The Irish Economy: Three Strikes and You're Out?

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Abstract

We examine the three interlinked Irish crises : the competitiveness, fiscal and banking crises, showing how all three combined to lay a lethal trap for Ireland. Starting from a point of economic balance, a series of poor government decisions led to the country once dubbed the "Celtic tiger" become the second eurozone state after Greece to seek a bailout, with the EFSF/IMF intervening in late 2010.

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1. The triple crisis

Over the last three years, the Irish economy has suffered a confluence of three simultaneous and inter-related crises, all unprecedented in the peace time history of the developed economies in their magnitude and coincident nature. The government responsible for presiding over these three crisis was voted out of office on 25 February 2011, losing 6 in 7 of its seats, with neither the prime minister nor deputy prime minister returning to the parliament, and with few cabinet ministers (ironically the finance minister was one) retaining a seat. Starting from the summer of 2007, the Irish banking crisis grew from a mild case of liquidity shortages to a run on banks shares in early 2008 and to a full blown collapse of the sector in the second half of 2008. Subsequent government responses to the crisis led, by mid-2010, to contagion from the insolvent banking sector to sovereign balance sheet.

In early 2008 the Irish economy was the first in the Eurozone to enter a recession. As a small open economy, Ireland was always susceptible to the exogenous shocks and the global downturn acted to exacerbate the overall recessionary momentum. However, much of the economic collapse was predicated on purely internal economic imbalances that developed over the period of 2001-2007 and that relate to the decline in international competitiveness, poor regulatory and supervisory environments in banking, construction and other sectors, over-reliance for growth on construction sector and lack of proper functional macroeconomic and fiscal stabilization systems. Although growth returned to both GDP and GNP measures in the last quarter of 2010, courtesy of the severe fiscal austerity measures required to bring public deficits from their stratospheric highs of 32% of GDP in 2010 to 3-4% of GDP by 2015, it is highly unlikely that the Irish economy will be able to escape a double dip recession on real growth side.

Taking out of the equation cyclical and banks-related components of the Irish structural fiscal deficit stood at over 10% of GDP in 2010 and per latest Government and independent forecasts, this trend is likely to persist through 2011 despite significant austerity measures enacted in the Budget 2011. This crisis was predicated on two independent sources – a significant decline in tax revenues from transaction taxes since 2008 and unsustainable increases in public expenditure over the period of 2001-2008. This paper outlines the triple crisis in Ireland. The extent of the crisis can be seen by comparing the evolution of national income over time as in Figure 1.

2. The "Celtic tiger" era: seeds of its own destruction

Economic conditions in Ireland during the 1980s were catastrophic, characterised by high unemployment, high rates of emigration, high rates of inflation, and high levels of personal taxes. Economic growth was sluggish in the first half of the decade, and by 1985 the debt/GDP ratio was over 120%, and the twin budget and current account deficits were almost 14%. Despite cutting back on the public capital spending programme in the late 1980s, growth in national debt outpaced growth in GNP as the cost of servicing the debt spiralled. After sequential political uncertainty in the late 1980s, a government finally implemented a programme of fiscal restraint in 1987. Combined with large cuts in capital spending, rapid export growth, devaluation of the Irish punt in 1986 and a large increase in emigration (resulting in lower fiscal costs of unemployment), by the early 1990s there was a vast improvement in the Irish fiscal accounts. Whilst a number of authors have attributed the dramatic decline in Irish debt as a classical case of 'expansionary fiscal contraction', attributable to large cuts in public consumption and investment expenditure, Bradley and Whelan (1997) contend that Ireland's positive growth experience at that stage can be largely explained by external factors.

Prior to 2001, Irish economic growth can be described as being fuelled by a combination of the economic catching up process and the effects of the global spillovers from the ICT bubble. The former force implies that between 1991 and 1998-1999, Ireland, previously one of the least developed European economies, was rapidly converging in macroeconomic terms to the Euro area average levels of income and markets development (Honohan and Walsh (2002)). By the end of 1999 Ireland had surpassed the Euro zone averages in virtually all parameters of economic development. Rapid economic growth in this period was underpinned by robust productivity growth rates (Whelan (2010)) increasing FDI, improving demographics reflected in rapid growth in the younger segment of the workforce and rising participation rates (Honohan and Walsh (2002)). A reversal of net outward emigration toward strong inflow of returning emigrants and new immigrants completed the process that helped keep wage inflation relatively in check over the period of 1989-1999. At the same time, driven by FDI and, at later stages also by domestic ICT sector expansion, productivity grew by close to or above 3% per annum during the 1990s.

Convergence was substantially completed by around 1999, when the national economy entered a brief, but robust boom in ICT sector supported however by artificially inflated valuations. By 2001, the Irish economy has developed a far less publicized, but nonetheless significant ICT bubble that primarily impacted some of the foreign multinationals operating in the country as well as less stable, but significant in the size of their capitalization, domestic start ups (see Khamsi (2005), Honohan and Leddin (2006)). The end of the bubble and the dotcom crash of 2001 left Irish economy exposed to recessionary pressures and without a single well-defined engine for continued growth. By the end of 2001, Ireland was reliant on fiscal stimulus to sustain economic activity, with General Government Total Expenditure rising from 30.54% of GDP in 2000 to 32.45% of GDP in 2001. As the result, General Government Structural balance has moved from a 1.7% of GDP surplus in 2000 to a deficit of 1.8% in 2001, starting its precipitous decline into a long-term fiscal structural deficit (see Figure 2).

With the backdrop of recessionary pressures, especially given two quarters of weak (Q2 2001 GNP growth of just 0.09%) and contracting (Q1 2002 GNP growth of -1.75% year on year) growth, the 2002 General election, resulted in a rapid ramp up of public spending. Despite the recovery in

2002-2003, the direct investment failed to sustain an exports-led recovery leading to growing pressures on the Government to continue to stimulate domestic investment and demand. To do this, Budget 2002 introduced tax relief on interest arising on and from 1 January 2002 "*on the purchase, improvement or repair of rented residential properties by an individual, partnership or company …for tax purposes against rental income*". The same year, the Government expanded tax reliefs for construction of private hospitals and other health facilities, extended tax relief for construction of park-and-ride facilities, Urban Renewal Scheme, Rural Renewal Scheme and multi-storey car parks. Subsequent budgets in 2003 and 2004 extended, widened and deepened tax reliefs for a wide variety of construction and property related activities. Irish fiscal policies became significantly pro-cyclical, as illustrated by the chart below, with much of this pro-cyclicality accounted for by investment in construction-linked capital investment. The European Commission (2011) estimated that the share of public expenditure on gross fixed capital formation reached almost 5% of GDP in 2007.

Coincident with these developments, the ECB cut its variable rate tenders from 4.25% in August 2001 to 2.75% in December 2002 and to 2% in June 2003. A full blown credit expansion diverted by tax policies, arbitrary application of planning and zoning restrictions, and historically motivated domestic investment portfolio biases toward property, was in full swing by 2004. This is discussed in some more detail later.

Over-extension of credit, and skewed investment in physical capital (namely property and land) and excessive increases in asset prices, drove up a period of catch up in consumer expenditures. By 2006, an average Irish assets portfolio, for those participating in investment markets, was over 55% geared toward capital gains on direct property holdings (Gurdgiev (2007). In January 2003, total credit extended to the households stood at €56.95bn. By May 2008 it rose to €156.80bn. Over the same period of time, mortgages lending rose almost 3-fold from €43.837bn to €127.289bn. Credit to non-financial corporations was up from €46.954bn in January 2003 to €171.322bn in August 2008. The ratio of private sector deposits to private sector outstanding credit within the domestic banking sector fell from 70.01% in January 2003 to 43.67% in November 2008 as leveraging became the main factor in driving total returns across professional, banking and retail investment portfolio.

Persistently low real interest rates (based on a combination of rampant domestic inflation and low policy rates set by the ECB) and easy access to credit "*contributed to inflating private sector balance sheets and property prices. Both household and non-financial corporate indebtedness rose sharply prior to the crisis to levels that were among the highest in the EU27*" (Commission (2011)). By 2007, average house prices were almost 2.7x 2000 levels, while investment in buildings rose from around 5% of GDP in 1995 to a peak of over 14% in 2008. As Figure 6 shows, the same period saw a dramatic loss of external competitiveness in the economy. The Irish economy therefore was, even absent any major external shock, in a weakened position by early 2008.

2. The Irish Fiscal Crisis

The extraordinary turnaround in the Irish fiscal position between the late 1980s and 2007 is attributed to the remarkable growth in the Irish economy. It is widely accepted that the annual growth rate of 6.7% between 1990 and 2007 can be categorised in two parts: a period of export-led growth from the early 1990s to 2001, and secondly by a significant expansion of the domestic construction sector from 2003 to 2007. In addition a brief ICT investment bubble was formed and deflated over the period of 1999 and 2002. This two-part period of growth resulted in a significant structural shift in output, thus whilst there was a slowdown in the volume of exports by more than 10% between 2002 and 2003, the value of output of the construction industry was 80% higher in 2006 than it had been in 2000. Throughout this period the structure of the Irish economy became increasingly dependent on the construction sector, and by 2006 construction output represented 24% of total GNP, compared with an average ratio of 12% in Western Europe. As we have seen this arose on the back of a procyclical fiscal policy and one which was heavily skewed to the construction industry. By the second quarter of 2007 construction accounted for over 13% of all employment (almost 19% when those indirectly employed are included), and generated 18% of tax revenues. This period of phenomenal growth – which far surpassed that of other OECD countries – facilitated an expansionary fiscal policy of increased spending, reduction in taxes. It was accompanied by a sizeable reduction in general government debt, which decreased from almost 120% in 1987 to 25% of GDP in 2007, driven exclusively by growth in GDP with virtually no reduction in actual debt levels.

The two-part period of growth in the Irish economy from the 1990s to 2007 is reflected in the difference in the composition of taxation revenues in these periods. Significantly, there was also a marked change in fiscal policy over the period. The export-led boom of the earlier Celtic Tiger period was accompanied by a relatively cautious fiscal policy, and current spending growth including debt service was significantly lower than the annual rate of growth of nominal GDP over the years 1997-2001. This resulted in a decline in the ratio of current spending to GDP from 33% in 1993 to 25% in 2000 (O' Leary (2010)). Growth in the export-led sector was accompanied by significant real exchange rate depreciation and high real interest rates. A decline in interest rates to near-zero in the following period, as highlighted above, facilitated an expansion of credit, fuelling rapid growth of the domestic property sector from 2002. This resulted in a remarkable increase in government revenues from stamp duty, capital gains, and value added taxes. Property-related taxes increased from 4% of total government revenue in 1995 to 18% in 2006. Enriched with windfall taxes from the construction boom, the government accelerated the procyclical fiscal policy Barry and FitzGerald (2009). In the period from 2000 to 2007, increases in spending on social transfers and public pay far outpaced the rate of growth in GDP, as general government expenditure increased annually by an average of almost

11% during this period (European Commission (2011)). The government also cut income tax rates repeatedly, with the result that income taxes as a percentage of total tax revenue declined from 37% in 1994 to 27% in 2006 (Lane (2008)). Additionally, the tax base was narrowed as exemption levels were raised, placing those on low incomes, comprising almost 50 percent of PAYE workers, outside the tax net. Consequently, the income tax burden was exceptionally light - Whelan (2009): p.8) estimates that the average tax rate for a single income married couple with two children on the average wage was 6.7%, compared with an EU-15 average of 23.7% and an OECD average of 21.1%. Whilst income tax cuts were popular, the transformation in composition of tax revenues over this period was highly significant.

By 2007 government revenues were greatly dependent on taxes from the housing market, of which the windfall element comprised 1.2% of GDP Addison-Smyth and McQuinn (2010). When activity in the sector came to a "shuddering halt" (Lenihan (2008)), tax revenues plummeted. Thus, property-related taxes which had comprised 18% of revenue in 2006 declined to less than 3% of revenue in 2010. The slowdown in the construction sector was accompanied by increased business closures in the traded sector, resulting in rising unemployment with consequent increased transfer payments and lower tax receipts. With a cumulative decline of 17% in nominal GDP in the period 2008-2010, the deterioration in the budgetary position was immediate and precipitous. After a decade of almost uninterrupted surpluses, the deficit in the general government balance soared to 7.5% of GDP in 2008, 12.9% of GDP in 2009, and reached a previously unthinkable 32% of GDP in 2010. In the space of three years, Ireland's fiscal position had been transformed from one of budget surpluses and the second lowest national debt among the EU15, to experiencing the largest budget deficits among OECD countries for two years in succession, and one of the largest budget deficits outside war time. The structural deficit – which had been masked by revenues from windfall taxes from the construction sector –was suddenly laid bare. Ireland's General Government Structural Balance recorded deficits in every year since 2000. Starting with the deficit of -1.8% of GDP in 2001, Irish structural deficits rose to -7.313% of GDP at the peak of the property bubble in 2007 (IMF, 2010b). By the end of 2010 Ireland recorded structural deficit of close to 11% (Commission (2011)). Warren Buffet's quote that "*you only find out who is swimming naked when the tide goes out*" could hardly have been more appropriate.

The Irish government was extremely slow to react to the impending crisis. While a series of expenditure cuts and tax increases were enacted through a number of budgets from 2007-2010, total expenditure increased from 37% of GDP in 2007 to 53% of GDP in 2010. This dramatic increase in government expenditure was accompanied by declining revenues, which fell to 33% of GDP in 2010, a huge and unsustainable gap as illustrated in Figure 5. Although the global economic recession was undoubtedly a factor in this economic reversal – the openness of the Irish economy makes it particularly vulnerable to external factors – the impact on Ireland's fiscal position was exacerbated by government policy in stabilising the banking sector.

As discussed below, the Irish government reacted to the crisis in the banking sector by guaranteeing the liabilities of six domestic banks in September 2008, in the hope that this would enable them to access capital in the financial markets. Despite additional measures to strengthen the banks by providing relief for impaired assets through the establishment of the National Asset Management Agency (NAMA), banks were unable to source funding in private markets and became dependent on equity injections from the state and, since the beginning of 2010, excessive short-term borrowing from the ECB and the Central Bank of Ireland.

These banking sector supports had a calamitous effect on Ireland's fiscal position, and in 2010 alone bank refinancing accounted for almost two thirds of the general government deficit. This additional burden contributed to a government gross debt ratio to GDP of over 90% by the end of 2010. As concerns about losses in the banking sector increased throughout 2010, the spreads of Irish sovereign bonds relative to the bund skyrocketed. Effectively shut out of financial markets, the Irish government requested financial assistance from the EU and IMF in November 2010. Under an agreement reached with the EU, ECB and IMF, a loan facility of €67.5 billion was extended to Ireland for the period 2010-2013, with €35 billion of this allocated for the refinancing of the banking sector. This facility was advanced subject to the implementation of an austere fiscal consolidation programme, which is subject to quarterly review. This facility was severely criticised (see for instance Kösters, De Grauwe et al. (2010) Davis (2010), Barley (2010), de Grauwe (2011)) should also site our own work – e.g. IT articles co-signed etc. for the widely perceived onerous interest rate, close to 6%, which the European component attracted. This interest rate, combined with the pre-existing high levels of debt, would result in very significant diversion of tax revenue to the bailout.

Principal among the conditions imposed on advancing the loan facility is the requirement to correct the fiscal imbalance by €15 billion or 9% of GDP over the period. This adjustment is divided between expenditure reduction and tax increases in the ratio 2:1 in an attempt to reduce the budget deficit to less than 3% of GDP by 2015. Whilst the Irish government are committed to these targets, doubts remain about Ireland's ability to achieve them, not least because of increased debt servicing costs and uncertainty about growth rates (IMF (2010)).

The challenge in addressing the structural imbalance in the Irish economy cannot be understated. The primary policy error of the past ten years - employing windfall receipts from transitory property taxes to fund the rapid growth of permanent spending commitments and the narrowing of the tax base – must be reversed. This entails significantly expanding the tax base by including a greater proportion of employees, a process that was initiated in the 2011 budget. Furthermore, revenue from new sources of taxation is required, including carbon tax, water tax and property tax. The latter should be sustainable, however, determined on stock of housing rather than transactions in the housing sector or activity in the domestic construction sector. Whilst the implementation of pro-cyclical fiscal policies were a primary factor in creating the structural imbalance in the Irish economy, ironically pro-cyclical policies are also required to address the deficit.

The size of the challenge facing the Irish government is immense – the average primary balance required to stabilise the public debt/GDP ratio at the 2007 level is 5.4% annually for 10 years (BIS (2010b)). Whilst it may be argued that the level of Irish public debt/GDP in 2007 was extremely low, the required transformation in the budget balance is daunting when one considers the projected budget deficit of minus 12% for 2011. The required fiscal correction is exacerbated by the extremely high level of post-crisis absolute debt, which will be difficult to reduce because the permanent loss of potential output means that government revenue may have to be permanently lowered (BIS (2010b)). As general government debt is projected to continue rising until 2013, and forecasted to peak at over 120% in 2013, debt servicing costs will double from 3% of GDP in 2010 to over 6% of GDP from 2014 (Commission (2011)). A number of commentators have expressed doubts about Ireland's ability to service this level of debt, especially because of projected sluggish growth rates which will be further hindered by contractionary budgets (see for example McCarthy (2010)). Another concern is that the banking sector will require significant additional funding, along with potential losses from the impaired assets held by NAMA. Indeed, some commentators argue that Ireland may face a stark choice between restructuring the liabilities of unsecured creditors of financial institutions or defaulting on sovereign debt (Gurdgiev (2010), Buiter (2010)). Whilst a number of authors have noted that Ireland managed a remarkable turnaround in fiscal fortunes in the 1980s (BIS (2010a)), and that this was attributable to fiscal restraint, national and international circumstances are very different this time around. Firstly, instruments of monetary policy, principally interest and exchange rates, are outside our control. Thus, options such as currency devaluation, which was implemented very successfully in 1986 and was instrumental in easing the subsequent debt crisis, are not available. Secondly, attempts to minimise the costs of the banking crisis by restructuring liabilities is severely restrained by the insistence of our European partners that this may not be considered until after 2013. An additional concern is that projected figures for recapitalisation of the banking sector are underestimated, and the additional amount required will place a further burden on an already precarious fiscal position. Thirdly, the fiscal adjustment required to address structural imbalances in the Irish economy is extremely large and will require additional expenditure cuts and tax increases, which will further hinder economic growth. Despite the implementation of significant fiscal consolidation measures of approximately 9% of GDP to date, the budget deficit is projected to amount to over 12% of GDP by the end of 2011.

Although the Irish government must act decisively to implement fiscal consolidation measures to address the structural imbalance in the economy, the implementation of policy at the European level is urgently required, particularly the enactment of a banking resolution mechanism for Eurozone countries. Recognising that Ireland is not unique in it's fiscal difficulties, European leaders must act quickly, as doubts remain as to the sustainability of the overall debt level for a number of EU peripheral countries Kouretas and Vlamis (2010), with some authors highlighting the threat to the euro (Prokopijevi (2010)). Fiscal policies which contributed to the crisis in the Irish economy have been, and will continue to be rectified by the government and borne by Irish citizens. Ultimately, the enormous fiscal cost of the banking crisis, comprising almost 40% of GDP, cannot be addressed unilaterally and will require coordinated European measures.

3. The Irish Banking Crisis

A major part of the deterioration of the fiscal balance sheet can be laid at the collapse of the credit bubble. This credit bubble ultimately also destroyed the Irish banking system, and the policy solutions adopted by the government had the consequence of inextricably mingling the balance sheets of the state and banking sectors. This intermingling in the end resulted in the need for Ireland to seek a bailout .The credit bubble in Ireland was long-lived, exceptionally large, and widespread. It was not confined to a bubble in lending to the housing and development sector, although that was its apex. The credit fuelled property bubble led to a massive skewing of the Irish bank balance sheets, while the household credit bubble led to strains on the Irish household balance sheet.

The extent of the credit bubble is starkly illustrated in Figure 7 which shows the growth trajectories of private sector credit in aggregate and that of GNP are compared. The credit bubble is very evident. A number of features are important to note in this bubble. *First*, a very large acceleration is evidence after 2000, which coincides with the entry of Ireland to the EMU. It is very commonly suggested (see….) that Irish interest rates post EMU were lower than that which would be suggested by a Taylor rule. Thus, to some extent, this low interest rate regime, combined with the lax fiscal position noted earlier, coincided with and to some extent may have led the growth in private sector credit (see Kelly (2009) for a discussion of this and Fagan and Gaspar (2007) for a discussion of this lower credit cost across the euro zone) . *Second*, this growth in private sector credit was to a great extent funded not by growth in deposits but by a growth in external borrowing. Lane (2011) notes that the net external position of Irish banks deteriorated, rising from approx 20% GDP in 2003 to over 70% GDP at the peak of the boom in Q1 2008. This is also evident when we examine Table 1 where we see the aggregate balance sheet of credit institutions. There we see that from a position of being funded for the most part by domestic customer deposits in 1999 the banks had by end 2008 moved to being heavily dependent on bond financing and non-resident interbank deposits, with a worrying erosion of capital also evident. *Third*, this money, borrowed from abroad at cheap interest rates, was lent disproportionally to the housing and speculative development sector. Table 2 shows the sectoral distribution of advances from 1999 to 2008, and this switch is clearly evident. From under a third of total advances in 1999 lending to the property related sectors had reached closer to two thirds, of a greatly expanded credit pool, in 2008. The consequence of this expansion of credit and its distribution towards one main sector was, in retrospect, quite predictable – a massive house price boom with an associated commercial property and land value boom. This mutually reinforcing, and quite probably supply of credit led boom was demonstrated by Fitzpatrick and McQuinn (2007) and more recently by Addison-Smyih, McQuinn et al. (2009). It is also addressed in Kelly (2007a), Kelly (2007b), Kelly (2009) and Figure 8 shows the average quarterly price of new houses and the average weekly earnings, demonstrating clearly the acceleration of house prices from the late 1990's and more especially the rising "unaffordability" of these houses. It is startling that throughout the most explosive part of the boom bank credit conditions were progressively looser and looser (see Honohan (2009)). It is important to note that these prices hide considerable variation, with houses, especially in Dublin, rising faster than apartments and some regional areas at times showing rates of new home increases that were in excess of 10% q-q. The dramatic collapse in the prices of houses, signalled as to its immanency, extent and duration by Kelly (2007b) and the consequent losses on the by now heavily property driven Irish banks balance sheets, have wreaked havoc on both the banks and on individuals. It has also had a major effect on the landscape with "ghost estates" comprising semi finished housing developments littering the countryside (see Kitchin, Gleeson et al. (2010))

A feature of the Irish housing market is that upwards of 60% of mortgages were of the tracker type, and this had become the most popular form of a burgeoning mortgage product market (Doyle (2009)) The most recent calculations are those of Duffy (2010) who estimates that as of mid 2010 (and recall that the crash is by no means over) the number of persons in negative equity may be 200,000 of the 1.8m households in Ireland. As Ireland faces reduced employment prospects and the need for a more flexible labour market the well known retardation effects of such by the presence of negative equity (see Gyourko and Saiz (2004), Ferreira, Gyourko et al. (2008), Hellebrandt, Kawar et al. (2009)) makes this an important policy issue, which has only belatedly been given attention by the Irish government. A further effect of the crash was to increase the amount of distressed mortgages. There is no non-recourse mortgage lending in Ireland, and the personal bankruptcy laws are generally seen to be too rigid (Gerhardt (2009)). Combined with a cultural aversion to eviction, the ultimate end of distressed mortgages and this leaves a toxic brew of individuals unable to service mortgages and banks unable or unwilling to repossess and realise some liquidity or crystallise a loss. Gerhardt and Centre for European Policy (2009). The overall level of indebtedness of the country had long been recognized (Lucey and Gurdgiev (2009)) but by the time of the bank collapse the window for swift action had passed. By end January 2011 estimates from the central bank were that 5.7% of loans by number and 7.5% by value were more than 90 days in arrears, with as many again having been restructured but still performing.

More profoundly, the collapse of the credit-housing bubbles has destroyed the Irish banking sector. A separate issue is the manner in which the policy responses by government have impacted on the liquidity element, but the stark warnings in Kelly (2007b) made it clear that even an "average" bursting of the bubbles would lead to losses sufficient to destroy the capital base of the Irish banks. The structure of the Irish banking system in 2008 was of 6 main banks/bankassurance companies which had emerged in large part from mergers and restructurings in the 1980's and 1990's. The largest high street banks were Allied Irish and Bank of Ireland, with Anglo Irish Bank and Irish Nationwide being widely perceived as the most aggressive. As is clearly shown in Honohan (2009) it was or should have been clear to the regulators that the Irish banks were growing too rapidly, with total assets expanding well over 20% per annum, an internationally accepted danger signal. Despite this, Ireland (2006) gave the banks a clean bill of health. By early 2008 the emerging US subprime led credit crunch was beginning to result in a much more cautious analysis by the markets of the Irish bank fundamentals and significant share price falls which had began in early 2007 accelerated (See Figure 9). As described in Honohan (2010b), this continued over the summer of 2008, and eventually a crisis was precipitated consequent to the collapse of Lehman Bros. Honohan (2010b) is quite clear however that while this may have precipitated a requirement for government intervention the eroding bank capital bases, flights of deposits, and general weakness (which had begin to be hinted at during q2 2008 by the banks) were consequences of lax regulation, poor fiscal policy and lack of board level supervision in the banks, which had allowed the bubbles to inflate as long as they did.

The collapse of Lehman's in mid September was followed by renewed credit freezes. The Irish banks, Anglo Irish bank in particular, were at this stage heavily "borrowed short, lent long", funding themselves from a shrinking and expensive pool of interbank and bond financing and lent into a deflating illiquid property boom. Over the period 28-29 September 2008 it became clear that Anglo Irish Bank in particular was in deep trouble, and would not be able to continue independently. Extensive cabinet discussion resulted in the government, on 30 September, extending a blanket guarantee on not only all deposits but on all senior and indeed some junior debt of the 6 main banks. Indeed, a guarantee was given not only on existing but on any future bonds to be issued. This was at the time and has subsequently been severely criticised. The main issue of contention was the decision to not impose any burden sharing, and to extend the guarantee to INBS/Anglo, widely seen as at that stage not systemic. Extensive discussions of the decision are contained in Honohan (2010a), Honohan (2009) , Kelly (2010). Despite this extraordinarily wide guarantee, it became clear over the winter that further action was required, although for some considerable time the government was unwilling to accept that any recapitalisation was required (see Lucey, Connor et al. (2008), This took two forms. First, Anglo Irish Bank was nationalised, in early 2009, and some limited recapitalization, in the form of preference shares, was placed into the two larger banks, Allied Irish and Bank of Ireland. Second, the government proceeded with the setting up of a "bad bank", the National Asset Management Agency – NAMA. The essence of the approach was to strip from guaranteed banks the entirety of their development and land loans (this was subsequently and serially modified as NAMA found itself unable to move swiftly) at a discount and to pay for these with government bonds issued by NAMA. To date NAMA has issued €31b debt and taken €70b of loans off the books of the banks, and is scheduled to take a minimum of a further €16b. Although designed as a private company, with a "golden share" to ensure state control, these debts are clearly and are seen as being state debts. The consequence of the embedded losses in the banks and the crystallised losses from asset fire sales and from the discounts applied by NAMA on the loan portfolios has left the banks requiring very large sums of money to rebuild their capital bases. The banks have, in great extent, been unable to source funding from the markets, due to fears of further losses from residential mortgage books. The recapitalisation of the banks has thus been from the state, which has injected very large sums: Anglo €22.9b, AIB €6.7b, Irish Nationwide €5.4b, Bank of Ireland €3.5b and Educational Building Society €0.9b. This has resulted in the *de facto* nationalisation of the bank system, something that the government (via its chief economic advisor) had sternly warned against Ahearne (2009).

One of the biggest problems with the initial solutions to the banking crisis in Ireland was a fundamental misdiagnosis of what the problem actually was. All weapons (both conventional, and less so) that were deployed were designed to fight a liquidity crisis, which, unfortunately, was not what the Irish banks were experiencing. The Irish banks were threatened with insolvency, but the policy prescriptions adopted were primarily designed to inject liquidity and to allow the banks to "trade out" if possible. The eventual realisation of the scale of the crisis led to NAMA, nationalisation, and capital injections. However, despite all these, there were still huge amounts of liquidity been made available to (and required by) the Irish banks. The ECB have provided significant liquidity to the system over the course of the crisis, shown in Figure 11. Note that the amount of liquidity provided has fallen since mid 2010. While this indicates that over the course of time the crisis overall became less acute, it masks the increasingly localised nature of the problem. During 2009/2010 the liquidity crisis was a pan-European one. The funding pressures on many Eurozone banks has eased, however, the situation in Ireland shows no signs of improvement. We can get an idea of the continuing funding pressure on Irish banks from the following two charts. Shown in Figure 12 is the ongoing liquidity crisis. The Left hand axis shows the total amount of ECB originated liquidity which the Irish banks have taken while the right hand axis shows the % of total ECB liquidity which is outstanding to Irish banks. It is clear that the Irish Banks are still heavily reliant on ECB liquidity, and the improvement in general Central Bank liquidity needs across the Eurozone are not reflected in the Irish Banking system. At end December 2010, 17.3% of gross liquidity provided by the ECB was going to Ireland, a country that accounts for only 1.8% of Eurozone GDP. In addition, the Central Bank of Ireland has also been providing emergency liquidity to the Irish banks via a mechanism called 'Emergency Liquidity Assistance' (ELA). Although opaque in relation to the precise details, it seems that the Irish Central Bank can, under ECB rules, provide emergency liquidity to banks outside of normal ECB operations, and most importantly, without having to adhere to normal ECB collateral rules. This amounts by end 2010 to some €50bn. Clearly, we know that the collateral accepted for this mechanism is of a quality that is unacceptable to the ECB. If the Central Bank of Ireland incurs a loss on any of this lending then that loss becomes a problem for the sovereign, as the sole shareholder of the Central Bank of Ireland is the Irish minister for finance, making him (or her) liable for any losses. The extent to which this places pressure on the sovereign is unclear but that it does, in the first instance, is discussed in Buiter (2011a), Buiter (2011b),

The strains which the fiscal crisis, the bank guarantee, bank capitalisations, NAMA and the need for ongoing liquidity support from the Central Bank of Ireland and from the ECB took a sever toll on the creditworthiness of the Irish state. Shown in Figure 10 is the evolution of the 2 and 10 year bond yield expressed as a spread over equivalent bund. The deterioration of the sovereign credit prospects is evident from early 2009 onward. Throughout 2010, with first the Greek sovereign debt crisis and then the realisation of the severe strain on the Irish taxpayer that would result from the structuring of the banking policy coupled with the poor fiscal position Irish sovereign bond yields continued to rise. By autumn it was clear that the country faced being priced out of the sovereign market. Much of the recapitalization money had come from the National Pension Reserve Fund, and with that dwindling the state faced a potential funding cliff. The state was faced with no choice but to agree to open discussions with the EFSF, the IMF and with smaller bilateral deals being made with the UK and with Denmark (both of whom had financial institutions with significant operations in Ireland) a package was agreed with the consequences noted above.

3. After the crisis

As noted, on 25 Feb the government, which had been in power from 1997 to 2011, and which therefore grew and blew the booms, was voted out of office. Throughout the election the outgoing governments response to the crises dominated the campaign, Chaffin, Brown et al. (2011), with the terms of the bailout front and centre. Despite the change in government however the room for manoeuvre of the incoming government was and will remain limited. A major divide exists between advocates of increased burden sharing including haircuts on senior bank debt and those that do not so advocate. The main thrust of those that urged burden sharing (see for example Eichengreen (2010)) was that to not do so would result in a burden on the Irish taxpayer that could in the end result in a default situation on sovereign debt. The avowed policy of the incoming government (Kirby (2011)) was to seek renegotiation of the November 2010 bailout, in particular the interest rate charged and the time period for repayment.. It is clear, from both the Irish and the Greek crises, that the institutions of the Euro zone require significant work to allow for some degree of flexibility. Greater flexibility in relation to burden sharing is also required (see Gros (2010)). Whether these will happen, and we will see the creation for example of “trichet” bonds, similar to the Brady bonds (Economides and Smith (2011)). An alternative is that we will instead see the scenario envisaged in Buiter (2010), and not all are hopeful that the crisis will be resolved (Anonymous (2011)) . But it is clear that one lesson must be learned: membership of a currency union operating without a concomitant fiscal union commits a country to self-imposed discipline. Lacking that, a severe adjustment will be required if a crisis emerges.

Table 1: Aggregate Balance Sheet, Credit Institutions, Ireland

	1999 €M	2008 €M	1999	2008
Foreign Bank Deposits	15542	149465	19.80%	29.10%
Irish Bank Deposits	6472	87196	8.20%	17.00%
Foreign Customer Deposits	4336	23416	5.50%	4.60%
Irish Customer Deposits	35142	114235	44.80%	22.20%
Bonds - Non Irish	71	43574	0.10%	8.50%
Bonds - Irish	241	19092	0.30%	3.70%
Other Liabilities	9671	57227	12.30%	11.10%
Capital	6990	19746	8.90%	3.80%

Source: central bank of Ireland

Table 2: Sectoral Distribution of Credit, Credit Institutions, Ireland

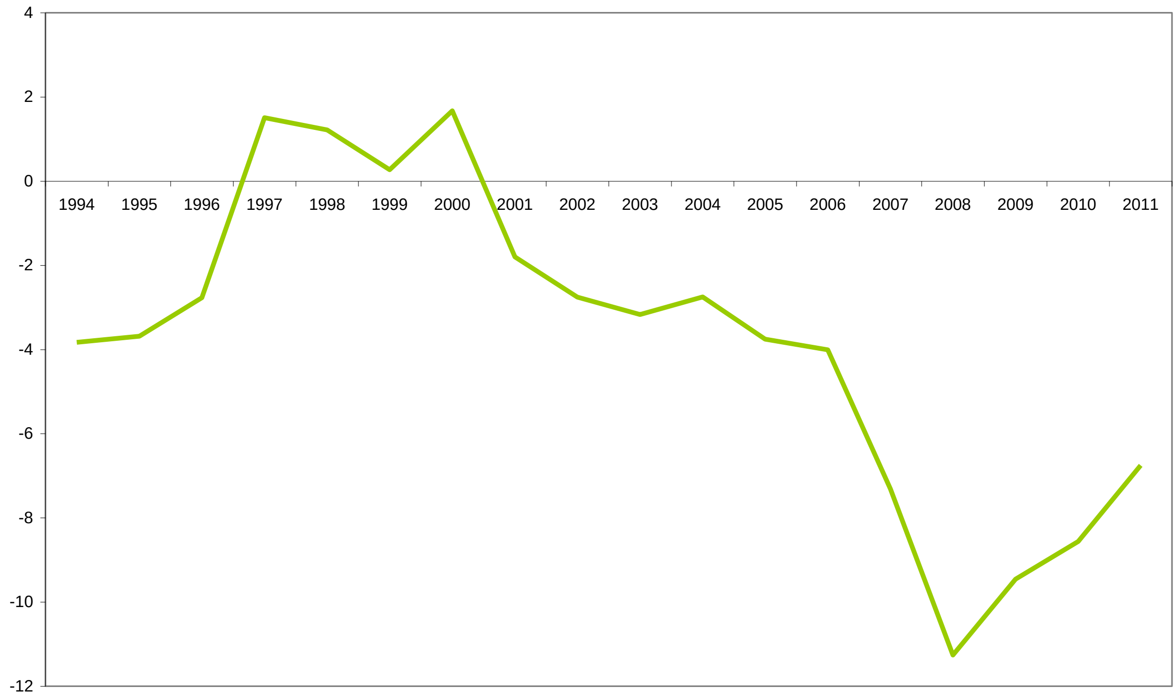
	1999 €m	2008 €m	1999	2008
construction	2394	22270	2.50%	5.20%
Financial Intermediation	30418	80588	31.70%	19.00%
Real Estate	5232	90108	5.50%	21.20%
Mortgages	24369	147905	25.40%	34.80%
Other Personal	6811	23399	7.10%	5.50%
Wholesale/Retail Trade	3692	14091	3.90%	3.30%
Other Business	22,922	46,504	23.90%	10.90%

Source: central bank of Ireland

Figure 1: Growth Rates of Gross Domestic Product and Gross National Product at 2008 Prices

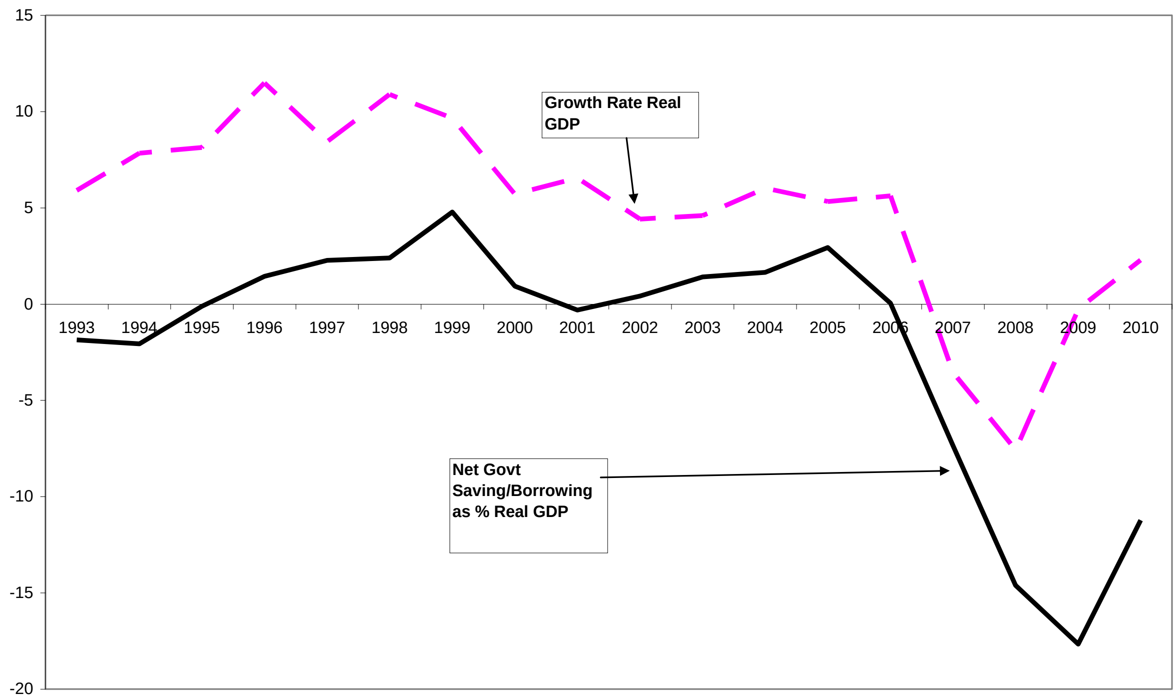
Source: Central Statistics Office

Figure 2: Structural Government Deficit, Ireland, % Potential GDP



Source: IMF WEO, October 2010

Figure 3: General Government Borrowing/Lending, % of GDP and GDP growth, 1993-2011



Source: IMF WEO database and Institute for Business Value, IBM

Figure 4: Irelands export position

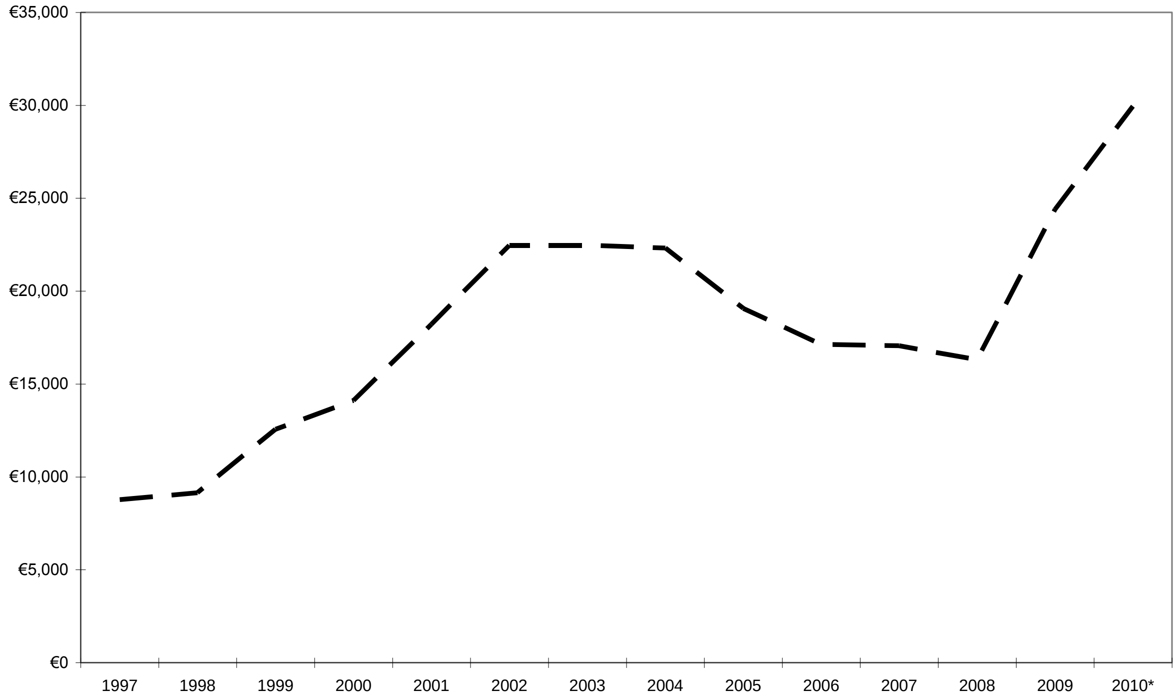
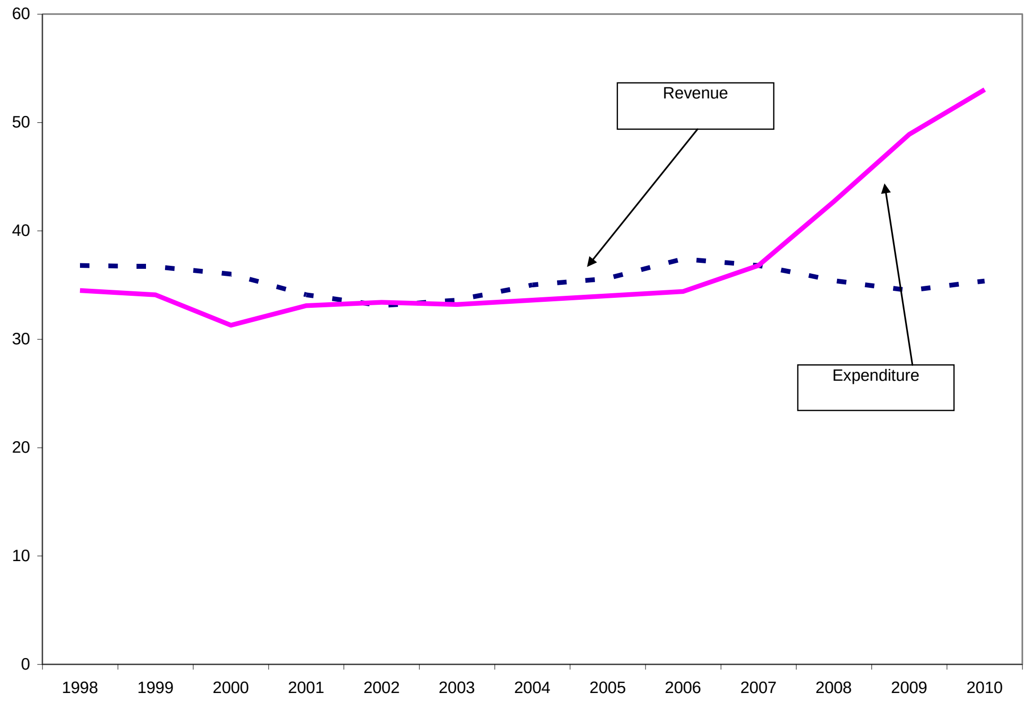
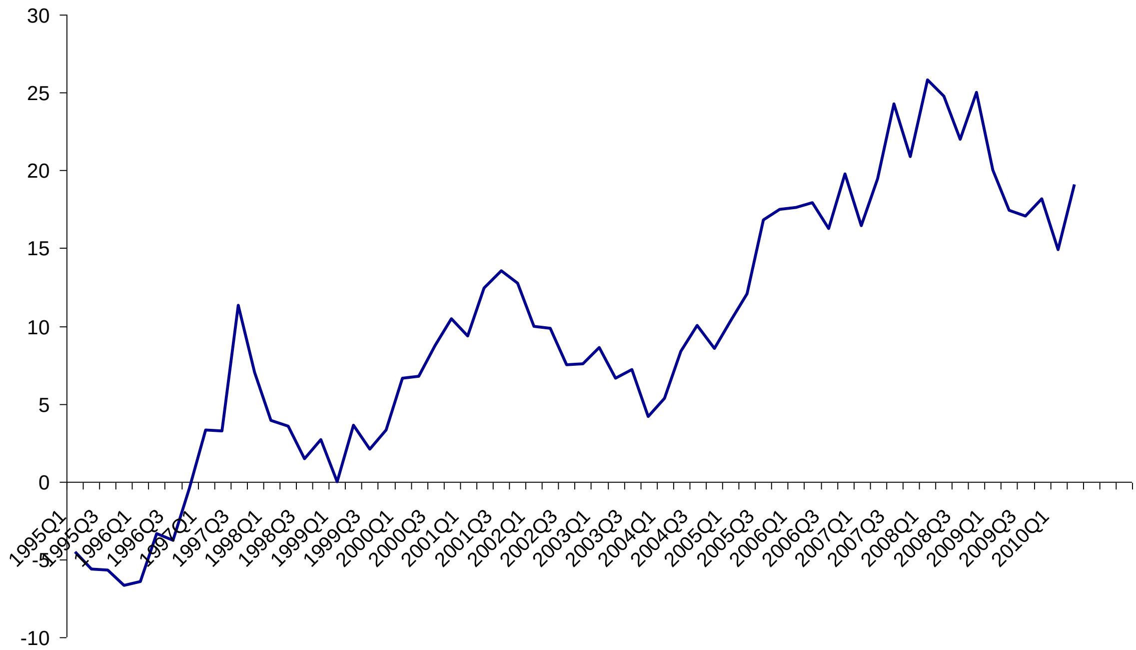


Figure 5: Irish Government Expenditure and Revenue, % GDP



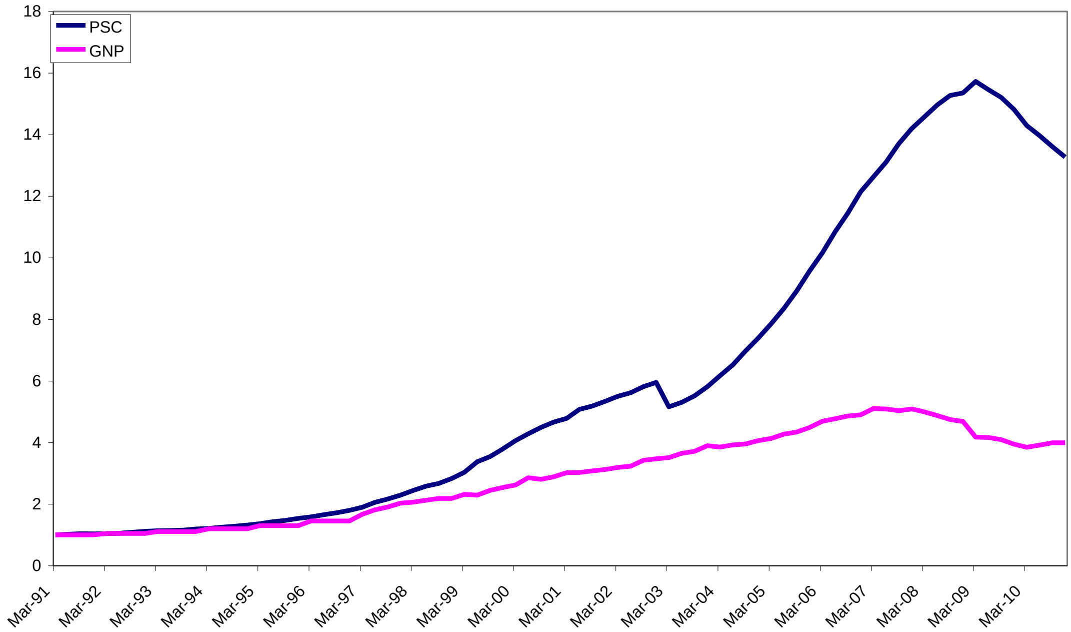
Source: Eurostat

Figure 6: EU16-Ireland gap in Harmonized Competitiveness Indicators, unit labor costs, 1995-present, %



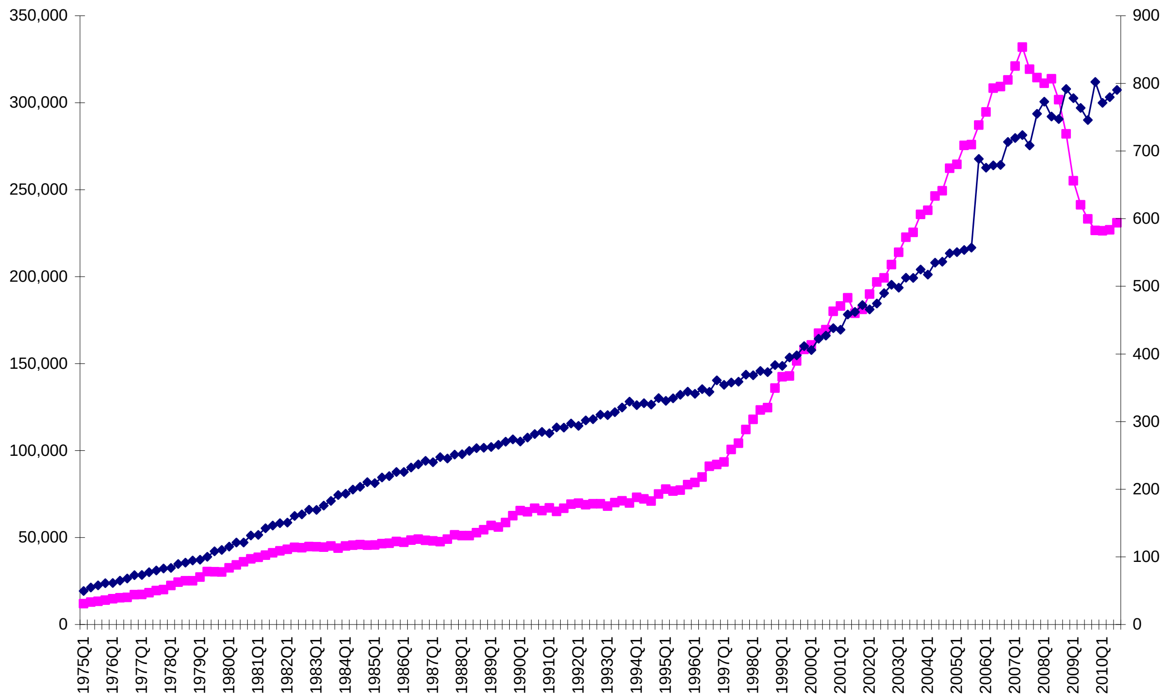
Source: European Central Bank

Figure 7: Private Sector Credit and GNP, Ireland



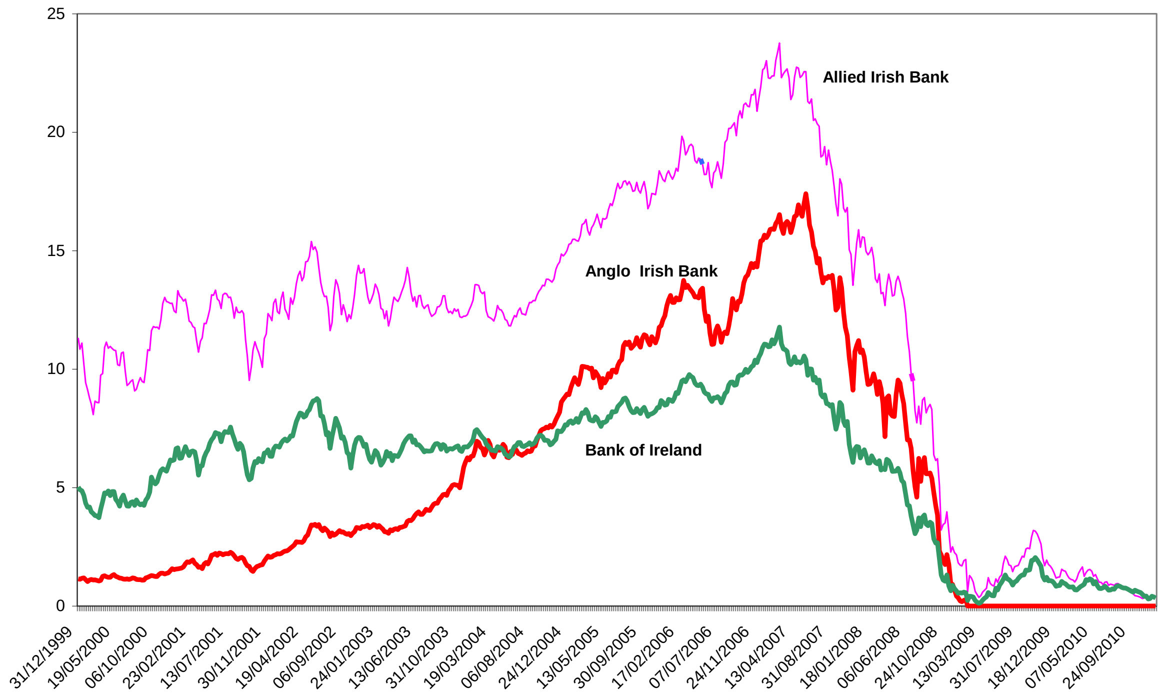
Private Sector Credit and GNP, Current Prices, Ireland, Q1 1991=1. Source: Reuters

Figure 8 New House Prices (LHS) and Average Weekly Earnings (RHS) Ireland



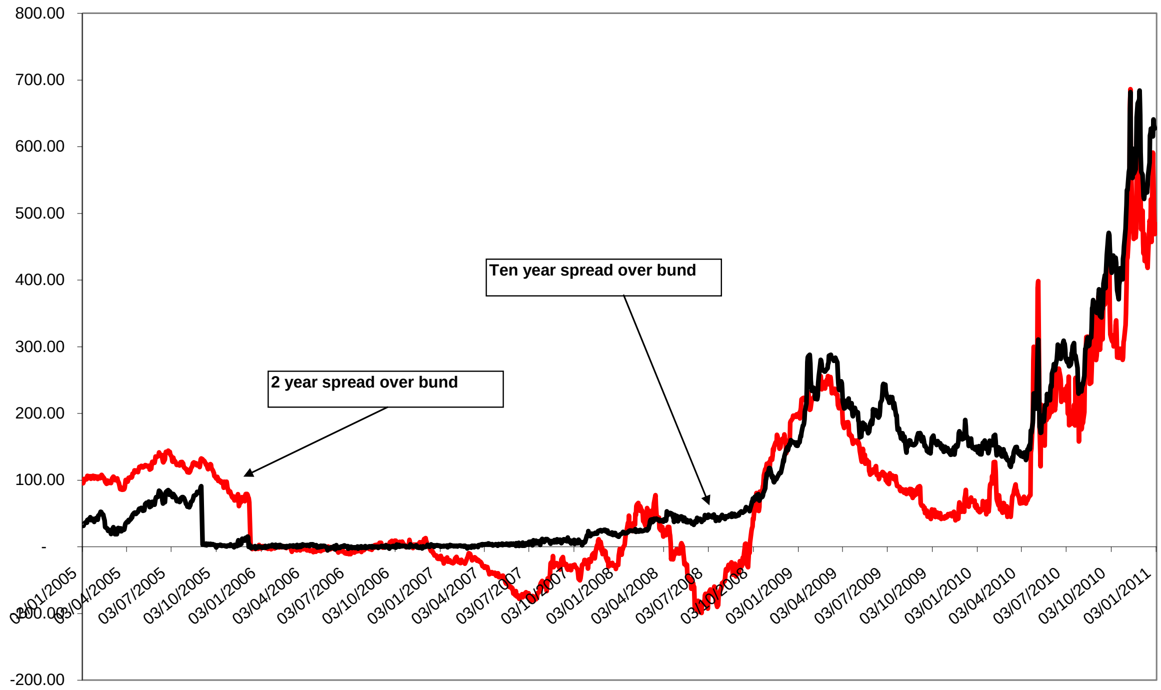
Source: New house prices, Department of Environment, Average Earnings Reuters. Note break in series in 2005

Figure 9: Closing Share Price of three large banks



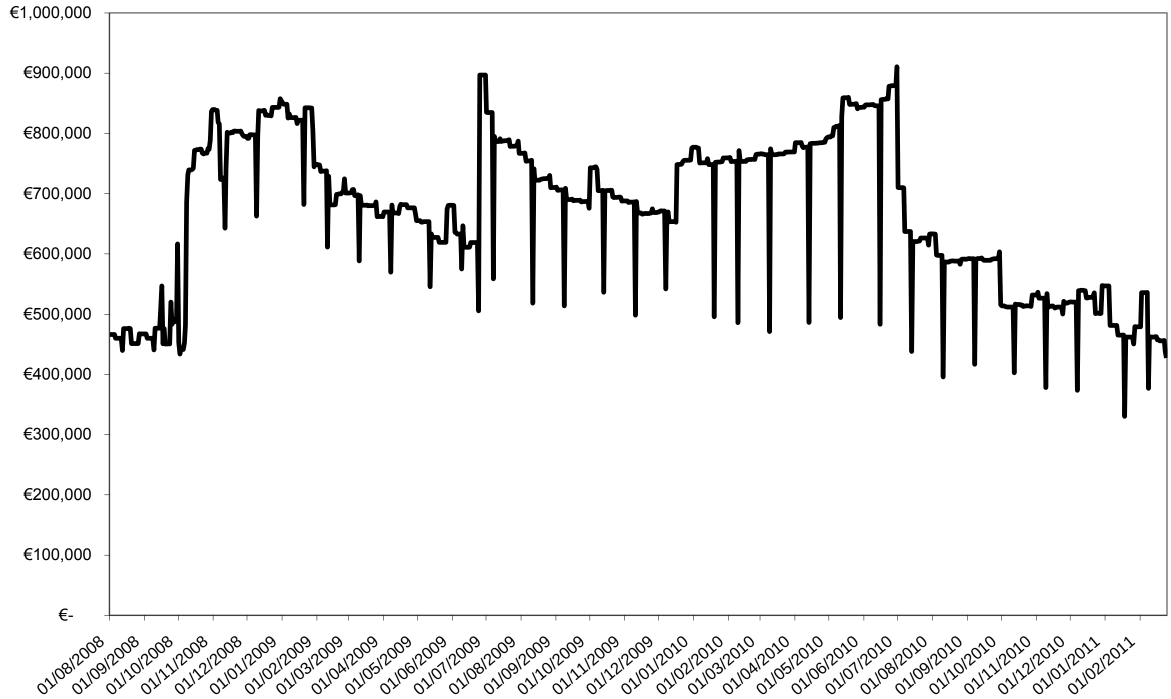
Source: Reuters

Figure 10: Irish Sovereign Debt Spread over Bund



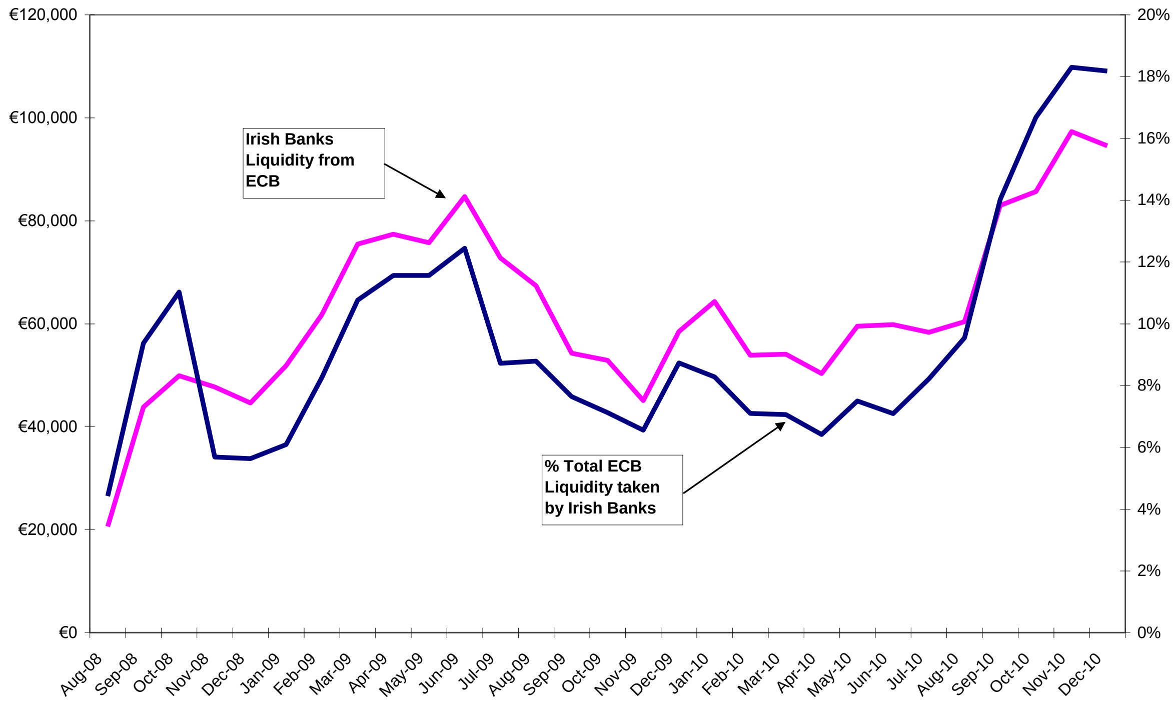
Source: Reuters

Figure 11: Total ECB Liquidity August 2008-February 2011



Source: European Central Bank

Figure 12 : Irish Banks Liquidity Positions



Source: European Central Bank and Central Bank of Ireland

References

Addison-Smyih, D., K. McQuinn and G. O'Reilly (2009). "Modelling credit in the Irish mortgage market." Economic and Social Review **40**(4): 371-392.

Addison-Smyth, D. and K. McQuinn (2010). "Quantifying revenue windfalls from the Irish housing market." Economic and Social Review **41**(2): 201-223.

Ahearne, A. (2009), "Nationalised banks would find it harder to get international funds ", The Irish Times, 25 April 2009

Anonymous (2011), "Depth of euro crisis may push bailout down agenda", Irish Times, 23 Feb 2011

Barley, R. (2010), "Ireland's Bailout Balancing Act", Wall Street Journal 23 Nov 2010

Barry, F. and G. FitzGerald (2009). Politics and Economic Policymaking in Ireland. Trinity College Dublin on 9th October, Trinity College Dublin

BIS, B. f. I. S.-. (2010a). Fiscal sustainability in the industrial countries: Risks and challenges. Bank for International Settlements 80th Annual Report. Basle**:** 59-73.

BIS, B. F. I. S.-. (2010b). The future of public debt: Prospects and implications. Monetary and Economic Department. Working papers Basle

Bradley, J. and K. Whelan (1997). "The Irish expansionary fiscal contraction: A tale from one small European economy." Economic Modelling **14**(2): 175-201.

Buiter, W. (2010). Is sovereign default "unnecessary, undesirable and unlikely" for all advanced economies?",. Citigroup Global Markets Global Economic Outlook and Strategy

Buiter, W. (2011a). ELA Revisited: A Clarification. Global Economics View. London, Citigroup Global Markets.http://www.nber.org/~wbuiter/sonofela.pdf

Buiter, W. (2011b). ELA: An Emperor without Clothes? Global Economics View. London, Citigroup Global Markets.http://www.nber.org/~wbuiter/ela.pdf

Chaffin, J., J. M. Brown and P. Spiegel (2011), "Terms of bail-out looming large in Ireland's election", Financial Times, 25 Jan 2011

Commission, E. (2011). The economic adjustment programme for Ireland, . European Commission, Directorate-General for Economic and Financial Affairs, Occasional Papers. Brussels

Davis, B. (2010), "World News: Amid Irish Aid, a New Option --- Some Critics of Latest Bailout Propose Sovereign Default to Keep Debt in Check", Wall Street Journal, 23 Nov 2010

de Grauwe, P. (2011). "A less punishing, more forgiving approach to the debt crisis in the eurozone. ." CEPS Commentary: 1-5.

Doyle, N. (2009). Housing Finance Developments in Ireland. Central Bank of Ireland Quarterly Bulletin. Dublin

Duffy, D. (2010). "Negative equity in the Irish housing market." Economic and Social Review **41**(1): 109-132.

Economides, N. and R. C. Smith. (2011). "Trichet Bonds to Resolve the European Sovereign Debt Problem." SSRN eLibrary, from http://ssrn.com/paper=1746124

Eichengreen, B. (2010) "Ireland’s rescue package: Disaster for Ireland, bad omen for the Eurozone " VoxEU. org **3 December 2010**, DOI:

Fagan, G. and V. Gaspar (2007). Adjusting to the Euro. ECB Working Paper. Frankfurt

Ferreira, F., J. Gyourko and J. Tracy (2008). "Housing busts and household mobility." National Bureau of Economic Research Working Paper 14310.

Fitzpatrick, T. and K. McQuinn (2007). "House Prices and Mortgage Credit: Empirical Evidence for Ireland." Manchester School **75**(1): 82-103.

Gerhardt, M. (2009). "Consumer Bankruptcy Regimes in the US and Europe: Further Effects and Implications of the Crisis." CEPS Working Document No. 318.

Gerhardt, M. and S. Centre for European Policy (2009). Consumer Bankruptcy Regimes and Credit Default in the US and Europe, Centre for European Policy Studies.

Gros, D. (2010). "The seniority conundrum: Bail out countries but bail in private, short-term creditors?" CEPS Commentary: 1-6.

Gurdgiev, C. (2007). Intergenerational Attitudes to Wealth in Ireland, Canada Life Assurance
Gurdgiev, C. (2010), "€220bn sovereign burden too big to carry ", Irish Independent, 28 Nov 2010
Gyourko, J. and A. Saiz (2004). "Reinvestment in the housing stock: The role of construction costs and the supply side." Journal of Urban Economics **55**(2): 238-256.
Hellebrandt, T., S. Kawar and M. Waldron (2009). "The economics and estimation of negative equity." Bank of England Quarterly Bulletin **2**: 110-121.
Honohan, P. (2009). "Resolving Ireland's banking crisis." The Economic and Social Review **40**(2): 207-231.
Honohan, P. (2010a). "Euro Membership and Bank Stability–Friends or Foes?; Lessons from Ireland." Comparative Economic Studies **52**(2): 133-157.
Honohan, P. (2010b). The Irish Banking Crisis ; Regulatory and Financial Stability Policy, 2003-2008. dublin, Central Bank and Financial Stability Institution of Ireland**:** 183
Honohan, P. and A. J. Leddin (2006). "Ireland in EMU: more shocks, less insulation?" Economic and Social Review **37**(2): 263.
Honohan, P. and B. Walsh (2002). "Catching Up with the Leaders: The Irish Hare." Brookings Papers on Economic Activity(1): 1.
IMF (2010). Ireland: Staff report for the 2010 Article IV consultation. Country report Washington DC
Ireland, C. B. a. F. S. A. o. (2006) " Financial Stability Review. ." DOI: http://www.centralbank.ie/fns_srep1.asp
Kelly, M. (2007a), "Banking on very shaky foundations", Irish Times, 7 September
Kelly, M. (2007b). "On the likely Extent of Falls in Irish House Prices." Quarterly Economic Commentary: **2007**(2): 42-54.
Kelly, M. (2009). The Irish Credit Bubble. UCD School of Economics Working Paper Series. Dublin
Kelly, M. (2010). Whatever Happened to Ireland? CEPR Discussion Paper London, Center for Economic Policy Research.http://ssrn.com/paper=1611507
Khamsi, R. (2005). "MIT wraps up Dublin lab following funding failure." Nature **433**(7024): 345.
Kirby, P. (2011). Briefing paper on the Irish elections. Friedrich-Ebert-Stiftung International Policy Analysis Reports. Berlin
Kitchin, R., J. Gleeson, K. Keaveney and C. O'Callaghan (2010). A Haunted Landscape: Housing and Ghost Estates in Post-Celtic Tiger Ireland NIRSA Working Paper Series. Maynooth, NUI Maynooth
Kösters, W., P. De Grauwe, D. Gros, W. Schelkle, et al. (2010). "Eight months later—Has the Eurozone been stabilised or will EMU fall apart?" Intereconomics **45**(6): 340-356.
Kouretas, G. P. and P. Vlamis (2010). "The Greek crisis: Causes and implications." Panoeconomicus **4**: 391-404.
Lane, P. (2008). "Fiscal policy for a Slowing economy." Budget perspectives 2008.
Lane, P. (2011). The Irish Crisis. IIIS Working Papers. Dublin
Lenihan, B. (2008). Address to the European Construction Industry Federation. . dublin
Lucey, B., G. Connor, V. Poti, M. Hutchinson, et al. (2008), "State injection to banks could end up good value", Irish Times, 28 November 2008
Lucey, B. and C. Gurdgiev (2009), "Problems in real economy dwarf those of bank sector", Irish Times, 3 Feb 2009
McCarthy, C. (2010), "IMF is too polite to say, but this bailout pushes us further into the red zone", Sunday Independent, 19 December 2010
O' Leary, J. (2010). "External surveillance of Irish fiscal policy during the boom." Irish Economy Note **11**.
Prokopijevi, M. (2010). "Euro Crisis." Panoeconomicus **57**(3): 369-384.
Whelan, K. (2009). Policy lessons from Ireland's latest depression, University College Dublin, Centre for Economic Research
Whelan, K. (2010). "Policy Lessons from Irelands latest Depression." The Economic and Social Review **41**(2): 225-254.