Box E: Impact on Forecasts of Budget moving to October

The shift in the Budget from December to October has implications for forecasting. This arises primarily from the administration of the Irish tax (and social contributions) system – with a very large proportion of income tax (including self employed income) and corporate taxes collected in the final quarter of the year (specifically in November — see Table E1). In addition, corporate and self-employed income taxes are typically more difficult than other taxes to predict. Forecasts of other sources of revenue as well as overall expenditures are less affected by the movement in the timing of the Budget.[45]

Table E1: Proportion of Exchequer Taxes Due in The Final Quarter of 2013[46]

% of Total	October	November	December	Total
Income Tax	9	14	8	31
VAT	2	15	2	19
Corporate Tax	3	29	10	42
Excises	8	8	13	29
Other	8	13	18	38
Total Exchequer Taxes	**6**	**15**	**8**	**29**

With a December budget, around 90 per cent of Exchequer taxes on average would have been received prior to the finalisation of the Budget forecasts. In 2013, 70 per cent of the projected tax take for the year was received prior to the Budget.[47] The Department of Finance also had to prepare its macroeconomic forecasts with two months fewer high frequency economic data.

The potential impact on the accuracy of tax revenue forecasts can be assessed using a regression equation of the form:

$$T_t = \alpha + \beta\, T_m + \varepsilon$$

Where T_t is the Exchequer tax outturn in year t and T_m is the Exchequer tax take for the first “m” months of year t. The equation is estimated for 9 and 11 months of data for each year from 2004 to 2012 for individual tax heads and for overall tax revenue.

As expected, the resulting root mean square errors (RMSE) (Table E2 and Figure E1) indicate that forecasting accuracy for total Exchequer taxes deteriorates when only 9 months of data are used. The forecasting of corporate taxes is by far the most affected – but these account for a relatively small proportion of overall revenue (approximately 11 per cent). In contrast, the two largest tax heads, income tax and VAT, showed a more modest impact.

[45] For example, 85 per cent of non-tax revenues are collected by end-July, with Exchequer spending evenly apportioned throughout the year.

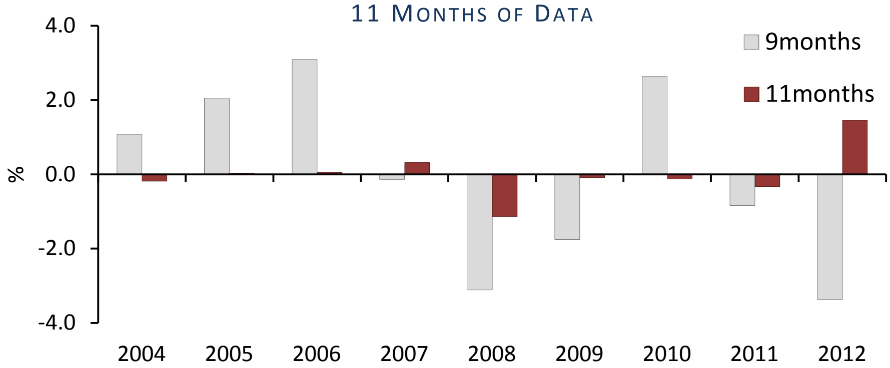
[46] Based on Department of Finance estimates for Exchequer taxes.

[47] The projected Exchequer tax take for 2013 prior to *Budget 2014* was €38 billion. By end-September, tax receipts amounted to €27 billion.

TABLE E2: SUMMARY OF EXCHEQUER TAX ERRORS

RMSE, %	9 months	11 months
Income Tax	0.6	0.6
VAT	1.1	0.4
Corporate Tax	19.9	2.8
Excises	1.0	1.6
Other	1.6	2.7
Total Exchequer Taxes	**2.3**	**0.6**

FIGURE E1: TAX REVENUE FORECASTING ERRORS BASED ON 9 AND 11 MONTHS OF DATA



Note: Figure shows percentage error from estimating the current year Exchequer tax take, based on 9 and 11 months of data.

What impact would a decline in overall tax forecasting accuracy of this scale have on the Exchequer deficit forecast? To illustrate the likely effect, the 2012 Exchequer deficit of 9.1 per cent of GDP is taken as a baseline. The impact of two forecast errors is then considered: first a negative tax forecast error of 2.3 per cent and then a negative error of 0.6 per cent (the RMSE for 9 and 11 months of data, respectively). All other revenue and expenditure items are held constant at their actual outturn levels. This exercise suggests that the Exchequer deficit (as a percentage of GDP) would have been projected at 9.6 per cent based on 9 months of data, significantly worse than the actual outturn, while for 11 months of data the projection would have been very close to the actual outturn at 9.2 per cent. This shows that the change of timing of the Budget could have a policy-relevant impact on forecast accuracy.

In summary, the movement of the Budget to October increases the risk that tax-forecasting and fiscal-deficit errors will be larger. This might warrant extra caution in setting the fiscal stance so as to ensure budgetary targets are met and fiscal rules are complied with. Moreover, this analysis takes no account of additional difficulties associated with preparing macroeconomic forecasts with two months fewer data. Recognising the issues arising from the existing structure of the Irish tax system, the Department of Finance has initiated a consultation process to bring forward the payment of taxes currently due in November.[48]

[48] This relates to pay and file dates for self-assessed income tax, capital gains tax and capital acquisitions tax. See *Consultation on Pay & File dates in the context of a Budget Day on or before 15th October*, Department of Finance, 2013.