council has begun documenting imbalances related to the “modules” specified above (Appendix E). This has a number of advantages. It mirrors more closely how economists actually think about the existence of overheating or slack in the economy. It also allows for more substantive analyses of specific areas, compared to a situation in which a statistical filter or alternative estimate of potential is applied in isolation. The various indicators used (Section 2.3.2) suggest that the output gap is unlikely to be strongly positive at present,¹⁷ albeit the considerable pace of growth anticipated for coming years suggests that any negative gap could close rapidly, while uncertainty levels surrounding such estimates remain high.

¹⁶ Additional indicators can be incorporated through output gap equations as proposed by Borio *et al.* (2014).

¹⁷ As suggested by CAM-based *Budget 2016* projections and OECD projections, for example.

BOX B: USE OF ALTERNATIVE OUTPUT GAP MEASURES BY EU FINANCE MINISTRIES

This Box outlines the reporting of output gaps by Finance Ministries subject to EU fiscal frameworks. It assesses whether alternative estimates of the output gap are typically shown alongside (or in place of) estimates produced under the commonly agreed methodology, how alternative estimates are presented, and whether the approach used by the Department of Finance may be improved in light of the presentational approaches adopted elsewhere. Presenting alternative approaches is a favourable means of highlighting the uncertainty that surrounds estimates of the supply-side.

The output gap is an important indicator of the state of an economy's output relative to the output that could be produced if the economy were in a "normal" state.¹⁸ Since an economy's potential growth cannot be observed and has to be estimated, the statistical and econometric methods used can be a source of some contention.¹⁹ For these and other reasons, it is often advisable not to rely on any single method of estimating the output gap. The Department of Finance, however, presents estimates under the commonly agreed methodology as its official assessment of the output gap, thus mirroring the EU Commission's approach. The Department have expressed serious reservations with the approach's validity for Ireland in the past (as have others), however, and the fiscal rules do not explicitly preclude the use of alternative measures.

TABLE B.1: STABILITY/ CONVERGENCE PROGRAMME OUTPUT GAP REPORTING ACROSS COUNTRIES

Country	Commonly Agreed Methodology Output Gap Reported		Alternative Output Gap Reported		Link	
	No. Output Gap Measures Reported	Where	Where	Where		
Austria	1	Yes	Table 5	No	-	SP
Belgium	1	No	-	Yes	Table 6	SP
Bulgaria	1	Yes	Table 5	No	-	CP
Croatia	1	Yes	Table 5	No	-	CP
France	4	Yes	Table 5	Yes	Text (pp.10)	SP
Germany	1	Yes	Table 17	No	-	SP
Hungary	1	No	-	Yes	Table 4	CP
Italy	2	Yes	Table III.9	-	-	SP
Latvia	2	Yes	Text (pp.16)	Yes	Table 5	SP
Lithuania	1	No	-	Yes	Table 9	CP
Luxembourg	2	Yes	Box 2	Yes	Table 5	SP
Malta	1	Yes	Table 5	No	-	SP
Netherlands	1	Yes	Table 5	No	-	SP
Poland	1	Yes	Table 1	No	-	CP
Romania	1	Yes	Table 5	No	-	CP
Slovakia	2	Yes	Tables 4 and 5	Yes	Table 3	SP
Slovenia	1	Yes	Table 4.4	No	-	SP
Spain	1	Yes	Table 4.6.1	No	-	SP
Sweden	1	No	-	Yes	Table 3	CP
UK	18	Yes	Chart 3.8	Yes	Chart 3.1	CP

* Note that the Netherlands Ministry technically only shows the CAM output gap in their Stability Programme, even though the CPB – who produce the estimates – report on alternative estimates in certain publications.

¹⁸ A normal state might refer to, for example, a situation where factors of production like labour and capital are being best employed, with unemployment near its natural rate, and productivity at trend levels and capital fully utilised.

¹⁹ This is particularly relevant for small open economies like Ireland's where *ex post* national accounts revisions are large, labour supply is highly elastic and subsequent estimates of the output gap are subject to pronounced levels of uncertainty.

Table B.1 examines the cross-country variation in output gap reporting. Of the 20 Finance Ministries examined, 9 clearly present alternative output gap measures. In some cases these are completely unique approaches, while in others, they are adaptations of the commonly agreed methodology. It is not unusual for a country to present multiple alternative output gap estimates, including those from other agencies, where these are available, such as in the UK and France. Of the smaller economies examined, 8 out of the 14 rely on the CAM without presenting alternative estimates, whereas 6 of the 14 present their own favoured approach. Three of these (Latvia, Luxembourg and Slovakia) present estimates under both the CAM as well as their own preferred approaches.

The presentational form employed by those finance ministries that show several alternatives varies. In most cases, to avoid confusion, the preferred estimate of the output gap is included in the main Table describing cyclical developments. Estimates produced under the commonly agreed methodology are then given relatively more limited coverage, simply being referred to in the text or in accompanying charts.

Based on international practice, it does not appear unusual to see Finance Ministries presenting alternative estimates of the output gap to that of the Commonly Agreed Methodology. Given the advantages of doing so for Ireland where output gap estimates are subject to high levels of uncertainty, it would be advisable for the Department of Finance to examine its own presentational approach with a view to supplementing the estimates currently provided.

2.2.3 RECONCILIATION TABLES BETWEEN ENDORSED AND BUDGET FORECASTS

Budget 2016 provides a reconciliation table reflecting changes between the endorsed projections and those that are published in the document itself, which account for the €0.3 billion additional fiscal measures announced for 2016 over and above the €1.2 billion previously assumed in the *SPU*. Additional tables were provided to the Council outlining the details of these differences.²⁰

The fiscal package for 2016 is projected to boost overall real GDP for 2016 by an additional 0.1 percentage points relative to the endorsed set of forecasts. At an aggregate level, this increase appears reasonable and results entirely from increased consumer spending as a result of after-tax income gains and increased transfers.²¹ Employment estimates were revised up slightly on account of budgetary measures, while the unemployment rate was 0.1 percentage points lower for 2016.

While the Department provided a post-*Budget 2016* reconciliation for its 2016 forecasts, it did not reconcile its forecasts for 2015. This was surprising given that additional spending for 2015 for the final months of the year was only first outlined in the *White Paper* (9 October). This was of a similar magnitude to the entire Budget package and would have been expected to further boost growth rates in both 2015 and 2016.

²⁰ This requirement is reflected in the MoU between the Department and the Council.

²¹ The forecasts assume a marginal propensity to consume out of income of 0.8, while an overall import content assumption of 0.5 is applied to the increase in final demand due to fiscal measures.

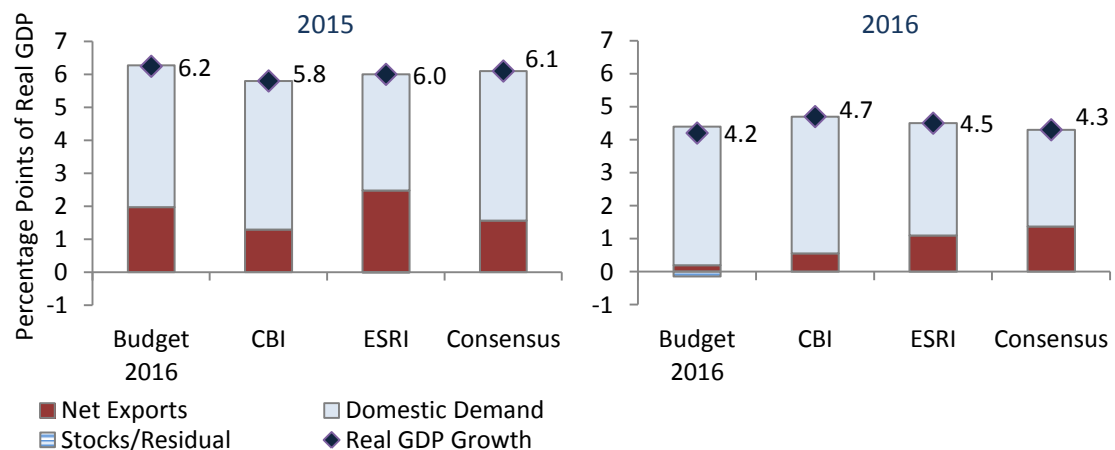
Subsequent to the endorsement, the Department of Finance clarified to the Council that the additional expenditure announced in the *White Paper* was embedded in the pre-endorsement projections as well as in the technical assumption provided to the Council for Government Consumption expenditure. This means that the projected gross expenditure numbers for 2015 produced by the Department in September included additional expenditure of €1.5 billion above that forecast in April – representing a significant change to the fiscal assumptions which impacts on related macroeconomic variables.

This issue raises two procedural aspects related to the endorsement process. First, changes to the assumed fiscal stance were not explicitly made clear to the Council during the endorsement period in September. Second, the *Memorandum of Understanding* governing the “endorsement function” stipulates that “...provisional final macroeconomic forecasts provided by the Department are to incorporate the impact of the most recent, officially-articulated consolidation/expansion measures foreseen in the Budget”. In this instance, the last official position was clarified by the Department in its interactions with the Council as being the measures contained in the April *SPU*. This would also suggest that any deviation from these assumptions should have been communicated clearly. As part of the annual review of the MoU, changes will, therefore, be proposed to ensure that the precise fiscal assumptions underlying the macroeconomic forecasts made by the Department of Finance are explicitly communicated to the Council.

2.2.4 FORECASTS OF OTHER AGENCIES

Most agencies have upgraded near-term forecasts of real GDP growth to account for the rapid pace of expansion visible in the first half of 2015. Compositional assumptions consistently indicate that contributions from domestic demand will outweigh those from the traded sector in projections for 2016 (Figure 2.7).

FIGURE 2.7: COMPARATIVE REAL GDP GROWTH CONTRIBUTIONS (PERCENTAGE POINTS)



Sources: Budget 2016; ESRI (*Quarterly Commentary Autumn 2015*); Central Bank *Quarterly Bulletin 4, Oct. 2015*; and private sector consensus forecasts, Sept. 2015.

For the medium term, the Department is forecasting real GDP growth close to that projected by the IMF over the same horizon (Table 2.3). Projections for later years tend to lie within a relatively tight range of between 2½ per cent and 3 per cent per annum.²²

TABLE 2.3: MEDIUM-TERM MACROECONOMIC FORECASTS TO 2021

% change unless stated	2015	2016	2017	2018	2019	2020	2021
Budget 2016							
GDP	6.2	4.3	3.5	3.2	3.1	3.0	2.9
Employment	2.8	2.4	2.0	1.9	1.8	1.7	1.6
Productivity	3.4	1.8	1.5	1.3	1.3	1.3	1.3
IMF (Oct WEO)*							
GDP	4.8	3.8	3.2	3.0	2.7	2.5	..
Employment	2.5	2.0	1.6	1.6	1.6	1.5	..
Productivity (implied)**	2.3	1.8	1.6	1.4	1.1	1.0	..

Sources: Budget 2016; and IMF (2015b) (3rd Post-Program Staff Report and WEO October 2015).

* Employment growth rates for 2017 onwards are taken from the June 2015 Post-Programme Staff Report

** Implied productivity is simply GDP growth less employment growth.

2.3 RISKS AND IMBALANCES

2.3.1 RISKS

Although projections for near-term economic activity look exceptionally good for Ireland, substantial risks surround the Department's central outlook. Since 2014, a number of external factors have become more favourable, but remain beyond the control of domestic policy makers and could reverse quickly, with negative consequences for baseline forecasts. Exchange rates have boosted competitiveness; a looser monetary policy stance has helped a strained credit environment; oil prices are close to half 2014 levels; and continued demand growth is projected in Ireland's major trading partners, even with recent downward revisions to world trade.

Recognising the openness of the economy and the vulnerability to external developments, *Budget 2016* now describes the balance of risks to the Department's macroeconomic forecasts as being tilted to the downside. This contrasts with its views at the time of the *SPU* last April when risks were considered more broadly balanced following positive developments in late 2014 and early 2015.²³ It also echoes the IMF's (2015) assessment of the balance of global financial and economic risks.

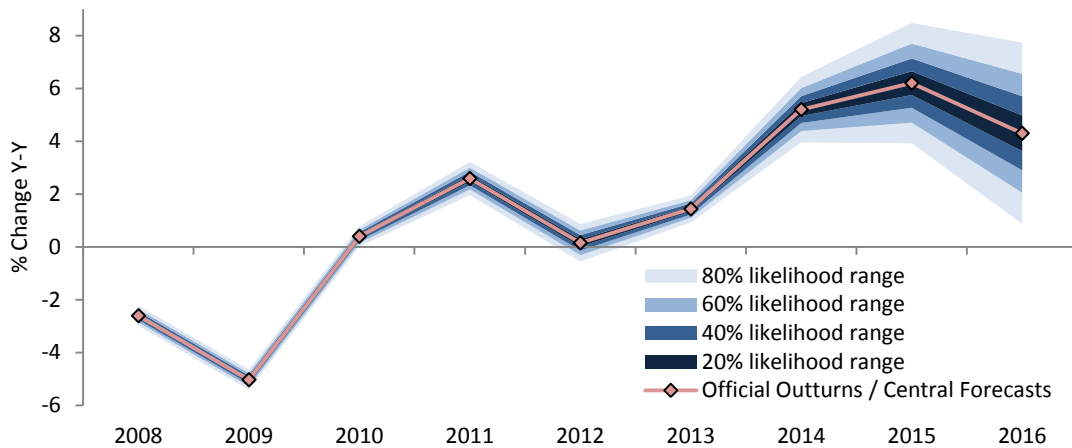
²² Few forecasts for the medium term are available. However, the ESRI (2015) note a similar range in terms of their estimates for potential output growth. Referring to estimates based on work in Byrne and McQuinn (2014), they suggest potential output growth rates in Ireland are in the region of 2.5 to 3 per cent per annum. They also note that the Irish economy will be at or very near its potential level in 2016. McQuinn and Whelan (2015) suggest more modest output growth prospects for 2014-2023, averaging 1.2 to 1.8 per cent under varying scenario assumptions for migration levels and growth-enhancing structural reforms.

²³ While the shape of the distribution around central forecasts may not be known, the Department's view of the balance of risks represents an important input into discussions around the macroeconomic and fiscal outlook.

Table 2.4 provides an assessment of the likelihood and impact of the main known downside risks to the outlook in *Budget 2016*. This structure offers a more coherent way of highlighting potential problems and assessing vulnerabilities.

The Irish economy is inherently more volatile than others, ranking as one of the most volatile economies in the developed world (Appendix D). Absolute real GDP forecast errors are among the widest in the EU (IMF, 2013); and quarterly data show some of the largest historical revisions in the OECD.²⁴ The large influence of multinational-dominated sectors means that substantial variations in output can arise quite abruptly without requiring changes in domestic resource utilisation.²⁵ These issues pose substantial difficulties for forecasters and policy makers. Standard confidence intervals are typically very wide in Ireland and are magnified further by the uncertainties and risks described above. Illustrating this in part, Figure 2.8 shows the fan chart surrounding the Department’s growth forecasts to 2016 based on past errors along with the range related to expected data revisions for the historical period.

FIGURE 2.8: REAL GDP FAN CHART BASED ON *BUDGET 2016* PROJECTIONS (TO 2016)



Sources: CSO; Department of Finance; internal IFAC calculations.

Note: Distributions or 'fans' around historical growth estimates are based on previous revisions to real GDP data. Both forecast errors and revisions are based on 1999-05 sample.

²⁴ Even when controlling for relatively high historical growth rates revisions are still among the highest recorded in the OECD (Casey and Smyth, 2015).

²⁵ CSO data show that three broad categories of multinational-dominated sectors accounted for close to one quarter of total gross value added in the economy in 2013. The contribution is likely overstated, however. Were large income outflows to be accounted for, the impact in relation to real GNP may be of a significantly smaller scale.

TABLE 2.4: RISK ASSESSMENT MATRIX FOR MAIN DOWNSIDE RISKS

Risk	Relative Likelihood	Impact
Emerging Market Slowdown	H	Ireland's direct exposure to Emerging Markets (EMs) is relatively low representing less than 10 per cent of total exports. Limited information on direct FDI and private sector financial exposures also suggests that these are relatively negligible. Indirect trade exposures exist through Ireland's key trading partners, e.g., export exposures to China are not insignificant in the US (7.1 per cent), UK (3.6 per cent) and Germany (6.5 per cent) in 2014. More importantly, direct linkages likely understate the potential contagion effects through financial channels which could pose the greatest risks in the case of a more disruptive weakening in EMs (IMF, 2015).
British Exit from EU	M	The referendum could magnify near-term uncertainties, thus negatively affecting UK investment and subsequent trade to the region (UK accounts for 16 per cent of Irish exports). A departure could have wide-ranging implications for free movement of goods, services and labour; could alter the contours of EU decision making; and could alter relative competitiveness levels, impacting on FDI flows (ESRI, 2015). Upside risks also exist, particularly in terms of potential FDI flows.
Geopolitical Tensions	M	Geopolitical tensions, though assumed to ease in coming years, are high in a number of countries including Ukraine, parts of the Middle East and parts of Africa. An escalation in tensions could pose downside risks for growth through trade linkages and disruptions in financial transactions.
Euro Area Risks	M	The Euro Area accounts for one-third of Irish exports and had been showing more encouraging growth prospects of late, but recent tailwinds (lower oil prices and accommodative monetary policy) might have suggested a stronger than realised performance. Recent official forecasts have downgraded the growth outlook for the Euro Area. A recent history of growth disappointments and weakening trends in productivity growth and capital accumulation pose additional concerns. If Euro Area monetary conditions remained highly accommodative over the medium term, this could also prove inappropriately loose for the anticipated cyclical rebound in Ireland. Monetary policy responses now appear more ready to prevent deflationary risks, although doubts remain about the effectiveness of the available instruments.
Global Financial Markets	M	Risks of a return to global financial market turbulence could increase due to asset market mispricing or low market liquidity, particularly in the absence of a smooth normalisation in US monetary policy.
Private Debt and Credit Conditions Constraining Activity more than Expected	M	Household debt-to-disposable incomes, though falling, remain among the highest in the EU at 167 per cent and parts of the non-financial corporate sector also face high levels of indebtedness. Income gains could be prioritised for debt reduction rather than consumption, spelling downside risks to consumption forecasts. High levels of debt make firms more susceptible to adverse growth conditions and rising interest rates. Difficulties accessing credit also remain apparent, with domestic reliance on bank funding very high compared to other economies.
Competitiveness and Exchange Rates	M	Competitiveness losses could arise as a result of various cost pressures, including in property (Appendix B: Housing Market Risks Update), and if unit labour cost growth were to exceed that of EU and other economies. A reversal in favourable exchange rate movements could also threaten recent gains.
Risks to Foreign Direct Investment (FDI) Inflows	L	FDI has played a large role in the rise of average living standards since the 1950s. However, there are vulnerabilities associated with heavy reliance on multinational enterprises and risks of reduced FDI inflows could materialise in the context of a changed strategic focus under modernised tax rules.

Note: Qualitative likelihood assessments based on Council assessments: H= High; M = Medium; L = Low.

2.3.2 IMBALANCES

Long-run imbalances in the economy, particularly those of relevance to the public finances, are an important consideration in addition to more immediate macroeconomic risks. Appendix E summarises various indicators that focus on such imbalances (see also Box A).

From a review of the indicators, few signs of overheating are apparent in the economy at present, although continuous monitoring is required given how quickly signs of imbalances can emerge. High unemployment rates, low employment ratios and an absence of rising inflationary pressures are all suggestive of additional slack in the labour market, although rising private sector job vacancy rates could be indicative of some modest tightening (Appendix Figure E.1). Rising current account surpluses and a recovering net international investment position (Appendix Figure E.2) would tend to imply an absence of immediate pressures. This is supported by investment activity that is currently below historical norms and an absence of substantial credit market easing (Appendix Figures E.3 and E.4).

There may be some degree of slack in the economy at this moment in time, yet forecasts suggest that the economy will grow substantially in the coming years, while unemployment rates are also set to fall by another 3 percentage points by 2020 bringing these to levels consistent with high wage and price pressures in the early-2000s. Real estate shortages also have the potential to fuel near-term wage pressures. If any negative output gap were to exist, this would most likely close quickly given current economic developments. This raises the question of whether the economy risks overheating at some point in the near future. As in the past, there are also risks that the true level of sustainable demand and output could be misperceived.

2.4 ENDORSEMENT OF THE *BUDGET 2016* PROJECTIONS

This section details the fifth endorsement exercise undertaken by the Council covering *Budget 2016*, outlining the Council's considerations around the time of the endorsement and the process itself (Appendix C details the timeline). The endorsement process refers to earlier data than that available for the Council's more recent assessment of macroeconomic forecasts (Section 2.2).

As noted in Section 2.2.3, assumptions related to the fiscal stance differed relative to those in the last published official position – *SPU 2015* – due to the inclusion of additional expenditure measures as contained in the *White Paper*. The measures were significant, implying additional expenditure of €1.6 billion in 2015, albeit some €0.6 billion related to Health expenditure was largely anticipated in advance of the endorsement. Having examined the related macroeconomic impact, the Council believes that this would not have altered its decision to endorse the macroeconomic projections underpinning *Budget 2016*. It does, however, raise procedural issues

related to the endorsement, which the Council intends to resolve as part of the annual review of the MoU that governs the endorsement process.

The Council endorsed the *Budget 2016* macroeconomic forecasts to 2016. It was satisfied that these were within its endorsable range, taking into account the methodology and the plausibility of the judgements made. The endorsement process focuses on several key dimensions: (i) the plausibility of the methodology used; (ii) the pattern of recent forecast errors; and (iii) comparisons with Benchmark and other projections.

First, focusing on the methodology used by the Department of Finance, the Council is satisfied that short-term projections broadly conform to standards set by other forecasting agencies both internationally and domestically. The Department provides detailed information on models used in the development of its forecasts for assessment by the Council. In relation to medium-term projections, the correct application of the commonly agreed methodology to estimate trend supply-side variables was verified as at the time of the endorsement of the *SPU* projections. Although the Council endorsed the supply-side forecasts produced by the Department, this does not amount to an endorsement of the CAM as the most adequate approach for describing Ireland's cyclical position and potential output in the medium term. Due to the difficulties associated with estimating supply-side trend variables using the CAM as well as in linking these to actual forecasts, the Council's endorsement instead refers to the actual demand-side projections. The Council noted in its letter that work is underway by the Department to develop alternative approaches to potential output/output gap estimation and expects that further progress will be made in future.

Second, in terms of the pattern of errors in recent Department of Finance forecasts, the Council has previously pointed to some evidence of systematic bias related to the domestic and external split of aggregate demand (IFAC, 2015b). As detailed in Appendix F, this bias appears to have diminished in more recent periods, with revisions to historical data suggesting that patterns of bias may be more relevant for outer years (i.e., two years or more). The Council will continue to monitor the Department's forecast errors for the presence of any such bias.

Third, comparisons with the full set of Benchmark projections showed relatively modest deviations with the Department's own forecasts for 2015 and 2016 (Appendix Table A.1). Those forecasts of other agencies that had been updated to reflect the second quarter of national accounts data also showed relatively minor differences at aggregate level. The flow of high frequency economic data at the time of the endorsement was largely positive with respect to real growth. Price deflator projections, though high, were considered to be within a reasonable range.

