

# SPECIAL ARTICLE

## RECOVERY SCENARIOS FOR IRELAND: AN UPDATE<sup>1</sup>

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# SUMMARY

This paper explores a number of scenarios for future economic recovery and considers the implications of these scenarios for policy, in particular fiscal policy. The results for the main macroeconomic aggregates are summarised in Table A and Table B.

Under all scenarios it is clear that the economy has experienced a permanent major loss of output relative to what might have happened if more sensible policies had been pursued over the past decade and the full severity of the recession had been avoided. Output could end up 15 to 20 per cent below where it would have been without the crisis. Income per head is to-day back to where it was in 2000 and, even under our more optimistic scenario, it will be the middle of the coming decade before income per head will be back to its 2007 level.

If the Irish economy responds to world economic growth and changes in competitiveness in the same way as it has done over the last twenty years there could be a vigorous recovery over the period 2012 to 2015, as set out in our *High Growth* scenario. Such a recovery would gradually move the economy back towards full employment. However, even with the cuts of €7.5 billion planned for the period 2011-14, the government deficit could still be 2 per cent of GDP in 2015.

On the other hand, the Irish economy could record lower rates of growth over the medium-term for a number of reasons: for example, because the export sector had suffered long-term damage or because a continuing high interest premium seriously affected future investment or because structural unemployment remained high due to a failure of labour market policy. While under such a *Low Growth* scenario there would still be significant growth over the period 2012-15, it would not be enough to return the economy to full employment and, in 2015, the government deficit would still be around 4 per cent of GDP, even after the planned four years of cuts.

We estimate that the austerity measures undertaken in the 2009 and 2010 budgets have already achieved much of the heavy lifting in relation to reducing the structural deficit. However, the challenge of restoring order to the public finances has been aggravated by the direct fiscal cost of funding the losses in the banking system. The high risk premium facing Irish borrowers, including the government, also makes the cost of delaying further fiscal action much higher than it would have been in the past. It also raises the question as to whether a more rapid fiscal adjustment than currently planned would have a more beneficial outcome for the economy.

Because of the uncertainty about the future and because of the asymmetric nature of the costs of being too optimistic relative to those arising from excessive prudence, the current situation calls for the full implementation of the Government's programme of substantial further fiscal consolidation of €7.5 billion over the period 2011-14. Even under the

more optimistic *High Growth* scenario this would be the minimum needed to restore the public finances to a sustainable trajectory. If the economy were to evolve in line with our *Low Growth* scenario, further cutbacks would be essential to minimise the long-term damage to income and employment.

While past experience suggests that the labour market is sufficiently flexible to eventually return the economy to full employment, it is possible that labour market policy failures could instead leave Ireland with a legacy of unskilled long-term unemployment. To avoid such an eventuality, which could result in an outturn closer to our *Low Growth* scenario, it will be important that labour market policies, broadly defined, are developed to re-skill the unemployed for the kind of jobs which will be available over the coming decade and to minimise the danger of poverty traps of the type experienced in the 1980s occurring in the future.

The very high contingent liabilities that the State assumed as part of the banking 'bail-out' have greatly exacerbated the difficulties facing the Irish economy over the medium-term. However, without a banking system which is able to finance the economic recovery the very recovery itself will be put in doubt.

**Table A: High Growth Scenario, Major Aggregates**

|   | 2009            | 2010        | 2011-15                 | 2016-20     |
|---|-----------------|-------------|-------------------------|-------------|
| <b>Growth Rate</b>  | <b>Annual %</b> |             | <b>Average Annual %</b> |             |
| GDP   | -7.1            | -0.4        | 4.6                     | 3.0         |
| GNP   | -12.2           | 0.0         | 4.2                     | 3.1         |
| Non-agricultural Wage Rates                                       | -1.5            | -3.0        | 2.4                     | 4.2         |
| <b>Year End:</b>  | <b>2009</b>     | <b>2010</b> | <b>2015</b>             | <b>2020</b> |
| General Govt. Deficit, % GDP, excluding special payments to banks | 11.8            | 11.3        | 1.8                     | -0.1        |
| Net Government Debt, % of GDP                                     | 32.1            | 51.2        | 63.1                    | 51.2        |
| General Government Debt, % GDP                                    | 64.0            | 83.4        | 91.1                    | 76.0        |
| Balance of Payments, % GNP  | -3.2            | 0.9         | 1.7                     | 1.9         |
| Unemployment Rate, % of labour force                              | 11.9            | 14.0        | 4.8                     | 4.4         |

**Table B: Low Growth Scenario, Major Aggregates**

|   | 2009            | 2010        | 2011-15                 | 2016-20     |
|---|-----------------|-------------|-------------------------|-------------|
| <b>Growth Rate</b>  | <b>Annual %</b> |             | <b>Average Annual %</b> |             |
| GDP   | -7.1            | -0.4        | 3.2                     | 2.1         |
| GNP   | -12.2           | 0.0         | 3.0                     | 2.2         |
| Non-agricultural Wage Rates                                       | -1.5            | -3.0        | 2.2                     | 3.8         |
| <b>Year End:</b>  | <b>2009</b>     | <b>2010</b> | <b>2015</b>             | <b>2020</b> |
| General Govt. Deficit, % GDP, excluding special payments to banks | 11.8            | 11.3        | 4.1                     | 4.5         |
| Net Government Debt, % of GDP                                     | 32.1            | 51.2        | 73.6                    | 80.7        |
| General Government Debt, % GDP                                    | 64.0            | 83.4        | 102.5                   | 106.9       |
| Balance of Payments, % GNP  | -3.2            | 0.9         | -1.3                    | -4.0        |
| Unemployment Rate, % of labour force                              | 11.9            | 14.0        | 7.1                     | 7.1         |

# 1. INTRODUCTION

In late 2008, when the full impact of the financial crisis hit Ireland, it took some time to assess what was happening and what were the full implications of the disaster. Economic forecasts were changing frequently and the huge uncertainty about what was actually developing made policy-making exceptionally difficult. Because of a growing dependence of the public finances on transaction taxes on the property sector in recent years (Addison-Smyth and McQuinn, 2010), the severe economic shock had a catastrophic impact on the public finances. Having averaged a small surplus on the public finances over most of the period 2000-7, government borrowing shot up to 14 per cent of GDP in 2009 and for 2010 estimates suggest that the deficit will average around 19 per cent of GDP if special payments to the banks are included.<sup>2</sup>

In May 2009 we published a paper, *Recovery Scenarios for Ireland*, which considered possible paths to recovery for the Irish economy. This analysis suggested that the Irish economy would suffer serious permanent damage as a consequence of the recession. Nevertheless, Ireland could return to a period of quite rapid growth if the world economy itself entered the recovery phase. However, if the world recovery were postponed, this could have a further negative impact on the domestic economy.

We now return to this work to provide an update one year on. Our approach revises this earlier work in relation to three specific areas: (1) forecasts for the world economy, (2) the size of medium-term fiscal measures to be adopted over the period 2011-2014, and (3) the long-run cost of the bank bailout to the Irish economy. In forming a fiscal policy response, the uncertainty concerning the future must be taken into account. As a result, in this paper we consider two main medium-term scenarios for the economy rather than presenting a single forecast. The objective of this analysis is to assess what would be a “no regrets” approach to tackling the current crisis, especially in terms of fiscal policy.

In relation to the world economy, at the time of publishing in May 2009, recovery was only a gleam in economists’ eyes. Since then there have been increasing signs of a return, if not to business as usual in the world

<sup>2</sup> These figures include exceptional items – a €4 billion transfer of money to Anglo Irish Bank to cover its losses in 2009. Excluding that transfer the deficit was 11.8 per cent of GDP. When further exceptional bank bailout transfers to Anglo Irish Bank and Irish Nationwide Building Society in 2010 are excluded, the figure for the debt will be around 11.3 per cent of GDP. For the purpose of meeting compliance with the *Stability and Growth Pact* (SGP) target, it is the general government deficit excluding exceptional transfers to the banks which is the relevant measure. As much of this paper is concerned with assessing the stance of fiscal policy under different scenarios, the discussion in later sections of the paper focuses more on the measure of the general government deficit excluding these exceptional bank payments.

economy, at least to significant growth. While the current liquidity problems in the Euro area (affecting both governments and banks in particular countries) could significantly impact on progress over the coming year, the most recent comprehensive forecasts for the world and the EU economy (the IMF, OECD, the EU and the UK *National Institute for Economic and Social Research*, NIESR) see a return to growth in the coming years at a faster rate than that envisaged when we published in May of last year. Because of concerns about the current turmoil on financial markets we also consider the sensitivity of our results to a less benign outturn for the international economy.

In addition to the uncertainty about developments in the outside world and how it will affect the Irish economy, there is also significant uncertainty as to the long-term damage done directly to the economy by the recession and the related financial collapse. Many firms have closed as a result of the recession and will not be around to benefit from a recovery. The increased risk premium on borrowing is affecting the cost of capital and, hence, investment. Also the substantial burden arising from the dramatic increase in government debt will affect the economy for the foreseeable future. The cumulative impact of these shocks will permanently reduce the level of potential output in the economy.

As a result of the uncertainty about the future, in this paper we consider two medium-term scenarios for the Irish economy – a *High Growth* scenario and a *Low Growth* scenario. These two scenarios differ significantly as to the future growth in potential output in the economy. The *High Growth* scenario assumes that, in response to renewed growth in the world economy and an improvement in competitiveness, over the next five years individual sectors of the Irish economy will respond in the same way as they have done over the last twenty years to such stimuli and that the labour market will also prove as flexible as in the recent past. While we have derived the *Low Growth* scenario by assuming a much lower responsiveness of Irish output with respect to world output than in the past, the resulting slower growth in potential output could also be produced by a range of other factors, such as a higher long-term cost of capital, a poorly functioning financial system, or problems in the labour market resulting in structural unemployment. What is important is that the two scenarios reflect the uncertainty about the future and that they can be used to test the robustness of any policy response in the face of such uncertainty. It should also be recognised that both a more favourable outcome (than in the *High Growth* scenario) as well as a less favourable outcome (than in the *Low Growth* scenario) are possible.

In relation to fiscal policy, in the two main scenarios we implement in full the medium-term fiscal consolidation package, equivalent to €7½ billion, which was announced by the Irish government in December 2009. In the case of the banking bailout, we include in the government deficit and debt figures the effects of an estimated deadweight loss of €25 billion as a result of the losses incurred on Anglo-Irish Bank and in the Irish Nationwide Building Society.

Section 2 summarises the assumptions underlying the scenarios presented in this paper. In Section 2.1 we discuss the recent experience of the Irish economy and the factors that are likely to drive output in the medium term. In Section 2.2 we outline the forecasts for the world economy which are used to develop both the *High Growth* and the *Low*

*Growth* scenarios. In Section 2.3 we set out our assumptions on the public finances and the cost of borrowing. In Section 3 we then spell out the two scenarios for the economy. The first of these scenarios is based on a growth path which sees the labour market clearing over the medium-term and the economy returning to its potential growth rate. The second scenario, the *Low Growth* scenario, considers an alternative growth path, which assumes that the growth potential of the economy, for whatever reason, has suffered even greater damage than in the *High Growth* scenario as a result of the crisis with one of the effects being an augmented level of unemployment. In Section 3 we also consider the sensitivity of these results to alternative assumptions on future world growth and alternative assumptions on the fiscal response by the Irish authorities. Using the results from these simulations we present estimates of the size of the structural deficit under alternative growth paths in Section 4. Section 5 presents our conclusions.

# 2. UNDERLYING ASSUMPTIONS

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## 2.1 Modelling the Behaviour of the Irish Economy

In our publication last year (Bergin *et al.*, 2009), we discussed the origins of the current crisis. Over the course of the last decade the Irish economy had steadily lost competitiveness. This loss of competitiveness was fuelled by a growing bubble in the housing market and the wider domestic property market. With expenditure on new housing reaching a peak of over 15 per cent of GNP by 2006, the building and construction sector gradually crowded out the tradable sector of the economy. The huge increase in output in the building and construction sector required a major reallocation of resources within the economy. This was achieved by raising the rate of inflation in domestic costs, especially that of labour. This reduced the demand for labour and other factors of production in the tradable or export sector, releasing resources demanded by the non-tradable (building) sector. In turn, output in the tradable sector was reduced below the level it would otherwise have achieved.

The consequence for the balance of payments of this loss in tradable output (and hence exports) was compounded by the huge demand for imports needed to sustain the boom in domestic demand. The result was a rapid rise in the balance of payments deficit. From a surplus in 2003, the balance of payments was in deficit by almost 6 per cent of GNP by 2006. While the public finances continued in surplus, the growing balance of payments deficit was the clearest indicator that the economy was on an unsustainable trajectory.

The damage done to the Irish economy by the loss of competitiveness, consequent on the property market bubble, has been greatly aggravated by the related collapse in the financial sector. The failure to adequately regulate that sector (Honohan, 2010) facilitated the housing bubble. However, the ensuing collapse of the Irish financial sector has had much wider economic implications. As discussed later, the direct fiscal cost of the losses in the banking sector is very substantial. While the loss of competitiveness may, in time, be reversible, this wider damage will continue to affect the level of potential output for the next decade.

Much of this damage to the economy, and the consequential dramatic rise in unemployment, was avoidable. If fiscal policy had been used to reduce demand rather than to exacerbate the inflationary pressures it could have defused the property bubble well before it became dangerous. This would have required budgetary policy to have targeted an increasing surplus over the period of at least 2003-2007. In addition, instead of using taxation policy to stimulate investment in building and construction it should have been used specifically to discourage such investment (Conefrey

and Fitz Gerald, 2010). The inappropriate nature of fiscal policy over this period was signalled as far back as 2001 (Fitz Gerald, 2001) and was repeated subsequently in a range of publications (see Fitz Gerald, 2009).

Now that the crisis has happened, with the very serious consequences outlined above, a key factor in repairing some of the damage is for competitiveness to improve, so that the Irish tradable sector will gain an increasing share of the recovering world market. To a significant extent this will be delivered by the operation of the normal adjustment mechanisms in the economy. However, public policy can significantly speed this adjustment by tackling the lack of competition in key parts of the non-tradable sector.

The restoration of competitiveness will result in a gradual increase in output in exporting industries, an increase in profitability in the economy, and the movement of the balance of payments into surplus. This will eventually provide the platform for a recovery in domestic demand.

However, output in the tradable sector tends not to be very employment intensive. It is only when demand for the output of the non-tradable sector recovers that substantial employment growth will return. At present domestic demand is very weak. Consumers are depressed and many of them are, naturally, worried about their future employment status and future real disposable income. The result is a high rate of personal savings and a low level of consumption. The consequence of the housing bubble bursting is that the demand for new houses is at an all-time low and there are many vacant dwellings.

When the economy eventually turns up as a result of increased external demand, confidence will begin to return to the domestic market. Employment will begin to rise rather than to fall. Then consumers will be prepared to reduce their current high rate of precautionary saving. In addition, as the stock of vacant dwellings in desirable areas declines (through new household formation) the decline in rents will eventually be halted and reversed. When that happens a return to a moderate rate of investment in building and construction, including housing, will be possible. (See Bergin *et al.*, 2009, for an analysis of the factors affecting the demand for housing over the period to 2020.)

Once domestic demand returns to growth, there is likely to be a much more vigorous increase in employment. This is because, as noted above, the major elements of domestic demand are more employment intensive than the export sector of the economy. In particular, a gradual return to a more “normal” level of activity in building and construction (albeit well below that seen over the last decade) will have a significant impact on numbers unemployed, especially on those with more limited levels of educational attainment.

As outlined here, a key element in the recovery process will be the restoration of competitiveness through a real depreciation of the currency. Within a monetary union this can only be achieved through a fall in wage rates and other domestic costs relative to those in Ireland’s competitors. With a very low rate of inflation in Ireland’s Euro zone competitors this requires a fall in nominal wages or a very protracted adjustment period. Bergin *et al.*, 2009, suggested that there was some uncertainty whether such a fall in nominal wage rates would actually occur as it has not been



experienced in the recent past in Ireland or other EU countries. However, over the past year a 15 per cent fall in wage rates in the public sector has been implemented and there is growing evidence of falling nominal wage rates across a proportion of the private sector.<sup>3</sup> Our model of the labour market suggests that the current problems in the economy will result in a cumulative fall in nominal wage rates of 6 per cent over the period 2009-11 (Barrett *et al.*, 2010b). In addition, a wide range of other costs, such as rent, which affect the tradable sector, are showing a decline in nominal terms.

In this paper we use the *HERMES* macroeconomic model of the Irish economy to examine the two scenarios for the medium term. *HERMES* treats the output of the tradable sector as a function of world output (especially in our main trading partners), technical progress, and the overall cost of production in Ireland relative to that in its main competitors (see Appendix 1 for details). Output in the non-tradable sector is modelled as a function of domestic demand, the cost of capital, and government demand. Domestic demand is also affected by consumers' expectations, as reflected in the personal savings rate.

A key feature of this model is its treatment of the labour market. In particular, the supply of labour through migration is highly elastic (Fitz Gerald, *et al.*, 2008). The labour market in *HERMES* is modelled as clearing in the long term – wages and labour supply adjust over time to ensure full employment in the long term (Bergin, *et al.*, 2010b). While this model has worked well in describing labour market experience over the last fifteen years, it is possible that policy failures could result in a permanent increase in the unemployment rate. For example, a combination of failures, e.g., to match the income support measures to labour market developments, to match training to the needs of the unemployed, and to implement appropriate activation policies, could interfere with the normal operation of the labour market, resulting in a permanently elevated level of structural unemployment.

An important factor, not incorporated directly into the current version of the *HERMES* model, is the unquantifiable effect on “confidence” of changes in key aggregates. For example, the rapid deterioration in the government's financial position had an impact on confidence, affecting interest rate premia paid by the State to finance its debt. Because of a paucity of data points it is not possible to directly model the relationship between this “risk premium” and developments in government borrowing or the national debt. Instead the approach taken has been to provide a calibration of this relationship and the results from the scenarios using this calibration, discussed below, must be considered in this light. For example, because the structural budget deficit is higher in the *Low Growth* scenario than in the *High Growth* scenario the risk premium is also assumed to be higher. We discuss in more detail the assumptions on the risk premia in the two main scenarios in Section 2.3.

<sup>3</sup> Here we treat the public sector pension levy, introduced in February 2009, as an effective reduction in nominal wage rates in the public sector.

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## 2.2 International Assumptions

The forecasts for the world economy underpinning the *High Growth* and *Low Growth* scenarios considered in this paper come from the *National Institute Economic Review* of April 2010.<sup>4</sup> Following a decline in world output of around 1 per cent in 2009, the global economy is emerging from recession but the pace of recovery is more muted within the Euro Area bloc and the UK than in the US, where the rebound in activity has been quite strong. Countries outside of the OECD, especially China, but also India, Taiwan, Hong Kong and Korea have emerged from the global crisis relatively unscathed. Most of the world's economies are forecast to grow at rates close to potential over the medium to long term. China and India are forecast to continue growing rapidly over the medium-term, accounting for an increasing share of foreign trade and global growth. Table 2.1 summarises the growth prospects for the international economy over the medium-term.<sup>5</sup>

**Table 2.1: Real GDP Growth**

|           | 2009 | 2010 | 2011 | 2011-2015 | 2016-2020 |
|-----------|------|------|------|-----------|-----------|
| USA       | -2.4 | 2.9  | 2.7  | 2.8       | 2.3       |
| UK        | -4.9 | 1.0  | 2.0  | 2.8       | 2.7       |
| Euro Area | -4.0 | 1.2  | 1.8  | 2.2       | 2.5       |
| World     | -1.0 | 3.9  | 3.8  | 4.1       | 3.8       |

*Source:* NIESR.

The risks to the international forecast tend to be on the downside. Concerns about sovereign liquidity and the risk of a debt crisis remain. The steep increase in public debt in many OECD economies may hamper medium-term growth prospects if risk premia on government debt (that are evident in many countries) remain high or if these premia spread to the private sector, raising the user cost of capital. The issue of country risk particularly affects the Italian, Spanish, Irish, Greek and Portuguese economies within the Euro Area – together these countries account for around one-third of Euro Area GDP. As a result of their size, slower growth in these economies could impact on the wider Euro Area in a negative fashion. Because of the weakness of the financial system generally, there may also be negative consequences in these economies, not just from a higher interest rate on government debt, but also from a higher interest rate for all domestic activity. There may also be knock on consequences for the financial systems of the rest of the EU.

In relation to fiscal policy, some countries, like Ireland, have no choice but to curb their excessive borrowing immediately. For other economies, where fiscal sustainability is not in question and where the risk of default is essentially zero, the pace of fiscal consolidation should be sufficient to ensure continued credibility over the medium-term, while remaining supportive of the recovery in economic growth. Many commentators have argued that premature fiscal tightening is as big a danger as delayed

<sup>4</sup> The forecasts contained in the April 2010 *National Institute Economic Review* for Ireland's main trading partners are broadly comparable to those in the April 2010 IMF *World Economic Outlook*, but the NIESR forecast covers a longer period.

<sup>5</sup> Section 2.3 outlines our fiscal assumptions and the assumptions for the risk premium on Irish government debt. The risk premium on Irish debt is measured relative to the interest rate on German debt.

tightening, particularly given the fragile nature of the recovery thus far. At the release of the IMF World Economic Outlook Update, Olivier Blanchard recently stressed that, while fiscal adjustment should start soon, a sharp cut in deficits this year would be counterproductive. The focus should be on developing a credible plan to stabilise the debt to GDP ratio over the medium term, with the goal of decreasing it substantially over the longer term. As an export-led economy, the decisions taken by these countries, will have a major impact on our pace of recovery.

Given the risks to the international economy, in Section 3.4 we consider the international and domestic impacts of an International Risk Premium Shock, where the risk premium on government debt is assumed to be 2 percentage points higher from 2011 in the Euro Area, UK and US.

## 2.3 Fiscal Assumptions

In the scenarios outlined in this paper, we assume that the government implements a series of austerity budgets in the period 2011-2014 as set out in the *Stability Programme Update* December 2009 (SPU) published in the Budget 2010 booklet. These budgets are equivalent to a cumulative *ex ante*<sup>6</sup> retrenchment of €7½ billion over a four year period. The SPU provides no detail on the breakdown of the numbers across revenue, current and capital expenditure programmes<sup>7</sup>. In order to implement these cuts we have assumed a *stylised* package of fiscal measures spread over the years 2011-14. It is assumed that in 2011 the government will reduce the borrowing requirement by close to the €3 billion announced at the time of the 2010 budget. For 2012 we have assumed a further package of fiscal measures of around €1.8 billion. Additional measures to save a total of €1.4 billion are assumed to be implemented in 2013, and €1.2 billion in 2014.

**Table 2.2: Assumed Discretionary Fiscal Policy Action 2011-14: Changes in Taxes and Expenditure, €billions**

|  | 2011 | 2012 | 2013 | 2014 | Total<br>2011-<br>2014 |
|--|------|------|------|------|------------------------|
| Revenues                                     | 1    | 0.6  | 0.8  | 0.2  | 2.5                    |
| Property tax etc.                            | 0.4  | 0.4  | 0.3  |      | 1.1                    |
| Carbon Tax                                   | 0.2  |      |      |      | 0.2                    |
| Tax on income                                | 0.4  |      |      |      | 0.4                    |
| Water charges                                |      |      | 0.3  | 0.2  | 0.5                    |
| Carbon auctions <sup>8</sup>                 |      | 0.2  | 0.2  |      | 0.4                    |
| Capital expenditure                          | 1    | 0.4  |      |      | 1.4                    |
| Current expenditure                          | 1    | 0.9  | 0.7  | 1    | 3.6                    |
| Current expenditure on<br>goods and services | 1    | 0.9  | 0.7  | 0.7  | 3.3                    |
| Transfers (Pension age)                      |      |      |      | 0.3  | 0.3                    |
| Total  | 3    | 1.8  | 1.4  | 1.2  | 7.4                    |

<sup>6</sup> Because of the deflationary implications of such cuts the level of economic activity will be reduced so that the *ex post* reduction in borrowing will be somewhat lower than the €7.5 billion. Using the *HERMES* model it is possible to estimate the *ex post* effect of different budgetary measures.

<sup>7</sup> With the exception of the 2011 budget where €1 billion in cuts on the capital programme are included in the figures.

<sup>8</sup> This figure includes a temporary windfall levy on free carbon credits in 2012.

It should be stressed that the composition of the fiscal package assumed here is not normative. In the absence of a fully spelt out government programme we have included a range of measures which might be considered as being consistent with the broad parameters of government policy and with the taxation measures recommended by the Commission on Taxation.<sup>9</sup> These tax and expenditure measures should not be seen as a “desirable” or part of an “optimal” package.<sup>10</sup>

Details of the stylised budgetary changes are set out in Table 2.2. This Table shows the increases in taxation and cuts in expenditure assigned to individual years. In each case it is assumed that these higher rates of taxation or cuts in expenditure are maintained in subsequent years and the cumulative total increase in taxation or reduction in expenditure is shown in the final column. As shown at the bottom of the Table, the cumulative *ex ante* cut in the deficit anticipated from this package is €7.4 billion by the end of 2014, consistent with the proposals in the SPU.

The cuts assumed in capital expenditure would still leave government capital expenditure, excluding special payments to cover losses in the banking system, at around 4.5 per cent of GNP in 2015. The cuts in current expenditure on goods and services would involve a cut in public service employment of approximately 40,000 (largely achieved through natural wastage) bringing total public service employment back to 2006 levels by the end of the period. No further cuts in public service wage rates are assumed for 2011 and subsequent years.

The cut in expenditure on pensions in 2014 arises from the government decision to extend the retirement age for public old age pensions from 65 to 66. This saving in expenditure takes no account of the additional savings that might be expected through higher labour force participation by this cohort. By working a year longer the tax revenue accruing to the state would also be significant, as would the effect on output. For example, Barrell *et al.* (2010) have estimated the effects of an extension in the pension age in the UK in 2015; their estimates would suggest a bigger long-term economic impact than we have assumed here.

We have assumed that over the course of the years 2011 through to 2013 additional tax revenue of around €1.1 billion would be raised from a tax on property of a person’s primary residence. In addition, some limited changes in taxes on income in 2011 would raise just under €400 million and an increase in the carbon tax in 2011 would raise additional revenue of €160 million. We further assume the introduction of water charges in 2013 and 2014, delivering an additional €500 million in revenue on an annual basis. And finally we include an estimate of €200 million in revenue from the auctioning of carbon credits beginning in 2013.

<sup>9</sup> We recognise that some of these measures (e.g. property tax) are no longer consistent with short-term government policy as recently announced.

<sup>10</sup> Bergin *et al.* (2010a) examines the macroeconomic impact of changes to various fiscal policy instruments. To the extent that the incidence of a tax lies with households and is not passed on, the output effects are minimised. In the case where the tax change results in changes in behaviour, such as higher wage rates, the costs are increased. Thus different packages could have somewhat different implications for future growth.

In the case of the costs of the banking crisis we have assumed that the final cost to the state of the losses in Anglo-Irish Bank and the Irish Nationwide Building Society is €25 billion, as suggested by the Minister for Finance in March 2010. This loss will be covered by exceptional payments to these institutions and these payments are excluded from the numbers on fiscal policy action in Table 2.2. However, for accounting reasons, they are included as exceptional items in the General Government Balance (GGB).

Specifically we have taken account of a payment of €4 billion made to Anglo-Irish Bank in 2009 in respect of the loss and a further €11 billion paid in 2010 in the form of a promissory note.<sup>11</sup> This promissory note is to be gradually redeemed for cash over the forecast period (other government borrowing would be substituted for it). We have also assumed that this promissory note will attract a market interest rate, with the resulting interest payments being added to national debt interest.

The additional €10 billion to cover the rest of the eventual expected loss is assumed to be paid to these institutions over the coming decade, partly as interest on the promissory note and partly as an exceptional additional payment of €0.8 billion a year. This latter payment is included in the figures for the General Government Balance.<sup>12</sup> As a result, the General Government Balance shown in this paper for the years 2010-2020 must be adjusted to exclude these exceptional payments to arrive at the deficit covered by the SGP. (These “exceptional” payments are not considered part of the deficit target set by the government for 2014, though the interest payable on them is considered part of that deficit.)

In the case of the recapitalisation of the banks, this is assumed to be part of the investment of the National Pension Reserve Fund (NPRF). It is also assumed that the state receives a normal return on this investment when it comes to sell off the shares in the performing banks. Thus it is assumed that there is no net effect on government borrowing or the national debt.

Finally, in the case of NAMA, to simplify the exposition, we have assumed that all the assets (loans) are realised in 2020 and all NAMA’s liabilities are paid off with the proceeds. Thus we are assuming no net profit or loss for NAMA over its lifetime and consequently that there is no net effect on the national debt. However, the NAMA bonds are clearly a contingent liability of the State.<sup>13</sup> Because of the large size of the NAMA balance sheet and the fact that its liabilities are guaranteed by the state, the inevitable uncertainty about the eventual return (or cost) of these investments is affecting the cost of borrowing by both the Irish government and Irish banks. As a result, while technically not part of the national debt, for some purposes it is useful to consider the pattern of the national debt with the NAMA liabilities included.

<sup>11</sup> Since completing the numbers this figure has been revised upwards to €13 billion. However, this involves bringing forward some of the expenditure we had assumed for later years. As a result, it does not significantly alter our analysis.

<sup>12</sup> Even if the timing of this payment proved rather different than we have assumed it would not greatly alter the numbers for the underlying structural deficit.

<sup>13</sup> As discussed elsewhere, we assume that in the long run there is no net cost to the state from NAMA.

The perceived higher level of risk pertaining to lending to the Irish government relative to Germany has resulted in a very substantial premium payable on such borrowing. The risk premium assumed for Irish borrowing is set out in Table 2.3, along with the forecast German long-term bond rate and the resulting forecast for the Irish bond rate. In the *High Growth* scenario the profile assumes that the government takes the planned fiscal action for 2011 with a further commitment to the necessary action for 2012 and subsequent years. It also assumes that by the end of 2010 the liabilities and assets of the Irish banking system have become much more transparent. The bulk of the non-performing property loans will have been taken off the banks' books at an appropriate "market" valuation. The banks will have been recapitalised and the likely magnitude of the losses in Anglo-Irish and Irish Nationwide will be clearer, with the bulk of the cost having been already transferred to the state.

**Table 2.3: Risk Premium Relative to Germany Assumed for Irish Borrowing**

|      | German        | Irish <i>High Growth</i> |               | Irish <i>Low Growth</i> |               |
|------|---------------|--------------------------|---------------|-------------------------|---------------|
|      | Interest Rate | Risk Premium             | Interest Rate | Risk Premium            | Interest Rate |
| 2008 | 4.0           | 0.6                      | 4.6           | 0.6                     | 4.6           |
| 2009 | 3.3           | 1.9                      | 5.2           | 1.9                     | 5.2           |
| 2010 | 3.2           | 2.0                      | 5.2           | 2.0                     | 5.2           |
| 2011 | 3.6           | 1.5                      | 5.1           | 2.0                     | 5.6           |
| 2012 | 3.9           | 1.3                      | 5.2           | 1.8                     | 5.7           |
| 2013 | 4.2           | 1.0                      | 5.2           | 1.5                     | 5.7           |
| 2014 | 4.3           | 1.0                      | 5.3           | 1.5                     | 5.8           |
| 2015 | 4.4           | 0.8                      | 5.2           | 1.3                     | 5.7           |
| 2016 | 4.5           | 0.5                      | 5.0           | 1.0                     | 5.5           |
| 2017 | 4.6           | 0.5                      | 5.1           | 1.0                     | 5.6           |
| 2018 | 4.6           | 0.5                      | 5.1           | 1.0                     | 5.6           |
| 2019 | 4.6           | 0.5                      | 5.1           | 1.0                     | 5.6           |
| 2020 | 4.6           | 0.5                      | 5.1           | 1.0                     | 5.6           |

In the case of the *Low Growth* scenario, as discussed below, the planned fiscal action would not be enough to eliminate the structural deficit by 2015. As a result, lending to the Irish government would be perceived as being more risky than under the more benign *High Growth* scenario and this is assumed to be reflected in a permanent increase in the risk premium of half a percentage point.

# 3. MEDIUM-TERM SCENARIOS

Due to the uncertainty surrounding the future behaviour and growth path of the Irish economy we explore two main scenarios over the period 2010-2015. We refer to these as the *High Growth* Scenario and the *Low Growth* Scenario.

The *High Growth* scenario assumes that the financial system is rehabilitated and restructured so that it responds to the recovery in the economy in 2011 by providing adequate credit. The analysis in Bergin, Conefrey, Fitz Gerald and Kearney (2010a) highlights the sensitivity of Irish output with respect to changes in world demand. The *High Growth* scenario assumes that the structural behaviour of the Irish economy is not fundamentally altered as a result of the current crisis. In particular, the scenario is based on the assumption that the key drivers of output in the tradable sector of the economy do not change as a result of the current recession.

The *High Growth* scenario is a relatively benign scenario and, because of the uncertainty about the future growth path of the Irish economy, it is prudent to consider an alternative scenario in which the economy underperforms over the medium-term. There are many reasons why the economy might perform worse than in the *High Growth* scenario. For example, if the world recovery is increasingly driven by economies that Ireland does not have traditional trade links with, this could hamper future domestic export growth. Performance could also be negatively affected if the Irish tradable sector had experienced permanent damage as a result of the crisis or if there was a permanent major rise in the cost of capital facing the Irish economy. Yet another potential impediment to the economy realising its growth potential would be the failure of labour market policy to adapt to meet the new needs of the economy (Grubb, 2009). In this paper, we generate a *Low Growth* scenario by assuming that the Irish economy does not respond in a similar manner, as it has in the past, to an upturn in world demand.

The *HERMES* macroeconomic model of the Irish economy has been used to develop these scenarios. The behaviour of this model is discussed in Bergin, Conefrey, Fitz Gerald and Kearney, 2010a. The two scenarios

are calibrated to the Spring *Quarterly Economic Commentary* (QEC) numbers for 2010 and 2011, published in April 2010.<sup>14</sup>

In both scenarios we assume that the world economy recovers in 2010, as described in Section 2.2, and that the government implements a package of fiscal cuts equivalent to €7½ billion over the period 2011 to 2014, as outlined in Section 2.3. We also assume that Irish risk premium is 0.5 percentage points higher in the *Low Growth* scenario than in the *High Growth* scenario. In Section 4, we use these two scenarios to examine various recovery strategies from the current public finance problems, assessing the extent to which the deficit in the public finances is structural.

Some of the general conclusions from these two scenarios are considered in Section 3.3. We also consider some sensitivity analysis around the *High Growth* scenario. (The results would be very similar if we used the *Low Growth* scenario as a basis.) Given the very high degree of uncertainty surrounding events in financial markets so far this year, Section 3.4 describes the effect of an increase in the risk premium in the international economy on the world economic forecasts. It then uses these *International Risk Premium Shock* figures to explore the impact that this would have on the path to recovery in the *High Growth* scenario. Finally, in Section 3.5 we describe the impact on the *High Growth* scenario if the government had adopted a neutral fiscal policy since the advent of the recession in 2008 – postponing the necessary fiscal adjustment for a number of years. Such a postponement would, *inter alia*, have involved a significantly higher risk premium for all borrowing, public and private.

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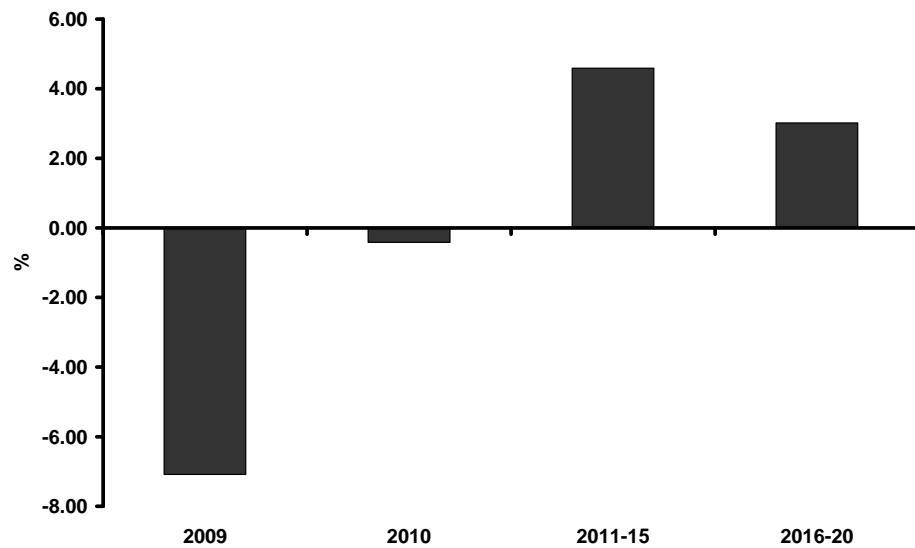
### 3.1 *High Growth* Scenario

This scenario assumes that the Irish economy's relationship with the outside world is maintained after the current crisis, assuming that the behaviour of the Irish economy over the last twenty years provides a valid basis on which to formulate forecasts of the likely future path of the economy. As discussed in the recently published *Quarterly Economic Commentary*, following a major contraction in economic activity, we expect economic growth to resume from 2011 onwards (Figure 1). Our forecasts for economic growth out to 2015 in this scenario are lower than those contained in the *World Recovery* scenario of *Recovery Scenarios for Ireland* publication of May 2009. The reasons for the differences between our latest projections and those of May 2009 are discussed in Box A. Initially the recovery will be driven by exports. The combined effect of a return to growth in Ireland's external markets and the significant improvement in competitiveness which is under way should see Irish exporters gaining an increased share of a growing export market.

<sup>14</sup> Some of the numbers for 2010 differ from those in the latest QEC published in July. However, even if the latest QEC had been used as a basis for this exercise it would not have significantly affected the results.



**Figure 1: GDP, % Change**



The strong recovery in the Irish economy after 2011 envisaged in this scenario can be explained by two factors. First, the openness of the Irish economy, with over 80 per cent of manufacturing output being exported, means that an increase in world demand has a substantial effect on Irish output. Our estimates suggest that an increase in world output of 1 per cent in the long run increases the demand for Irish output by around 1.3 per cent (Bergin, Conefrey, Fitz Gerald and Kearney, 2010a). Growth in world trade directly affects the Irish economy through the manufacturing, business and financial services and tourism sectors. A growing share of the output of the business and financial services sector is internationally traded which substantially increases the effect of growth in world demand on the Irish economy. This high degree of responsiveness to changes in world activity contributed to the depth and severity of the downturn in the Irish economy since 2008. In the same way this high sensitivity to world activity gives rise to the strong recovery in the Irish economy from 2011 in this scenario.

The second factor, which explains the growth in the Irish economy after 2011 in this scenario, is the expected improvement in competitiveness in Ireland relative to the rest of the world. Ireland's competitiveness relative to the rest of the world drives the output of the tradable sector in the domestic economy. Our estimates suggest that, if wage rates and input prices were one percentage point lower relative to our main competitor economies GNP would be around 0.2 per cent higher in the medium term (Bergin, Conefrey, Fitz Gerald and Kearney, 2010a). The combination of a fall in the cost of living in Ireland (including the cost of accommodation) and the increase in unemployment associated with the contraction in the economy over the period 2008-2010 is expected to lead to wage moderation in the private sector, as discussed in the latest *QEC*.

As discussed in the latest *QEC* for 2010, we expect a further small contraction in GNP this year followed by a modest recovery in output in 2011. Assuming that the elasticity of Irish output with respect to output in the outside world is maintained as it was in the past, and also assuming that competitiveness improves as the model would suggest, the recovery in the

international economy is expected to give rise to a strong recovery in output in the manufacturing and market services sectors over the period 2011-2015, as illustrated in Table 3.1.

**Table 3.1: High Growth Scenario, Major Aggregates**

|                             | 2009            | 2010 | 2011-15                 | 2016-20 |
|-----------------------------|-----------------|------|-------------------------|---------|
| <b>Growth Rate</b>          | <b>Annual %</b> |      | <b>Average Annual %</b> |         |
| GDP                         | -7.1            | -0.4 | 4.6                     | 3.0     |
| GNP                         | -12.2           | 0.0  | 4.2                     | 3.1     |
| Total Employment            | -8.6            | -4.2 | 1.9                     | 1.1     |
| Output, industry            | -8.6            | -3.7 | 8.3                     | 3.4     |
| Output, market services     | -6.3            | 2.1  | 4.4                     | 3.2     |
| Consumer Prices             | -3.4            | -1.9 | 2.0                     | 2.7     |
| Non-agricultural Wage Rates | -1.5            | -3.0 | 2.4                     | 4.2     |

| <b>Year End:</b>  | 2009 | 2010  | 2015  | 2020  |
|---|------|-------|-------|-------|
| Personal Savings Ratio  | 11.2 | 10.7  | 8.3   | 8.5   |
| General Govt. Deficit, % GDP, including special payments to banks <sup>15</sup> | 14.3 | 18.2  | 2.4   | 0.5   |
| General Govt. Deficit, % GDP, excluding special payments to banks               | 11.8 | 11.3  | 1.8   | -0.1  |
| General Government Deficit, including special payments to banks % GNP           | 17.8 | 22.7  | 3.1   | 0.7   |
| Net Government Debt, % of GDP   | 32.1 | 51.2  | 63.1  | 51.2  |
| General Government Debt, % GDP  | 64.0 | 83.4  | 91.1  | 76.0  |
| General Government Debt, % GNP  | 79.9 | 104.1 | 116.5 | 96.8  |
| Balance of Payments, % GNP  | -3.2 | 0.9   | 1.7   | 1.9   |
| Unemployment Rate, % of labour force  | 11.9 | 14.0  | 4.8   | 4.4   |
| Net Emigration, 000s  | 7.8  | 60.0  | -1.1  | -17.4 |
| Participation Rate, PES Basis   | 70.4 | 69.7  | 69.6  | 70.6  |
| Investment / GNP ratio  | 19.3 | 15.2  | 19.8  | 20.4  |

Because of fears for their future, many households are saving at an exceptional rate. In addition, investment in housing by the household sector has been dramatically reduced. However, once an export driven recovery becomes established in 2012 it is likely that the savings rate will fall gradually towards its long run equilibrium level. In addition, once the excess of dwellings in the major urban areas are occupied through sale or rental in 2012 or 2013, rents will begin to rise and investment in housing will show a limited recovery. This delayed recovery in domestic demand will be particularly important for employment growth in later years.

Similarly, in the company sector, businesses are currently concentrating on reducing their balance sheets with the result that investment has fallen

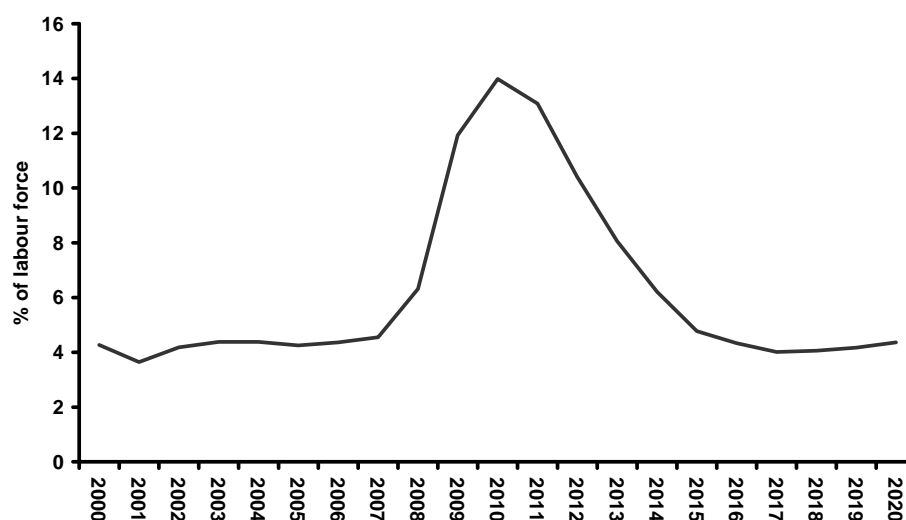
<sup>15</sup> As discussed in Section 2.3, to facilitate comparison with the Stability Programme Update figures we exclude the exceptional items, specifically the once off payments to the banks.

to a low level. Once a recovery becomes well established and company profitability is re-established, a recovery in private sector non-housing investment is also anticipated.

As shown in Table 3.1, the increase in output from the tradable sectors of the economy is expected to drive annual average GNP growth of 4.2 per cent over the period 2011 to 2015. Beyond 2015, growth is expected to moderate to an annual average rate of 3 per cent, close to the economy's long run potential rate of growth (see Bergin *et al.*, 2009 and Bergin *et al.*, 2010b, for details).

The sharp contraction in the economy over the period 2008 to 2010 has resulted in a dramatic rise in the unemployment rate, as illustrated in Figure 2. As a result of lower levels of activity in the building, manufacturing and market services sectors, total employment fell by almost 9 per cent in 2009 and it is expected to contract by a further 3.7 per cent in 2010. The unemployment rate rose to almost 12 per cent in 2009 and is projected to stabilise at just over 13 per cent in 2010 and 2011. In line with the anticipated recovery in economic activity from 2011 onwards in this scenario, employment growth is expected to resume and average 2 per cent over the period 2011 to 2015. As a result, the unemployment rate is expected to fall to just under 5 per cent by 2015, a rate consistent with full employment.

**Figure 2: Unemployment Rate (ILO), Per Cent of the Labour Force**



The fall in the unemployment rate to below 5 per cent by 2015 would reflect the rapid adjustment of the labour market which occurs in this scenario. This rapid clearing of the labour market contrasts with the experience of the Finnish economy in the 1990s where the unemployment rate still stood at 11 per cent in 1999, five years after economic growth had resumed. The difference reflects the observed flexibility of the Irish labour market. However, to ensure that the labour market clears and that those who are long-term unemployed find jobs in the recovery phase a more active labour market policy will be required (OECD, 2010 and O'Connell, 2009).

Throughout these simulations migration is assumed to be driven by movements in after-tax wage rates and the unemployment rate in Ireland relative to the UK. As a result, the rise in unemployment would lead to substantial outward migration in this scenario. There would be cumulative net emigration of over 160,000 over the period 2009 to 2013, this is crucial to the rapid decline in the unemployment rate in this scenario. If migration were not to resume to this extent, this would lead to a higher unemployment rate and a slower decline in the unemployment rate in the recovery period than we have assumed here. This adjustment to the labour force through net emigration is likely to be completed by the end of 2014. In later years of the decade some return to limited net immigration might be expected.

As discussed, households have reacted to the current economic crisis by increasing their personal savings rate. As shown in Table 3.1, the savings rate reached 11 per cent in 2009, significantly above its long run average of around 8 per cent. As the economy recovers, the savings rate is expected to fall back gradually to reach just over 8 per cent in 2015. The fall in the savings ratio and the associated rise in consumption in this scenario add further impetus to the recovery in the economy after 2011.

As shown in Bergin *et al.* (2010a), for every 1 percentage point reduction in government borrowing through discretionary fiscal action the balance of payments current account deficit (surplus) also tends to fall (rise) by around 1 percentage point. The package of fiscal policy measures implemented in this scenario will tend to move the current account of the balance of payments into surplus in 2010. In addition, the recovery in world demand and the increase in Irish exports after 2011 envisaged in this scenario would together be likely to result in a substantial continuing surplus on the balance of payments current account over the medium term. The delayed recovery in domestic demand would contribute to this process.

The emerging surplus on the current account of the balance of payments would, in turn, be matched by developments in the flow of funds. As noted in Barrett *et al.* (2010b) this has significant implications for the banking system, which are teased out further in Section 3.3.

Turning to the public finances, the decline in economic activity has led to a collapse in government receipts from a range of taxes. At the same time government expenditure has risen due to higher welfare payments as a result of higher unemployment and a major increase in debt interest payments related to the borrowing undertaken to fund the resolution of the banking crisis. Based on the assumptions on the public finances discussed in Section 2.3, as well as the return to strong growth and the associated fall in unemployment envisaged in this scenario, the general government deficit is expected to improve significantly over the medium term, falling to 2 per cent of GDP by 2015 excluding special payments to banks, as shown in Figure 3. (While the borrowing including special payments to banks is shown in Table 3.1, here we exclude these payments to allow a comparison with the numbers agreed with the EU Commission in the Stability Programme Update.) This is the deficit which would remain assuming a normal world recovery and the full implementation of the package of fiscal measures outlined in Section 2.3.

**Figure 3: General Government Deficit, Per Cent of GDP**

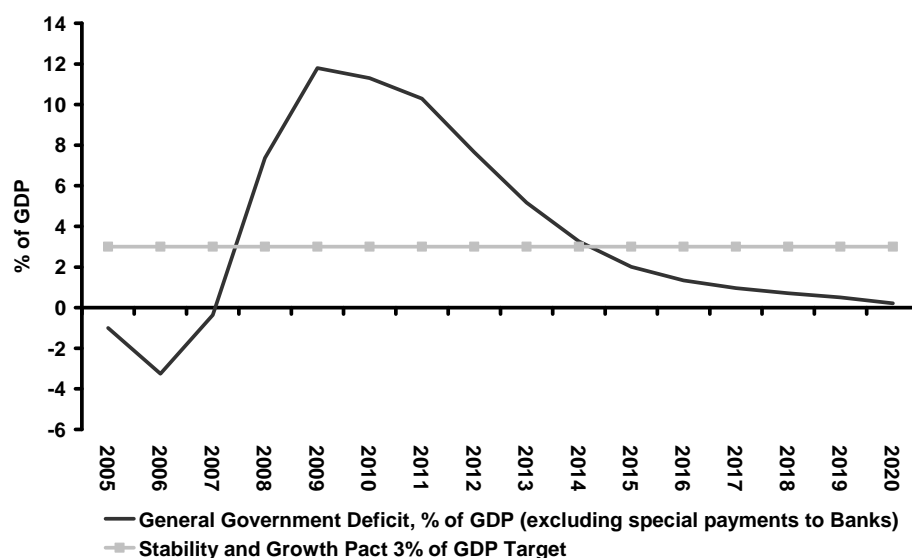
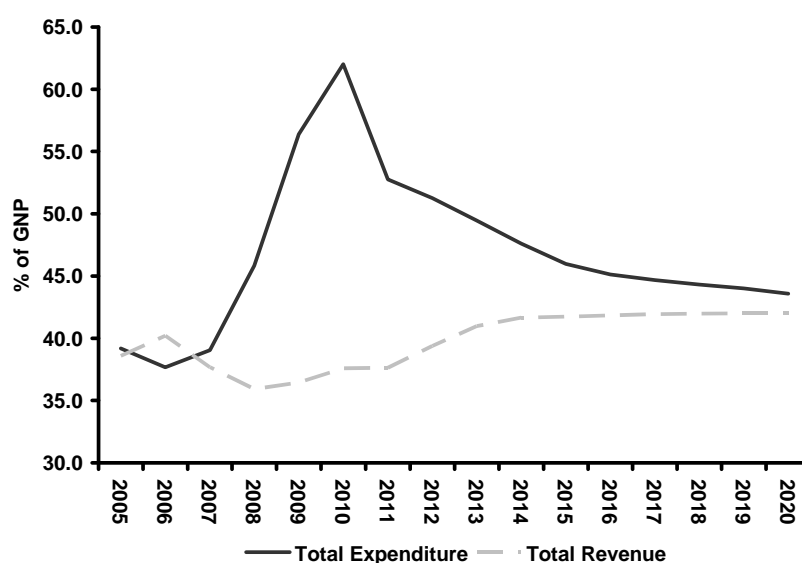
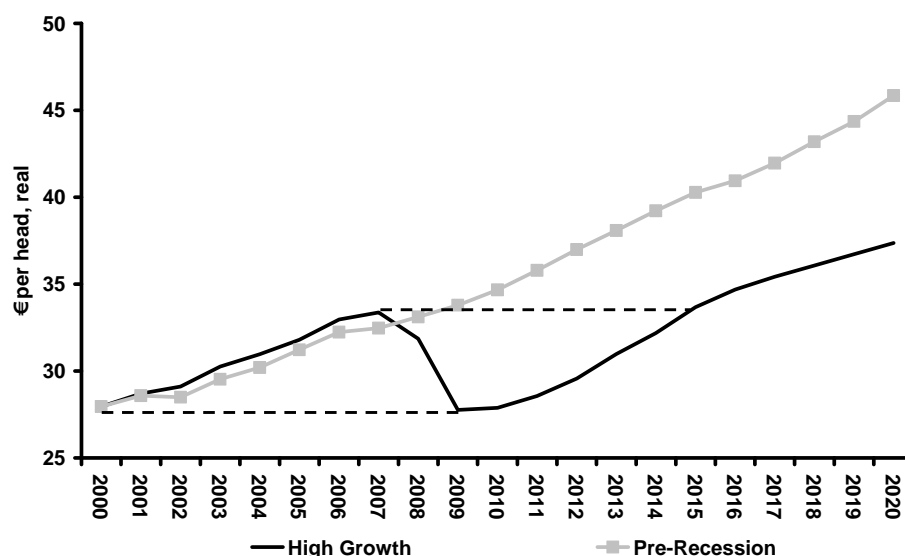


Figure 4 shows the share of Government expenditure (current and capital) and revenue (current and capital) as a percentage of GNP. The dramatic increase in the share of expenditure in GNP over the 2008-2010 period reflects both the fall in nominal GNP over the period as well as increases in welfare payments, due to the rise in unemployment, and in national debt interest payments. The fall in the revenue share in GNP from 2007 to 2008, was driven by the fall in property related taxes and income taxes. Assuming the budgetary packages, outlined above for the period 2011-2014, are implemented in full, the Figure shows that the gap between the share of expenditure and revenue in GNP will narrow over time.

**Figure 4: Total Government Expenditure and Revenue as a Percentage of GNP**



**Figure 5: Permanent Loss of Output in Terms of GNP Per Head**



This scenario suggests that once the world recovery gathers momentum, which according to current forecasts could happen in 2011, growth rates in the recovery phase of 4 to 5 per cent would be likely. While this would represent a return to strong rates of growth, it should be noted that growth rates of this magnitude would be sufficient to restore only some of the losses sustained over the period 2008-2010. Set out in Figure 5 is a comparison of the path of GNP per head in this scenario compared to the forecasts before the advent of the crisis. In this case we use the housing shock scenario from the 2005 *Medium-Term Review* to represent the pre-recession base. We estimate that by the end of 2010, as a consequence of the severe contraction in the Irish economy over the period 2008 to 2010 and the associated rise in unemployment, output per head will have fallen back to its 2000 level. On the basis of the growth rates envisaged in this scenario, output per head would not be restored to its 2007 level until 2015. The pattern shown in Figure 5 implies a permanent loss of output per head of over 15 per cent in 2015 relative to the pre-recession base, a very painful permanent scar on the economy arising from the current recession.

**Box A: Comparison with *World Recovery* Scenario from May 2009**

In May 2009, the ESRI published a paper (Bergin *et al.*, 2009) which set out possible paths to recovery for the Irish economy. In that paper we argued that if the world economy recovered significant momentum by 2011, the Irish economy, as long as it regained competitiveness, could grow quite rapidly in the period 2011-2015 and recover some of the lost ground of the current severe recession. We remain of the view that this outcome is still possible but the extent of recovery of lost ground is more muted. The projections in the 2009 paper did not take account of likely further fiscal adjustment in 2011 and subsequent years. Nevertheless, the current scale of the structural deficit in the public finances, combined with the deadweight costs of the banking bailout, currently estimated at 15 per cent of GDP, means that further fiscal consolidation will be necessary in the

period out to 2014. This in turn will reduce the growth path of the economy out to 2015.

Since the publication of *Recovery Scenarios for Ireland*, more detail has emerged on the likely scale of government funding required to resolve the banking crisis. In particular, it has now become clear that the State is likely to have to transfer an estimated €25 billion to the banking system. As a result, in developing the scenarios in this paper we have included an additional funding cost of €25 billion. These exceptional payments to the banks involve a medium-term cost to the economy in terms of output, income and employment. These costs are reflected in the normal government borrowing through a significant increase in debt interest payments required to remunerate this additional debt.

Table 1A compares our projections for GDP and the public finances based on the *World Recovery* scenario (May 2009) with our revised projections based on the *High Growth* scenario. The principle reason for the differences between these numbers relates to our assumptions on fiscal policy over the medium-term. Underpinning the scenarios presented in this paper is the assumption that the government will implement fiscal policy action to reduce expenditure or increase taxation by around €7½ billion between 2011 and 2014. In *Recovery Scenarios for Ireland*, we assumed that no further fiscal policy interventions would occur beyond 2010. The implementation of the €7½ billion programme of spending cuts and tax increases (equivalent to around 4½ per cent of 2009 GDP) contributes to a significant reduction in our current forecasts for economic growth compared to *Recovery Scenarios*. This is because the implementation of the package of fiscal cuts directly reduces demand in the economy and results in a lower level of employment and higher emigration flows than in the absence of such a package. For example, the government plans to introduce a €3 billion package of austerity measures in the 2011 budget. We estimate that such a budgetary package would reduce the growth rate by approximately one percentage point.

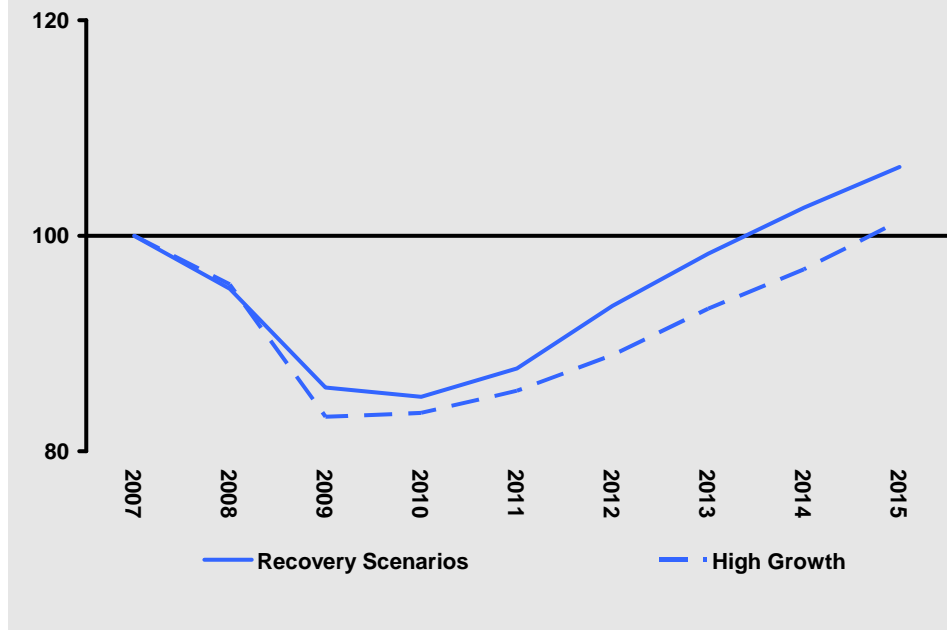
**Table 1A: Comparison of *High Growth* Scenario with *World Recovery* Scenario Projections Prepared in May 2009**

|   | 2010        | 2011-15                        | 2016-2020   |
|---|-------------|--------------------------------|-------------|
| <b>GDP Growth Rates</b>                               |             | <b>Average Annual % Growth</b> |             |
| <i>World Recovery</i> Scenario, May 2009              | -1          | 5 ½                            | 3 ¼         |
| <i>High Growth</i> Scenario, July 2010                | -½          | 4 ½                            | 3           |
| <b>General Government Deficit, % of GDP, year end</b> | <b>2010</b> | <b>2015</b>                    | <b>2020</b> |
| <i>World Recovery</i> Scenario, May 2009              | 11 ¼        | 3 ¼                            | 2 ½         |
| <i>High Growth</i> Scenario, July 2010                | 12          | 2                              | 0           |

The fiscal consolidation package reduces our forecasts for average annual GDP growth over the period 2011 to 2015 by one percentage point compared to the figures published last year. Total employment is 63,000 lower by 2015, and the gross debt to GDP ratio is 17 percentage points

higher. Income per head in 2015 is 5 per cent lower, see Figure 1A. Our analysis here indicates that the full implementation of the budgetary package outlined in section 4.1 would ensure full compliance with the 3 per cent Stability and Growth Pact (SGP) target by 2015 (the cost of the remaining exceptional transfers to the banking system is excluded from the borrowing for the purpose of comparison with the SGP). Nevertheless, these figures confirm that implementation of this package of fiscal consolidation, of necessity, imposes real costs on the economy.

**Figure 1A: GNP Per Head, Constant Prices, 2007=100. Comparison of Forecasts**



### 3.2 *Low Growth* Scenario

The *High Growth* scenario assumes that the Irish economy will react to the international recovery in the same way as in the past. In particular, it assumes that output in high-tech manufacturing and business and financial services, which is largely driven by world demand, will grow strongly. In this scenario we consider the medium-term trajectory for the Irish economy if the relationship between output in the traded sectors and world growth is weaker than in the past. The fiscal assumptions are the same as in the *High Growth* scenario but the assumed risk premium on government borrowing is 0.5 percentage points higher. As discussed in Appendix 1, the scenario is generated by permanently reducing the elasticity of output in these sectors to world growth by around one percentage point. Reducing the elasticity of output in these sectors is purely a mechanism to generate a scenario with lower growth; as discussed earlier, there is a multitude of other factors that could generate such a scenario.

Table 3.2 summarises the impact of this change on the key economic aggregates. As a result of the lower response to world output, external demand for Irish exports is lower than in the *High Growth* scenario resulting in lower output and employment. In this scenario output in the industrial sector would grow by 5.4 per cent per annum over the period 2011 to 2015, compared to 8.3 per cent in the *High Growth* scenario. Output growth in the market services sector would be 3.4 per cent compared to 4.4 per



cent in the *High Growth* scenario. Average GNP growth over the period 2011 to 2015 would be more moderate at 3 per cent, relative to 4 per cent in the *High Growth* scenario.

**Table 3.2: Low Growth Scenario, Major Aggregates**

|                             | 2009            | 2010 | 2011-15                 | 2016-20 |
|-----------------------------|-----------------|------|-------------------------|---------|
| <b>Growth Rate</b>          | <b>Annual %</b> |      | <b>Average Annual %</b> |         |
| GDP                         | -7.1            | -0.4 | 3.2                     | 2.1     |
| GNP                         | -12.2           | 0.0  | 3.0                     | 2.2     |
| Total Employment            | -8.6            | -4.2 | 1.3                     | 0.9     |
| Output, industry            | -8.6            | -3.7 | 5.4                     | 2.3     |
| Output, market services     | -6.3            | 2.1  | 3.4                     | 2.1     |
| Consumer Prices             | -3.4            | -1.9 | 1.9                     | 2.6     |
| Non-agricultural Wage Rates | -1.5            | -3.0 | 2.2                     | 3.8     |

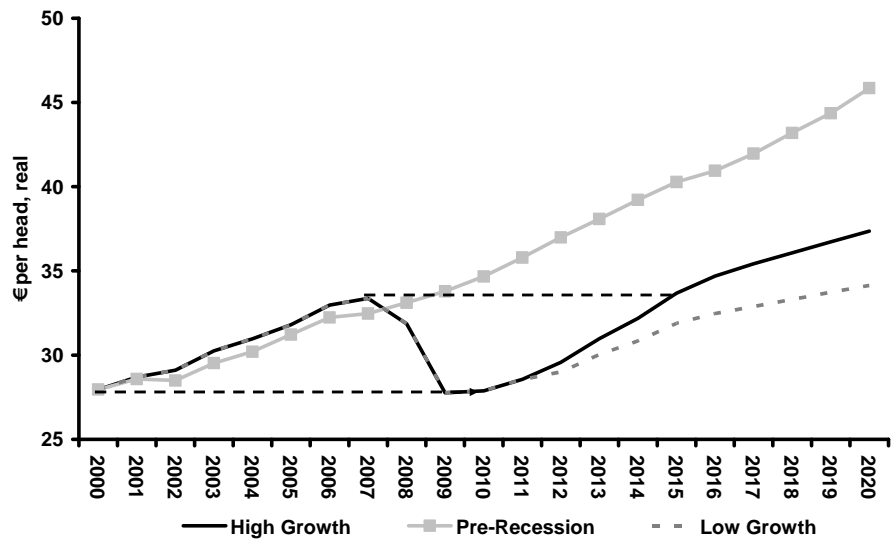
  

| <b>Year End:</b>  | 2009 | 2010  | 2015  | 2020  |
|---|------|-------|-------|-------|
| Personal Savings Ratio  | 11.2 | 10.7  | 8.1   | 8.4   |
| General Govt. Deficit, % GDP, including special payments to banks <sup>16</sup> | 14.3 | 18.2  | 4.8   | 5.2   |
| General Govt. Deficit, % GDP, excluding special payments to banks               | 11.8 | 11.3  | 4.1   | 4.5   |
| General Government Deficit, including special payments to banks % GNP           | 17.8 | 22.7  | 6.1   | 6.5   |
| Net Government Debt, % of GDP   | 32.1 | 51.2  | 73.6  | 80.7  |
| General Government Debt, % GDP  | 64.0 | 83.4  | 102.5 | 106.9 |
| General Government Debt, % GNP  | 79.9 | 104.1 | 129.4 | 134.1 |
| Balance of Payments, % GNP  | -3.2 | 0.9   | -1.3  | -4.0  |
| Unemployment Rate, % of labour force  | 11.9 | 14.0  | 7.1   | 7.1   |
| Net Emigration, 000s  | 7.8  | 60.0  | 5.1   | -12.5 |
| Participation Rate, PES Basis   | 70.4 | 69.7  | 69.7  | 70.6  |
| Investment / GNP ratio  | 19.3 | 15.2  | 19.8  | 20.8  |

In this case the permanent loss of output per head relative to the pre-recession base is more severe than in the *High Growth* scenario. By 2015 GNP per head is still 4.5 per cent below the 2007 level. In this scenario the permanent loss of employment amounts to 245,000 by 2015 relative to the pre-recession base, with GNP per head over 20 per cent below its pre-recession base (Figure 6).

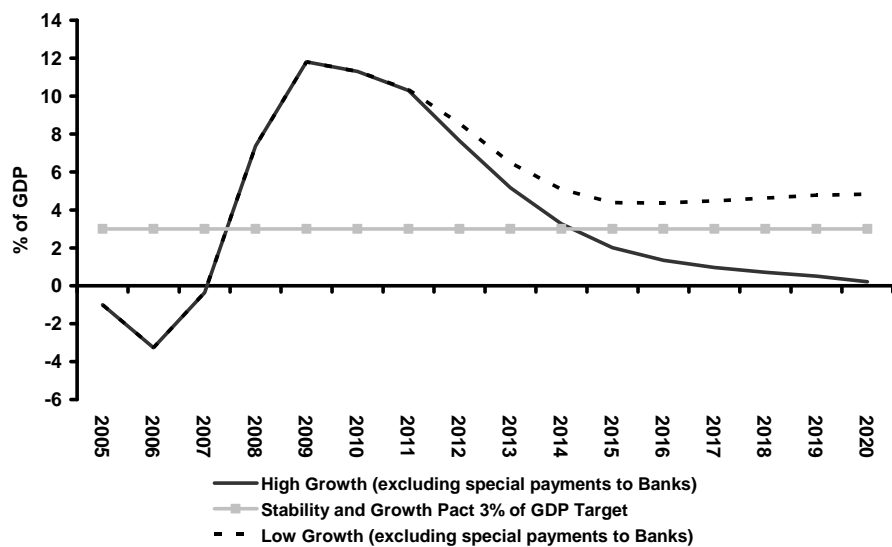
<sup>16</sup> To facilitate comparison with the Stability Programme Update figures we exclude the exceptional items, specifically the once off payments to the banks.

**Figure 6: GNP Per Head – Permanent Loss of Output**



Such a permanent reduction in output would have a significant additional impact on the public finances. The lower level of economic activity would reduce government revenue from taxation while the higher unemployment rate and borrowing would increase government expenditure on welfare payments and interest payments. This would result in a significant deterioration in the general government balance compared to the *High Growth* scenario, as shown in Figure 7. By 2015, excluding special payments to the banks, the general government deficit as a percentage of GDP under the *Low Growth* scenario would stand at 4.1 per cent compared to 2 per cent in the *High Growth* scenario. As discussed in Section 3.3, this implies that further fiscal action would be required to ensure compliance with the SGP guidelines. The deficit in the *High Growth* scenario would meet the 3 per cent Stability and Growth Pact (SGP) limit by 2015. However, with a lower response to world activity there would be a substantially higher deficit by the end of the period. By 2015 the net debt to GDP ratio would be 10.5 percentage points higher under the *Low Growth* scenario compared with the *High Growth* scenario.

**Figure 7: General Government Deficit as % of GDP**



In this scenario the economy would under-perform relative to its potential and this would mean that the unemployment rate would remain persistently high. In fact, these average growth rates for the period 2011-2015 are of a similar order of magnitude to those attained in second half of the 1980s. As discussed in Section 4, were the economy to record such sluggish growth levels, then the resultant deficit and debt levels would require further fiscal consolidation to achieve the Stability and Growth Pact 2014 target.

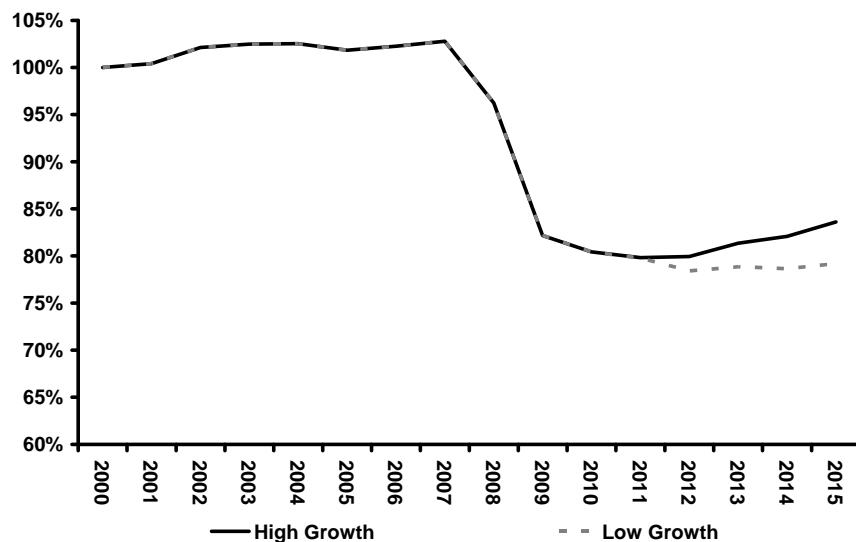
### 3.3 Some Implications of Medium- Term Scenarios

#### POTENTIAL OUTPUT

Under the two scenarios discussed above the long-term impact of the current crisis on the potential output of the economy is very substantial. As shown in Figure 8, in the *High Growth* scenario output is expected to end up in 2015 over 15 per cent below where it might have been without the crisis. This provides a measure of the dramatic impact of the severe recession in Ireland on incomes and living standards. To the extent that the severity of the crisis in Ireland has been heightened as a result of past policy mistakes, the loss of output as a result of the crisis (Figure 8) captures the cost of these past policy failures. While under this scenario the rate of future growth in potential output is unchanged from before the crisis at around 3 per cent for the next decade, the catch up process anticipated for the years 2012-15 would not be sufficient to restore the losses in the level of output sustained over the period 2008-10.

Figure 8 shows how under the *Low Growth* scenario the loss in potential output (the permanent scar on the economy) might be closer to 20 per cent. In this scenario, it is assumed that additional damage has been sustained as a result of the recession, which changes the resilience of individual sectors of the economy. As a result, in the case of this scenario the actual rate of growth in potential output after the recession is also estimated to be below the 3 per cent suggested in the *High Growth* scenario. It will be the end of 2011 or 2012 before there will be sufficient evidence to establish with any certainty which of these two scenarios for potential output is likely to be correct.

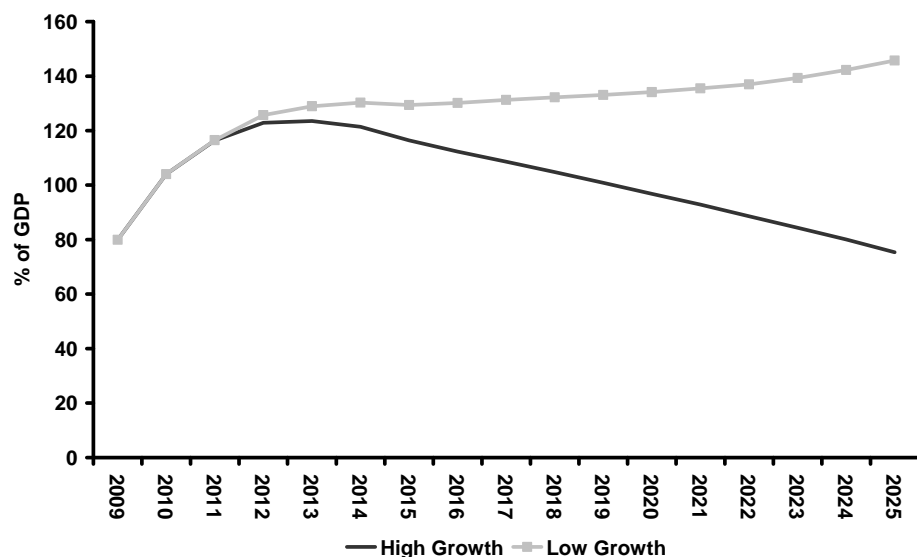
**Figure 8: Permanent Loss of Output as a Result of Recession**



## DEBT SUSTAINABILITY

In undertaking this analysis an important question is whether the fiscal policy stance planned for the period 2011-14 is appropriate. A key test of this is whether it will result in a sustainable path for the national debt in the future. Figure 9 shows that under the *High Growth* scenario the planned cuts of €7½ billion would be sufficient to restore the public finances to a sustainable growth path. Under this scenario the gross debt/GNP ratio would peak at just below 120 per cent in 2013 before steadily falling back in subsequent years to under 100 per cent in 2020.<sup>17</sup> If the cash holdings of the State and the assets of the NPRF are netted off the debt, the ratio would peak at 100 per cent of GNP before falling back to under 80 per cent in 2020 (Figure 10). This path for the debt, while high, would be sustainable, with the ratio gradually falling over time.

**Figure 9: Gross Debt/GNP Ratio Under Different Scenarios**

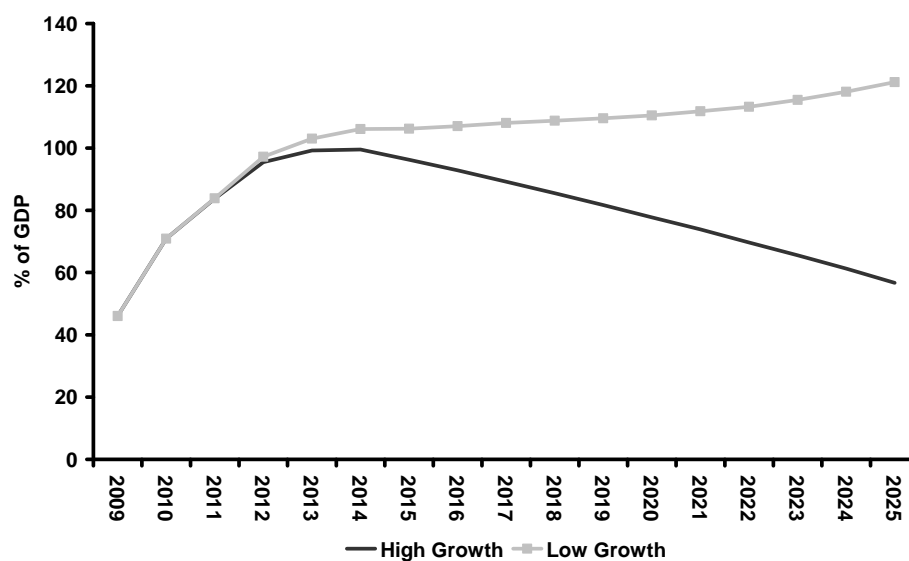


However, in the case of the *Low Growth* scenario the debt/GNP ratio would be around 130 per cent in 2015 and would continue to rise slowly thereafter. This trajectory would not be sustainable indefinitely. Under this scenario any new shock in the future could see a rapid further deterioration in the public finances. As a result, if this scenario proved correct, additional fiscal tightening would be required over the period 2011-14 to move the economy back onto a sustainable growth path.

In addition to the national debt as conventionally defined, the bonds issued by NAMA are fully guaranteed by the State. While in last year's publication we included this borrowing in the national debt, accounting conventions, as currently applied, suggest that they should be excluded from the headline numbers. However, as the NAMA bonds are a contingent liability of the State, they affect decision making. As bond markets take account of them when considering the liabilities of the state

<sup>17</sup> This is before deduction of cash and the NPRF assets held by the state. It also excludes the liabilities of NAMA.

**Figure 10: Net Debt / GNP Ratio Under Different Scenarios**



their presence undoubtedly contributes to the current high risk premium on Irish borrowing.

If the NAMA bonds<sup>18</sup> are added to the national debt, as conventionally defined, under the *High Growth* scenario the augmented debt to GNP ratio would peak at just over 150 per cent of GNP in 2012/3 (just over 125 per cent of GDP) before falling back over the rest of the decade. When NAMA is finally wound up, on the assumption that its assets then cover its liabilities, the debt to GNP ratio would revert to the pattern shown in Figure 9. Under the *Low Growth* scenario the augmented ratio would peak at just under 160 per cent of GNP and it would remain above 150 per cent until NAMA is eventually wound up.

### THE BALANCE OF PAYMENTS AND THE FLOW OF FUNDS

The latest forecast for the economy sees a return to a small balance of payments surplus this year with a slightly larger surplus next year. As shown above, under the *High Growth* scenario the economy should experience a continuing balance of payments surplus over the period to 2015. With the government continuing to borrow substantial sums out to 2015, albeit at a declining rate, and with a continuing balance of payments surplus, the counterpart to this borrowing by the government will be a large repayment of debt (or acquisition of financial assets) abroad by the private sector. Over the six years 2010-15 this repayment of foreign debt (acquisition of financial assets) should average over 12 per cent of GNP each year or a cumulative 75 per cent of GNP over the six years.

Some of this repayment of foreign borrowing by the private sector will most likely take place by companies, especially multinationals, repaying foreign creditors or the parent company directly. However, much of it will

<sup>18</sup> Here we are assuming that the total amount of the NAMA liabilities peaks at around €40 billion.

pass through the banking system as firms repay borrowings. In the case of the household sector, the vast bulk of the funds are likely to pass through the banking system as households repay loans or hold their savings on deposit.

To the extent that this repayment of foreign debt passes through the banking system it will serve to reduce the banking system's net foreign liabilities. Total net foreign liabilities of the banking system (including borrowing from the ECB) stand at around 70 per cent of GDP. If more than half of this repayment of private sector foreign borrowing were effected through the banking system it would dramatically reduce the exposure of the Irish financial system to foreign markets in the medium term.

In the case of the *Low Growth* scenario the results are very similar. This reflects the fact that investment by the private sector under that scenario is significantly lower than in the *High Growth* scenario resulting in greater availability of funds for repayment of foreign debt. Thus under that scenario there would also be likely to be a very substantial reduction in the dependence of the financial system on funding from the European inert bank market.

## **THE FISCAL COST OF THE CRISIS IN THE BANKING SECTOR**

There are a number of channels through which the banking crisis directly affects the public finances on an ongoing basis: through the interest on the money lost in the banks, which has to be made good by government borrowing; through the higher cost of borrowing for the State as a result of the increase in perceived risk; and through the interest cost of holding additional liquidity. In the long run these costs are likely to be much less than the indirect costs for the economy of the banking crisis. In particular, the crisis has contributed to the dramatic fall in potential output.

Under both scenarios the major direct fiscal cost of the financial crisis will be the estimated once-off loss of €25 billion in Anglo-Irish Bank and Irish Nationwide Building Society, which the State has to fund. The ongoing cost to the exchequer of this loss will be the interest on borrowing the €25 billion. Given the current level of interest rates for government borrowing, once this sum is finally paid to the banks the interest bill will amount to around €1.25 billion or around 1 per cent of GNP a year for the foreseeable future.<sup>19</sup>

The increase in the risk premium payable on borrowing by the government is at least partly attributable to the massive increase in the State's contingent liabilities as a result of the banking crisis. It is not clear how much of the risk premium payable by Irish borrowers today is due directly to the crisis in the financial sector as opposed to being due to the related crisis in the public finances. If half of the premium under the *High Growth* scenario were directly attributable to the crisis, with interest payments likely to account for over 5 per cent of GNP by 2012 (and the risk premium standing at 0.75 percentage points by 2015), this additional

<sup>19</sup> This cost, which is a flow, is not additional to the once-off cost of €25 billion. Instead it is a measure of the long term impact on the output of the economy of this once-off cost.

cost could amount to over 0.35 per cent of GNP. However, the indirect effects of the higher risk premium, applying to most Irish borrowers, could be substantially higher through its effects on investment and output.

Finally, because of the extreme uncertainty in financial markets the Irish government has been holding a very large sum in cash since the end of 2008. This cash provides a partial cushion insulating the Irish government from the short-term volatility on financial markets. It means that, unlike some other governments, the Irish government, through the NTMA, has considerable flexibility in terms of when it borrows on financial markets and through what instruments. However, this cushion of liquidity comes at a price. The Irish government is currently holding around €20 billion in cash or on very short-term deposit. This asset attracts only a small interest payment. However, the funds to provide this liquidity have been borrowed at an interest rate of between 4.5 per cent and 5 per cent. Thus the total “excess” interest payments could amount to around €800 million or around 0.6 per cent of GNP. While under normal circumstances the government would still hold some cash, the amount would be very much less than at present so that the bulk of this additional interest cost is probably attributable to the current financial crisis. However, this need to hold “excess” liquidity will decline as the volatility in the financial markets declines and as the government’s borrowing requirement also declines.

Taken together, these three effects may result in a direct financial cost to the exchequer arising from the banking crisis of between 1.5 per cent and 2 per cent of GNP per year over the medium-term. However, these direct costs are likely to be dwarfed by the indirect costs. If only a fraction of the 15 per cent to 20 per cent permanent loss in output, discussed above, were attributable to the banking crisis it would be dramatically larger than the direct financial cost for the public finances estimated here.

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### 3.4 Sensitivity of Economy to *International Risk Premium Shock*

Given the risks to the international economy, we also consider an *International Risk Premium Shock*, where the risk premium on government debt is assumed to be permanently higher from 2011 by 2 percentage points in each of the Euro Area, the UK and the US. This is not intended as a forecast but rather to highlight the sensitivity of the Irish economy to events in the international economy. Table 3.3 shows the growth rates for the international economy under such a scenario and Figure 11 shows the impact on the **level** of output (not the growth rate) in the US, UK and Euro Area – it reduces the level of GDP by around 1.5 per cent below where it otherwise would have been over the medium term.

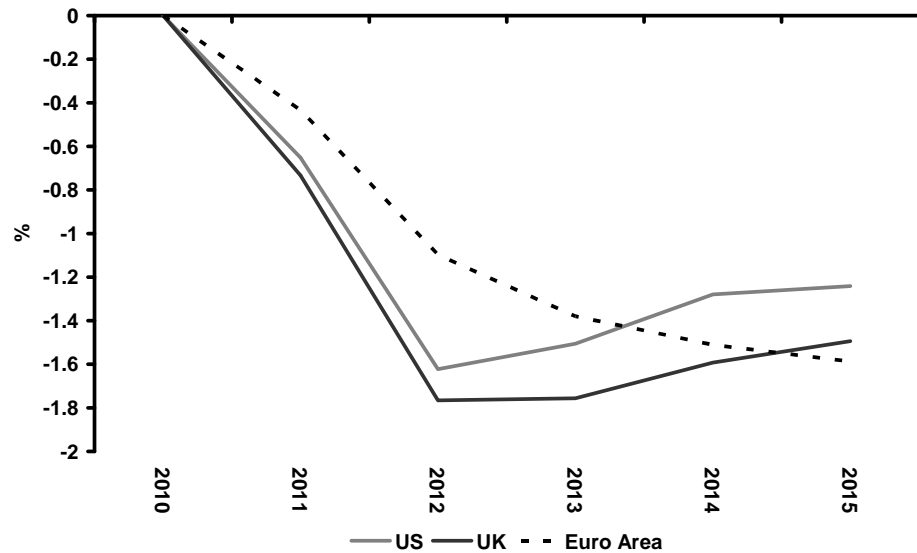
**Table 3.3: Real GDP Growth, *International Risk Premium Shock***

|           | 2009 | 2010 | 2011 | 2011-2015 |
|-----------|------|------|------|-----------|
| USA       | -2.4 | 2.9  | 2.0  | 2.5       |
| UK        | -4.9 | 1.0  | 1.3  | 2.5       |
| Euro Area | -4.0 | 1.2  | 1.4  | 1.9       |
| World     | -1.0 | 3.9  | 3.6  | 4.1       |

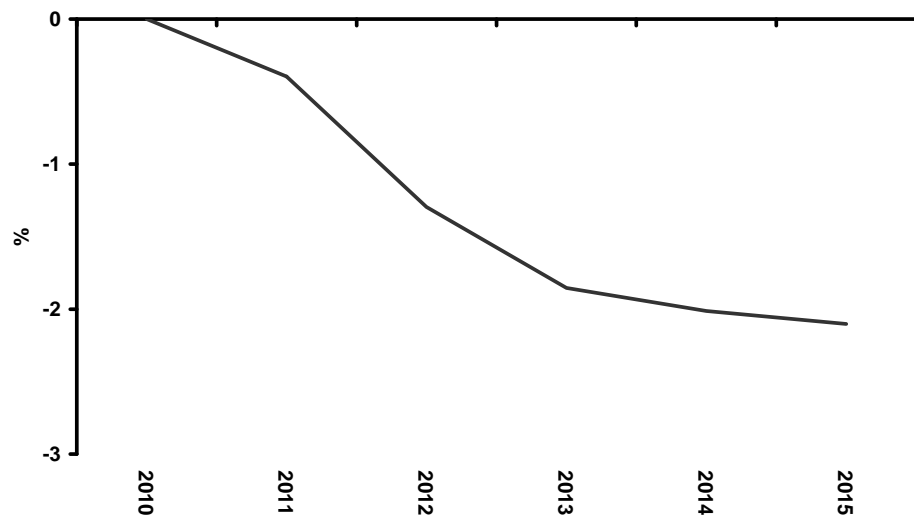
Given Ireland’s heavy exposure to the world economy, the effect of the shock would be to significantly reduce the external demand for Irish output and exports leading to lower employment and output in the medium term. In this scenario, employment would be around 16,000 lower than in the

*High Growth* scenario by 2015, while the unemployment rate would be around  $\frac{3}{4}$  of a percentage point higher. Figure 12 shows the impact on the level of GDP over the medium term. By 2015 the level of GDP would be around 2 per cent lower than in the *High Growth* scenario.

**Figure 11: The Impact on the Level of GDP of the *International Risk Premium Shock***



**Figure 12: Effect on Level of GDP of *International Risk Premium Shock*, %**



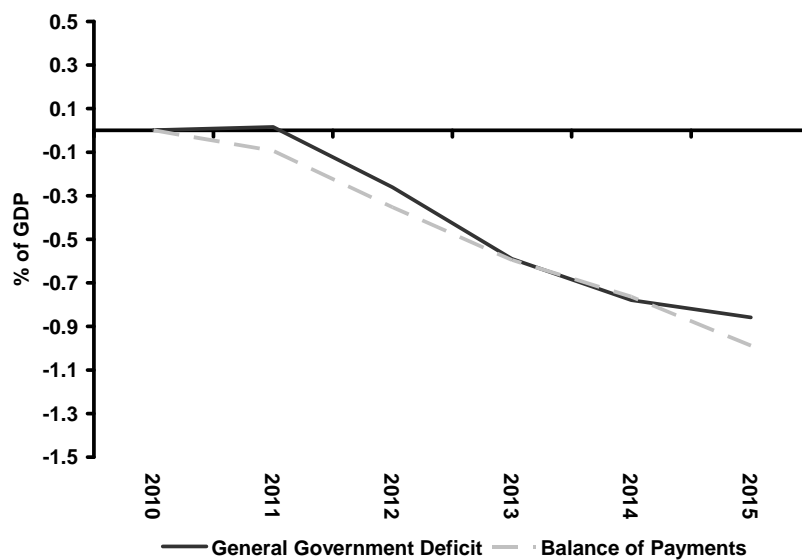
One of the most significant effects of this shock would be its impact on the public finances, the General Government Balance would be almost one percentage point worse than in the *High Growth* scenario by 2015 (Figure 13). The lower level of economic activity as a result of the financial market shock would reduce government revenue from taxation while the higher unemployment rate and borrowing would increase government expenditure on welfare and interest payments. The balance of payments



surplus would also deteriorate by around one-percentage point relative to the *High Growth* scenario.

The effects would be very similar when applied to the *Low Growth* scenario. In both cases further fiscal action would be required to restore the public finances to sustainability, with further negative consequences for growth and employment.

**Figure 13: Effect on Balance of Payments and General Government Balance of Financial Market Shock**



### 3.5 What If There Was No Fiscal Action?

From late 2008, when the financial crisis hit, there was significant international debate about the need for a fiscal stimulus to prevent the world economy falling into prolonged recession. This approach was taken in many developed economies such as the US, Germany and the UK. While the size of the stimulus applied in each case differed, the cumulative effect was significant and it played a role in moderating the depth of the world recession.

However, in Ireland it was clear from late in 2008 that this was not an option. The severity of the deterioration in the public finances meant that a failure to take remedial action could have left government borrowing on an explosive trajectory. The borrowing requirement for 2009 was heading over 15 per cent of GDP in the absence of fiscal action. Even with the very tough remedial action undertaken, the risk premium attaching to Irish borrowing rose to very high levels in 2009 and it has remained high in 2010. In the absence of an adequate fiscal response this risk premium would clearly have been much higher. There could well have been significant difficulties for the government in financing such an exceptional level of borrowing at any price. While it is not possible to estimate how much higher the risk premium would have been, we here simulate the effects of a moderate additional premium of 1.5 percentage points combined with a failure to take fiscal action in 2009 and subsequent years.

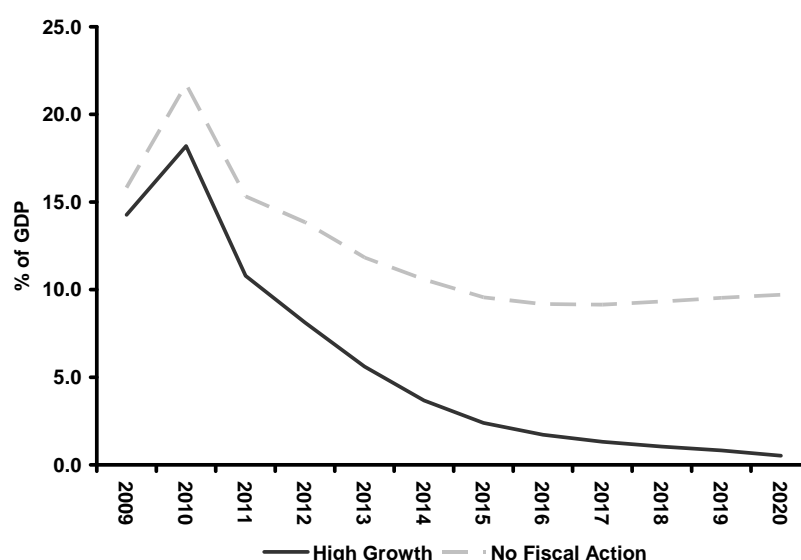
The fact that, for economies such as Ireland, the risk premium is itself affected by the level of borrowing and debt (and by the direction of fiscal

action) changes the way that discretionary fiscal action impacts on the economy. While a cut in taxation or an increase in expenditure would normally stimulate the economy in the short run, if it causes a substantial rise in the interest rate this can more than offset any short-term benefits. The corollary to this, as noted by Alesina (2010), is that if agents believe that the authorities' stabilisation plan is credible and avoids or reduces the chances of default, international markets can ask for a lower premium on government bonds. If the reduction in the interest rate paid on government bonds in turn leads to a reduction in the real interest rate charged to consumers and firms, the decrease in interest rates can have a positive effect on economic activity. The current circumstances facing the Irish economy (and quite a number of other economies in the Euro Area) means that the benefits of early fiscal action are likely to be considerably enhanced and the costs of delay also considerably increased because of the sensitivity of this interest rate channel.

In this section we consider in a stylised way what might have happened if there had been a failure to tackle the fiscal crisis at the end of 2008. Based on the results for the *High Growth* scenario, we assume that the government adopted a neutral fiscal policy after the advent of the recession in 2008 (i.e. from 2009 onwards).<sup>20</sup> The results of this simulation illustrate some of the costs that would have arisen if no action had been taken. As indicated above these costs are, if anything, on the low side as the risk premium could have been even higher in the face of such a policy.

Figure 14 shows the path of the General Government Deficit as a share of GDP in the case of no fiscal action compared to the trajectory in the *High Growth* scenario. From 2012 onwards borrowing would have been over 5 percentage points of GDP higher than in the case where the problem is tackled up front.

**Figure 14: General Government Deficit as % of GDP, No Fiscal Action**



<sup>20</sup> This is implemented in the *HERMES* macroeconomic model through a series of detailed indexation rules for individual tax rates and discretionary expenditure items. For details see Kearney *et al.* (2001).

The consequence of a failure to tackle the fiscal crisis and the greatly elevated borrowing requirement would have been a very rapid rise in the debt/GNP ratio. Figure 15 shows the debt/GNP ratio for the *High Growth* scenario and for this no fiscal action scenario. The impact would have been dramatic, with the debt ratio being almost doubled to close to 180 per cent of GDP by 2020.<sup>21</sup> While under the *High Growth* scenario the debt/GNP ratio would decline from 2013 onwards, under the *No Fiscal Action* scenario it would remain on a steadily more explosive upward path out to 2020 and beyond. Even under the *Low Growth* scenario the debt/GNP ratio, by contrast, grows relatively slowly.

This signals the fact that, while fiscal action may be delayed, it is inevitable. Also when fiscal action was eventually taken, it would have had to be even more severe than today because of the greatly elevated level of debt, debt interest payments and the interest rate itself.

**Figure 15: General Government Debt to GNP Ratio**

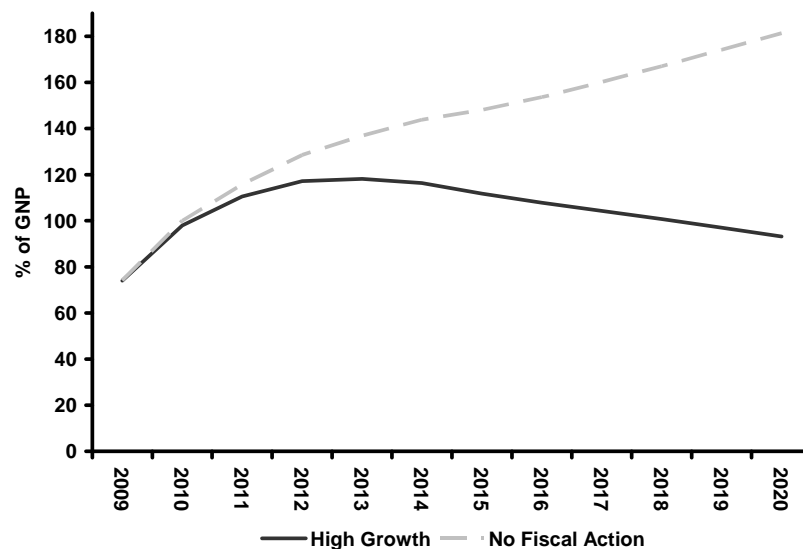
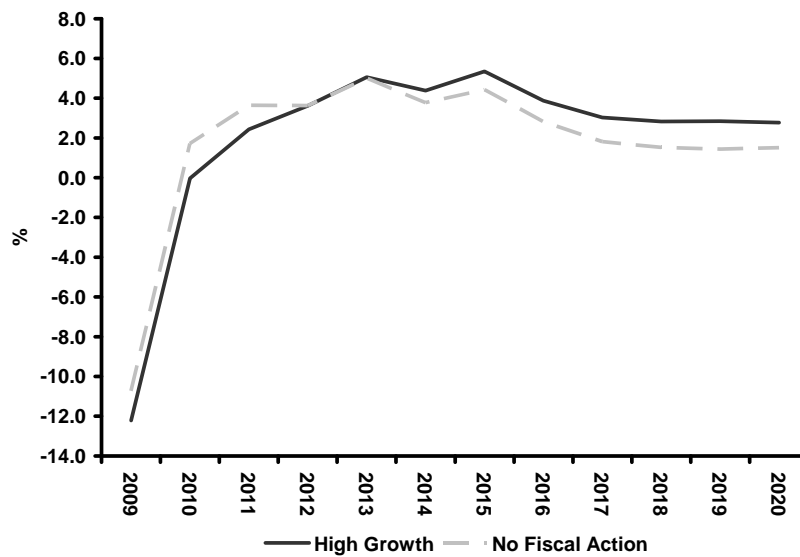


Figure 16 shows the effect on GNP of such a policy of delaying fiscal action. Because debt interest payments rise rapidly, due to the much higher borrowing and higher interest rates on that borrowing, the gap between GDP and GNP widens rapidly. This is because interest payments paid abroad are part of the wedge between GDP and GNP – net factor income paid abroad. While in the first few years with no fiscal action the growth rate of GNP would have been slightly higher than under current circumstances, the rapid rise in debt interest payments would have caused the growth in GNP to fall back. By 2014, even with the prolonged tightening in fiscal policy, the growth of GNP would be higher where fiscal action was taken than in the case of no fiscal action. Thereafter the benefits of early action will grow. After 2015 in the *No Fiscal Action* scenario GNP growth would slow further so that by the latter years of the decade growth would be around three-quarters of that where early action was taken.

<sup>21</sup> During the fiscal crisis of the 1980s, the debt/GDP ratio peaked at 111 per cent in 1987.

**Figure 16: GNP, Real Growth, %**



In addition, as indicated earlier, the economy cannot postpone indefinitely a fiscal adjustment. In the case of the *No Fiscal Adjustment* scenario, whenever the adjustment was undertaken it would have had to be much more severe than the adjustment we are currently experiencing and the resulting loss of output would have been much greater. In the absence of a fiscal adjustment, by 2020 GNP would already be 3 percentage points below the level under the early action scenario. As indicated above, even under the *High Growth* scenario, by 2010 the GGD would be over 9 per cent of GDP. To eliminate such a deficit would require more dramatic cuts in expenditure and increases in taxation than we are currently experiencing. When account is taken of the further damage which would arise from a very belated, and hence very large, fiscal adjustment, the final cost to the economy of delayed fiscal action could have amounted to at least 10 per cent of GNP.

The assumptions concerning the risk premium and the willingness of markets to support a do nothing scenario are quite moderate. In experimentation, with a risk premium two and a half percentage points higher than in the base case, the reduction in the level of GNP in 2020 relative to the base case would be closer to 5 per cent and the size of the fiscal deficit would have been further increased.

## 4. ESTIMATES OF THE STRUCTURAL DEFICIT

Here we define the structural deficit as the deficit which would remain when the economy has returned to long-term equilibrium in the goods and the labour market. In that case actual output will have returned to its potential level and further growth will be constrained by the future growth in that potential. By implication, over and above the structural deficit the rest of the deficit today is then considered to be essentially cyclical in nature, deriving from the fact that actual output is below its potential. With a recovery in the economy this cyclical element could be expected to disappear as a result of revenue buoyancy. (For a more extensive discussion of this issue see Bergin *et al.*, 2010b.)

The structural deficit, thus defined, is the most appropriate measure to use when quantifying the fiscal adjustment task which remains to be accomplished in Ireland – the reduction in the deficit to be accomplished by further cuts in expenditure or increases in taxation. In this paper we use the *HERMES* model to derive estimates of the structural deficit of the Irish economy.

In the case of the *High Growth* scenario, equilibrium in the economy is estimated to be reached in 2015, when the labour market would have returned to full employment and output and the capital stock in the tradable sector would also be close to its equilibrium value. Thus, in the discussion below, we define the structural deficit to be the deficit for 2015 in the relevant scenario.

In calculating the structural deficit exceptional items, such as the once off payments to cover the losses in the banks, should be excluded. This is because these payments will end when the losses are fully paid for, though they will, of course, leave a legacy of debt and interest payments. As a result of the once off nature of these payments they are excluded by the EU Commission when considering compliance with the SGP.

In Table 4.1 we show at the top the structural deficit or General Government Deficit (GGD) as a percentage of GDP in the *High Growth* scenario.<sup>22</sup> In this case the deficit takes account of the planned package of fiscal cuts amounting to €7.5 billion over the period 2011-14. Once these

<sup>22</sup> In this case we show the relevant aggregates as a percentage of GDP so that a direct comparison can be made with the commitments under the SGP. Generally in this paper we use GNP as it is a more appropriate aggregate for measurement in Ireland reflecting better the underlying national income.

cuts have been implemented in 2014 it is estimated that the structural deficit will be reduced to around 2 percentage points of GDP – below the SGP threshold of 3 per cent. However, if the deficit is to be eliminated altogether further fiscal action would still be required, though that action would be limited relative to the scale of the cuts that are currently planned. Under the *Low Growth* scenario, even with the planned cuts of €7.5 billion, the structural deficit would only be reduced to 4.1 per cent of GDP, significantly above the SGP threshold of 3 per cent. Eliminating this structural deficit would take substantial further cuts.

This analysis indicates that the planned fiscal action for the period 2011-14 is likely to be the minimum necessary to restore the public finances to a sustainable path. If the development of the economy over the period were to follow the less optimistic *Low Growth* scenario, then significant further cuts would be needed.

**Table 4.1: Estimates of the Structural Deficit**

| Deficit as % GDP                | Structural Deficit |
|---------------------------------|--------------------|
| <b>HIGH GROWTH SCENARIO</b>     |                    |
| High Growth                     | 1.8                |
| Neutral Fiscal policy from 2010 | 4.8                |
| No Fiscal Action                | 9.2                |
| <b>LOW GROWTH SCENARIO</b>      |                    |
| Low Growth                      | 4.1                |
| Neutral Fiscal policy 2010      | 7.2                |
| No Fiscal Action                | 12.1               |

The row in Table 4.1 entitled “Neutral Fiscal policy from 2010” shows what the structural deficit is today, before the proposed package of fiscal cuts for the years 2011-14 is implemented. In the absence of this proposed package of cuts the structural deficit is estimated to be around 4.8 per cent of GDP under the *High Growth* scenario and around 7.2 per cent under the *Low Growth* scenario.

The row entitled “No Fiscal Action” shows what the structural deficit would have been if a neutral fiscal policy had been adopted from 2009 onwards, involving no cuts at all (and no stimulus). In that case it is estimated that the structural deficit would have been between 9 per cent of GDP and 12 per cent of GDP under the *High* and *Low Growth* scenarios respectively. However, as discussed in the previous section, this is a rather unrealistic scenario. Such a course of action would have left the public finances on an explosive growth path. With the benefit of hindsight, it can be seen that such a policy would have had very serious consequences on the bond markets and, as a result, it probably would not have been possible to finance a “do nothing” approach. Clearly Ireland had no choice but to take urgent action to cut the deficit.

The EU Commission uses an alternative methodology to calculate the structural deficit for Ireland and other countries. In its most recent forecasts (May 2010), the EU Commission estimates that the Irish

structural deficit in 2010 is 9.3 per cent of GDP.<sup>23</sup> This number can be compared directly with the structural deficit under the assumption of a “Neutral Fiscal Policy from 2010” in Table 4.1 above. As shown in the table, in the *High Growth* scenario the current structural deficit, absent new fiscal measures, is estimated to be 4.8 per cent of GDP. Even in the *Low Growth* scenario the estimated structural deficit, using the *HERMES* methodology, is estimated at 7.2 per cent of GDP, very much lower than the EU estimate. Thus the analysis in this paper suggests that the EU Commission is too pessimistic concerning the future path of the public finances in Ireland.

The EU estimate is based on an estimated Non-Accelerating Wage Rate of Unemployment (NAWRU) of 10.9 per cent – the level of unemployment which would leave the economy with a stable rate of increase in wages. This estimate does not fit with the extensive research into the past behaviour of the Irish economy embodied in the *HERMES* model. This research indicates that the rate of increase in wages would stabilise at a much lower level of unemployment. With a total deficit in 2010 (excluding the cost of the bank bailout) of 11.3 per cent, this would imply that, notwithstanding the significant fiscal consolidation measures undertaken in 2009 and 2010, almost 80 per cent of the deficit in 2010 is not related to the cyclical downturn. We consider this estimate to be much too high.<sup>24</sup> O’Leary (2010) outlines some of the other problems with the methodology used by external institutions (IMF, OECD, EU Commission) to assess Ireland’s fiscal stance in the years preceding the crisis.

<sup>23</sup> This is similar to the estimate of the Department of Finance in the *Stability Programme Update*.

<sup>24</sup> In Bergin *et al.* (2010b) we examine in some detail the measurement of potential output implicit in the *HERMES* model and its relationship to the *HERMES* model of the Irish labour market. This is critical to understanding the differences between our estimates of the structural deficit and those of the EU Commission.

## 5. CONCLUSIONS

The experience of recent years shows the very high cost of pursuing bad economic policies. The depth of the recession in Ireland, and the massive funding crisis in the Irish banking system, have necessitated swingeing interventions on the part of the authorities to stabilise the government deficit. We estimate that the austerity measures undertaken in the 2009 and 2010 budgets have already achieved much of the heavy lifting in relation to reducing the structural deficit. Indeed, even if the economy were to record sluggish growth rates out to 2015, with persistent unemployment, we estimate that the structural deficit, while still substantial, would be significantly less than that estimated by the EU Commission. We estimate that the fiscal adjustment planned by the Government of a further €7.5 billion over the period 2011-14 would be almost enough to produce compliance with the SGP by 2014 under the *High Growth* scenario. Nevertheless, further measures will be necessary to bring the deficit within the SGP target by 2014 and to eliminate the deficit altogether by 2015. The deadweight cost of the banking crisis has significantly added to the burden of fiscal adjustment, raising the estimate of the structural deficit relative to that in Bergin *et al.*, 2009.

The implementation of this programme of fiscal cuts imposes real costs on the economy in terms of lower output and employment; however we believe they are necessary to ensure the long-run sustainability of the public finances. If a more sluggish recovery in the Irish economy were to materialise over the coming years, as reflected in the *Low Growth* scenario, additional fiscal action would be required just to keep the debt on a sustainable path and to produce compliance with the debt target agreed with the EU Commission.

We echo the findings of Bergin *et al.* (2009) in arguing that, if the world economy recovers significant momentum by 2011, the Irish economy, as long as it regains competitiveness, could grow quite rapidly in the period 2011-2015. Even in the less optimistic *Low Growth* scenario there would be a significant recovery over the period 2012-2014. If the economy proves as flexible as it did in the past, there will be a major adjustment in the cost base driven by market forces. Already there is some evidence that this is happening in terms of wages, but more will be required. It is clearly happening in the case of other costs, such as rent and the cost of accommodation. This re-pricing will be an important factor in returning the economy to growth and public policy can play an important role through the implementation of measures which improve competitiveness in the area of State-provided services and policies to enhance competition in the non-tradable sector. The recovery under the *High Growth* scenario will see some recovery of lost ground, while still leaving the level of output in 2015 15 per cent or more below what it would have been without the recession and



the related financial crisis. The assumption that the economy will behave as it did before the recession underpins the *High Growth* scenario.

While the current evidence suggests that the *High Growth* scenario may be the more likely of the two, there is a wide range of factors which could result in the actual outturn being closer to the *Low Growth* scenario. For example, if the future path of world growth were to prove less favourable than currently forecast, or if the Irish tradable sector were to prove much less responsive to world demand than it did in the past, the permanent loss of output would be significantly greater than in the *High Growth* scenario and the restoration of full employment would take much longer. This possible outcome is explored in the *Low Growth* scenario. Such an outcome would hamper the recovery in the Irish economy and it would require more painful fiscal action than currently planned by the authorities.

Because of the uncertainty about the future and because of the asymmetric nature of the costs of being too optimistic relative to those arising from excessive prudence, the current situation calls for the full implementation of the Government's programme of substantial further fiscal consolidation. This represents a "no regrets" policy in the face of considerable uncertainty about the future growth path of the economy. If the outturn proves to be in line with the *High Growth* scenario then little additional action would be needed over and above that already planned by the government. If the economy grows in line with the *Low Growth* scenario, while further fiscal action would definitely be needed over and above that already planned, it would still be consistent with an economic recovery, though not enough to restore full employment by the middle years of the decade.

Recent experience shows that the risk premium attaching to borrowing in Ireland, and in a number of other Euro area economies, is very significant. Experience also shows that the risk premium is affected by the extent of government borrowing, the fiscal stance (whether government is acting to reduce borrowing) and the level of the debt, including contingent liabilities. In an economy as open as Ireland's, the fiscal multipliers are already much smaller than in large more closed economies such as the US, the UK and Germany. This means that action to reduce borrowing, which would otherwise still be deflationary, could actually increase domestic activity if it produced a sufficient reduction in the risk premium (Alesina, 2010). Even if it were not sufficient to fully offset the initial deflationary impact of a fiscal tightening it would certainly moderate its negative impact. This is an important channel which, when taken into account, can substantially change estimates of the economic impact of fiscal action derived from more traditional models. This endogeneity of the risk premium means that if Ireland had failed to tackle its public finance crisis over the last two years the economic prospects in the immediate future would have been much worse than is actually the case. It also raises the question as to whether a more rapid fiscal adjustment than currently planned would have a more beneficial outcome for the economy.

While past experience suggests that the labour market is sufficiently flexible to eventually return the economy to full employment, it is possible that labour market policy will not be adequate, which could leave Ireland with a legacy of unskilled unemployment. To avoid such an eventuality it will be important that labour market policies, broadly defined, are developed to re-skill the unemployed for the kind of jobs which will be

available over the coming decade and to ensure that individuals are incentivised to retrain and to take up employment. Previous research on the labour market (Grubb, 2009) shows the importance of raising the skill level of those who have lost their jobs or exited the labour force in order to minimise the risk of long term unemployment. It will also be important that labour market policies and general policy on support for the unemployed will be tailored to ensure a rapid return to employment (O’Connell, 2002 and O’Connell, 2009) and to minimise the danger of poverty traps occurring in the future which might prevent the unemployed from accessing future jobs.

The very high contingent liabilities that the State assumed as part of the banking bail out have greatly exacerbated the difficulties facing the Irish economy over the medium-term. The subsequent approach taken by the Irish government has been to try and crystallise the losses in the financial system reasonably quickly. The objective in bringing up front the losses is to increase the certainty about the future. It now looks likely that the state will end up paying around €25 billion to cover the losses for which it has become directly responsible. The deadweight cost of this payment, while manageable under the scenarios presented here, represents an enormous cost to the Irish public in a time of unprecedented fiscal difficulties. In addition, the government is likely to end up with over €50 billion invested in the rest of the banking system, through recapitalisation and the purchase by the State of non-performing property loans at discounted prices. While we have assumed that these latter investments will cover their costs in the long run, the size of the implicit balance sheet of the Irish government leaves open the possibility that under-performance (over-performance) could translate into further significant costs (benefits). Nonetheless it was essential that action was taken to ensure that Ireland has a working banking system. Without a banking system which is able to finance the economic recovery the very recovery itself would be put in doubt.

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# APPENDIX 1: OUTPUT DETERMINATION IN THE *HERMES* MODEL

A key factor in determining the growth rate of the Irish economy is its responsiveness to changes in world output. Over the last twenty five years we have developed our understanding of how the share of world output produced in Ireland is a function of competitiveness and technical progress (Bradley and Fitz Gerald, 1988 and Bradley, Fitz Gerald and Kearney, 1993). This model has been re-estimated with more recent data and it forms a central part of the *HERMES* macroeconomic model of the Irish economy which we use to develop the scenarios outlined in Section 3 of this paper. The behaviour of the model is discussed in Bergin *et al.* (2010a). The *HERMES* macro-economic model was first developed in the late 1980s (Bradley, Fitz Gerald, Hurley, O’Sullivan and Storey, 1993).<sup>25</sup> Since its inception the model has undergone substantial further development to improve its treatment of how the Irish economy works, taking account of advances in economic research, and also to keep pace with the changing structure of the economy.

*HERMES* is a model of the supply side of a small open economy. The determination of output is modelled separately for the manufacturing sector and the services sector. In the manufacturing sector the share of world output located in Ireland is modelled as a function of Irish competitiveness, broadly defined<sup>26</sup>, relative to Ireland’s competitors. This specification encompasses both Irish firms who are competing for market share on what is essentially a world market and foreign firms who choose where to locate their production to service the world market. In this model of manufacturing the demand for labour, materials and capital is then a function of Irish output, the costs of these factors of production in Ireland and technical progress.

In the original version of *HERMES* output in the services sector<sup>27</sup> was driven solely by domestic demand. More recently this specification has been revised as set out in Conefrey and Fitz Gerald, (2008) to reflect the growing importance of traded services. This revision to the business and financial sub-sector of market services mirrors the specification of the

<sup>25</sup> *HERMES* – Ireland was originally developed jointly with the Department of Finance and it replaced an earlier model, MODEL80 (Fitz Gerald and Keegan, 1982), used by the Department for policy analysis in the early 1980s.

<sup>26</sup> It is the unit cost of production covering the cost of labour, capital and inputs.

<sup>27</sup> See Bradley, Fitz Gerald and Kearney (1993) for details.

manufacturing sector, with Irish output of business and financial services being sensitive to world demand and Ireland's international competitiveness, broadly defined.

Using the model, our estimates for the economy as a whole suggest that a fall in world output of 1 per cent in the long run reduces the demand for Irish output by around 1.3 per cent. (Bergin, Conefrey, Fitz Gerald and Kearney, 2009). This implies that Irish output is relatively sensitive to global activity.

Table A1 reports the *HERMES* estimates of the elasticity of output from each of the tradable sectors of the Irish economy with respect to changes in world output. Within the *HERMES* model, both the equation for high tech manufacturing output and exports of tradable services (driving output in the professional and financial services sector) include a post-1990 Foreign Direct Investment (FDI) dummy on world output. Effectively this raises the elasticity of output with respect to world demand in the post 1990 period, better reflecting the recent experience of the economy. The *Low Growth* scenario, which we develop in this paper, is generated by permanently reducing the elasticity of output to world growth in these sectors by around one percentage point. This scenario allows us to examine how the Irish economy might evolve over the medium-term if its sensitivity to changes in world demand is greatly reduced as a result of the current crisis.

In the *HERMES* macro-economic model manufacturing is divided into three sectors, high-tech, traditional and food processing. High-tech covers chemicals and pharmaceuticals with the traditional sector covering the rest of the manufacturing sector.

#### Manufacturing - High Tech Sector

$$q^* = a_1 + a_2 q_w + a_3 q_w d + a_4 \frac{c_i}{c_w} + a_5 \frac{w_i}{w_u} \quad 28 \quad (A.1)$$

where:

- $q_w$  = US GDP
- $d$  = dummy between 1990 and 1998 is one, zero otherwise
- $c_i$  = unit cost of production in Ireland
- $c_w$  = unit cost of production abroad (proxied by OECD manufacturing prices)
- $w_i$  = wage rates in Ireland
- $w_u$  = wage rates in the UK in euros

#### Manufacturing - Food Processing.

$$q^* = a_1 + a_2 q_w + a_4 \frac{c_i}{w_g} \quad (A.2)$$

where:

- $q_w$  = UK GDP
- $c_i$  = unit cost of production in Ireland
- $w_g$  = wage rates in Germany in euros

<sup>28</sup> Lowercase letters in equations denote logarithms.

### Manufacturing – Traditional Sector.

$$q^* = a_1 + a_2 q_w + a_4 \frac{c_i}{c_w} + a_5 \frac{w_i}{w_g} \quad (\text{A.3})$$

where:

|       |   |   |
|-------|---|---|
| $q_w$ | = | OECD GDP  |
| $c_i$ | = | unit cost of production in Ireland                                  |
| $c_w$ | = | unit cost of production abroad (proxied by EU manufacturing prices) |
| $w_i$ | = | wage rates in Ireland   |
| $w_g$ | = | wage rates in Germany in euros                                      |

### Traded services Exports

In the case of the professional and financial services sector exports of non-tourism services are a function of world activity and Irish competitiveness (equation A.4) and the output of that sector is function of both exports and domestic demand. The effect of changes in wage rates on output occurs through its effect on the volume of relevant exports.

$$x_s^* = a_1 + a_2 q_w + a_3 q_w d + a_5 \frac{w_i}{w_u} + a_6 t_x \quad (\text{A.4})$$

where:

|       |   |  |
|-------|---|--|
| $x_s$ | = | Services (non-tourism) Exports                 |
| $q_w$ | = | US GDP   |
| $t_x$ | = | corporation tax rate in Ireland                |
| $w_i$ | = | wage rates in Ireland                          |
| $w_u$ | = | wage rates in UK in euros                      |
| $d$   | = | dummy from 1990 onwards is one, zero otherwise |

**Table A1: Estimation of Output Equations in the Tradable Sector<sup>29</sup>**

| Variable                       | Equation | (A.1)           | (A.2)           | (A.3)            | (A.4)           |
|--------------------------------|----------|-----------------|-----------------|------------------|-----------------|
| Constant                       | $a_1$    | 12.88<br>(19.0) | 9.91<br>(161.8) | -<br>(-11.2)     | 14.64<br>(21.8) |
| World Output                   | $a_2$    | 3.40<br>(15.5)  | 1.52<br>(9.9)   | 1.74<br>(43.8)   | 3.80<br>(15.3)  |
| World Output from 1990 onwards | $a_3$    | 0.40<br>(3.3)   |                 |                  | 0.92<br>(4.9)   |
| Unit Costs                     | $a_4$    | -0.61<br>(-2.7) | -0.30<br>(-4.2) | -1.23<br>(-11.1) | -1.29<br>(-5.7) |
| Relative Wages                 | $a_5$    | -0.67<br>(-3.4) |                 | -0.14<br>(-2.5)  |                 |
| Corporation Tax                | $A_6$    |                 |                 |                  | -2.21<br>(-4.9) |
|                                | Rho(1)   |                 |                 |                  |                 |
|                                | $R^2$    | 0.99            | 0.99            | 0.99             | 0.99            |
|                                | std.err. | 0.08            | 0.04            | 0.03             | 0.11            |
|                                | D.W.     | 1.05            | 0.57            | 1.76             | 1.68            |
|                                | from     | 1975            | 1975            | 1980             | 1970            |
|                                | to       | 2005            | 2005            | 2005             | 2005            |

<sup>29</sup> t-statistics in parentheses, estimation by least-squares, Rho(1) denotes estimated first-order autocorrelation coefficient using Cochrane-Orcutt techniques.

