Appendix F: Decomposition of Forecast Errors (Updated for Revisions)

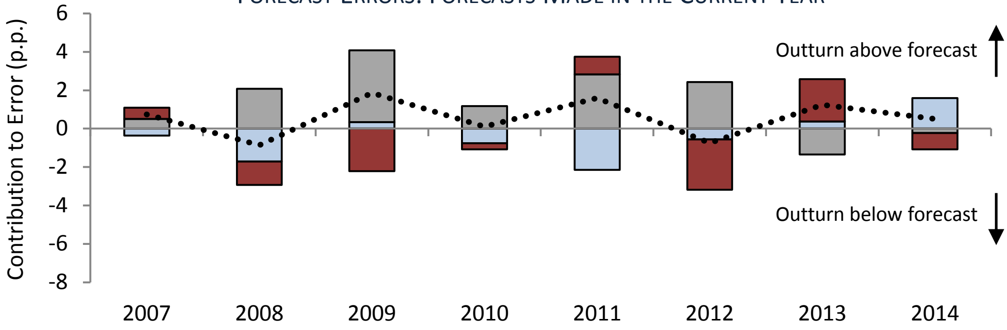
Understanding the Government's macroeconomic forecast errors plays a key role in both the Council's endorsement process and broader assessments of the Department's macroeconomic projections. This Appendix documents the sources of real GDP forecast errors at different horizons using the latest available data for 2007-14 (Figures F.1–F.3).

Previous analyses, such as in the *June 2015 FAR (Box C)* and the *April 2013 FAR* (Box A) highlighted tendencies for Department of Finance forecasts to overestimate domestic demand, with the reverse true for net exports. Following July 2015 revisions to the National Accounts data for recent years, however, this pattern of bias is now less unambiguous.

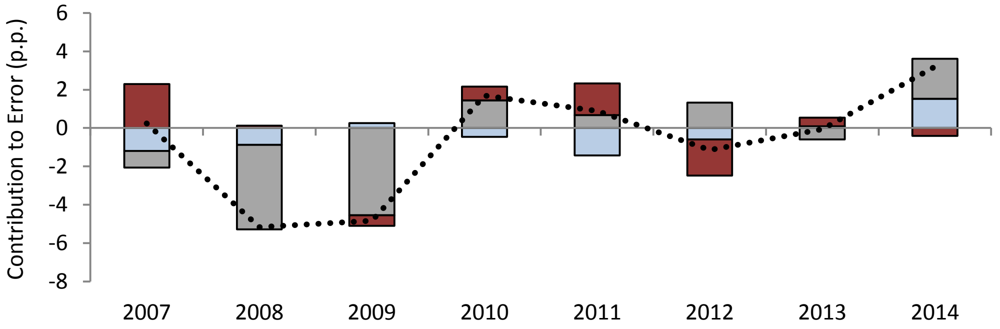
It remains the case that Department forecasts at the longer (1- to 2-year) horizon tended toward over-optimism when it came to domestic demand contributions expected over 2007-2013. By contrast, nearer-term forecasts of expected contributions from domestic demand were revised down such that from 2010-2012 these were typically more conservative than necessary. This provides a more nuanced picture of the bias highlighted in previous *FARs*. It seems clear that near-term forecasts were probably too conservative when assessing the expected domestic performance once the crisis began. However, forecasts for further ahead (i.e., the 2-year horizon) continued to anticipate a sharp recovery that failed to materialise until 2014, when domestic activity was some 2.3 percentage points of GDP stronger than projected. Examining the components in more detail confirms this pattern. All of the domestic expenditure components (Consumption, Government and Investment) on average fared better than forecast by the Department at the shorter horizon from 2011 on (Table F.1). However, at the longer (2-year) horizon, consumption and investment continued to fall short of expectations.

In terms of net export contributions, forecasts made two years ahead reveal that the Department tended to underestimate the extent to which net exports would sustain the recovery from 2007-2011. The acyclical nature of many of Ireland's exporting sectors (such as the pharm-chem and ICT sectors) helps to explain this outperformance. For 2012, declines in the gross value added from ICT-related sectors (November 2014 FAR, Box C) likely prompted large forecast errors at all horizons on the contribution of net exports to real GDP growth that year. Nearer-term forecasts of net export contributions by the Department do not exhibit a clear pattern of bias, however, and the errors on average have been very small in the most recent four-year period.

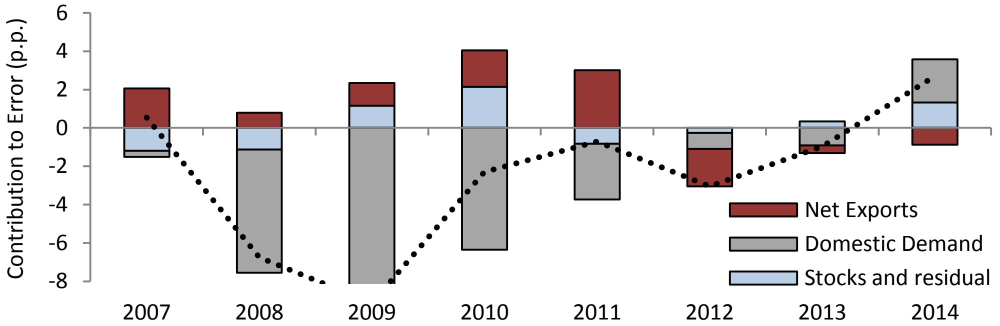
Appendix Figure F.1: Contribution to the Department of Finance Real GDP Forecast Errors: Forecasts Made in the Current Year



Appendix Figure F.2: Forecasts Made One Year Ahead



Appendix Figure F.3: Forecasts Made Two Years Ahead



Sources: Department of Finance (Budget/SPU documents); internal IFAC calculations.
Note: The analyses above adjust for methodological changes introduced in 2015, which led to the incorporation of the impact of aircraft purchases by leasing companies resident in Ireland. Vertical axis is tapered to focus on most recent errors at the expense of Chart C.3's 2009 observation.

Appendix Table F.1: Department of Finance Real GDP Growth Forecast Errors

	2007-14			2011-14		
Error Contributions (p.p.)	**year = t**	**year = t+1**	**year = t+2**	**year = t**	**year = t+1**	**year = t+2**
Consumption	0.4	-0.4	-1.2	0.4	0.0	-0.5
Government	-0.1	0.0	-0.1	0.2	0.4	0.3
Investment	1.0	-0.3	-2.0	0.3	0.4	-0.4
Exports	0.7	0.9	0.0	1.0	1.4	0.5
Imports	-1.1	-0.6	0.7	-1.1	-1.5	-0.6
Domestic Demand	1.4	-0.6	-3.4	0.9	0.9	-0.6
Net Exports	-0.4	0.3	0.7	-0.1	-0.1	-0.1
Real GDP	0.6	-0.6	-2.5	0.6	0.7	-0.5
Stocks and Residual	-0.4	-0.3	0.2	-0.2	-0.1	0.1