

Research Article

Irish Government Debt and Implied Debt Dynamics: 2011-2015¹

John FitzGerald and Ide Kearney

¹ The authors of this paper have received helpful comments from colleagues in the ESRI, Seamus Coffey (UCC), and from an external referee. They have also received extensive assistance from staff in the CSO, the NTMA, the Department of Finance and the Central Bank of Ireland. The authors remain solely responsible for the content of the article and the views expressed therein.

Table of Contents

Abstract	3
1. Introduction	4
2. Government Debt in 2010: the starting position	5
2.1 Government Financial Assets	6
2.2 Government Liabilities in the Banking System	8
3. Components of the Debt 2011-2015	13
3.1 The Agreed Austerity Package and Target Primary Balance 2011-2015	13
3.2 Bank Recapitalisation Needs 2011-2015	15
3.3 Refinancing and the timing of repayments 2011-2015	15
Box: Treatment of Promissory Notes 2011-2015	17
4. Dynamics of the Debt 2011-2015	18
4.1 Key Assumptions: The Growth Rate, Interest Rates and Liquid Assets	19
4.2 Simulating the Debt Dynamics	21
4.3 Debt Sustainability Scenarios	24
5. Strategy on Funding	26
Conclusions	29
References	30

ABSTRACT

This article examines the debt dynamics facing the Irish State over the period 2011 to 2015. The analysis takes account of the reduction in interest rates on EU borrowing agreed at the EU Council meeting in July 2011 and it makes very conservative assumptions on the interest rate available after 2013. The base case estimates suggest that the net debt to GDP ratio will peak at between 100 and 105 per cent of GDP in 2013 and that it could fall back to 98 per cent by 2015. The related gross debt to GDP ratio would peak in 2012 at between 110 and 115 per cent of GDP before falling back to between 105 and 110 per cent of GDP by 2015. This is much lower than had been assumed in official figures earlier this year, partly because the cost of bank recapitalisation was lower than anticipated and also because of the reduction in EU interest rates.

1. INTRODUCTION

The Irish economy has seen a dramatic growth in government indebtedness over the last four years. Having been one of the EU economies with the lowest government debt burden in 2007, Ireland has moved to being one of the more heavily indebted economies. This turnaround has occurred as a result of the collapse in the property market bubble, the resulting implosion of the domestic banking system and the associated huge fall in domestic output. These related events have together added 70 percentage points to the debt/GDP ratio between the beginning of 2008 and the end of 2010.

Taking the end of 2010 as its starting point, this article considers the composition of the debt at the end of 2010 and how it is likely to develop over the period to 2015. For the period to 2015 we use the Department of Finance's announced targets for the primary balance (the borrowing requirement excluding payments of debt interest) from the *April 2011 Stability Programme Update* in developing our scenarios for the Government debt.

Section 2 looks in some detail at the starting position for public gross and net debt at the end of 2010. Section 3 discusses the discrete components driving the dynamics of the debt over the period 2011 to 2015. These include the targeted government primary balance, the costs of recapitalising the domestic banking system and the debt repayments that fall due during this period. Based on these components, Section 4 considers how the debt is likely to evolve over the period to 2015. This path will be affected by the pattern of future growth in the economy, the interest rate charged on new borrowings and the government's strategy in relation to liquid assets. Section 5 of this article considers the strategies on funding the debt. By 2014 at the latest Ireland will need to return to the markets to fund its sovereign debt. In that year the EU/IMF funding will have ended and there is a very large bond repayment of almost €12 billion due, so planning for funding in 2014 is very important.

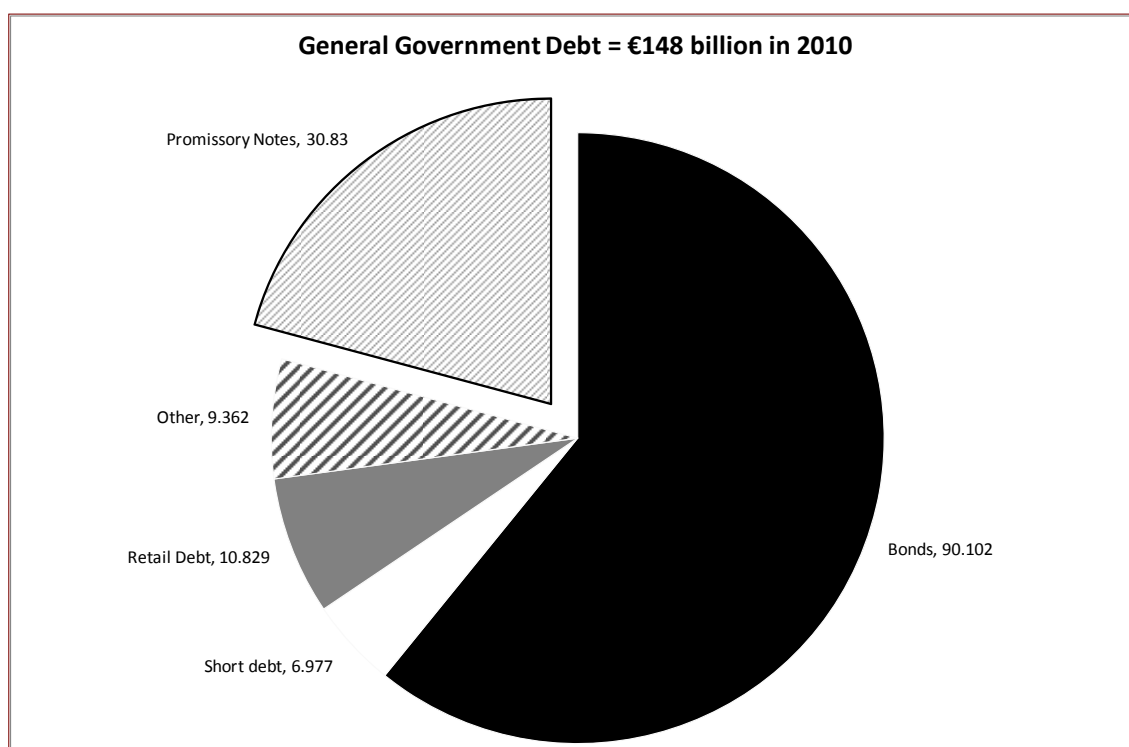
This analysis is based on the assumption that the government implements in full its target €9.8 billion (6 per cent of 2010 GDP) austerity package over the three year period 2012-2014. On the basis of this analysis we conclude that, absent any further negative shocks, the level of Irish government debt as a share of GDP will stabilise in 2013 and begin to fall thereafter. While this package is sufficient to stabilise and eventually reduce the debt burden, it is very far from costless. Building on an austerity package of €20 billion (13 per cent of 2010 GDP) over the

preceding four years 2008-2011, these essential further cuts will be very difficult to implement. Furthermore, they will serve to delay recovery in domestic demand within the economy and they will further reduce employment.

2. GOVERNMENT DEBT IN 2010: THE STARTING POSITION

At the end of 2010 the total Gross General Government Debt was €148 billion. This was equivalent to 95 per cent of GDP or 116 per cent of GNP. As shown in Figure 1 this was composed of €90 billion of government bonds, €31 billion of promissory notes to Anglo Irish Bank and Irish Nationwide Building Society (INBS) and €27 billion of other debt². The indebtedness of the State has increased over a short space of time from 25 per cent of GDP in 2007 to 95 per cent at the end of 2010. However, as discussed further below, the Irish authorities were unusual in holding significant liquid financial assets which were valued at €31 billion at the end of 2010.³ Including these liquid financial assets, the net indebtedness of general government at end-2010 was 76 per cent of GDP or 94 per cent of GNP.

Figure 1: General Government Debt in billions of euro at year end 2010

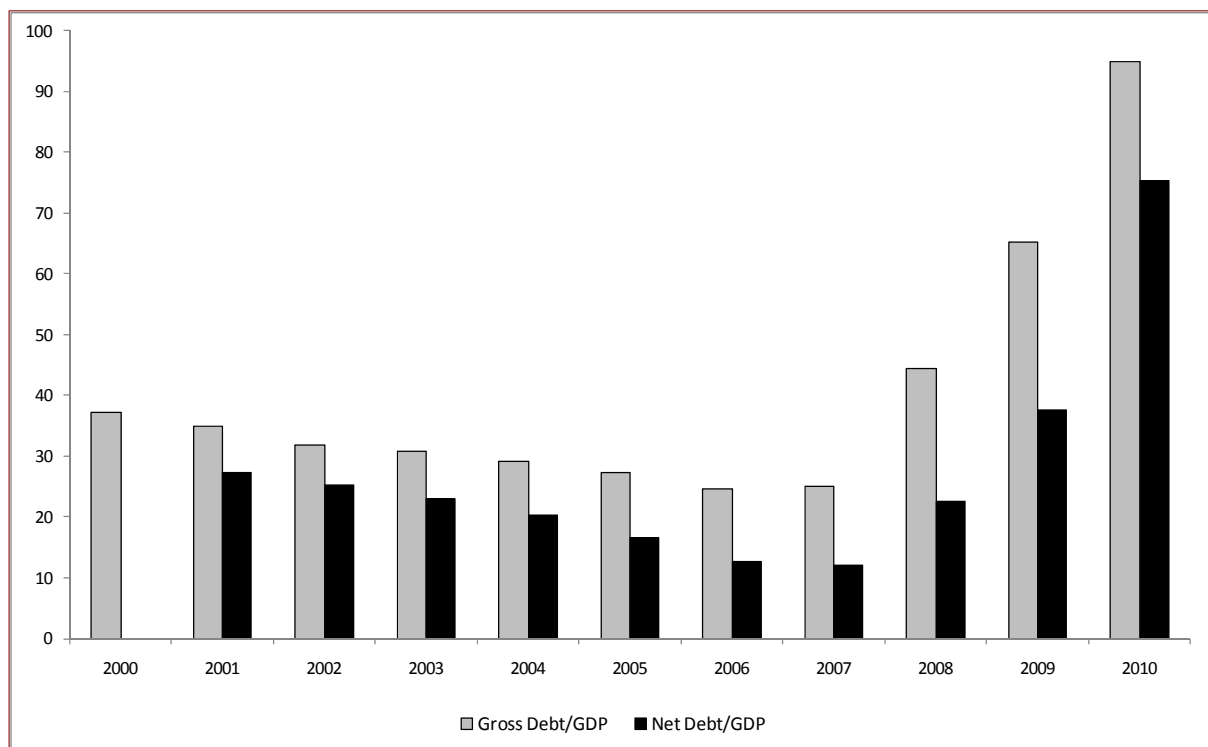


² Other debt includes short-term debt (t-bills and commercial paper), retail debt (savings certificates, prize bonds etc.), local government debt (Housing Finance Agency) and other debt instruments. Note that this figure does not include the total €30.2 billion NAMA bonds issued in 2010. Contingent debt liabilities of the State are discussed in Section 2.2 below.

³ The liquid assets consisted of €16.2 billion in cash deposits and €14.9 billion in discretionary funds held at the National Pension Reserve Fund.

Over the period 2000 to 2007 Irish government debt was low and falling (see Figure 2). In 2001 the government set up the National Pension Reserve Fund (NPRF) and 1 per cent of GNP was invested each year in that fund to provide for future pension requirements. The value of the fund grew rapidly to €21 billion in 2007. Along with cash balances and surpluses on a number of other managed funds, these investments meant that the gap between gross and net government debt grew steadily between 2001 and 2007, from 8 percentage points of GDP in 2001 to 13 percentage points of GDP in 2007. By the end of 2007, while gross government debt was just 25 per cent of GDP, net government debt was a mere 12 per cent of GDP. In 2008 the Irish authorities pre-funded future deficits by borrowing significant additional sums so that liquid assets – in the form of both cash holdings and the NPRF – amounted to almost half of total gross government debt (Figure 2).

Figure 2: Gross Debt and Net Debt, as proportions of GDP



2.1 Government Financial Assets

The Irish authorities responsible for undertaking borrowing to fund the government's needs had considerable experience in the 1980s of dealing with a difficult funding situation. Now constituted as the National Treasury Management Agency (NTMA), this agency took early action in 2008 to prepare for the oncoming storm. It undertook major borrowing on behalf of the government

which went well beyond the funding needs for 2008. As a result, having begun 2008 with cash on hands of €4.5 billion, it ended the year with cash holdings of €22 billion, 12 per cent of GDP (in addition to the assets available in the NPRF).

In 2009 the government decided that some of the assets of the National Pension Reserve Fund (NPRF) could be used to recapitalise troubled banks and more recently to fund capital expenditure.⁴ These are referred to as “directed investments”. Effectively these NPRF assets were made available to the exchequer to help fund the government deficit and bank recapitalisations. The total value of the NPRF at the end of 2010 was €24.4 billion, of which €14.9 billion was available as liquid financial assets⁵. By end June 2011, with a further €10 billion set aside for directed investments in the banks, the discretionary portfolio of the NPRF was valued at just €5.3 billion.⁶

Table 1 shows the cash and NPRF discretionary assets for year-end 2007 through to 2010 and also expresses it as a percentage of the following year’s GDP, i.e., the year to be prefunded. At the end of 2009 total liquid assets available to the government amounted to 28 per cent of the following year’s GDP.

Table 1: Government Liquid Financial Assets € Billion

	2007	2008	2009	2010
Cash	4.5	22.1	21.8	16.2
NPRF	21.2	16.4	22.3	14.9
Total	25.6	38.5	44.1	31.1
% of next year’s GDP	14%	24%	28%	20%

This approach to funding the government’s needs in advance has a cost⁷. However, it did give the government significant flexibility in dealing with the financial crisis. The buffer provided by the holdings of liquid assets meant that

⁴ <http://www.nprf.ie/home.html> “The Credit Institutions (Stabilisation) Act 2010 also provides for Ministerial directions for the Fund to invest in Irish Government securities or for payments to the Exchequer to fund capital expenditure in the financial years 2011, 2012 and 2013.”

⁵ At the end of 2010 €9.5 billion was in the “Directed Portfolio” of investments in Allied Irish Bank and Bank of Ireland and it is, therefore, excluded from liquid financial assets. By June 2011 these investments were valued at €5.5 billion.

⁶ http://www.nprf.ie/Publications/2011/Q2_2011_Performance_and_Portfolio_update.pdf

⁷ For example the interest payments on the excess borrowing undertaken in 2010 to prefund the government amounted to approximately 0.6 per cent of GDP.

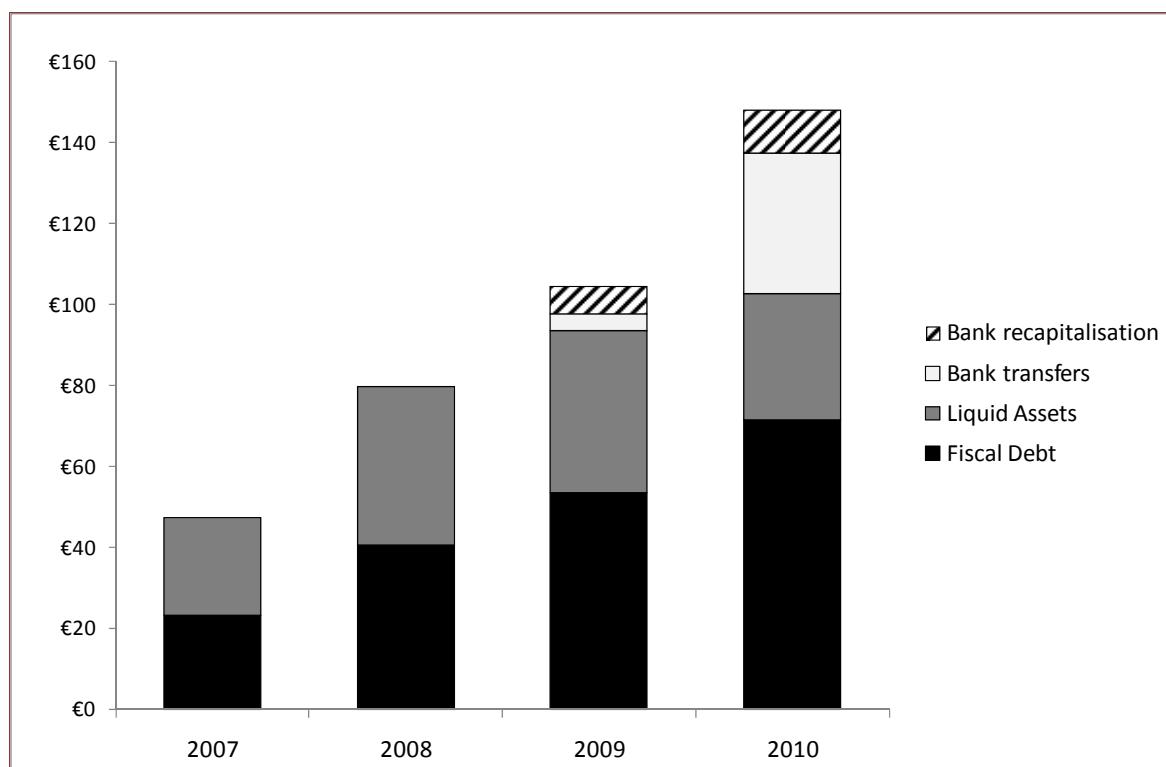
until the autumn of 2010 the government was funded at least a year in advance. However, in the late summer of 2010 the losses emerging in the covered (guaranteed) banks were so large that they led to an erosion of confidence in the banking system and the wider economy. This in turn dramatically raised the estimates of the government's future funding needs. So, while the funding available in cash and liquid assets was more than enough to meet the large borrowing to fund day to day spending and normal debt repayments over the course of 2011, it became clear that it would not be sufficient to fully recapitalise the government-guaranteed banks. As this became clear the government effectively lost access to international capital markets in the autumn of 2010. In November 2010, under pressure from the ECB, the government agreed a package of €85 billion of loans with the EU/IMF designed to finance both government borrowing and bank recapitalisation needs. This included €50 billion provisionally earmarked to fund the fiscal position and a maximum of €35 billion to further recapitalise the banking system, half of which was to come from government's own resources. The net contribution from the EU/IMF over the period of the agreement is, therefore, €67.5 billion.⁸

2.2 Government Liabilities in the Banking System

One of the key problems in considering the sustainability of the Irish government's financial position is the incomplete nature of the accounting framework applied to the government sector, both domestically and by international institutions. While it is normal (actually mandatory) for companies to present comprehensive balance sheet data showing assets and liabilities, including contingencies, this is not the way government accounts are usually published. Though there is a fairly complete accounting for the State's headline liabilities, somewhat less attention is given to its contingent liabilities in the banking system and the information available on its financial and real assets tends to be incomplete. In the current crisis external oversight has increasingly focused on the State's liabilities, including the very significant expansion of contingent liabilities, while relatively little attention has been paid to the State's financial assets and how they are managed.

⁸ Since the agreement was reached at end 2010 it has become clear that any surplus of EU/IMF funds not needed to recapitalise the banks can be used directly to fund the government.

Figure 3: Composition of General Government Debt in billions of euro 2007-2010



There are three main sets of government liabilities in relation to the banking system: liabilities that are included in the Government debt relating to direct intervention by the government in the banking system; contingent liabilities arising from NAMA bonds backed by property assets; residual contingent liabilities arising from the government guarantee of the bulk of covered banks' liabilities. It is complicated to unravel these different sets of liabilities and avoid double counting.

Table 2: Government Intervention in Banking System that Increases the General Government Debt. Figures relate to end 2010.

	Total	Transfers				Investment
		Total Transfers	Exchequer Funding	Promissory Notes	Special Investment Shares	NPRF Directed Investments
Anglo Irish Bank	29.3	29.3	4.0	25.3	0.0	0.0
INBS	5.4	5.4	0.0	5.3	0.1	0.0
EBS	0.9	0.9	0.0	0.3	0.6	0.0
Allied Irish Bank	7.2	0.0	0.0	0.0	0.0	7.2
Bank of Ireland	3.5	0.0	0.0	0.0	0.0	3.5
Total	46.3	35.6	4.0	30.9	0.7	10.7

The first set of liabilities relates to the crystallisation of bank losses guaranteed by the state through government transfers and investment in the relevant banks. These are shown in Table 2. These affect the level of the national debt directly. Figure 3 shows the dramatic impact that such direct government intervention in the banking system has had on the government debt figures since the beginning of 2009. By the end of 2010 total government direct intervention in the banking system amounted to over €46 billion. Of this, a €35.6 billion transfer to Anglo Irish Bank, Irish Nationwide Building Society and the Educational Building Society led to an increase in the gross debt, while a €10.7 billion directed investment by the NPRF into Allied Irish Bank (€7.2 billion) and Bank of Ireland (€3.5 billion) led to a concomitant depletion of liquid assets and an increase in the net debt.⁹

The PCAR/PLAR stress tests on the loan books in Allied Irish Bank, Bank of Ireland, EBS and Irish Life and Permanent, carried out in Q1 2011, estimated that the total recapitalisation needed to cover potential future losses and to meet liquidity rules (loan-to-deposit ratio of 122.5 per cent by end 2013) under an adverse scenario in the banks was €24 billion. Taking account of burden-sharing with junior bondholders, private capital injections and assets sales, an additional €17 billion in capital was injected into the banks by the State by July 2011 to meet in full the recapitalisation needs that had been identified in the stress tests. This brings the total bank liabilities crystallised on the State balance sheet to around €63 billion.

The objective of this recapitalisation is to ensure that, even under very unfavourable circumstances, the banks will still have adequate capital, over and above their liabilities, to allow them to continue to operate. As a result, the contingent liabilities of the State in relation to the covered banks should be more than covered by the value of assets on the banks books and this large capital buffer.

Separately, the recent stress test of the books of Anglo Irish Bank and INBS suggested the current level of State intervention is sufficient to cover all likely future losses.¹⁰ In August 2011 the CEO of Anglo-Irish bank suggested that when

⁹ In measuring the net debt we exclude from liquid assets the directed assets of the NPRF – the investment in Irish banks. As discussed later, these investments have significant value. However, they are not liquid and, until they are sold, it is difficult to put any valuation on them.

¹⁰ See *Addendum to the FMP Final Report: Irish Nationwide Building Society and Anglo Irish Bank*.

Anglo-Irish bank is finally wound down the cost to the taxpayer could actually prove significantly less than expected.¹¹

The second set of contingent liabilities arises from the €30.2 billion bonds issued to the covered banking institutions in return for heavily discounted troubled loans taken over by NAMA. These form contingent debt liabilities of the State and are housed in a special purpose vehicle (SPV) so that the liability is not recorded on the State's general government debt position. Of these, €28.7 billion are under direct government guarantee¹².

Table 3: Government Contingent Liabilities in NAMA at end 2010, in billions of euro

	NAMA Value	Nominal Value	Haircut
Total	30.2	71.2	58%
Anglo Irish Bank	13.0	34.0	62%
INBS	3.0	8.5	65%
EBS	0.3	0.8	63%
Allied Irish Bank	8.5	18.5	54%
Bank of Ireland	5.5	9.5	42%

The third set of contingent liabilities arises from the government's guarantees related to the banking system. The most important of these contingent liabilities falls under the Eligible Guarantee scheme (ELG). This amounted to €113 billion at end December 2010.¹³ Another source of contingent liability to the State is the Emergency Liquidity Assistance funding provided by the Irish Central Bank to domestic banks. At the end of December 2010 this was €51 billion, up from the €5 billion pre-crisis level (July 2008). A large portion of this lending is against assets which are already directly counted in the Government debt, namely the €31 billion promissory notes already included in the 2010 debt figure. This portion of ELA does not represent an additional contingent liability for the State. The remaining €20 billion (approximate) ELA funding goes largely to Anglo Irish Bank and INBS and does form an additional contingent liability to the State, though it is backed by collateral. The estimated total contingent liabilities of the

¹¹ A saving compared to the previously estimated losses of between €3 billion and €5 billion was recently suggested by the management of Anglo Irish Bank.

¹² 95 per cent of NAMA securities are guaranteed by the state.

¹³ This does not include liabilities covered under the Deposit Guarantee Scheme which pre-dated the financial crisis.

State, not included in the Government debt, comes to around €162 billion as shown in Table 4.

Table 4: Estimate of contingent liabilities of the State in the banking system at end 2010, € billion

NAMA Bonds¹⁴	29
Emergency Liquidity Assistance (net of promissory notes)	20
Eligible Guarantee Scheme	113
Total	162

While there is a degree of clarity about these contingent liabilities of the State there is considerable uncertainty about the future value of the financial assets held by the covered institutions. In relation to NAMA assets, the haircut applied to the original loan book averaged 58 per cent (Table 3) and the related NAMA bonds are accepted as collateral by the ECB. It will be some considerable time before these assets can all be sold and their full value determined. However, the size of the initial haircut suggests that there is a reasonable prospect that the State may eventually avoid significant losses on this portfolio.

Following the recapitalisation of the banks at the end of July 2011 the value of their regulatory capital over and above their liabilities could, on the basis of the Central Bank “base” case, be around 20 per cent of GDP. Even under the Central Bank “adverse” scenario it would still be substantial. In a sense this is the “book value” of the banks. However, the need to rapidly reduce their balance sheets, the continuing pressures on their profitability in State ownership and the need to sell the State’s stake in the banks within a reasonable time scale may mean that the State will only realise a fraction of this value. However, if the economy grows along the lines assumed in official forecasts (or outperforms them), then the eventual sale of the state stake in the banks could produce a significant recovery of value, reducing the debt / GDP ratio in the long term. Because of the uncertainty about the timing and outcome of any future sale of the State’s stake in the banks we do not include it in our calculations in this article. However, the significant longer-term value of this asset, albeit uncertain in magnitude, should be kept in mind when assessing the medium-term prospects for the burden of the Government debt in Ireland.

¹⁴ By end July 2011 this had fallen €28.4 billion.
<http://www.nama.ie/Publications/2011/NAMADebtSecuritiesIssued28July2011.pdf>

The scale of the State's contingent liabilities in the banking system relative to the actual size of the Irish economy is very large. While the best available estimates suggest that the assets will turn out to be worth more than the contingent liabilities, the size of the gross assets and liabilities covered by guarantees leaves the state open to significant contingent losses or profits in the future. In this sense the State is highly geared.

3. COMPONENTS OF THE DEBT 2011-2015

The future funding needs of the government are made up of borrowing to fund the ongoing deficit in the public finances and repayment of past borrowing. By the end of July 2011 the recapitalisation of the banking system had been completed so that, while the recapitalisation affects the funding needs for 2011, it should not require additional resources in the future. Here we focus on the different elements in turn.

3.1 The Agreed Austerity Package and Target Primary Balance 2011-2015

Since the summer of 2008 the Irish fiscal position deteriorated very rapidly. Beginning in autumn 2008, the authorities responded to this deterioration with a series of austerity budgets designed to stabilise the deficit. The speed with which the deficit deteriorated, even in the face of these measures, warranted a supplementary budget in the spring of 2009 and it was not until 2010 that the measures undertaken were sufficient to see the deficit begin to stabilise. Table 5 summarises the *ex ante* measures undertaken over the period 2008-2010; in total they were equivalent to almost €15 billion or 10 per cent of 2010 GDP. By the end of 2010 the general government deficit had stabilised, albeit at a very high level of 11 ½ per cent of GDP (excluding costs of recapitalisation). In November 2010 the Irish government agreed a package of loans from the EU/IMF designed to help fund Ireland over the period 2011-2013. Prior to that agreement the government had already mapped out a further package of austerity measures designed to bring the deficit below 3 per cent of GDP by the middle of the decade. This package of measures was subsequently incorporated into the agreement with the EU/IMF.

Table 5 summarises the agreed measures for 2011-2014. Roughly two-thirds of the actual and planned austerity package relates to cuts in expenditure, both current and capital. In 2009 and 2010 significant cuts in public sector pay levels were introduced, equivalent to up to 15 per cent of gross salary. There have also been very large cuts in expenditure on capital projects. On the revenue side,

taxes on income have risen substantially in these years. Over the period 2011-2014 the planned consolidation measures total €15 billion, or 10 per cent of 2010 GDP. This means that cumulatively by 2014 the Irish authorities will have introduced *ex ante* austerity measures equivalent to 20 per cent of GDP over a continuous seven year period.

Table 5: Summary of actual and planned austerity measures over period 2008-2014, €billion

	2008-2010	2011	2012	2013	2014	2011-2014
Revenue	5.6	1.4	1.5	1.1	1.1	5.1
Expenditure	9.2	3.9	2.1	2.0	2.0	10.0
<i>of which Capital</i>	1.6	1.9	0.4	0.4	0.4	3.1
Total	14.7	5.3	3.6	3.1	3.1	15.1
Per cent of 2010 GDP	10%	3%	2%	2%	2%	10%

In order to look at the dynamics of the debt we use the official target for the primary balance.¹⁵ We use the medium-term estimates of gross government borrowing and interest payments given in the April 2011 Stability Programme update document to derive a figure for the primary balance, shown in Table 6. Under this programme, the primary balance should return to a surplus in 2014.

Table 6: Official Target Deficit and Implied Primary balance 2011-2015, €billion

	2011	2012	2013	2014	2015
General Government Deficit	€15.7	€13.9	€12.1	€8.1	€5.0
% of GDP ¹⁶	10.0%	8.6%	7.2%	4.7%	2.8%
Debt interest payments ¹⁷	€5.9	€7.6	€10.2	€11.0	€11.3
% of GDP	3.8%	4.7%	6.1%	6.3%	6.2%
Primary Balance	-€9.7	-€6.3	-€1.9	€2.9	€6.3
% of GDP	-6.2%	-3.9%	-1.1%	1.6%	3.4%

¹⁵ This is defined as borrowing net of debt interest payments.

¹⁶ Note the GDP figures used here are based on the April estimates of 2010 GDP. This has since been revised upwards by the CSO by over one per cent in *National Income and Expenditure 2010*.

¹⁷ Table 5b *April 2011 Stability Programme Update*. This includes interest payments on promissory notes.

3.2 Bank Recapitalisation Needs 2011-2015

As discussed earlier, on 31 March 2011 the Minister for Finance announced the results of stress tests of the Irish domestic banks. At the time of writing it seems likely that €7 billion of the €24 billion needed to recapitalise the banks was raised by the banks themselves, with an injection of €17 billion coming from the government. As part of this recapitalisation, €5.3 billion of “excess capital” is being provided to the banks using an instrument which provides for early repayment to the government should the capital prove unnecessary. We assume that €3 billion of this contingent capital will be repaid by 2014.

3.3 Refinancing and the timing of repayments 2011-2015

Since the 1980s the bulk of government borrowing has been undertaken at medium to long maturities, which helps to make funding needs more predictable. In addition, the practise was often to refinance debt in advance of its maturity date through buying debt back in the period immediately preceding the due date for payment. Thus the repayment dates for the existing government bonds outstanding are spread out over the rest of the decade with the last tranche due in 2025. All short-term debt was repaid earlier this year.

The elimination, of necessity, of short-term debt makes the management of the roll-over of debt easier than where there is a bunching of short maturities. However, the need to repay substantial tranches of debt will still put pressure on the government in the next few years until Ireland again has ready access to capital markets. Here we consider the details of the funding needed to cover future debt repayments. These funding needs are summarised in Figure 4.

As of January 2011 the funding requirements of the government are made up of three main components, as shown in Figure 4. The first is the repayments on the €90 billion of outstanding government bonds, €28 billion of which have to be repaid between 2011 and 2014 with a particularly large repayment of €12 billion falling due in January 2014. The bulk of the rest of the repayments fall due in 2016 and 2018, 2019 and 2020 (see Section 5 below).

The second main component of the funding requirement to cover debt repayments relates to the promissory notes of €31 billion plus interest which is to be paid in equal cash instalments of €3.1 billion each year over the period 2011-

2025. Details of how these payments are handled in the accounts are set out below in Box 1.

Figure 4: Refinancing Needs 2011-2025 – Repayment of Debt, € billion

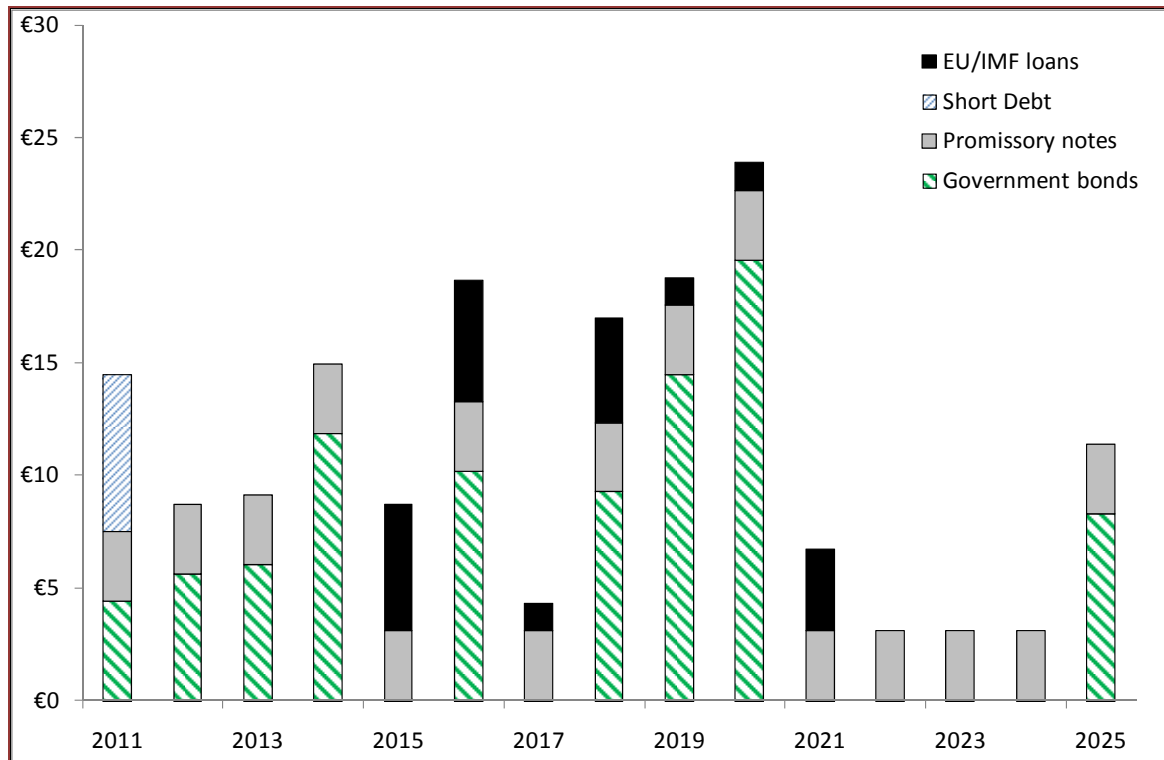


Figure 4 also sets out the profile on repayment of the money borrowed to date from the EU/IMF prior to the 21st July 2011 EU Council. However, the EU Council decided to lengthen the maturity profile on all of the EU lending, which will significantly alter the picture, possibly reducing repayments in 2015 and 2016. To date, the precise profile for repayment remains unclear. Furthermore, Figure 4 does not take account of when the EU/IMF borrowing, which is yet to be drawn down, will need to be repaid. If the result of the Council’s decision is to push major repayment of this debt beyond 2015 or 2016 it will greatly facilitate Ireland’s return to financial markets by easing the funding needs in the 2014-16 period, making 2015 a particularly “calm” year for the NTMA.

BOX: TREATMENT OF PROMISSORY NOTES 2011-2015

In 2010 total general government debt increased by €31 billion relating to promissory notes issued to Anglo Irish Bank and INBS. These promissory notes will be redeemed by the State through a series of annual payments of €3.1 billion from the Exchequer. This annual payment adds to the annual funding needs of the State and it can be partitioned into payment of interest and repayment of principal.

These payments are treated in slightly different ways for the purpose of calculating the Government debt (GGD) and government borrowing (GGB). For borrowing purposes the interest payment is calculated on an accruals basis whereas for the purpose of calculating the debt the interest is counted when it is actually paid. This difference in accounting treatments leads to a slight mismatch between the GGB and GGD numbers, as described below.

The interest payment for the promissory notes is calculated on the basis of the year beginning on the 1st of April running to the 31st of March. The interest is payable on the 31st of March. When translated to a calendar year basis the difference in accounting treatments gives rise to a difference in timing of payments. On 31 March each year, the promissory note component of the general government debt is reduced by the €3.1 billion Exchequer cash payment to Anglo-Irish Bank but increased by whatever interest has accrued on the promissory notes over the previous twelve months.

Given the interest holiday incorporated in the promissory notes in 2011 and 2012, the payments in those years are primarily repayments of principal, other than for a small amount of interest that had accrued over the last nine months of 2010. The different treatment of the debt interest under the two accounting approaches is shown below in Table A.1.

Table A.1: Interest Payments on Different Bases

	2011	2012	2013	2014	2015
Affecting borrowing	0.0	0.0	1.9	1.8	1.7
Affecting debt	0.6	0.0	0.5	1.8	1.7

As far as the flows are concerned that means that the amount put to repayments is different from the amount assumed to be repaid for debt purposes. In each case the “repayment” is derived by subtracting the interest payment from the

€3.1 billion payment in respect of the promissory note. That gives rise to the following pattern on repayments.

Table A.2 Debt Repayments on Different Bases

	2011	2012	2013	2014	2015
Affecting borrowing	3.1	3.1	1.2	1.3	1.4
Affecting debt	2.5	3.1	2.6	1.3	1.4

The stream of repayments on a debt basis is then used to reduce the amount of the promissory notes outstanding each year, resulting in the following figures for the total amount of the promissory notes to be included in calculating the Government debt on the EU basis.

Table A.3: Value of Promissory Notes Outstanding

	2010	2011	2012	2013	2014	2015
Affecting debt	30.9	28.3	25.2	22.6	21.4	20.0

Figure 4 highlights the fact that, even with a major reduction in the general government deficit by 2014, the State will still need to borrow a large amount to refinance existing debt, especially in 2014 and 2016. By raising the gross funding requirement, the bond repayments will make a return to the financial markets more difficult in 2014.

4. DYNAMICS OF THE DEBT 2011-2015

In this Section we consider the likely dynamics of the debt using a range of forecasts and scenarios. There are three key elements which will determine the future path of the debt / GDP ratio: the growth in nominal GDP, the interest rate charged on the debt, and the government policy of holding liquid assets. Our assumptions on these are discussed in Section 4.1. In Section 4.2 we look at the implied dynamics of the gross and net debt under these assumptions. In Section 4.3 we look at alternative growth paths to sustainability which would arise with lower or higher growth rates (or higher or lower interest rates).

4.1 Key Assumptions: The Growth Rate, Interest Rates and Liquid Assets

1. To simplify comparisons with estimates of the debt by official bodies made earlier this year, we have used the Department of Finance assumptions on the future primary deficit or surplus, set out in the *April 2011 Stability Programme* update document (Table 7). We generate the debt interest payments for each year using the assumptions set out in this note. We use the forecast for nominal and real GDP for 2011 and 2012 from the latest *Quarterly Economic Commentary* and we take the Department's numbers for growth for 2013-15. The Department of Finance uses broadly similar assumptions on growth to those in the "Low Growth" scenario in Bergin *et al.*, 2010.¹⁸

There remains the possibility that, in the medium term, the economy could outperform this assumed growth path pushing it towards the "High Growth" scenario in Bergin *et al.*, 2010. There also remains the possibility that a new shock, such as a world recession, could push the economy into a further downward spiral with a substantially worse growth performance.

Table 7: Assumptions on Nominal and Real Growth Rate and Interest Rates 2011-2015

	2010	2011	2012	2013	2014	2015
Growth Rates:¹⁹						
Real GDP	-0.4%	1.8%	2.3%	3.0%	3.0%	3.0%
Nominal GDP	-2.9%	0.7%	2.5%	4.0%	4.3%	4.6%
Interest Rates:						
Short debt	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Retail Debt	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
EU/IMF borrowing		3.9%	3.9%	3.9%	3.9%	3.9%
New bonds	5.0%			6.0%	6.0%	6.0%
Liquid Assets	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%

¹⁸ In Bergin *et al.*, 2010 a number of scenarios for future growth were considered. That paper was published before the full magnitude of the banking losses was known.

¹⁹ The growth rates for 2010 are from the June *National Income and Expenditure 2010* estimates from the CSO. These are higher than was estimated in the *April 2011 Stability Programme Update* with consequent base effects on the level of GDP in 2010.

2. We assume that the interest rate on all EU borrowing under the programme will be 3.5 per cent. The interest rate on IMF borrowing is assumed to be 5.7 per cent.²⁰ The weighted average interest rate is then 4.2 per cent. The interest rate on new borrowing from 2014 onwards is assumed to be 6 per cent. This is a very conservative assumption representing a significantly higher rate than is currently being paid by Spain and Italy. Interest rates on retail debt are assumed to be 3.5 per cent. The interest rate on liquid asset holdings is assumed to be just 0.5 per cent. Hence there is a significant cost to holding these assets over a prolonged period of time.

3. As discussed earlier, we assume that the €3 billion of excess capital put into the banks in 2011 is returned to the government in 2014.

4. In relation to liquid assets, the bank recapitalisation which was completed by the end of July 2011 was financed through a directed investment from the NPRF of €10 billion.²¹ In relation to cash balances we assume that the exchequer cash balance is run down to €9 billion by 2013, as outlined in the NTMA indicative funding schedule.²² This means that by 2015 the total value of liquid assets will be €14 billion (€9 billion held in cash balances plus €5 billion held in the NPRF). This seems a very high level of liquid assets and, as discussed in Bergin et al., 2011, significant interest savings could be achieved by reducing the holdings of cash.

5. We assume that retail debt (small savings etc.) will increase by €1.2 billion in 2011 and 2012, and by €1 billion in subsequent years. The most recent data from the NTMA indicate that over €1.0 billion in retail debt was raised by the end of July 2011 so this assumption is likely to be conservative.²³

²⁰ This is based on the initial average rate of 5.7 per cent estimated at the initiation of the support programme in November 2010. So far the most recent tranches of IMF monies have been borrowed at a lower rate of 4.8 per cent, see <http://www.ntma.ie/GovernmentDebt/EUIMFProgramme.php>.

²¹ http://www.nprf.ie/Publications/2011/Q2_2011_Performance_and_Portfolio_update.pdf

²² <http://www.ntma.ie/Publications/2011/InformationNoteOnIrelandsFundingNeeds.pdf>. Based on the stock of financial assets shown in the memo item of this note, the NTMA figures suggest that cash balances will be increased by €1.2 billion in 2011, reduced by €2.3 billion in 2012 and reduced by €6.2 billion in 2013. The memo item in the note suggests that the liquid cash balances at the end of 2010 amount to €12.3 billion, this is €3.9 billion lower than the figure shown in Table 1 above and the figure shown in the NTMA information note on Ireland's debt issued in May 2011. http://www.ntma.ie/Publications/2011/GG_debt_NTMA_info_note.pdf This difference relates to €3.9 billion of HFA loans which we include in cash balances for consistency purposes.

²³ <http://www.finance.gov.ie/documents/exchequerstatements/2011/excheqjuly2011.pdf>

4.2 *Simulating the Debt Dynamics*

Based on these assumptions, Table 8 shows our estimate of the debt dynamics out to 2015. The top panel shows each of the flows: new government borrowing for day to day purposes, the sums required for bank recapitalisation and the holdings of liquid assets. Using these assumptions, we generate a projection of net new borrowing for the period to 2015. This is shown at the bottom of the top panel of Table 8.

In the top panel the primary balance is as set out in the Department of Finance's April estimates (see Table 6). When this is combined with the final cost of recapitalising the banks and the revised interest rates for the period we estimate substantially lower Government debt interest payments for the period to 2015 than did the Department using the earlier assumptions on interest rates. Naturally, the lower interest payments reduce the debt which, in turn, reduces the interest bill. When these figures for debt interest payments and primary balance are combined to give the borrowing requirement it turns out to be significantly lower by 2015 than in the previous official estimates. As shown in Table 8, on this basis in 2015 the government deficit would be 1.7 per cent of GDP whereas the previous official estimate (Table 6) was 2.8 per cent.

One other point of note in Table 8 is that there is very little change in Government debt interest payments between 2011 and 2012 and then there is a big jump in 2013. This pattern arises from the nature of the agreement concerning the promissory notes (see the Box). This agreement allows an "interest holiday" between the beginning of April 2011 and the end of March 2013, which means that the actual interest payments in 2011 and 2012 are deceptively low.

The top panel of Table 8 shows our assumptions about the funding of bank recapitalisation. As discussed earlier, it is assumed that €17 billion is injected in 2011. It is also assumed that €3 billion of this injection represents "excess" capital and that by 2014 it will become clear that this is no longer needed and can be repaid to the government.

Table 8: General Government Debt and Deficit 2011-2014, Own Estimates

	2010	2011	2012	2013	2014	2015
Borrowing - FLOWS:						
A. General Government deficit, €bn	49.9	15.1	12.6	10.5	6.3	3.2
% of GDP	32.0	9.6	7.8	6.2	3.6	1.7
Primary Balance, €bn*	44.9	9.7	6.3	1.9	-2.9	-6.3
% of GDP	28.8	6.2	3.9	1.1	-1.6	-3.4
Debt interest, €bn	5.0	5.4	6.2	8.5	9.1	9.5
% of GDP	3.2	3.4	3.9	5.1	5.2	5.2
B. Bank recapitalisation, €bn		17.0	0.0	0.0	-3.0	0.0
C. Change in liquid assets €bn		-8.8	-2.3	-4.3	0.0	0.0
cash balances		1.2	-2.3	-4.3	0.0	0.0
NPRF		-10.0	0.0	0.0	0.0	0.0
Total New Borrowing €bn (A+B+C)		23.3	10.3	6.2	3.3	3.2
* net of debt interest						
STOCKS:						
Bonds outstanding**	90.1	85.7	80.1	74.1	62.2	62.2
Other***	27.1	21.4	22.6	23.6	24.6	25.6
Promissory Notes	30.9	28.3	25.2	22.6	21.4	20.0
EU/IMF borrowing €bn	0.0	36.0	53.8	67.5	67.5	61.9
Residual Funding needed: €bn	0.0	0.0	0.0	0.0	15.4	24.6
Total Gross Government Debt (A+B+C)	148.1	171.4	181.7	187.8	191.1	194.3
% of GDP	94.9	109.1	112.8	112.1	109.3	106.2
Liquid Assets	31.1	22.3	20.0	15.7	15.7	15.7
% of GDP	19.9	14.2	12.4	9.4	9.0	8.6
Total Debt Net of Liquid Assets (A+B)	117.0	149.1	161.7	172.1	175.4	178.6
% of GDP	75.0	94.9	100.4	102.7	100.3	97.6

** Stock as of end December 2010.

*** Short term debt, retail debt, HFA etc.

Finally, we assume a reduction of liquid assets of €8.8 billion in 2011, €2.3 billion in 2012 and €4.3 billion in 2013 as suggested by the most recent NTMA note on funding.²⁴ Given this profile, it suggests that it will be the end of 2013 before the full amount of the EU/IMF facility is drawn down. The stock of liquid assets available at the beginning of 2014 will be slightly greater than the funding needs for that year. This should facilitate Ireland's return to the financial markets.

²⁴ We assume that the full €67.5 billion in EU/IMF support funding is drawn and that any "excess" is held as liquid assets at the end of 2013 in preparation for a return to market funding in 2014.

The bottom panel in Table 8 shows an estimate of the implied stock of debt, given the forecast borrowing requirement. There are significant bond repayments each year to 2014 (as shown in Figure 4, no bonds are to be repaid in 2015). Promissory notes are due to be redeemed each year, as shown in the Table. An assumed profile for the draw-down in EU/IMF funding and repayments due in 2015 is also included based on funding already drawn down. However, this could well change as a result of the decisions by the EU Council in July 2011. When these sources of finance are taken into account these figures imply that the State would have adequate funding until the end of 2013 and that the stock of liquid assets available at the beginning of 2014 would be the equivalent of one year's funding.

On this basis the bottom panel of Table 8 shows the evolution of the gross debt, a calculation of the implied net debt and the implied level of liquid assets. On the basis of the assumptions set out above, the figures show that gross debt as a percentage of GDP would peak in 2012 at 113 per cent of GDP and would fall back to 106 per cent of GDP by end 2015. This contrasts with the estimates earlier in the year by the Department of Finance, the EU and the IMF that the gross debt to GDP ratio would peak in 2013 at between 118 per cent and 121 per cent of GDP. On the basis of our analysis the net debt to GDP ratio would peak at 103 per cent of GDP in 2013 and could fall to 98 per cent of GDP by 2015. This difference compared to the official forecasts earlier in the year arises primarily because of the lower than expected cost of the bank recapitalisation and the downward revision in the rate of interest on EU borrowing.

While this estimated net debt ratio is high by the standards of our EU neighbours, it is significantly lower than the headline gross debt figures. If the assumptions on growth and borrowing are met in the coming years, this debt level will be attainable with the prospect of a continued improvement in the years after 2015 when the economy is likely to return to a "more normal" growth trajectory.²⁵ Putting this in perspective, this net debt to GDP ratio, peaking at around 102 per cent in 2013, would be somewhat lower than the peak net debt to GDP ratio of 111 per cent experienced in 1987, during the last major fiscal crisis.

²⁵ Bergin *et al.*, 2010 suggested that, after a period of recovery when the economy could grow above potential output, the realised growth rate could settle back to the rate of growth in potential output: in the range 2 per cent to 3 per cent per annum.

4.3 Debt Sustainability Scenarios

The issue of debt sustainability can be analysed using a simple accounting framework as illustrated here. While such a simple exposition misses a number of very important issues for policy makers arising from the complexity of the government balance sheet, it is useful in looking at the sensitivity of scenarios to certain key assumptions.

The burden of debt is sustainable when the debt / GDP ratio is constant or falling over time. The sustainability of a government's debt position at any given point in time is determined by the interaction of the initial level of debt relative to income (D/Y), new debt issuance unrelated to financing the fiscal deficit (NDI), the fiscal primary balance (P) and the gap between the growth rate of the economy and the interest rate payable on the debt ($g-r$). Formally debt in year t will accumulate as follows:

$$D_t = D_{t-1} + r_t * D_{t-1} - P_t + NDI_t \quad (1)$$

Assuming no new debt issuance ($NDI = 0$), and rearranging we get

$$\Delta d_t = (r_t - g_t)d_t - p_t \quad (2)$$

where $d = D/Y$ and $p = P/Y$. On this basis, an assessment of the sustainability of debt in a situation whereby the debt to income ratio is rising hangs on three issues: firstly, the legacy of previous deficits represented by the initial level of debt; secondly the gap between the future growth rate and future interest rate; and thirdly the impact of fiscal policy, as measured by the primary balance. Sustainability implies that the change in the ratio of debt to GDP must be no greater than zero so that equation (2) becomes:

$$0 = (r_t - g_t)d_t - p_t \quad (3)$$

$$p_t = (r_t - g_t)d_t \quad (4)$$

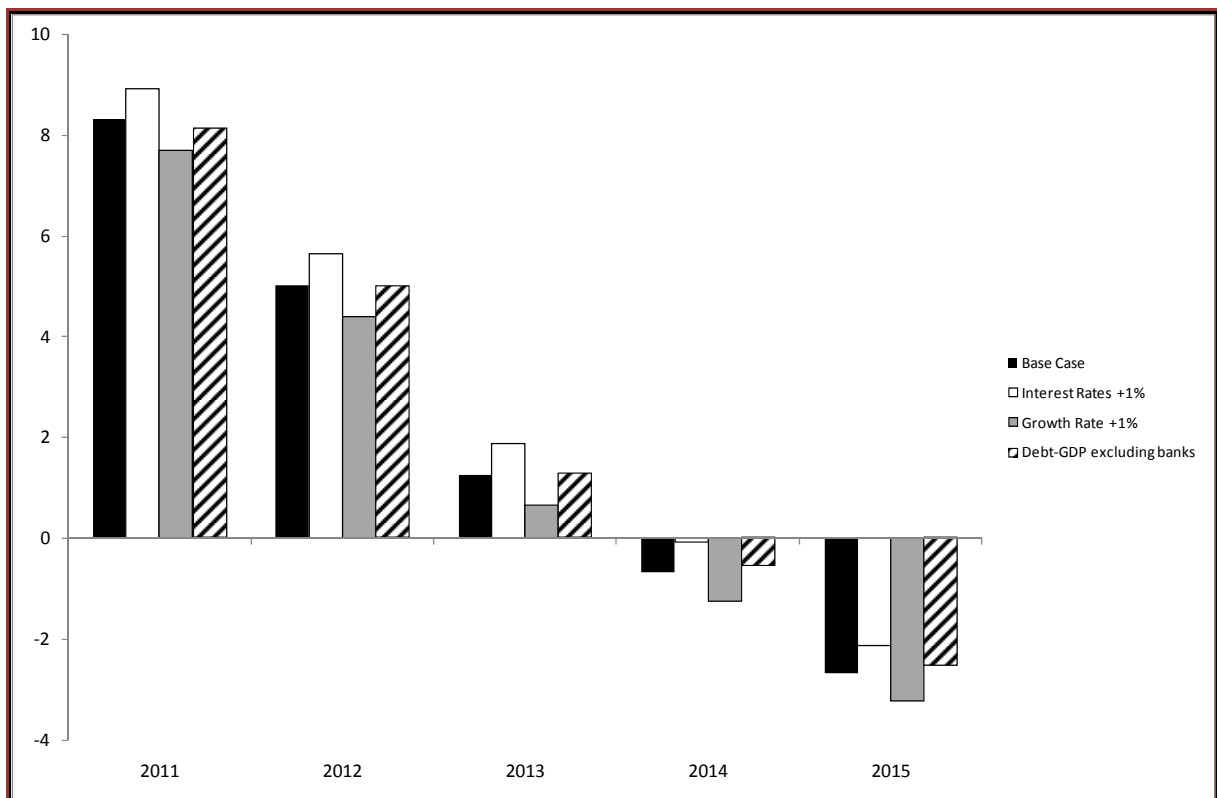
When the primary balance is sufficient to offset the growth-adjusted interest cost of the initial level of debt, then the debt to income ratio will stabilise. To track a path towards sustainability, this equation can be used to estimate the "primary gap" in any given year, which is the difference between the fiscal stance required to stabilise the debt to GDP ratio and the actual fiscal stance in a given year. The primary gap is calculated as:

$$(rt - gt)d t - pt \quad (5)$$

Figure 5 shows the primary gap for each year out to 2015 – that is the improvement needed in the primary surplus to put the debt on a stable path where the debt/GDP ratio would be constant. In each case we use the actual marginal interest rates for the relevant year rather than the average or expected long run marginal rate. Similarly we use the assumed growth rate for nominal GDP for each year rather than the expected medium-term growth in this aggregate.

In the base case discussed in this paper the primary deficit in 2011 forecast by the Department of Finance would need to be improved by around 8 percentage points of GDP if the debt / GDP ratio was to stabilise in that year. This huge gap arises because of the very big primary deficit expected for the year and the forecast very low growth in nominal GDP. However, by 2014 in the base case the forecast primary surplus is more than enough to render the debt “stable”. This happens in spite of the assumption of an increase in the marginal interest rate from the EU/IMF average rate of 4.2 per cent in 2013 to an assumed market rate of 6 per cent in 2014.

Figure 5: Alternative Estimates of the Primary Gap



The graph also shows the effect of a higher interest rate or a higher growth rate on the primary gap. If the growth rate in nominal GDP were to be higher in 2013 by one percentage point that would necessitate a smaller primary surplus to make the debt sustainable in 2014. (The same results would be achieved if the market interest rate were one percentage point lower). However, if the interest rate was to be one percentage point higher than assumed in the base case (or the growth rate was one percentage point lower than in the base case) the primary surplus would be just sufficient to bring the debt on a sustainable path by 2014. Finally the graph also shows the effect of excluding total transfers and investments in banks of €63 billion from the debt-GDP figure. If the government had not transferred or invested monies in the banks, then the debt-GDP ratio would stabilise in 2013 based on current official targets and the target primary surplus for 2014 would exceed that necessary to stabilise the debt.

This sensitivity test points to the importance of reducing the primary deficit as planned over the coming years. Provided the target reduction is achieved by 2015, producing a significant primary surplus in that year, the debt will be on a sustainable path even if the assumptions about interest rates or growth in the base case proved to be a bit too optimistic.

5. STRATEGY ON FUNDING

As shown in Table 9, new borrowing needs for 2011 are projected to be €15.1 billion. In addition to new borrowing, there will also be significant debt roll-over. In 2011 there is €4.4 billion in government bonds and €3.1 billion in promissory notes to be paid, €2.5 billion of which is a write-down of principal. In addition, we assume that there will be no roll-over of the short-term debt of €7.0 billion which was repaid earlier this year. So the total amount borrowed from the EU/IMF of €36 billion is required to cover gross funding needs of €46 billion (deficit, bank recapitalisations and debt refinancing), offset by the use of liquid assets of €8.8 billion to fund the bank recapitalisation and €1.2 billion raised in retail debt (See Table 9).

Table 9: Funding Needs 2011-2015

	2011	2012	2013	2014	2015	Total
General Government Deficit ²⁶	15.1	12.6	10.5	6.3	3.2	47.6
Bank recapitalisations	17.0	0.0	0.0	-3.0	0.0	14.0
Refinancing needs						0.0
Bonds	4.4	5.6	6.0	11.9	0.0	27.9
Promissory notes	2.5	3.1	2.6	1.3	1.4	10.9
Short Term Debt	7.0	0.0	0.0	0.0	0.0	7.0
EU/IMF Loans	0.0	0.0	0.0	0.0	5.6	5.6
Gross Funding needs	46.0	21.2	19.1	16.4	10.2	112.9
Contribution from change in liquid assets	- 8.8	- 2.3	- 4.3	0.0	0.0	-15.4
Retail debt	1.2	1.2	1.0	1.0	1.0	5.4
Net Funding needs	36.0	17.7	13.8	15.4	9.2	92.1

The official projections published earlier this year implied that the government finances would move into surplus net of debt interest – the primary balance – by 2014. On this basis the gross funding needs over the period 2011 to 2015 are estimated to be approximately €112.9 billion. Of this, €67.5 billion is available from EU/IMF funds out to 2013.²⁷ We also assume that €15.4 billion of liquid assets will be used to fund the debt out to 2015. With €5.4 billion raised on retail debt markets, this means that a total of €24.6 billion would have to be borrowed from sovereign debt markets²⁸ to cover funding needs for 2014 and 2015.

While this article suggests that, on present plans, the Irish debt burden will stabilise at a manageable level in 2013 and 2014, there will still remain considerable uncertainty about the future. While the EU/IMF “umbrella” provides guaranteed funding to 2013, as discussed above there will be a need to source significant funding for 2014. Once that hurdle is successfully overcome 2015 is then likely to see a smaller funding requirement. Thus an important objective for public policy is to plan how best to access capital markets to ensure this funding

²⁶ Includes interest on promissory notes.

²⁷ These numbers do not follow the planned release of funds from the EU/IMF; rather, they compute the funds that would be needed in each year from the EU/IMF funds based on the sum of the projected deficit, bond refinancing, bank recapitalisation and change in liquid assets. They further assume that the EU/IMF funds not needed to recapitalise the banks will still be made available to Ireland by the end of 2013.

²⁸ This figure is illustrative and ignores retail debt and short-term debt sources.

for 2014 well in advance of when it is needed. If that is accomplished then the funding needs for future years will prove much easier.

To ensure adequate funding for 2014 it would be desirable that the Irish government, through the NTMA, should succeed in returning to capital markets in the second half of 2012 or early 2013 at the latest. For a return to the markets to succeed it will require an end to the continuing sense of crisis in the Euro zone economy and clear evidence of progress in Ireland. This makes it essential that the government meets the minimum adjustment targets agreed with the EU/IMF for 2012 and 2013.

The deal agreed at the July 21st EU Council on interest rates for Ireland has made a significant difference to the position of the Irish economy. The deal makes it much more likely that Ireland will outperform its target of reducing government borrowing below 3 per cent of GDP by 2015. It also reduces the long-term debt burden. As its full implications become clear it should increase confidence in Ireland's ability to ride out the current crisis.²⁹

In preparing the ground for raising money through a sale of new bonds it may be desirable for the NTMA initially to seek to return to short-term capital markets in 2012. While this would not solve the funding needs of 2014, it would provide some reassurance that Ireland can access the capital markets. It would also ease the way for the State-guaranteed banks to return to the capital markets, reducing their dependence on ECB funding.

While not directly under government control, a return to reasonable growth in the Irish economy would also reassure capital markets. However, because of the ongoing fiscal adjustment, the forecast in the current *Quarterly Economic Commentary* sees relatively slow growth this year and next year. While the analysis in Bergin *et al.*, 2010, suggests that from 2013 onwards the recovery could be more vigorous, there is no certainty about this, especially given current uncertainty about global economic prospects. In addition, even if growth in 2013 were to prove robust it could be the end of that year before this would become apparent in the published statistics.

²⁹ The fall in Irish bond yields in August suggested an increase in confidence.

Probably the most effective way to ensure an orderly return to the markets would be if the rules for the new EU funding mechanism clearly allowed it to provide additional funding to countries that are progressing satisfactorily towards sustainability without imposing losses on existing bond holders. With such a provision in the rules, by making clear the sustainability of Ireland's recovery, it would almost guarantee market access. In turn this would avoid any need to provide the additional funding to Ireland.

CONCLUSIONS

This paper examines the debt dynamics facing the Irish State over the period 2011 to 2015. Using medium-term official forecasts on the growth rate and assuming that the official target primary surplus will be achieved, we examine the likely path of the debt out to 2015. We take account of the reduction in interest rates on EU borrowing agreed at the EU Council meeting on 21st July. However, we have made very conservative assumptions on the interest rate available after 2013. It could well be significantly lower than we have assumed, with consequential beneficial effects on debt sustainability. In addition, we have used the official projections for holdings of liquid assets which seem very high. If more of the liquid assets were used to fund the deficit over the period to 2014 this would reduce the interest bill. Finally we have included a major repayment to the EU in 2015. If the result of the Council's decision is to push major repayment of the EU debt beyond 2015 or 2016 it will greatly facilitate Ireland's return to financial markets by easing the funding needs in the 2014-16 period, making 2015 a particularly "calm" year for the NTMA.

On this basis our base case estimates suggest that the net debt to GDP ratio will peak at between 100 and 105 per cent of GDP in 2013 and that it could fall back to 98 per cent by 2015. The related gross debt to GDP ratio would peak in 2012 at between 110 and 115 per cent of GDP before falling back to between 105 and 110 per cent of GDP by 2015.

There are few easy options in tackling the current levels of debt facing the Irish government. The current programme of austerity, with an agreed package of cuts totalling €30 billion over the period 2008-2014, will, on these assumptions, be sufficient to all but eliminate the primary deficit by 2013. However, the very high current levels of debt mean that if growth were to prove less than assumed in the Department of Finance estimates, it would not be sufficient to stabilise the debt to GDP ratio before 2015. On the other hand, a more robust recovery would both

improve the primary balance more rapidly than in the base case and it would also ensure that the debt to GDP ratio would begin to fall at an earlier date.

In planning for recovery a critical additional strategic hurdle faces Irish policy makers - the need to return to the financial markets in 2013 to fund substantial debt repayments in 2014. If this can be satisfactorily accomplished then the position of the government will be facilitated by the prospective lower funding needs in 2015. To prepare for the return it will be important to implement fully the prospective adjustment in the public finances. If this is successfully accomplished and growth picks up in 2013 it will be clear that most of the new borrowing will be to fund debt repayments, not to pay for an unsustainable gap between public expenditure and revenue.

REFERENCES

Bergin, A., Conefrey, T., Kearney, I. and J. Fitz Gerald, 2010, "Recovery Scenarios for Ireland: An Update", in ESRI Quarterly Economic Commentary, Summer.

Bergin, A., FitzGerald, J., Kearney, I. and C. O'Sullivan, 2011, "The Irish Fiscal Crisis", *National Institute Economic Review*, No. 217, July 2011, p. R47-R59,

Department of Finance *Stability Programme Update, April 2011*
<http://www.finance.gov.ie/documents/publications/reports/2011/spuirelandapr2011.pdf>

European Commission *The Economic Adjustment Programme for Ireland, Spring 2011 Review*, April 2011.

IMF *Ireland Country Report 11/109*, (May 2011)