



**Irish Fiscal
Advisory Council**

Fiscal Assessment Report

April 2013

ASSESSMENT OF THE FISCAL STANCE

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4. ASSESSMENT OF THE FISCAL STANCE

SUMMARY

- The Council views the current fiscal stance as, in the language of the *Fiscal Responsibility Act*, “conducive to prudent economic and budgetary management”.
- In the September 2012 *Fiscal Assessment Report*, the Council suggested €1.9 billion in additional adjustments compared to Government plans over the period 2014-2015. Recognising the uncertainties surrounding economic growth, the report argued for the additional measures so as to provide a margin of safety to get the General Government deficit below 3 percent of GDP by 2015 and to ensure the stabilisation of the debt to GDP ratio.
- Post-*Budget 2013* developments have improved the budgetary outlook. These developments were the better than anticipated Exchequer outturn for 2012, the General Government deficit and debt implications of the promissory notes transaction, and higher than forecast nominal GDP in 2012. Based on the technical adjustments to *Budget 2013* projections (outlined in Chapter 2), the General Government deficit in 2015 is now likely to be closer to 2 percent of GDP and the debt to GDP ratio will be falling at a rate of approximately 4 percent per annum. The impact of the recent developments is estimated to be equivalent to €1.6 billion of additional adjustments during 2014-2015.
- The suggested margin of safety has therefore been broadly achieved under the Government’s current plans and so the Council is no longer making the case for €1.9 billion in additional adjustments in this assessment. However, the Council’s assessment is that the planned adjustments of €3.1 billion in 2014 and €2.0 billion in 2015 should not be reduced.
- There are significant uncertainties surrounding these budgetary projections. While there are tentative signs of a stabilisation in domestic demand, the weakening of growth in key trading partners is curbing growth in net exports. Expenditure pressures in key sectors in 2012, in part driven by service demand, have also raised concerns about the implementation of planned adjustment measures. Budget-impacting developments will have to be monitored closely, with particular attention paid to any shortfalls in growth and the effective implementation of expenditure-reduction plans.
- A robust return to State creditworthiness – which has continued to show the improvement highlighted in the September 2012 *Fiscal Assessment Report* – would be further reinforced by post-programme precautionary funding arrangements and extensions to the maturities on official loans.

4.1 INTRODUCTION

As part of its mandate under the *Fiscal Responsibility Act*, the Council shall “[I]n relation to each *Budget* and stability programme, provide an assessment of whether the fiscal stance for the year or years concerned is, in the opinion of the Fiscal Council, conducive to prudent economic and budgetary management, including by reference to the provisions of the Stability and Growth Pact” (Irish Statute Book, 2012). This chapter provides an assessment of the fiscal stance set out in *Budget 2013* – the most recent statement of the Government’s fiscal policy position.

The chapter is organised as follows. Section 4.2 reviews and assesses the Government’s fiscal stance. Section 4.3 reviews the recent fiscal multiplier debate and conducts a sensitivity analysis of the fiscal projections based on alternative multiplier assumptions. Finally, Section 4.4 notes some complementary actions to support a robust return to creditworthiness.

4.2 ASSESSING THE FISCAL STANCE: AN UPDATE

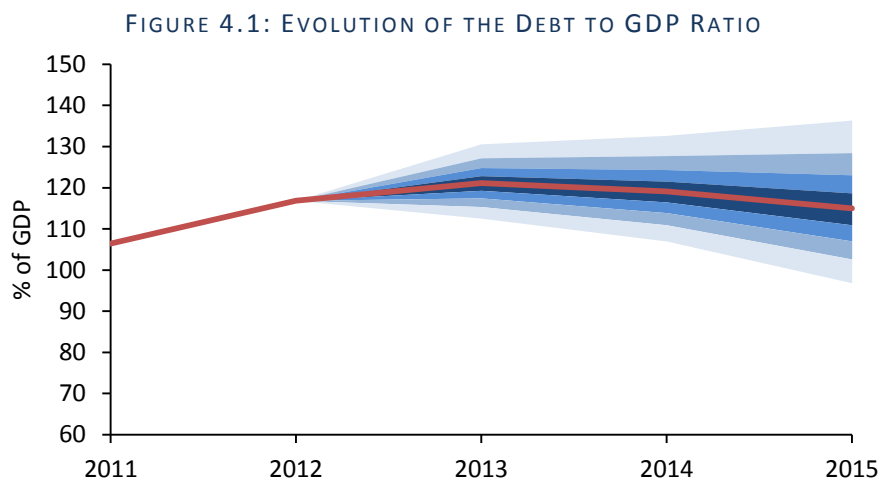
The Council’s approach to identifying the appropriate fiscal stance recognises a trade-off between supporting domestic demand and the need to ensure debt sustainability, in part with a view to regaining robust market access and sustaining access to official-creditor support (as and if needed), under reasonable conditions (see Box F). To assess the evolution of this trade-off, the most recent projected path for the debt to GDP ratio, market indicators of creditworthiness and the main macroeconomic aggregates are reviewed in turn. The appropriate fiscal stance under current conditions is then considered.

4.2.1 DEBT SUSTAINABILITY

Figure 4.1 shows the debt to GDP ratio out to 2015, updated for post-Budget developments. As outlined in Chapter 2, this includes adjustments for the better than expected Exchequer outturn in 2012 and the promissory notes transaction. The debt ratio is expected to peak this year at 121.1 percent of GDP, with small declines over the following two years. By 2015, the debt ratio is envisaged to be declining at a rate of 4.1 percentage points of GDP, helped by a projected primary budget surplus of 3.0 percent of GDP.

There is significant uncertainty surrounding these debt projections as illustrated by the fan chart in Chapter 2 (which is repeated in Figure 4.1). It should be stressed that these fan charts must be treated with care given the limitations of using past forecast errors to form judgements on

uncertainty surrounding future projections.⁸² Nevertheless, even allowing for these limitations, the debt ratio fan chart does highlight the fragility of debt sustainability over the medium-term. For example, it implies an estimated one-in-four chance of the debt to GDP ratio failing to stabilise by the end of the projection period unless further policy measures beyond those currently planned are taken.



Source: Budget 2013 and IFAC calculations.

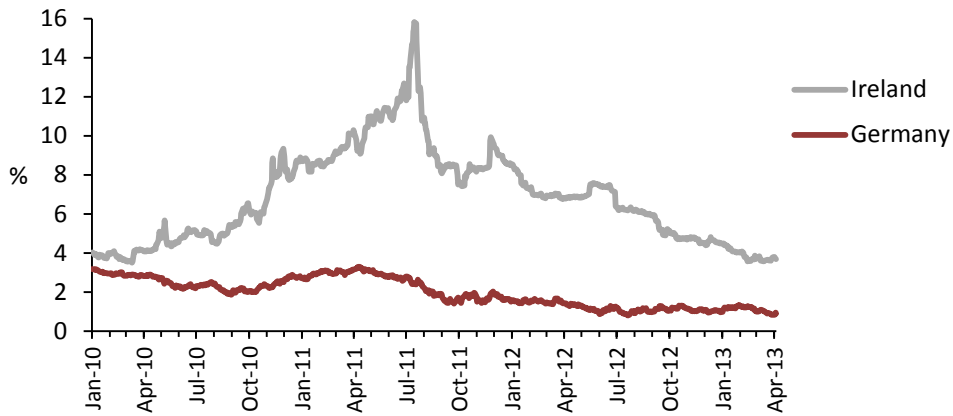
4.2.2 MARKET ASSESSMENTS OF CREDITWORTHINESS

The improvement in market indicators of the State’s creditworthiness noted in the September *Fiscal Assessment Report* has continued. Figure 4.2 shows the evolution of both the 8-year and 2-year bond yields since the beginning of 2010. Having peaked at 15.8 percent in mid-July 2011, the yield on the 8-year bond has fallen significantly, reaching 4 percent in early April 2013. The reasons for the improvement include developments in Euro Area crisis resolution policies (notably the announcement of the ECB’s Outright Monetary Transactions programme), increased confidence in the Government’s capacity to meet targets under the EU/IMF programme and the promissory notes transaction in February. The fall in Irish yields is part of a broader pattern of falling yields across crisis-affected Euro Area economies (see Figure 4.3). However, the fall in the Irish case has been particularly marked.

Continuing Euro Area tensions – notably relating to Italy and Cyprus – and ongoing growth uncertainties mean that the gains in creditworthiness remain fragile.

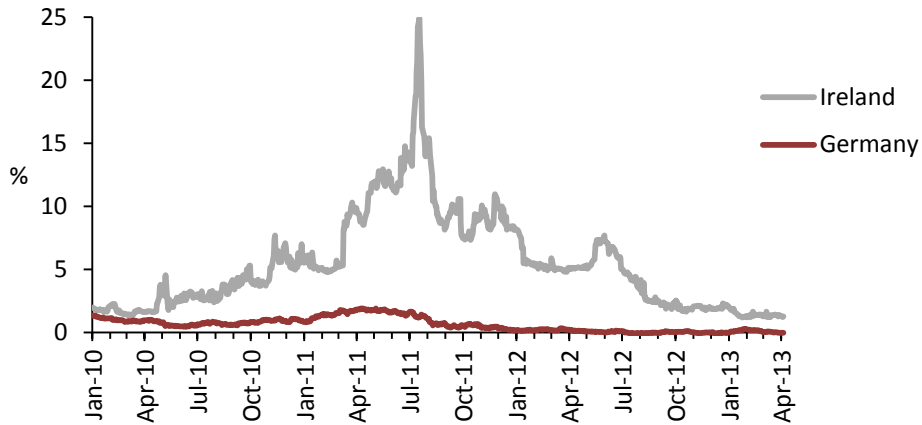
⁸² The fan charts do not incorporate non-growth related determinants of fiscal uncertainty. The construction of the fan charts is explained in more detail in Annex A of the September 2012 *Fiscal Assessment Report* (IFAC, 2012b).

FIGURE 4.2a: 8-YEAR BOND YIELD



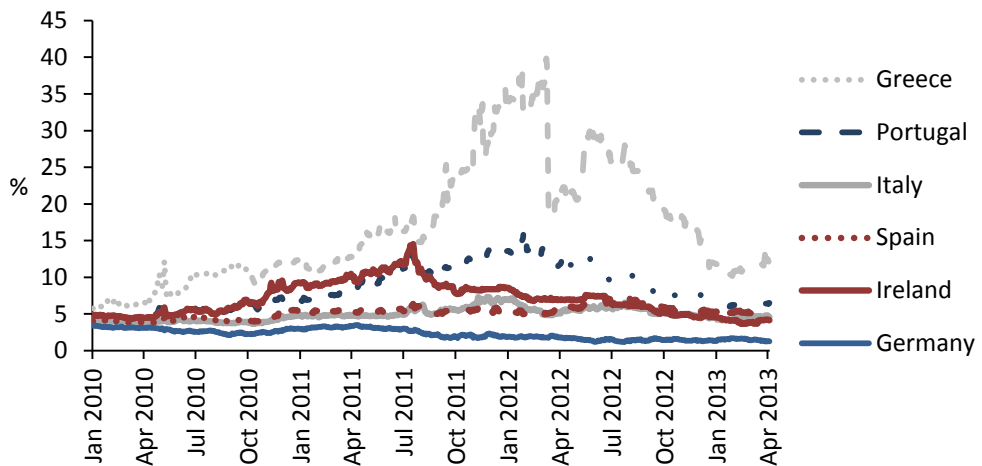
Source: DataStream.

FIGURE 4.2b: 2-YEAR BOND YIELD



Source: DataStream.

FIGURE 4.3: A COMPARISON OF TRENDS IN 10-YEAR BOND YIELDS

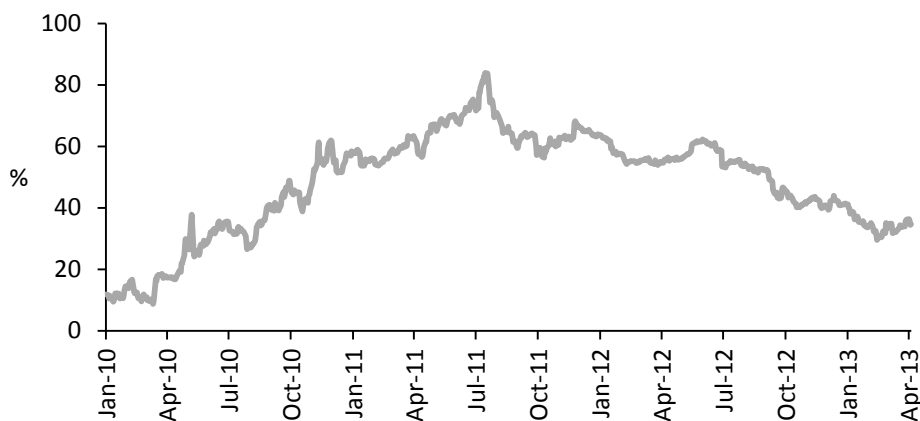


Source: DataStream.

The NTMA has conducted six auctions of treasury bills since September 2012. Each competitive auction raised €500 million.⁸³ In an encouraging development for renewed access to medium/longer-term funding, the NTMA raised €2.5 billion in January at a yield of 3.32 percent in a “syndicated tap” of a bond maturing in October 2017. Bids were submitted by 200 investors totalling €7 billion. This was followed in March by the sale of €5 billion worth of the new 10-year bonds at a yield of 4.15 percent. The issuance had bids of over €13 billion from approximately 400 investors.

While the sharp improvement in market sentiment represents a positive development in Ireland’s crisis-resolution effort, the remaining spread between Irish and German yields indicates that a significant perceived risk of default remains. Figure 4.4 attempts to identify the evolution of perceived default risk based on the yield premium over German bonds that investors require to hold Irish bonds. Assuming risk-neutral investors, no liquidity premium, a 50 percent recovery rate in the event of a default, and treating the equivalent maturity German bond as risk free, the figure shows the implied default probability over the 8-year term of the bond. While this calculation should only be treated as indicative, it suggests that a significant default risk of approximately 35 percent remains, notwithstanding the large fall in this risk since mid-2011.⁸⁴

FIGURE 4.4: IMPLIED PROBABILITY OF DEFAULT BASED ON 8-YEAR IRELAND-GERMANY BOND SPREAD



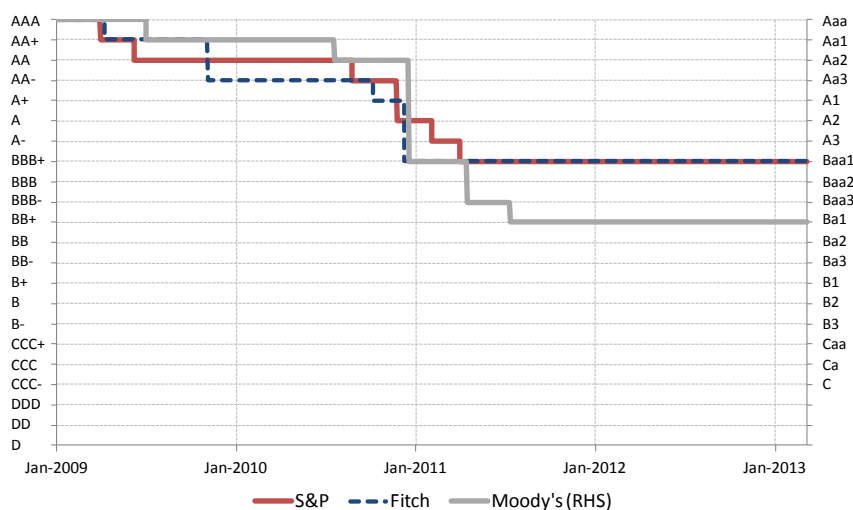
Source: DataStream; IFAC calculations.

⁸³ The yields were 0.7 percent (September 13), 0.7 percent (October 18), 0.55 percent (November 15), 0.2 percent (January 17), 0.24 percent (February 21) and 0.24 percent (March 21). Bid-to-cover ratios were in a range of 3 to 4.

⁸⁴ The annual implied probability of default under these assumptions is $p = (r - r^f) / (1 + r - c)$, where r is yield on the Irish bond, r^f is the yield on the German bond, and c is the recovery rate in the event of default. For an n -year bond, the total probability that that bond will never default is $(1 - p)^n$. The probability that the bond will default before maturity is then $1 - (1 - p)^n$.

By late 2012, the ratings by the three major credit-rating agencies had remained largely unchanged since the downgrades of early to mid 2011 (see Figure 4.5). More positive ratings have emerged from some agencies in recent months.⁸⁵ In March, Moody's, the only rating agency to have Ireland at non-investment grade status, reaffirmed its Ba1 rating with a negative outlook. The agency acknowledged some positive recent developments, but remains concerned over the poor asset quality of the Irish banking system. It also noted the "Euro Area's continued vulnerability to shocks emanating from the regional debt crisis, most recently the agreement by the European Union (EU) to the "bail-in" of bank deposits to raise part of the funds needed for Cyprus' financial rescue". An investment-grade rating from all three agencies would support the improvement in market indicators of creditworthiness by broadening the potential investor base for Irish sovereign bonds.

FIGURE 4.5: EVOLUTION OF CREDIT RATINGS



Source: NTMA.

⁸⁵ Fitch now rates Ireland's outlook as stable, having upgraded it from negative in November 2012. In response to the promissory note deal in February 2013, Standard & Poor's revised Ireland's outlook from negative to stable, reflecting the expected reduction in the Government's debt-servicing costs and the lower refinancing risk. The higher rating was also attributed to "...the government's commitment to stabilizing Ireland's public finances, as well as the high wealth, openness, and resilience of the Irish economy". However, the agency noted that Ireland's substantial fiscal deficits, heavy debt burden, and weak financial system could hamper growth prospects as well as Ireland's ability to cope with future economic or financial shocks.

4.2.3 STATE OF AGGREGATE DEMAND

Both recent developments and medium-term projections for aggregate demand are reviewed in Chapter 1. As noted in the chapter, the pattern of relatively strong net export growth and weak domestic demand growth has altered somewhat in recent quarters. There are tentative signs that domestic demand is finally stabilising. Unfortunately, this improvement has coincided with renewed weakness in Ireland's main trading partners, especially in the United Kingdom and the Euro Area. An additional recent headwind has come from the appreciation of the euro against sterling. Overall, aggregate demand conditions remain weak. The seasonally adjusted unemployment rate also remains extremely high at 14.0 percent (CSO, 2013a), despite more encouraging recent labour market data. If considerations of creditworthiness and debt sustainability were not a key factor, conditions in the real economy would warrant limiting pro-cyclical fiscal adjustment measures to a level consistent with projected compliance with the new fiscal rules assuming current central growth forecasts.

4.2.4 ASSESSMENT OF THE FISCAL STANCE

Table 4.1 shows key indicators of the evolution of the Government's fiscal stance for the period to 2015. The deficit projections published in *Budget 2013* foresaw the General Government deficit falling to just below 3 percent of GDP in 2015. In previous *Fiscal Assessment Reports*, the Council argued that it was advisable to aim for additional adjustments over the period to 2015. Such additional adjustments would provide a margin of safety given the uncertainties that surround economic growth and non-growth related budgetary developments. The suggested additional adjustments in the Council's September 2012 *Fiscal Assessment Report* amounted to €1.9 billion over 2014 and 2015. Based on the *Budget 2013* baseline, these adjustments would have brought the deficit to close to 2.0 percent of GDP in 2015, and the debt to GDP ratio would have been falling at a projected rate of just under 4 percent of GDP.

TABLE 4.1: THE FISCAL POSITION: EVOLVING ASSESSMENTS

GGB (% of GDP)	2013	2014	2015	
<i>Budget 2012</i>	-7.5	-5.0	-2.9	
IFAC Alternative April 2012	-7.4	-4.6	-1.7	
<i>SPU 2012</i>	-7.5	-4.8	-2.8	
IFAC Alternative September 2012	-7.5	-4.5	-1.9	
<i>Budget 2013</i>	-7.5	-5.1	-2.9	
IFAC Alternative March 2013*	-7.3	-4.3	-2.1	
Primary Balance (% of GDP)	2013	2014	2015	
<i>Budget 2012</i>	-1.9	0.8	2.8	
IFAC Alternative April 2012	-1.8	1.2	4.0	
<i>SPU 2012</i>	-1.9	0.8	2.8	
IFAC Alternative September 2012	-1.9	1.0	3.7	
<i>Budget 2013</i>	-2.0	0.4	2.6	
IFAC Alternative March 2013*	-2.4	0.7	3.0	
Debt (% of GDP)	2013	2014	2015	
<i>Budget 2012</i>	119.0	118.0	115.0	
IFAC Alternative April 2012	119.8	118.6	114.7	
<i>SPU 2012</i>	120.3	119.5	117.4	
IFAC Alternative September 2012	120.3	119.4	116.8	
<i>Budget 2013</i>	121.3	120.2	116.8	
IFAC Alternative March 2013*	121.1	119.1	115.0	
Assumed Consolidation € billions	2013	2014	2015	2014 – 2015
<i>Budget 2012</i>	3.5	3.1	2.0	5.1
IFAC Alternative April 2012	3.9	3.8	3.7	7.5
<i>SPU 2012</i>	3.5	3.1	2.0	5.1
IFAC Alternative September 2012	3.5	3.5	3.5	7.0
<i>Budget 2013</i>	3.5	3.1	2.0	5.1
IFAC Alternative March 2013*	3.5	3.1	2.0	5.1

*Adjusted based on assumed carryover from lower than projected Exchequer deficit for 2012 to the General Government balance and the promissory notes transaction (see Chapter 2). Revised figures for the General Government balance will be available in late April.

As described in detail in Chapter 2, two developments have taken place since the publication of *Budget 2013* in December 2012 that change the budgetary outlook significantly. First, the Exchequer outturn for 2012 was more favourable than anticipated in *Budget 2013*. Although final figures for the General Government deficit will not be available until the publication of the Maastricht Returns in late April, the Department of Finance now anticipates that the budget deficit for 2012 will be below 8 percent of GDP. This improved outturn is assumed to partially carryover to subsequent years. Second, the transaction between the Government and the Central Bank of Ireland that replaced the promissory notes with floating-rate Government bonds of varying

maturities has further improved the General Government deficit projected for 2015 by 0.6 percent of GDP (see Box C in Chapter 2 for an analysis of this transaction).

Assuming a General Government deficit of 7.7 percent of GDP for 2012, with partial carryover of the unexpected improvements into the years 2013-2015, the combined effect of the two developments on the General Government deficit is estimated to be equivalent to additional cumulative adjustments of roughly €1.6 billion by 2015. The revised projection for the General Government deficit in 2015 based on these technical adjustments, and a higher than forecast starting level of nominal GDP in 2012, is now put at 2.1 percent of GDP, almost one percentage point below the *Budget 2013* forecast. Moreover, the debt to GDP ratio in 2015 is projected to be falling at a rate of 4.1 percentage points of GDP, supported by a primary budget surplus of 3.0 percent of GDP. Thus, the margin of safety suggested by the Council has been broadly achieved as a result of the post-Budget developments.

Factoring in the post-*Budget 2013* developments, the fiscal fan charts reported in Chapter 2 show that the estimated probability of the deficit being above 3 percent of GDP is approximately one-in-three, assuming no change in the Government's planned adjustments. The estimated probability that the debt to GDP ratio will fail to stabilise by 2015 is approximately one-in-four.⁸⁶ The structural deficit is projected to fall to 2.6 percent of GDP in 2015, which compares to an estimated 7.7 percent of GDP in 2012. The primary structural balance is projected to improve from a deficit of 3.8 percent of GDP in 2012 to a surplus of 2.5 percent of GDP in 2015.

Factors informing the Council's analysis of the fiscal stance are reviewed in Box F. The success to date in meeting fiscal targets and stabilising the debt to GDP ratio has underpinned the improvement in market assessments of creditworthiness, putting the economy on a firmer foundation for recovery and limiting the risk of disruptive default. This improvement has been further underpinned by the credibility-enhancing effects of strengthened fiscal institutions and national fiscal rules legislated in the *Fiscal Responsibility Act* (see Chapter 3). At the same time, the output losses from additional adjustments must be weighed against gains from reinforcing the trend improvement in creditworthiness. Aggregate demand conditions remain weak and additional adjustments will lead to further output losses.

⁸⁶ For reference, applying an extra €1.9 billion in adjustments (as suggested in the September 2012 *Fiscal Assessment Report*) would bring the estimated probability of a deficit greater than 3 percent in 2015 to approximately three-in-ten, and the estimated probability of the debt to GDP ratio failing to stabilise by 2015 to approximately one-in-five.

On balance, the Council views the fiscal stance set out in *Budget 2013* as broadly appropriate, and therefore “conducive to prudent economic and budgetary management”. With the recommended margin of safety achieved through the recent favourable developments, the Council does not see a case at this time for the additional measures it had proposed earlier. However, the Council’s assessment is that the planned adjustments of €3.1 billion in 2014 and €2.0 billion in 2015 should not be reduced. Budget-impacting developments will have to be monitored closely, with particular attention to potential growth shortfalls and the effective implementation of planned adjustment measures.

BOX F: IDENTIFYING THE APPROPRIATE MEDIUM TERM FISCAL STANCE: SOME CONSIDERATIONS

The economic crisis has led to a large increase in the General Government deficit. Although there is disagreement on the precise measurement of the structural deficit (see Chapter 3), there is general agreement that much of the remaining deficit is structural in nature, and so will not disappear as the economy returns to its underlying potential. The requirements of long run fiscal sustainability, the national Budgetary Rule and the rules of the *Stability and Growth Pact (SGP)*, mean that there is no choice but to correct the structural deficit over the medium to long run.

Notwithstanding this imperative, the Government does face a decision on how fast to correct the structural deficit. Of course, the room for policy choice is restricted by the conditions of the external assistance programme and the related commitments under the Excessive Deficit Procedure (EDP). Under the EDP, the maximum deficits are specified in nominal (i.e., that actual deficit as a share of GDP) rather than structural terms. A central requirement is to bring the General Government deficit to below 3 percent of GDP by 2015, with intermediate targets of 7.5 percent for 2013 and 5.1 percent for 2014. The structural balance as a share of GDP must also improve at a minimum rate of 0.5 percentage points of GDP per year.

With these constraints in place, the operational question for the Government in setting its medium term fiscal stance is whether to aim for lower nominal and structural deficits than allowed under the EDP and national Budgetary Rule given central projections for economic growth.

Competing considerations can be framed in terms of arguments for backloading the adjustments – which effectively means planning for no greater adjustments than are required to meet the targets under the central growth projections – and arguments for frontloading the adjustments by aiming at lower deficits than the maximum allowed.

In the international debate, the main argument advanced for backloading is that fiscal multipliers are likely to be larger in a recession. This means that the growth and employment loss from any given total adjustment in the structural primary balance (i.e., the structural

balance excluding interest costs) is likely to be larger if it is concentrated when the economy is already in recession. The debate about the size of fiscal multipliers in the current recession has been given impetus by recent IMF analysis that suggests that current multipliers are larger than they had previously believed, an underestimation that led them in turn to underestimate the negative effects of consolidation on growth. However, the IMF does not believe the multiplier has been underestimated for Ireland. We review the multiplier debate in Section 4.3.

Given Ireland's struggle to regain access to bond markets at affordable interest rates, a core argument for frontloading relates to creditworthiness. Under current conditions, Ireland's creditworthiness depends to a significant extent on perceptions that it would be able to meet conditions required for future official support – if needed – without funders demanding a restructuring of privately held Government debt. Uncertainty surrounding growth prospects leads to uncertainty over the capacity to meet nominal deficit targets and targets for stabilising the debt to GDP ratio without greater than planned adjustments.

Figures 2.5a and b in Chapter 2 show the uncertainty that surrounds projections for the General Government deficit and debt ratios given underlying uncertainty surrounding growth over the period to 2015. These figures assume no change to planned adjustments over this period. Figure 2.5c shows the uncertainty surrounding the additional nominal discretionary adjustments that would be required to meet the nominal targets. In the event of bad outcomes on growth, potential investors will be concerned that the required adjustments would not be politically feasible. This in turn leads to a "fear of default" that can put upward pressure on interest rates throughout the economy – including the cost of funding to the banking system – and harm domestic confidence. These effects would themselves slow growth in the short term.

Adjustments that are greater than required under central growth projections can then be viewed as providing a cushion should growth disappoint. This should help in the process of restoring creditworthiness. This effect could be reinforced by the further positive signal sent relating to Ireland's capacity to make difficult adjustments, although Ireland's reputation is already strong in this regard given the recent record.

A second argument for frontloading the adjustment is that it reduces domestic household and business uncertainty about the form the inevitable fiscal adjustments will take. This uncertainty could increase households' precautionary saving and lead businesses to hoard cash and delay planned hiring and investments until the fiscal picture becomes clearer.

Putting aside the issue of the size of near term adjustments, the effects of uncertainty about the form a given fiscal adjustment could take might also affect household and business spending plans in the near term. Rather than an argument for frontloading the adjustment, this could provide a case for supplying as much advance information as possible on the form the future planned adjustments will take. A counter argument is that although people have a general sense that further adjustments are coming, explicit announcements would make these effects more salient, leading to cutbacks in spending. Another counter argument is that

by announcing the detailed adjustments in advance, it will allow affected groups to better organise to lobby against the planned adjustments.

Other arguments for frontloading include limiting the extent to which the burden of adjustment is pushed onto younger generations and empirical evidence that large debt overhangs directly act as a drag on longer run growth.

Summing up, the decision on whether to frontload adjustments beyond the minimum necessary to meet nominal deficit targets under the central growth projections involves balancing the costs to near term growth and employment against the benefits of enhanced creditworthiness, intergenerational fairness and longer term growth prospects.⁸⁷

4.3 THE FISCAL MULTIPLIER DEBATE

The international economic and financial crisis has led to a resurgence of interest in the size of fiscal multipliers. In the early stages of the crisis, much of the interest was in potential impacts of fiscal stimulus measures, at least for countries that had the “fiscal space” to pursue expansionary policies. As governments have moved to correct large deficits and rising debt levels, attention has turned more to the negative growth and employment effects of fiscal adjustment measures.

The economics literature on fiscal multipliers has responded rapidly to the greater policy interest, with significant output of both theoretical and empirical work. A general (though not universal) thrust of the recent work is to revise up estimates of fiscal multipliers, especially in the context of a financial crisis. A further theme has been how multipliers vary over time and across countries, depending on such factors as economic openness, exchange rate regimes, debt levels and economic conditions. Despite the surge in research, there remains considerable uncertainty about the size of multipliers that apply under current conditions (see Appendix E).

⁸⁷ The foregoing arguments have taken the nominal deficit targets imposed by official lenders and the EDP as given. However, the broader rules under the *SGP* allow for flexibility based on the state of the economy. In other words, the targets are specified in cyclically-adjusted terms. The benefits outlined above in terms of improved creditworthiness could potentially also be attained by specifying the conditions for official support in cyclically-adjusted terms. This would limit the requirement to scale up fiscal adjustments when growth disappoints. To the extent that potential investors in Irish debt doubt the capacity to push through even larger required adjustments in a weak growth environment, this is likely to also negatively affect creditworthiness. While retaining ambitious adjustment targets under central growth forecasts, the trade off between growth and creditworthiness could thus be improved by specifying targets in cyclically-adjusted terms. The challenges associated with measuring the cyclically-adjusted balance are discussed in Chapter 3.

One indicator of the uncertainty surrounding multipliers is the recent “battle of the boxes” that has taken place in reports from the IMF, European Commission and ECB (see, IMF, 2012b; European Commission, 2012a; and ECB, 2012b). This debate is reviewed in Box G.

Unfortunately, the literature focused on Ireland-specific multipliers remains quite limited. One influential source of model based multiplier estimates comes from the ESRI’s large-scale *HERMES* macroeconomic model. Rather than directly estimating multipliers econometrically, reduced-form multipliers are derived based on simulated effects of fiscal changes in the model. Table 4.2 reports implied impact and long-run multipliers for a range of fiscal instruments analysed in Bergin *et al.* (2010). The first panel shows the estimates for the percentage changes in GDP that result from a €1 billion change in the fiscal variable. For purposes of comparison with estimates in the international literature, the second panel shows the percentage change in GDP that results from a 1 percent of GDP change in the fiscal variable.

TABLE 4.2: MULTIPLIER ESTIMATES BASED ON SIMULATIONS OF THE *HERMES* MODEL

% Change in GDP for €1 Billion Change in Fiscal Variable	Impact	Long-Run
Increase in Income Tax	-0.2	-0.5
Increase in Carbon Tax	-0.1	-0.5
Increase in Property Tax	-0.2	-0.3
Decrease in Public-Sector Pay Rates	-0.2	-0.3
Decrease in Public-Sector Employment	-0.8	-0.6
Decrease in Government Investment	-0.3	-0.1
<i>Simple Average</i>	-0.3	-0.4
% Change in GDP for 1% of GDP Change in Fiscal Variable*	Impact	Long-Run
Increase in Income Tax	-0.3	-0.8
Increase in Carbon Tax	-0.2	-0.8
Increase in Property Tax	-0.3	-0.5
Decrease in Public-Sector Pay Rates	-0.3	-0.5
Decrease in Public-Sector Employment	-1.3	-1.0
Decrease in Government Investment	-0.5	-0.2
<i>Simple Average</i>	-0.5	-0.6

*Note: GDP in 2009 = €161.3 billion. The impact effect refers to the effect in Year 1 (2009). The long-run effect refers to the effect over a six-year period (2009-2015).

Source: Bergin *et al.* (2010) and IFAC calculations.

Another notable contribution to the estimation of Irish multipliers is Bénétrix and Lane (2009). Following the structural vector autoregression (SVAR) methodology of Blanchard and Perotti (2002), they estimate multipliers for a range of fiscal instruments.⁸⁸ Bénétrix and Lane (2009) report their results in the form of impulse response functions that show the impact of a 1 percent of GDP shock to the fiscal variable over several years. A 1 percent of GDP shock to government spending has a first-year impact of about 0.7 percent of GDP, with the impact turning negative in the third year. A key finding, however, is that the size of the effect on GDP depends on the composition of the fiscal policy change, with multipliers for government investment significantly larger than multipliers for government consumption.⁸⁹

In fulfilling its assessment function, the Council has employed the implied multiplier assumptions used by the Department of Finance and conducted a sensitivity analysis around the Department's baseline projections using the Council's Fiscal Feedbacks Model. The assumed baseline reduced-form multiplier is 0.5, which is broadly consistent with the national and international literature.⁹⁰ The model allows for fiscal policy changes to affect the economy and also allows for economic developments to feedback to fiscal aggregates through automatic stabiliser effects. (For a discussion of the model, see IFAC, 2012b pp 74-80). Rather than providing independent economic and fiscal projections, the model is designed to reproduce the Department of Finance's fiscal projections (updated for post-*Budget 2013* developments) based on their assumptions for economic growth and discretionary fiscal adjustments.⁹¹ Using the updated projections as the

⁸⁸ One important difference is that they use annual instead of quarterly observations due to data availability. The key identifying assumption for exogenous fiscal shocks in Blanchard and Perotti (2002) is that fiscal policy cannot respond to output shocks in the quarter that they occur. This assumption is more tenuous for annual observations, but has some plausibility given that changes to fiscal policy are typically made in the annual Budget.

⁸⁹ They caution, however, that: "... the model is estimated over the 1970-2006 period, such that the fiscal multipliers are average effects across the range of economic conditions faced by Ireland over that interval. In particular, the size of the fiscal multiplier surely varies with the level of slack in the labour market and the perceived sustainability of the fiscal position" (Bénétrix and Lane, 2009 p.13).

⁹⁰ This baseline reduced-form multiplier, m^* , is based on the assumption of an *ex ante* multiplier, m , and an automatic-stabiliser coefficient, b , of 0.4. This automatic-stabiliser coefficient is consistent with the Department of Finance/European Commission methodology for calculating the structural balance. The *ex ante* multiplier is inferred based on the negative buoyancy calculation provided in Table 7 of the Economic and Fiscal Outlook provided as part of *Budget 2013* documentation. From the Fiscal Feedbacks Model the following relationship is assumed to hold: $\Delta pdef = (1/(1+mb))\Delta pdef^*$, where $pdef$ is the primary deficit and $pdef^*$ is the structural primary deficit. Assuming b equals 0.4, we infer that the *ex ante* multiplier, m , is 0.63. From the Fiscal Feedbacks Model, the reduced-form deficit multiplier is then $m^* = m/(1+mb)$. Thus, we infer that the value of the reduced-form multiplier is approximately equal to 0.5. Previous *Fiscal Assessment Reports* assumed a value of 0.42 for this reduced-form multiplier.

⁹¹ It also uses multiplier and automatic stabiliser/buoyancy assumptions that are consistent with Department of Finance methodologies.

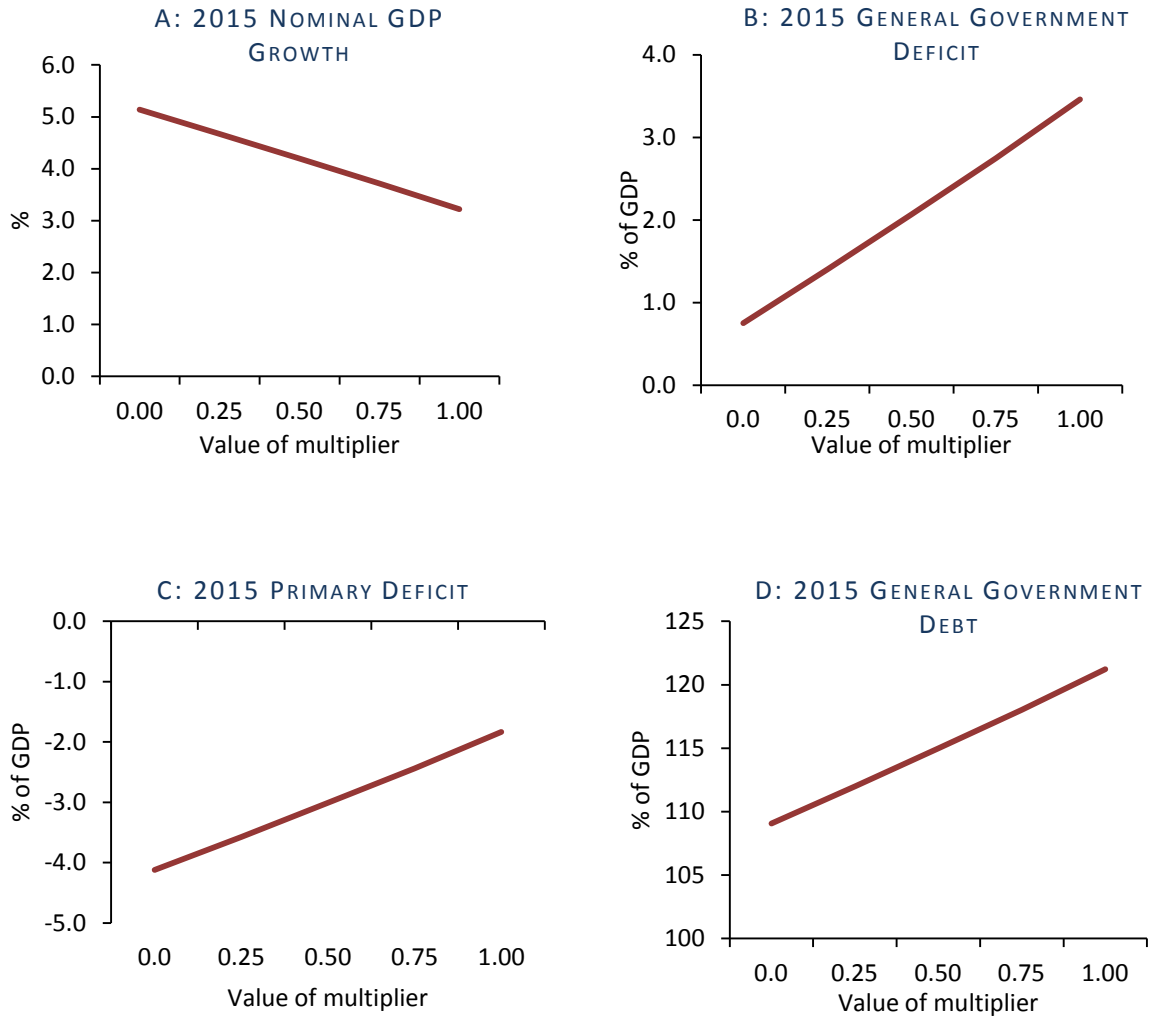
baseline, the model can then be used to examine the impacts of alternative assumptions for key variables and parameters.

Recognising the inevitable uncertainty that surrounds this baseline estimate, the Fiscal Feedbacks Model is used to consider the sensitivity of growth and fiscal projections to alternative overall deficit-multiplier assumptions for the period 2013-2015. Alternative assumptions ranging from zero to one are examined.⁹²

The results are presented in Figure 4.6. Not surprisingly, the fiscal projections are quite sensitive to the assumed size of the multiplier. The updated projection for the General Government deficit is 2.1 percent of GDP for 2015, consistent with meeting the EDP requirement of bringing the deficit below 3 percent of GDP by 2015. With an assumed multiplier of zero – so that the fiscal adjustments have no effect on growth – the projected deficit for 2015 falls to 0.8 percent of GDP. With an assumed multiplier of one – so that fiscal adjustments have a larger negative impact on growth than under the baseline assumed value of 0.5 – the projected deficit rises to 3.5 percent of GDP, above the EDP ceiling. The debt to GDP ratio does stabilise by 2015 in all cases considered. However, with a multiplier of one, this ratio is 121.2 percent of GDP, which compares with 115.0 percent of GDP under the baseline and 109.1 percent of GDP with a multiplier of zero.

⁹² Given an automatic-stabiliser coefficient of 0.4, this range for the reduced-form multiplier implies a range for the *ex ante* multiplier of 0 to 1.67.

FIGURE 4.6: SENSITIVITY ANALYSIS FOR 2015
 BASED ON Alternative Multiplier Assumptions



BOX G: BATTLE OF THE MULTIPLIER BOXES

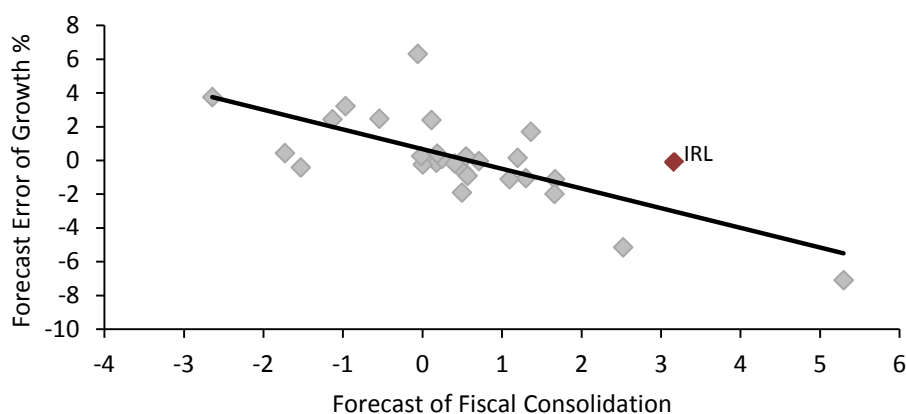
A box in the IMF’s World Economic Outlook (IMF, 2012b) titled “Are we Underestimating Short-Term Fiscal Multipliers?” has led to intense debate over the size of fiscal multipliers during the crisis (see also Blanchard and Leigh, 2013). The box was followed by boxes from the European Commission (EC, 2012a) and the ECB (ECB, 2012b) questioning the IMF findings. This box briefly summarizes the debate with particular attention to potential lessons for Irish fiscal policy.

The core of the IMF’s analysis is a regression of the size of growth forecasts’ errors for the period 2010-2011 on the size of the planned consolidations for the same period. The growth forecasts were made in April 2010 and the consolidations are measured as the planned change in the structural primary balance as a share of potential GDP. The basic regression specification is:

$$\text{forecast error of growth} = \alpha + \beta \text{ forecast of fiscal consolidation} + \varepsilon.$$

A significant negative estimated value of β is taken as evidence that the size of fiscal multipliers was underestimated when making the growth forecasts. Essentially, all else equal, with a general underestimation of multipliers, larger planned adjustments are associated with larger overestimations of growth. With the base specification, the estimated value of β is statistically significant and close to 1 in absolute value (see Figure G1). The absolute value of β is taken as an estimate of the underestimation of the size of the overall deficit multiplier. The IMF finds that this result is robust with respect to the inclusion of a battery of controls and to the exclusion of outliers. It also finds that similar results hold for other forecasters, although the size of the estimated β is largest for the IMF’s own forecasts (and smallest for forecasts made by the OECD).

FIGURE G1: RELATIONSHIP BETWEEN PLANNED DISCRETIONARY ADJUSTMENTS AND GROWTH FORECAST ERROR



Source: IMF 2012b.

Note: Vertical axis displays WEO forecast error for real GDP growth in 2010 and 2011; horizontal axis displays WEO forecast of change in structural fiscal balance to GDP Ratio in 2010 and 2011.

Although the assumed average value of the multiplier used when making the forecasts is 0.5, the IMF estimates that the true multiplier is in the range of 0.9 to 1.7, with the range determined by forecast source and specification. Such underestimation of the multiplier would have obvious implications for the nature of the trade off between supporting aggregate demand and ensuring debt sustainability/creditworthiness, and thus for the identification of the appropriate fiscal stance.

Although the IMF researchers conducted a number of robustness tests, subsequent analyses by the European Commission and the ECB have questioned the IMF results.

While accepting that multipliers are likely to be higher in a financial crisis, the European Commission has queried the applicability of the IMF's findings to the current Euro Area crisis (EC, 2012a). The Commission limits its sample to Euro Area countries, which it argues provides a more valid comparison as all countries are operating under the same exchange rate regime. For the full sample of EU countries similar results to those of the IMF are obtained.

Two caveats are emphasised, however, by the Commission study. First, the sample includes both countries engaged in temporary fiscal stimulus and countries engaged in permanent fiscal adjustment. Credible permanent adjustments are assumed to be associated with smaller multipliers, as households and businesses come to expect lower taxes in the future. Once the sample is limited to this latter group the negative relationship between forecast errors and the size of planned fiscal adjustments disappears. Second, the negative relationship in the full sample of Euro Area countries is not robust with respect to inclusion of a control for the increase in bond yields. To the extent that countries with the most serious debt problems were forced to pursue the largest adjustments and faced the most negative investor reaction over the period, this could lead to bias in the estimated relationship between the size of growth disappointments and the size of the adjustments. In essence, the concern is that the larger growth disappointments for countries engaging in the largest adjustments was not due to an underestimation of the multiplier, but rather to these countries being more negatively affected by a contemporaneous fall in investor confidence. It is important to note that the IMF study found the negative relationship to be robust to the inclusion of controls for starting debt levels and changes in CDS spreads. The differing results show how sensitive results can be to sample composition and the choice of control variables in small cross-country samples.

In its contribution, the ECB argues that the debate is too narrowly focused on the short-term fiscal multiplier (ECB, 2012b). Unlike the IMF and EC, it does not focus on regressions of the growth disappointment on the size of planned adjustment. Instead, it simulates both the short- and long-run effects of adjustment measures using its New Area-Wide Model. The ECB study makes three points: (i) the short-term negative effects of adjustment are smaller if the adjustment is credible, with the offsetting effects coming through reduced bond yields and expectations of positive supply-side effects; (ii) like the IMF and EC, it emphasises that multiple factors are at work at the time of adjustment making it difficult to credibly identify the specific effects of the adjustment measures; and (iii) while adjustment may harm growth

in the short term, this is more than compensated for positive effects on longer-term growth, especially where expenditure reductions make room for longer-term tax cuts that have positive supply side effects.

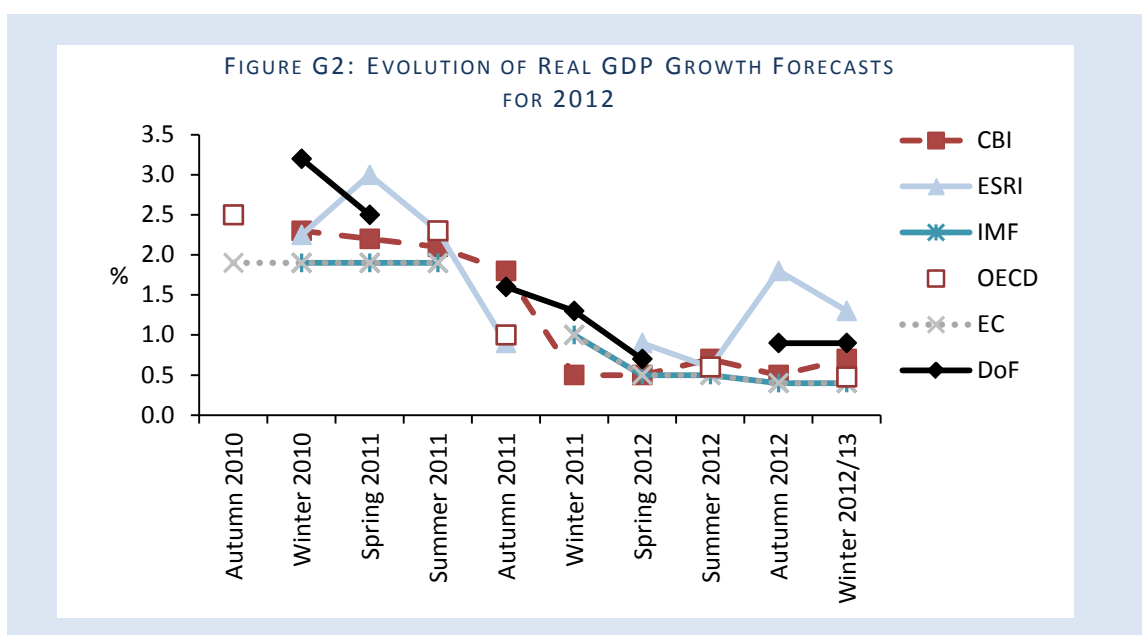
What are the implications of this debate for the potential underestimation of Irish fiscal multipliers during the crisis? In the IMF's analysis, an overestimation of growth was not observed for Ireland for this period. However, as documented in previous *Fiscal Assessment Reports*, there has been a pattern of downgrades to Irish growth forecasts for a given year as the forecast horizon shortened. This pattern is reproduced for 2012 in Figure G2. While an underestimation of the fiscal multipliers is certainly not the only possible explanation, the downgrade of forecasts is consistent with a pattern of underestimating the growth retarding effects of the significant consolidation measures taken in these years.

It is important to note, however, that the Ireland specialists at the IMF do not believe that multipliers have been underestimated in the Irish case. In the wake of the controversy following the initial IMF box, Ajai Chopra, head of the IMF negotiating team for Ireland, noted in a statement that:⁹³

“In the current discussion of the impact of fiscal adjustment on growth, it is important to note that no single fiscal multiplier is applicable to all countries and circumstances. And although there is uncertainty around any estimate of multipliers, there is no compelling evidence that a higher multiplier was at work in Ireland than the one assumed under the program. With overburdened bank, household and SME balance sheets, and weak growth in trading partners, a number of factors besides fiscal consolidation have been a drag on growth in Ireland.”

As discussed in Appendix E the recent theoretical and empirical literature on fiscal multipliers underlines the sensitivity of multipliers to economic conditions and policy regimes. While multipliers tend to be higher in recessions – particularly recessions associated with financial crises – they tend to be lower in countries with high debt to GDP ratios and countries facing bond market stress. These factors pull in different directions in the Irish case. On balance, the Council judges a central estimate of the overall deficit multiplier for Ireland of 0.5 to be broadly appropriate given the openness of the economy. However, it also recognised the significant uncertainty surrounding this estimate, and that the true figure is likely to change over time. Based on the Council's Fiscal Feedbacks Model, a sensitivity analysis is provided to gauge the implications of alternative multiplier values on medium-term fiscal projections (see Figure 4.6).

⁹³ The full statement is available at <http://www.irisheconomy.ie/index.php/2012/10/22/ajai-chopra-on-the-fiscal-multiplier-in-ireland/>



4.4 COMPLEMENTARY ACTIONS TO SUPPORT CREDITWORTHINESS

Although the State’s creditworthiness has steadily improved since mid-2011 as fiscal targets have been achieved, unavoidable uncertainties around growth mean that there is no assurance that the trend improvement in the public finances will continue. As in previous *Fiscal Assessment Reports*, this chapter has argued for aiming at a margin of safety to increase confidence that all fiscal targets are met. This, in turn, should enhance the confidence of investors that they will be repaid with funds raised from either market or official sources, supporting a virtuous circle of rising confidence, growth and fiscal stabilisation. A limited margin of safety is now in place – although creditworthiness remains fragile. We conclude by briefly noting two potentially complementary elements of a strategy to robustly restore creditworthiness: post-programme precautionary funding arrangements; and more supportive terms on official debt.

4.4.1 POST-PROGRAMME PRECAUTIONARY FUNDING/BOND MARKET SUPPORT

The fall in Ireland’s bond yields reflects, in part, a market view that official funding to cover ongoing deficits and rollovers of maturing debt would be available without a forced restructuring of debt owed to the private sector. While there are attractions to a clean exit from the programme, this confidence could be reinforced by explicit post-programme precautionary funding arrangements and/or through ECB commitments to support secondary market bond yields through its Outright Monetary Transactions (OMT) programme (ECB, 2012a). A precautionary programme from the European Stability Mechanism (ESM) is one of the requirements for access to the OMT:

A necessary condition for Outright Monetary Transactions is strict and effective conditionality attached to an appropriate European Financial Stability Facility/European Stability Mechanism (EFSF/ESM) programme. Such programmes can take the form of a full EFSF/ESM macroeconomic adjustment programme or a precautionary programme (Enhanced Conditions Credit Line), provided that they include the possibility of EFSF/ESM primary market purchases. The involvement of the IMF shall also be sought for the design of the country-specific conditionality and the monitoring of such a programme.

The Governing Council will consider Outright Monetary Transactions to the extent that they are warranted from a monetary policy perspective as long as programme conditionality is fully respected, and terminate them once their objectives are achieved or when there is non-compliance with the macroeconomic adjustment or precautionary programme.

Following a thorough assessment, the Governing Council will decide on the start, continuation and suspension of Outright Monetary Transactions in full discretion and acting in accordance with its monetary policy mandate (ECB, 2012a).

The ESM offers two precautionary credit facilities: the Enhanced Conditions Credit Line (ECCL) and (with more stringent qualifying conditions) the Precautionary Conditioned Credit Line (PCCL).⁹⁴ In addition to its Stand-By Arrangement (SBA),⁹⁵ which may be provided on a precautionary basis, the IMF also offers two dedicated precautionary credit lines: the Precautionary and Liquidity Line (PLL)⁹⁶ and (again with more stringent qualifying conditions) the Flexible Credit Line (FCL).⁹⁷

Such precautionary supports would inevitably come with conditions, but these conditions are likely to be in line with commitments already in place under national and European fiscal rules.

Moreover, post-programme monitoring by the EU is set to take place in any case until 75 percent of their programme loans have been repaid while similar arrangements will be in effect with respect to the loans from the IMF.

⁹⁴ For details, see: <http://www.esm.europa.eu/pdf/ESM%20Guideline%20on%20precautionary%20financial%20assistance.pdf>.

⁹⁵ For details, see: <http://www.imf.org/external/np/exr/facts/sba.htm>.

⁹⁶ For details, see: <http://www.imf.org/external/np/exr/facts/pll.htm>.

⁹⁷ For details, see: <http://www.imf.org/external/np/exr/facts/fcl.htm>.

4.4.2 MORE SUPPORTIVE TERMS ON OFFICIAL DEBT

A second way to reinforce the improvement in creditworthiness is through negotiated relief on debts to official creditors. Such relief could be viewed as mutually beneficial if it helps secure a resolution of the Euro Area debt crisis. Three possibilities applicable to Ireland have been discussed intensively in recent months: restructuring of the promissory notes/Exceptional Liquidity Assistance arrangements used to finance the now-liquidated Irish Bank Resolution Corporation (IBRC); extending the maturities on official EFSF/EFSM loans made as part of Ireland's programme; and purchases of State-owned equity stakes in the "live" banks by the ESM.

Each of these negotiated reliefs has complex fiscal implications. The potentially affected fiscal variables include: the gross General Government debt; measures of net debt (i.e., gross debt less an appropriate measure of the State's financial assets); the General Government deficit; and the maturity profile of gross debt.

Given the complexity of the potential transactions involved, it is typically necessary to look beyond the General Government sector towards a more comprehensive measure of their effect on the State's balance sheet.

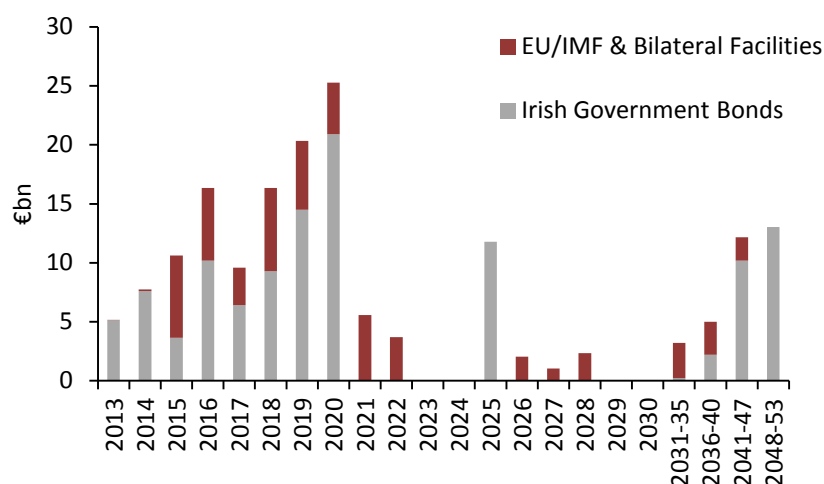
RESTRUCTURING OF PROMISSORY NOTES/ELA ARRANGEMENTS

In February 2013 the Government and the Central Bank of Ireland conducted a transaction to swap the promissory notes held by IBRC for floating-rate Government bonds of varying maturities. IBRC was liquidated, with the Government bonds moving to the Central Bank. An analysis of the transaction is provided in Box C in Chapter 2. The anticipated fiscal effects of the transaction on the General Government sector include a lowering of the present discounted value of State obligations, a reduction in funding requirements of approximately €20 billion over the next decade, and a reduction in the measured General Government deficit of approximately €1 billion in both 2014 and 2015.

EXTENDING MATURITIES ON OFFICIAL LOANS

Following the restructuring of official EFSF/EFSM loans to Greece in December 2012, the possibility of extending the maturity on similar loans to Ireland and Portugal has been discussed by European finance ministers.⁹⁸ Figure 4.7 shows the maturity profile of Ireland’s outstanding long-term marketable and official debt. The total outstanding debt to the EU/IMF will rise to €67.5 billion by the end of 2013. A significant amount of this debt will mature between 2015 and 2020. For EFSF/EFSM loans, €6.3 billion is due to mature in 2015, €4.2 billion in 2016, €3.9 billion in 2018 and €1 billion in 2019.⁹⁹ A further €20 billion of IMF loans is due to mature over the next decade. Such high medium term funding needs could be a deterrent to private investors, especially given possible concerns over perceived de facto seniority of official creditors. Lengthening the maturity on EFSF/EFSM loans could, thus, have a further positive effect on market creditworthiness.

FIGURE 4.7: MATURITY STRUCTURE OF LONG TERM AND OFFICIAL DEBT



Source: NTMA.

⁹⁸ An agreement in principle was made at the March 4th Eurogroup meeting to examine the extension of maturities on EFSF/EFSM loans to Ireland and Portugal. Finance ministers of all 27 EU countries agreed to examine such an extension on March 5th. On March 16th the Eurogroup issued the following statement relating to EFSF loans: “The Eurogroup ministers are determined to support Ireland’s and Portugal’s efforts to regain full market access and successfully exit their well-performing programmes, in the context of continued strong programme implementation and compliance. They have agreed to an adjustment of the maturities of the EFSF loans to both countries in order to smooth the debt redemption profiles of those countries. The technical details will be put forward to the Eurogroup by the Troika and the EFSF at the same time as the MoU underlying the Cypriot adjustment programme. As regards the EFSM, any extension of the maturities of the loans is for consideration and decision by ECOFIN Ministers.”(Council of the European Union, 2013).

⁹⁹ While no EFSF/EFSM debt matures in 2020, a further €3 billion matures in each of 2021 and 2022.

ESM PURCHASES OF STATE-OWNED EQUITY STAKES IN IRISH BANKS

A third mooted mechanism to reduce the burden of official debts is the purchase by the ESM of the State's equity stakes in Irish banks. The State currently owns almost 100 percent of AIB and Permanent TSB, and 15 percent of Bank of Ireland. The value of the Government's stakes in AIB and Bank of Ireland in the "directed portfolio" of the National Pension Reserve Fund (NPRF) was estimated to be €8.6 billion on 31 December 2012.¹⁰⁰

To gauge the potential value of such transactions it is essential to look beyond the impacts on gross debt to also consider the implications for net debt. A purchase of the equity stakes at market value would not change the value of appropriately measured net debt, as the fall in Government liabilities (i.e., the reduction in gross debt made possible by the sale) would be matched by a fall in Government assets (the value of equity stakes).

The ESM will not consider capital injections until the Single Supervisory Mechanism (SSM) – the first stage in the development of a banking union – is operational. This is not expected until 2014. There is also uncertainty at this point as to whether the ESM would be permitted to purchase existing equity stakes – the "legacy" issue – or would be restricted to new capital injections into stressed banks. Neither is it clear that the ESM would be willing to purchase stakes for above market value even if transactions relating to legacy assets are permitted. Based on current information, this mechanism appears to involve the most uncertain prospects in terms of reducing the debt burden and improving creditworthiness. However, by helping to break the link between the banking system and State finances, the potential for future capital injections into stressed banks by the ESM should help reduce an important (implicit) contingent liability of the State.

¹⁰⁰ "[T]he Directed Portfolio comprises ordinary shares in AIB valued at €0.0076 (0.76 cent) per share and in BoI valued at market price and preference shares in AIB valued at 63.5% of par and in BoI valued at 80.2% of par" (NPRF, 2012, p. 1).

APPENDIX E: RECENT LITERATURE ON FISCAL MULTIPLIERS

Following a number of years of relative neglect, international theoretical and empirical research on fiscal multipliers has surged since the international financial crisis erupted in 2008. A major theme of this research has been the dependency of multipliers on the structure of the economy/policy regime as well as current economic/financial conditions. While the expanding literature is providing a fuller understanding of the factors affecting the growth and employment effects of fiscal adjustments, the recent work has also highlighted the complexity of the intermediating factors. There thus remains considerable uncertainty surrounding the size of multipliers for a given country at a point in time. In this appendix, some of the more influential developments in the theoretical and empirical literatures are reviewed.

THEORETICAL LITERATURE

Recent theoretical work has focused on how the state of the economy and the policy regime can affect the size of fiscal multipliers, mainly within the framework of New Keynesian macro models. A key question has been how liquidity trap conditions following a financial crisis can influence the multiplier (see, e.g., Woodford, 2011).

For Ireland, a relevant debate is whether the multiplier is larger for a country that can conduct an independent interest rate policy but is constrained by a zero lower bound on the nominal interest rate or for a country that cannot independently adjust the interest rate because it is part of a currency union. The standard result that multipliers are larger in a currency union (i.e., fixed exchange rate) than under an independent interest rate policy (i.e., flexible exchange rate) can be overturned when a country is in a liquidity trap. Erceg and Linde (2012) find that the multiplier can be larger under an independent interest policy if inflation is sufficiently sensitive to the output gap, which leads to a rise in real interest rates. Fahri and Werning (2012) find an even stronger result in a liquidity trap: multipliers are larger under an independent interest rate policy.

An older concern, going back to Giavazzi and Pagano (1990), is how the level of debt affects the size of multipliers. Multipliers are found to be smaller – and can even reverse sign – when debt levels are high (see Corsetti *et al.*, 2012, for a recent discussion).

A controversial recent finding in the literature is that, under certain conditions, attempts to reduce the deficit through contractionary policies could actually be self defeating in terms of bringing

down the deficit (Denes, *et al.*, 2012). The possibility of self defeating efforts at deficit reduction comes through impacts on expectations of future taxes and spending. In a related vein, DeLong and Summers (2012) identify conditions – notably persistent (or “hysteresis”) effects on output from temporary stimulus measures – under which temporary expansionary fiscal policies could reduce long-run debt financing burdens. In a recent paper, Eyraud and Weber (2013) use simulations to show that with relatively high multipliers and starting debt ratios, fiscal adjustment can raise the debt to GDP ratio in the short-run even as the deficit falls, but the effect is not long-lasting and the debt ratio eventually declines. However, they argue that creditworthiness could be adversely affected if financial markets focus on the short-term behaviour of the debt ratio, or if there are repeated rounds of fiscal tightening in an effort to get the debt ratio to converge to a target.¹⁰¹

EMPIRICAL LITERATURE

The financial crisis has also given impetus to the empirical measurement of multipliers. The challenge is to identify the true causal effects of changes in government spending or taxation given that policy will respond to conditions in the economy. For example, governments may respond to weak economic conditions with fiscal stimulus. Even if the policy stimulus leads to faster growth, it is difficult to disentangle the positive growth effect from the weak economic conditions that motivated the stimulus in the first place. The solution is to look for sources of variation in fiscal policy that are independent of the state of the economy.

Two broad approaches have been followed. The first approach is to use *structural vector autoregressions* (SVAR). SVAR is a statistical technique that aims to identify exogenous policy developments, typically by making an assumption about the speed at which policy can respond to unexpected economic developments. The classic paper applying this technique to fiscal policy is Blanchard and Perotti (2002).

The second approach has been labelled the *narrative method*. This attempts to use the historical record to isolate episodes where the change in fiscal policy was due to considerations – for example government spending in a war – that are independent of the state of the economy.

Influential papers using this approach include Barro and Redlick (2011), Romer and Romer (2010),

¹⁰¹ In the Irish context, the Council’s April 2012 *Fiscal Assessment Report* considered the likelihood of fiscal adjustment being self defeating in terms of improvements in the primary deficit, the debt to GDP ratio and creditworthiness (see IFAC, 2012a pp46-48). The available evidence and simulations using the Council’s Fiscal-Feedbacks Model do not support the self defeating hypothesis for Ireland.

and Ramey (2011). These studies have focused on fiscal policy episodes in the United States. An influential study that has extended this approach to cross-country episodes of large fiscal contractions is Guajardo *et al.* (2011). This work questions a finding from the earlier “expansionary fiscal contraction” literature (see, e.g., Alesina and Ardagna, 1998) that large fiscal contractions in the context of economic crises can have expansionary effects on the economy. (However, see Alesina *et al.*, 2012 and Perotti, 2011, for responses).

A common finding in empirical studies is that the size of the effect on real GDP depends on the composition of fiscal adjustment. Alesina *et al.* (2012) conclude that expenditure-based adjustments (i.e., expenditure cuts) are less costly in terms of output losses than tax based adjustments (i.e., tax increases). Guajardo *et al.* (2011) find a similar result, but the difference disappears when they control for monetary policy responses. However, as a small country in a large monetary union, monetary policy should be effectively exogenous to changes in Irish fiscal policy. One reasonably robust result across studies that explore the effect of the composition of adjustment is that multipliers for government investment are larger than multipliers for government consumption (see, e.g., Bénétrix and Lane, 2009).

An important focus of the empirical literature that complements recent theoretical developments has been the examination of factors that affect the size of country- and time-specific multipliers. Ilzetzki *et al.* (2010) find that multipliers tend to be larger in richer economies, less open economies, economies operating under fixed exchange rates, and low-debt economies. Using the size of the output gap as a measure of the state of the economy, Baum *et al.* (2012) conclude that multipliers are larger in recessions than in expansions. Auerbach and Gorodnichenko (2012) find that multipliers are larger in recessions and for countries with low debt levels. They find that for an economy in recession the multiplier falls to near zero for a country with a debt to GDP ratio of 100 percent. Corsetti *et al.* (2012) find that multipliers are unusually high during times of financial crisis and usually low under high debt levels. In line with recent theoretical findings, they find that multipliers are larger under an independent interest rate regime than in a currency union in the context of a financial crisis. In general, the literature has tended to lead to upward revisions of the size of fiscal multipliers, while underlining that multipliers are highly contingent on economic conditions and the policy regime.

The literature provides somewhat mixed messages for the likely size of current Irish multipliers. In more normal circumstances, the significant openness of the Irish economy would suggest relatively

low multipliers.¹⁰² However, multipliers are likely to be higher in the context of the financial crisis and recession, though the effect may be attenuated by Ireland's participation in a currency union. A relatively robust finding from the literature is that multipliers tend to be small for countries with high debt, especially in the context of a debt crisis.

¹⁰² The effects of high openness should not be exaggerated, however, as a large fraction of Irish imports serve as inputs into the production of exports in Ireland's large multinational sector. The marginal propensity to import out of domestic demand is likely to be significantly lower than the aggregate import share of roughly 80 percent of GDP would suggest.