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# **An Audit of Irish Debt**

Dr Sheila Killian, Dr John Garvey, Frances Shaw

University of Limerick, September 2011

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## A note on scope

This audit sets out to quantify the scale of the Irish national debt in the first half of 2011. In doing so, it examines all debt for which the Irish state has direct or indirect liability. This extends the scope beyond what is normally understood as Sovereign Debt to include debt issued by private banks, but underpinned by a state guarantee. It also examines some other market activity which impacts on the value or perception of bonds issued or guaranteed by the Irish government. Specifically in this context, some time is spent on Credit Default Swaps and on short selling.

By definition, the scope of an audit is limited to a particular time period, in this case the first half of 2011. Since all sources of data are not available for all dates, we have clearly indicated the date and source of all figures included here. Every effort has been made to independently verify material amounts, and to account in a consistent way for currency translations. Despite this, because of variances in currency translations and some date differences, some inconsistencies remain. Nevertheless, we are happy that this audit presents a thorough examination of the debt question at this time, and adds to the public store of knowledge on the issue. We hope that this work can be extended and built upon by others. To facilitate this, we have detailed our sources of information, and included URLs where there is an online link. More detail on the terms of reference is included in the body of the report.

## **Acknowledgements**

The authors acknowledge the support of the Debt and Development Coalition, Afri and UNITE, and the assistance of the many people who made useful comments on earlier versions of the report. Opinions expressed in this report cannot be construed as opinions of the University of Limerick or any of its partners.

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# Executive Summary

This is an audit of Irish sovereign debt, and as such seeks to quantify and explain the debts, both real and contingent, for which the Irish people have become responsible. As such, our main focus is bonds issued directly by the Irish government and long-term liabilities of the banks which are guaranteed by the Irish government. In addition to this we examine some market activity including short selling and credit default swaps, in order to explain how they impact on the market for sovereign debt. We have three aims. As an audit, we aim to collate and verify data to produce a comprehensive and accurate picture of Irish debt as possible, including the origin and scale of the debts. There is a public education role, in which we seek to create an accessible, comprehensible description of Irish debt to help people to understand a very complex situation. Finally, through the provision of detailed references to source material, we hope this provides a useful foundation to others for future work in the area.

Irish government debt, the total of bonds issued directly by government, has increased sharply in recent years, as the domestic banks were recapitalised. The Irish state has not borrowed on the markets since September 2010, but the bonds continue to be traded among investors on the secondary market. Because of the way in which this is done, through a clearing house, the identity of the bondholders at a given time is not known. This anonymity is discussed in the conclusion to this audit, and contrasted with the position of shareholders. The limited information available on the identity of the holders of Irish government bonds, as discussed in Section 2 of the report, indicates that most are not Irish resident.

Apart from directly issuing bonds, the Irish government has contingent liabilities for other debt, including deposits in Irish banks, bonds issued by NAMA, and the bank guarantees of 2008 and 2009. This latter guarantee, known as the ELG scheme, guarantees some of the bonds issued by the covered banks. These are dealt with in Section 4 of the report. It is worth noting at this point that there are other bonds issued by Irish banks, commonly referred to as the unguaranteed bonds, which are not specifically covered by the government guarantee. These may be further divided between senior and subordinated bonds, the latter being higher-risk instruments, which reduced rights to repayment. To date, the state-owned banks have continued to make repayments to the senior bonds.

As well as guaranteeing bonds under the ELG scheme, the Irish state has provided support to the covered banks through the issue of promissory notes throughout 2010 to Anglo Irish Banks, Irish Nationwide and to a lesser extent the EBS. These promissory notes are treated as an asset on the books of the bank, enabling them to use them as collateral to borrow. From the perspective of the Irish government, they are a liability, similar to an IOU, and so need to be repaid to the bank over a period of time.

In addition, the Irish government provides Emergency Liquidity Assistance (ELA) to the covered banks. This is a very short-term lending facility, providing liquidity to the banks for periods from 1 day to a week or two. ELA lending effectively transfers risk away from the banks to the Irish state.

There are several potentially confusing circular relationships in the ownership of bank and government debt. For example, the Irish banks covered by the government guarantee (the “covered institutions”) themselves hold Irish government bonds, making them lenders to the government as well as borrowers. It seems likely that the promissory notes issued to the banks by the government are also used by the banks as collateral to borrow more under the ELA scheme. The ECB has been buying Irish bank bonds under their Securities Markets Programme. The covered institutions also hold each other’s bonds, and also issue bonds to themselves. These “own use bonds” are both a liability and an asset, and in the latter capacity are used as collateral to borrow money overseas.

Section 6 of the report attempts to disentangle these relationships and to make a conservative estimate of the overall scale of the debts for which the Irish people have direct or indirect responsibility. We are conservative in that we seek to avoid double-counting, and where assumptions must be made, we assume that assets held by the banks are used as collateral for further borrowing. Using figures from the end of the first quarter of 2011 – the most recent date for which full information is available – we calculate the amount of the banks' liabilities for which the government has taken on responsibility, netting off where feasible, to arrive at an overall figure for real and contingent government debt at this date.

Section 7 discusses short selling and the use of credit default swaps (CDS), and their impact on the market for government debt. Section 8 concludes, with a discussion of the profile of Irish investors in government debt, the pan-European nature of the issue, the anonymous nature of bonds, and the culture of confidentiality and secrecy which surrounds them. Figure 13 is a graphic representation of the overall debt picture, showing in a simplified form the main actors and their relationship to each other.

Overall, it is clear that the bulk of Irish government debt has arisen directly from the banking crisis, the decision in September 2008 to rescue all of the Irish banks, and the subsequent ELG and ELA operations. The importance of the holders of this debt in determining policy suggests that their relationship to the Irish state is more controlling than is usual for bondholders, and strengthens the case against their anonymity.

# 1. Introduction

## 1.1 Terms of Reference

This is an audit of Irish Debt, meaning debt for which the Irish people are held responsible. As such, it examines the credit liabilities that reside directly or by default with the Irish sovereign. The credit instruments that are being used to fund the Irish State as well as those institutions that are guaranteed by the Irish State are described and the associated terminology is defined. The origin of the various debts for which the Irish people have taken responsibility is examined, and an exploration of the available information on ownership of those debt instruments is undertaken. The audit extends to cover some market activities that influence the pricing and ownership of those liabilities, specifically looking at activities and instruments linked to the debt markets that affect the behaviour of participants in the bond markets.

As such, the audit encompasses:

- Irish sovereign debt, i.e. long-term bonds and debt instruments issued directly by the Irish state.
- Long-term debt instruments issued by Irish banks that fall within the government guarantee scheme. Because these debts are guaranteed by the Central Bank of Ireland (CBI), their associated risk passes to the sovereign. This area encompasses two guarantee schemes, as well as Emergency Liquidity Assistance (ELA) provided by the CBI to Irish banks. While this is technically non-sovereign debt, it impacts on the credit risk of Irish sovereign debt.
- Market activity that is contingent on expectations about Irish sovereign debt and other debt instruments guaranteed by the Irish government. Specifically we look at activity in the Credit Default Swap (CDS) market as well as 'naked' short selling of Irish debt.

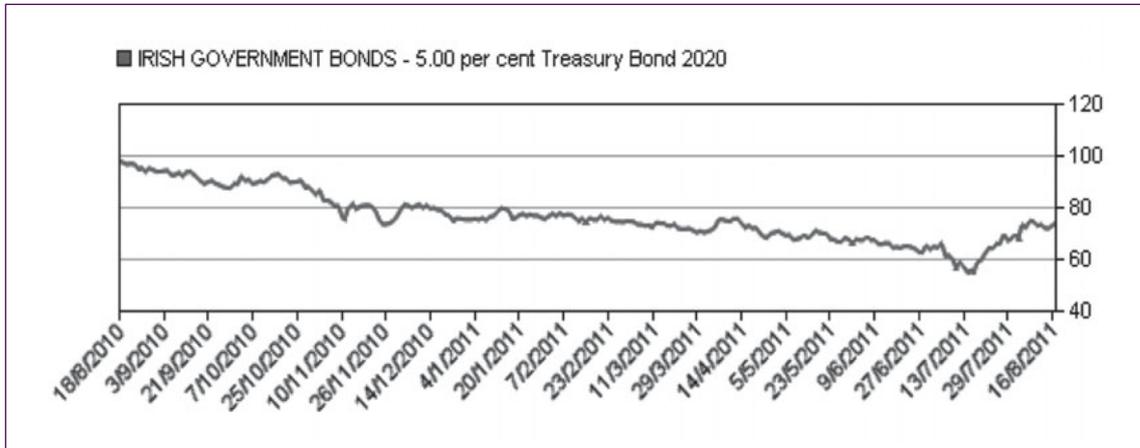
## 1.2 Introducing Bonds, Prices and Yields

A bond is essentially an interest-bearing IOU, a piece of paper which entitles the holder to a regular interest payment and a repayment of the par value of the bond at the end of its term. They are traded in much the same way as shares on the secondary market, and the prices vary day by day. Sometimes they trade at a discount, meaning that the price paid drops below the par value. They can also trade at a premium, meaning the reverse: that the price paid is higher than the par value which will eventually be redeemed at the end of the term of the bond. It is important to note that this daily fluctuation in the price of the bond does not directly affect the amount received by the original issuer. For example, although Ireland has not issued any new government bonds this year, the outstanding bonds continue to be traded on the stock market between investors.

The interest payment, commonly called the coupon, is generally fixed at the time the bond is issued. This makes the stream of income to the holder (coupon and par value at redemption) very predictable. For example, among the Irish government bonds in issue is a 4% Treasury Bond 2014. This was issued in January 2009, and will pay a coupon of €4 each year until January 2014 when it will be redeemed by the holder for its par value of €100. When the bond was trading at its par of €100, the yield, or return on investment, was 4%, as represented by the annual coupon payment of €4 and the future repayment in January 2014 of €100.

The only things that really affect the price of bonds in the market then are changes in the credit rating of the issuer or in the interest rates available in the market. If the credit rating of the Irish government drops, then the price of the bonds already in circulation from that issuer will fall. The graph below shows how the price of a benchmark 10-year Irish Government Bond has varied in the year from August 2010 to August 2011.

**Chart 1: Price of a benchmark Irish Government Bond over time**



At July 18, 2011 the bond price had fallen to just under €55, and was trading at a significant discount, well below the par value, and less than 60% of the price a year earlier. Since the coupon is fixed, a fall in the price paid for the bond meant that a buyer on that date would receive a high interest payment relative to the price paid. In this example, the coupon payment of €4 per year is equivalent to an earned interest rate of 4/80, or 5%. The discount price paid for the bond by investors in the market on that date also means that the par amount to be repaid at the end of the term of the bond will be above the price they paid. Combining the higher coupon rate with the fact that the bond will repay a full €100 when it is redeemed in January 2014, the overall redemption yield on this bond if purchased in June 2011 would be close to 13%. If purchased on July 18, the yield would have risen to almost 14%. By August 18, as the price rose to just over €73, the yield fell to close to 10%.

This bond was issued on 14 January 2010 at a very slight discount, carrying a yield of 5.091%. At the time the CEO of NTMA said:



The successful issue of today's €5 billion bond reflects the ability of Ireland to place long term debt with stable investors for longer periods and at narrowing spreads over Germany. Today's issue accounts for 25% of this year's funding programme of €20 billion and leaves the NTMA in a very comfortable position as it commences its series of eleven monthly bond auctions on Tuesday next, 19 January

NTMA Information Package (2010)<sup>ii</sup>

This shows how rising yields on Irish government bonds generally reflect falling prices in the secondary market, and in turn reflect a loss of confidence in the credit rating of Ireland, while falling yields represent the reverse of this process.

Ireland's national debt derives from two main sources: direct government borrowing which includes both government bonds and borrowing from the EU/IMF, and the borrowings of banks now under state control which are underwritten by the Irish state. Each of these and their subcategories are further explained below.

## 2. Government Bonds

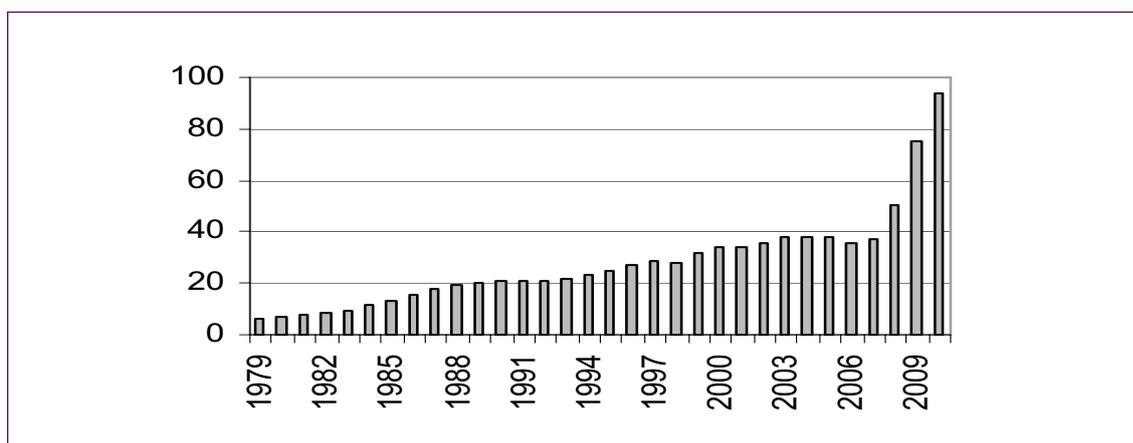
Irish government debt is administered by the National Treasury Management Agency (NTMA). The term “government debt” as used by NTMA includes debts of local and national bodies as well as bonds issued by government. The term “national debt” simply includes the nominal value of all the debt incurred directly by the government, both long-term and short-term. In answer to Dáil questions in May 2011, Minister for Finance Michael Noonan said:

“The significant difference between the end-2010 National Debt and [government] Debt is largely explained by the €31 billion in Promissory Notes committed to financial institutions in 2010. Due to the fact that the GG Debt operates on an accruals basis, this amount was added in full to the GG Debt in 2010 but the cash borrowing to fund these payments will only take place on a phased basis, beginning in 2011, and so only adds to the National Debt on a phased basis also<sup>iii</sup>.”

The Promissory Notes were issued as capital injections to banks such as Anglo Irish bank during 2010, redeemable in tranches over the following years<sup>iv</sup>. The bank’s 2010 Annual Report (Anglo, 2011) confirmed that most of their revenue is made up of interest payments from the government to the bank on these notes. Given the poor past levels of governance in Anglo Irish Bank described by O’Sullivan and Kinsella (2011), this is politically difficult for the government, prompting a move on the part of the Minister for Finance to seek to restructure the deal. (Noonan 2011b)

For the last eight years, all long-term debt has been denominated in Euro. As can be seen in Chart 2, long-term national debt has increased noticeably since 2007. This follows a period since the late-1990s where the level of long-term national debt was marked by stability.

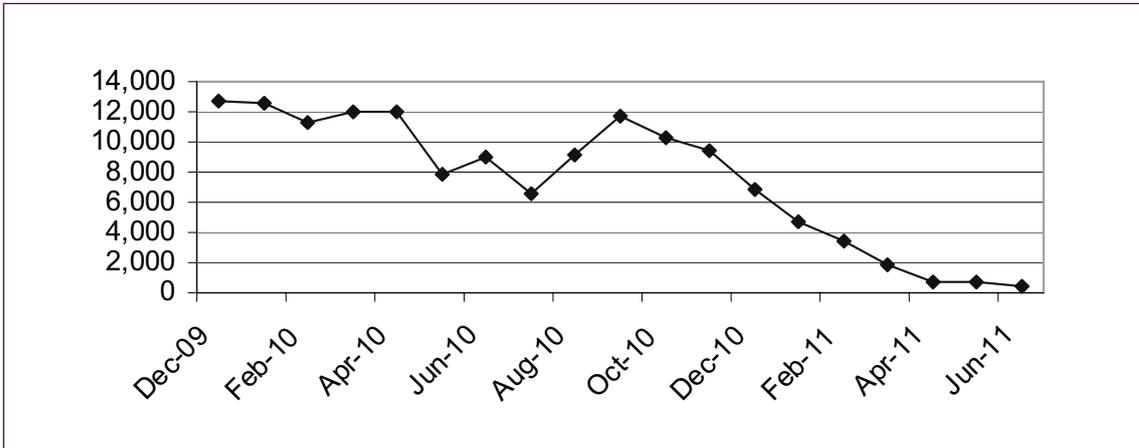
**Chart 2: Long Term National Debt 1979-2010**



Source: NTMA

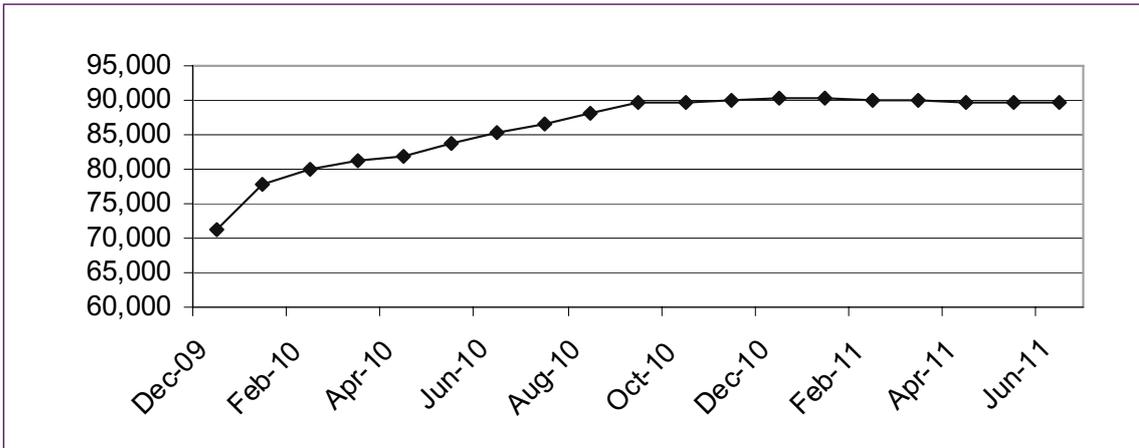
The medium to long-term portion of the debt comprises bonds, most of which are traded on the Irish Stock Exchange (ISE), and borrowings from the EU/IMF. The short-term portion of government debt is far smaller, as shown in Chart 3, below, sourced from ICB securities issues statistics<sup>v</sup>.

**Chart 3: Short-term government debt outstanding (€million)**



There is a clear pattern of decline, although more recent press reports<sup>vi</sup> suggest that NTMA borrowed more short-term in August 2011. By contrast, Chart 4, also compiled from CBI data, shows the balance outstanding in long-term government bonds over the same period.

**Chart 4: Long-term government debt outstanding (€million)**



Since September 2010, the Irish Government has not issued any new bonds on the international markets. In addition there is some retail government debt, mainly prize bonds, savings bonds and certificates and Post Office deposits. These totalled €13.4 billion at 31 March, 2011, and are considered to be outside the scope of this audit.

At present there are 13 Irish government bonds trading on the Irish Stock exchange, 11 of which are benchmark bonds<sup>vii</sup>. The amount outstanding at 18 July 2011 on non-benchmark bonds was just under €26 million. Table 1 presents data amalgamated from the Irish Stock Exchange and the NTMA website, and lists the outstanding benchmark bonds, together with their price and yield in mid-June, mid-July and mid-August, 2011.

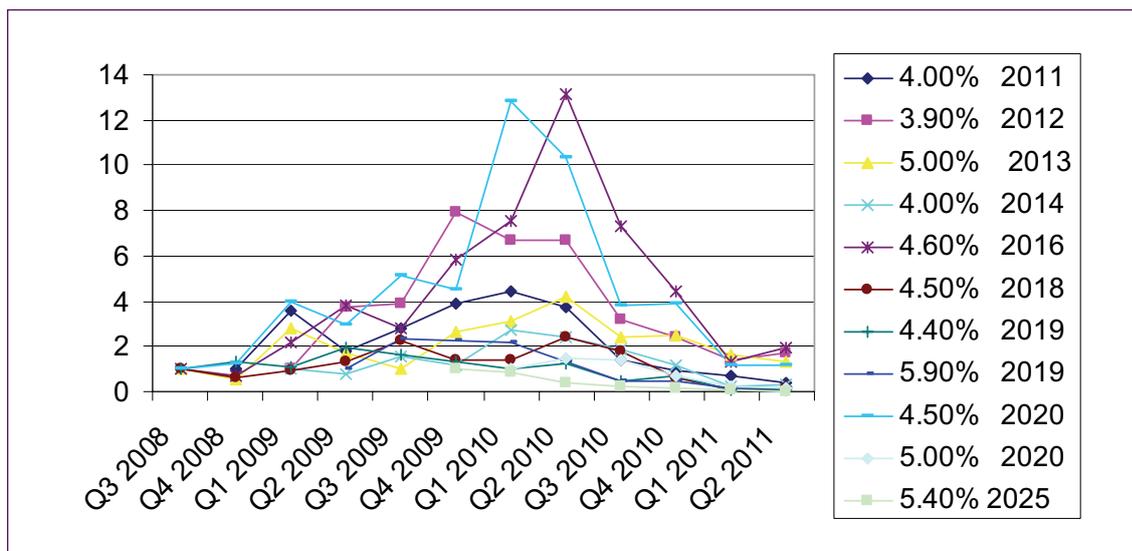
**Table 1: Benchmark bonds, June, July and August 2011**

Instrument	Price			Yield to maturity			Outstanding 23/8/11 (€m)
	13/6/11	18/7/11	23/7/11	13/6/11	18/7/11	23/8/11	
4.00% 2011	99.83	98.21	100.56	4.254%	9.70%	1.30%	4,390.00
3.90% 2012	98.40	94.75	98.45	6.095%	12.81%	6.83%	5,545.00
5.00% 2013	89.65	76.89	95.55	11.375%	22.35%	7.97%	6,027.51
4.00% 2014	81.40	69.18	89.52	12.987%	21.12%	9.05%	11,857.26
4.60% 2016	74.64	62.62	85.21	11.581%	16.56%	8.58%	10,168.45
4.50% 2018	68.79	55.17	79.01	11.072%	15.07%	8.54%	9,255.58
4.40% 2019	66.41	54.44	77.83	10.798%	14.42%	8.38%	7,700.06
5.90% 2019	69.50	57.90	82.07	11.762%	15.17%	9.11%	6,766.58
4.50% 2020	65.05	54.43	74.76	10.725%	13.77%	8.78%	11,852.45
5.00% 2020	65.50	55.55	75.32	11.009%	13.78%	9.08%	7,707.96
5.40% 2025	64.75	55.15	74.69	10.281%	12.35%	8.63%	8,284.05
<b>Total</b>							<b>89,554.90</b>

As bonds approach their redemption date, the risk of default becomes less significant. So it can be seen in the table above that the yield in bonds close to their redemption date tends towards the original coupon rate. In all of the bond issues summarised in Table 2, there is an observable rise in the yield from June to July 2011. The average fall in price over this five week period was 13%. In the following five-week period to 23 August, the average rise in price was 27%. These figures illustrate the volatility in Irish bond prices over the period.

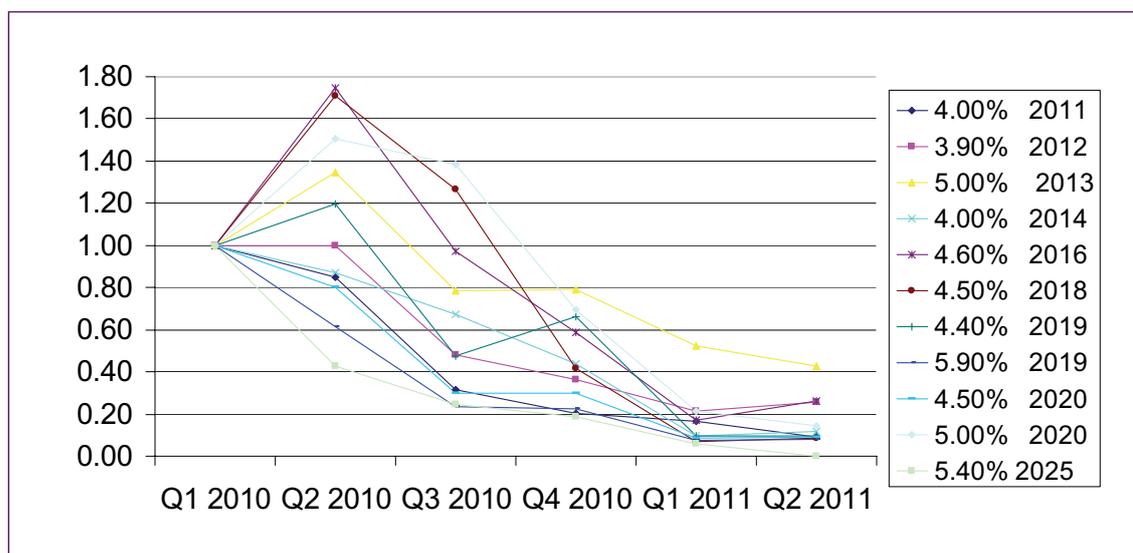
Chart 5<sup>viii</sup> shows the change in the volume of trading on each of the Irish government bonds since before the financial crisis began in the third quarter of 2008. There is a marked decline in the volume traded over that period.

**Chart 5: Changes in trading volume on Irish government debt**



For clarity, Chart 6<sup>ix</sup> shows the volume data for the last six quarters when all current bonds were in issue. The trend of declining volume begins to reverse in the second quarter of 2011.

**Chart 6: Trading volume on benchmark bonds since Q1 2010**



Increased volumes in trading of financial instruments, particularly in stocks and options, usually indicate uncertainty or new information arriving on the market. Throughout 2010, a great deal of new information on agreements, economic data and credit rating changes in Irish and other pieces of European sovereign debt became available. As confirmed by Table 2 above, uncertainty and volatility increased. However, the volume of trades in Irish sovereign debt declined. This may be due to greater proportions of issued debt being purchased and held by the ECB as part of the ECB Securities Market Programme (SMP). This is the term given to all interventions in the debt markets by the ECB, with the aim of ensuring price stability while minimising the impact on monetary policy.

According to the ECB Financial Stability Review in June 2011

“ The purchases under the SMP were larger in November 2010, December 2010 and January 2011 than in September and October 2010, yet still relatively small compared with the purchases in May and June 2010.

One implication of these low volumes of trading (also called thin trading) is that small trades or individual large trades will have a bigger impact than they would have under normal market conditions. This makes the market more vulnerable to manipulation by large players.

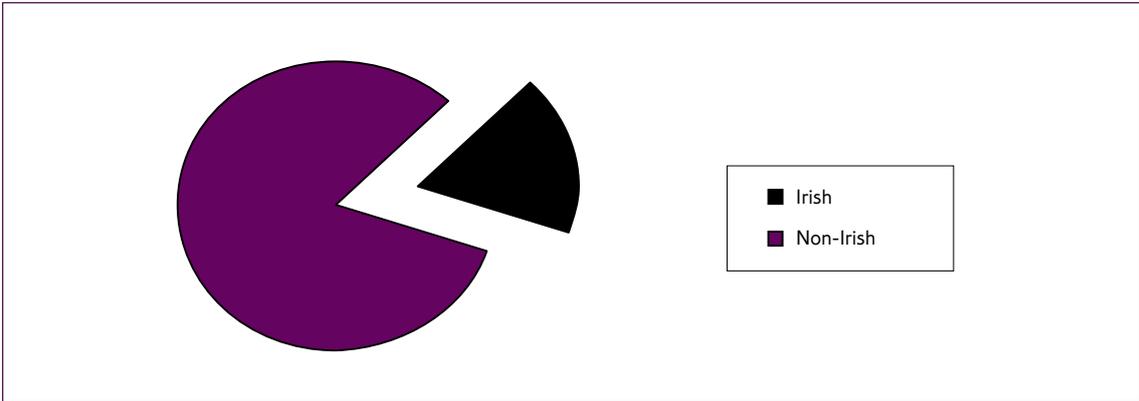
While it is straightforward to see the bonds traded, information on the holders of the bonds is not so readily available. This is in part due to the mechanisms used by the NTMA to market bonds. When Ireland is borrowing on the international markets, which it has not done since late 2010, the NTMA undertakes bond auctions on Irish government debt in minimum lots of €1,000 to a group of pre-defined primary dealers, generally on a second Tuesday of a month. Bonds can also be issued directly to some primary dealers, who go on to sell the bonds to investors. The following primary dealers, all members of the ISE, are recognised by the NTMA: Barclays Capital, BNP Paribas, Citigroup, Credit Agricole CIB, Danske Bank, Davy, Deutsche Bank, Goldman Sachs, HSBC CCF, ING Bank NV, JP Morgan, Bank Of America, Merrill Lynch, Nomura International plc, Royal Bank of Scotland, Société Générale and UBS Limited.

Although there is no obligation on primary dealers to provide the NTMA with details on their clients undertaking trades in Irish bonds, each primary dealer is required by the Irish Stock Exchange to provide daily reports on their trades in Irish bonds as well as reports on their own positions at close of business. In December 2000, Ireland became the first European country to transfer the daily settlement of its bonds from its own Central Bank to an international clearing house, the Euroclear Operations Centre in Brussels (Euroclear).

While the CBI maintains a register of bondholders, the Minister for Finance clarified in response to a Dáil question in April\* that 99.74% of the register is occupied by Euroclear. In turn, Euroclear maintains a register of nominee accounts that does not reveal the identity of investors holding Irish government bonds. The identity of the holders of the balancing .26% of government bonds not held through Euroclear is, Minister Noonan said, “treated as confidential”.

This means, in effect, that from day to day, neither the CBI nor NTMA can reveal the identity of the holders of Irish government debt. The CBI does, however, gather basic information on the residence of government bondholders from indirect sources, some of which is released, as shown Chart 7, below

**Chart 7: Ownership of long-term government bonds, 31 December 2010**



At the end of 2010, non-Irish residents held 82% of the long-term government bonds in issue. Table 2 below, sourced from CBI Quarterly Reports, shows how this breakdown has changed over time

**Table 2: Ownership of Irish government bonds**

€ million	31/12/09	30/6/10	30/8/10	31/12/10	31/3/11
Irish resident:					
Banks and CBI	8,297	9,778	11,019	12,697	12,345
Government	314	416	741	842	539
Financial intermediaries	2,921	2,135	2,216	2,169	1,781
Non-financial corporations	128	32	38	31	32
Households	205	222	249	252	219
Total Irish	11,865	12,583	14,263	15,991	14,916
Rest of world	58,993	72,164	75,346	74,111	74,891
<b>Total</b>	<b>70,858</b>	<b>84,747</b>	<b>89,609</b>	<b>90,102</b>	<b>89,807</b>

The table shows that over time since December 2008, more and more of the government bonds are held by banks and government bodies, while the holdings of non-Irish residents have increased. As recently as 1 September, 2011, the Minister for Finance said:

**FF** There is a lot of foreign real money buying Irish bonds in the secondary market. . . . That is what is forcing the price down at the moment. (Crimmins, 2011)

This is supported by the August 2011 ISE monthly statistical report, which shows the average daily turnover in government bonds as €432m in August, an increase of 95% on the daily average in the year to date.

# 3. NAMA

The National Asset Management Agency (NAMA) was established by legislative act in 2009. NAMA is tasked with the acquisition of bank assets and is required to protect and enhance the value of those assets in the interest of the State. The 2010 NAMA Annual Report shows that by the end of 2010, NAMA had acquired €71.2 billion in eligible assets from participating financial institutions for €30.2 billion. The €30.2 billion is used as collateral by the banks in order to raise cash from the ECB.

Although NAMA bonds are government guaranteed, they are strictly not part of General Government Debt. In accordance with European guidelines, NAMA established a number of companies of temporary duration known as Special Purpose Vehicles (SPVs). Under the holding company SPV (Master SPV), NAMA bonds were issued and those funds are used to purchase bank assets and administer the management of those bank assets. The Irish State maintains a minority shareholding in the Master SPV (49%) used by NAMA to issue bonds. Private companies hold the major stake (51%) in the Master SPV.

The state's minority shareholding in the Master SPV creates sufficient independence for the agency for Eurostat, the agency responsible for measuring member state national debt, not to regard NAMA bonds as part of the national debt. There remains some ambiguity between this very technical separation and the reality of the state's potential liability should NAMA be unable to repay the almost €29 billion principal in NAMA bonds that remain outstanding.

For their part, the rating agency Standard and Poor's (2010) are very clear about how NAMA bonds should be categorised.



we...have treated similar off-balance-sheet arrangements to support national financial systems in other countries as direct obligations of the government

(Standard & Poor's, 2010)

The inclusion of NAMA bonds as part of the overall national debt is supported by the other major credit rating agencies (Moody's and Fitch, 2010) and also by mainstream financial media (The Economist, 2010).

NAMA's unaudited quarterly accounts for the first three months of 2011 also show that NAMA held €49.6m in Irish government bonds at 31 March, 2011 (NAMA, 2011).

# 4. Bank Guarantees

The second category of debt included in the scope of this audit includes those debts of Irish banks for which the Irish people have assumed ultimate responsibility under the bank guarantee scheme. This bank guarantee is in fact two separate guarantees.

The first, dating from September 2008 is the Credit Institutions (Financial Support) Scheme 2008, or CIFS scheme, governed by S.I. No. 411 of 2008 under section 6(4) of the Credit Institutions (Financial Support) Act, 2008. The CIFS scheme covered retail and interbank deposits, senior unsecured debt, covered bonds (including asset covered securities) and dated subordinated debt (Lower Tier 2) without any cap on the amount covered. It expired on 29 September 2010.

The second guarantee is the Credit Institutions (Eligible Liabilities Guarantee) Scheme 2009, or the ELG Scheme, which is considered in more detail below.

## 4.1 The ELG Scheme

The Credit Institutions (Eligible Liabilities Guarantee) Scheme 2009, or the ELG Scheme is governed by S.I. No. 490 of 2009, under S.6(4) of the Credit Institutions (Financial Support) Act 2008, as amended and extended on 29 September 2010. Like its predecessor, the CIFS scheme, it is operated by the NTMA. Initially, there were seven institutions covered by the scheme. These were: AIB, Anglo Irish Bank, Bank of Ireland, EBS Building Society, Irish Life and Permanent plc, Postbank Ireland and Irish Nationwide Building Society. On July 1<sup>st</sup>, 2011, all of the assets and liabilities of Irish Nationwide were transferred to Anglo Irish Bank, and the combined institution is due to be renamed as Irish Bank Resolution Company. Similarly, EBS has been merged with AIB. Postbank Ireland ceased to trade in December, 2010. This leaves four institutions now covered by the scheme.

Some of the liabilities of CIFS rolled into the ELG scheme, as clarified in the Dáil by then Minister for Finance, Brian Lenihan, in June 2010:



I would expect further amounts of the eligible liabilities currently covered under CIFS to rollover into ELG as they mature however as the Deputy is aware, asset-covered securities and dated subordinated debt, which together amounts to €11.8 billion at end March, are not covered under the ELG.<sup>21</sup>

The Deposit Guarantee scheme guarantees the first €100,000 on deposit with any of the covered institutions, as an aggregate of all accounts in each institution. It also applies to deposits in other institutions, such as credit unions. The ELG scheme extends the guarantee to the excess over €100,000 in the participating banks, as well as unsecured senior bonds and other notes or commercial paper issued since they joined the scheme. The Deposit Guarantee Scheme has wider range, covering all Irish banks, and is clearer in its operation with fixed terms on payout periods etc. The mechanics of how the ELG guarantee would operate for the excess over the €100,000 cap are less clear.

The SI giving effect to the scheme also gives the Minister for Finance powers to guarantee other liabilities subject to certain conditions, and to control some aspects of the banks' borrowing, including the right in some circumstances to compel the banks to put in place a restructuring of their debt. The amounts guaranteed up to 24 August, 2011 are covered under 71 separate certificates. Details on the individual certificates are available on the NTMA website, and are summarised slightly and tabulated in Appendix 2 to this report.

## 4.2 ELG Scheme Extension

The ELG Scheme can be extended by the EU Commission for periods of six months at a time. In June 2011 the EU commission exercised this right<sup>xii</sup>, and granted the extension of the ELG Scheme for a further 6 months. According to figures released by the NTMA<sup>xiii</sup> in May, the overall total guaranteed under the scheme at 31 March 2011 was €111bn. Guaranteed deposits accounted for €81bn, from which we can deduce that the total of guaranteed debt securities at the end of the first quarter of 2011 was €30bn.

Table 3 below, compiled from Reuters data, details the ELG-guaranteed bonds outstanding at the end of the second quarter of 2011

**Table 3: ELG Bonds Outstanding at 1 June, 2011**

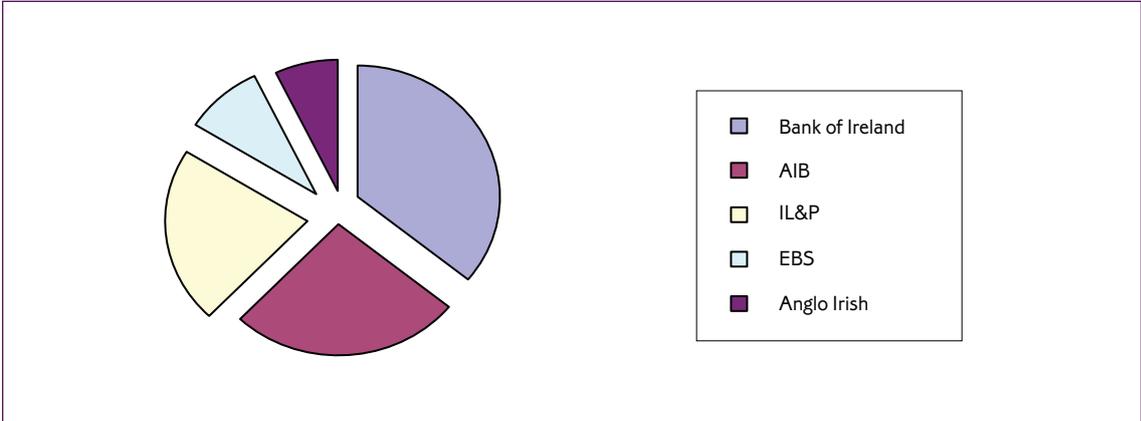
Issuer Name	Original Issue Date	Maturity Date	Amount Issued & Outstanding
Allied Irish Banks plc	22/03/2010	17/06/2011	€100,000,000
Bank of Ireland	26/04/2011	29/07/2011	€2,000,000,000
Bank of Ireland	27/04/2011	03/08/2011	€2,200,000,000
Bank of Ireland	28/04/2011	05/08/2011	€2,600,000,000
Bank of Ireland	03/05/2011	10/08/2011	€1,900,000,000
Allied Irish Banks plc	26/04/2011	12/08/2011	€2,870,000,000
EBS Building Society	27/04/2011	12/08/2011	€1,820,000,000
Irish Life & Permanent plc	27/04/2011	12/08/2011	€3,440,000,000
Bank of Ireland	10/05/2011	12/08/2011	€980,000,000
Bank of Ireland	30/12/2010	30/01/2012	€531,599,000
Bank of Ireland	30/12/2010	30/01/2012	€192,322,926
Allied Irish Banks plc	19/03/2010	19/03/2012	€1,000,000,000
Anglo Irish Bank Corp Ltd	15/04/2010	16/04/2012	€1,500,000,000
Allied Irish Banks plc	04/02/2010	04/02/2013	€1,800,000,000
Allied Irish Banks plc	15/03/2010	15/03/2013	€521,289,674
Irish Life & Permanent plc	22/04/2010	22/04/2013	€1,250,000,000
Bank of Ireland	03/11/2010	03/05/2013	€750,000,000
EBS Building Society	25/02/2010	25/02/2015	€1,000,000,000
Irish Life & Permanent plc	10/03/2010	10/03/2015	€2,000,000,000
Allied Irish Banks plc	19/03/2010	19/03/2015	€2,000,000,000
Anglo Irish Bank Corp Ltd	15/04/2010	15/04/2015	€750,000,000
		<b>Total</b>	<b>€31,205,211,600</b>

Source: Reuters

The total of the guaranteed amounts appears stable at approximately €30bn.

Chart 8 below shows how the ELG guarantees are shared among the covered institutions

**Chart 8: ELG guaranteed debt outstanding at 1 June, 2011**



Bank of Ireland has approximately 35%, or €11.2bn, followed by AIB with 25% or €8.3bn.

**4.3 ELA operations**

The CBI’s Emergency Liquidity Assistance (ELA) operations are included in this audit because the liabilities arising from these operations form part of the credit risk associated with Irish sovereign debt and thus affect related trading activity. ELA is essentially emergency liquidity provided by the CBI to Irish Banks, under the rules of the EU but independent of any involvement of the ECB. The ECB does, however, have the power to veto ELA in any member state if it threatens price stability. The ELA operations are intended as temporary, and loans are to be made at a penalty rate<sup>xiv</sup> – effectively bringing the CBI close to the role of lender of last resort for illiquid but solvent banks. All profits or losses made on ELA operations accrue to the CBI, and as confirmed in the CBI 2010 Annual Report, they are underwritten by the state. They therefore affect the credit risk of the Irish sovereign.

Since the ELA loans were to be made at a penalty rate, Buiter et al (2011) concludes that Irish banks would not have availed of the facility had their collateral been good enough to borrow directly from the ECB. Press reports including Noonan (2011) have indicated that the rate may be as low as 3%. There is considerable concern, nonetheless, about the quality of collateral for the ELA loans which are held on the books of the CBI, and on the overall exposure of the CBI to these loans.

Note 20 of the 2010 CBI annual report reveals that ELA made up €49.4bn of the “Other assets” figure on their balance sheet. Buiter et al (2011:7) who had made an earlier accurate estimate note that this amounted to some 30% of Irish GDP at that date, and to conclude that the provision of ELA from the ICB has acted to compensate at least in part for the flight of deposits from at least some Irish banks. In answer to a Dáil question on July 20, 2011, Minister for Finance, Michael Noonan said:

**CC** The Central Bank has informed me that in the period from 23 Jan 2009 to 30 June 2011, customer deposit balances (retail, corporate and non-bank financial institutions) across the covered institutions fell by €96 billion from €255 billion to €159 billion.<sup>xv</sup>

CSO statistics suggest that as well as moving deposits to non-Irish banks, Irish residents have been increasing their investments in foreign equities and debt instruments (CSO, 2011). This data is difficult to interpret, however, as it includes Irish-resident firms operating, for example, in the IFSC.

However, since the ELA facility is intended to be short-term in nature, and was reported in the press<sup>xvi</sup> as being typically for up to 7 days at a time, the figure in the ICB report, being a snapshot at a single moment in time, is not necessarily a reliable picture of the overall average level of ELAs throughout the year.

If the CBI is heavily exposed to bad loans through the ELA, this heightens the risk of sovereign default, and therefore adds risk to the wider Eurozone. For all of these reasons, ELA schemes are characterised by Buiter et al (2011) as “a national matter, with some qualifications”.

ELA lending can take place either through issuing reserves or by issuing non- monetary liabilities, e.g. one-week term deposits. As outlined by Buiter et al (2011a), the former will be regarded as increasing the “Base money” within the Eurozone, akin to quantitative easing, or printing money. From their examination of the annual reports of the CBI, Buiter et al (2011a) conclude:

“ Thus, it is certainly possible – in fact, plausible, in our view – that ELA granted by the CBI is funded mainly by increasing Base money, while Base money shown on the CBI balance sheet does not show a commensurate increase or even a decrease because of deposit flight from Irish banks to German banks.

(Buiter et al, 2011a:2)

ELA lending does more than provide emergency liquidity for banks at a cost to the credit rating of the sovereign and ultimately of the ECB. It also transfers risk away from the banks to the sovereign, to the extent that the state has guaranteed the ELA lending. It also worth pointing out, as noted by Buiter et al (2011a), that the collateral offered by banks such as Anglo Irish Bank for much of the ELA lending appears to be the promissory notes referred to in Section 2 above, issued by the Irish sovereign to provide a capital injection to these banks during 2010. This is a circular arrangement whereby notes given by the state to the bank are then used by the bank to borrow more from the state. The result is that the Irish people are guaranteeing loans made to illiquid and possibly insolvent banks on the basis of previous promissory notes issued by the Irish government to the same banks.

# 5. Information on ownership

As discussed above, it is unclear who owns bonds traded on the secondary market. In particular, the mechanisms by which government bonds are issued and traded make it difficult to determine ownership. This applies not only to government debt, but also to the bonds issued by the covered institutions. Brian Lenihan, as Minister for Finance, responded to a Dáil question from Joan Burton in April 2010 as follows:

**FF** Credit institutions, including the specific institution referred to in the Deputy's question do not have access to comprehensive information on the holders of their senior and subordinated debt, because such debt is publicly traded and dealt through clearing house systems. Issuers do not have access to the records of those systems and the issuer has no means of establishing the underlying ownership of its bonds at any given time. Unlike in the case of shares, the holders of credit institutions' senior and subordinated debt instruments are not subject to a disclosure regime.

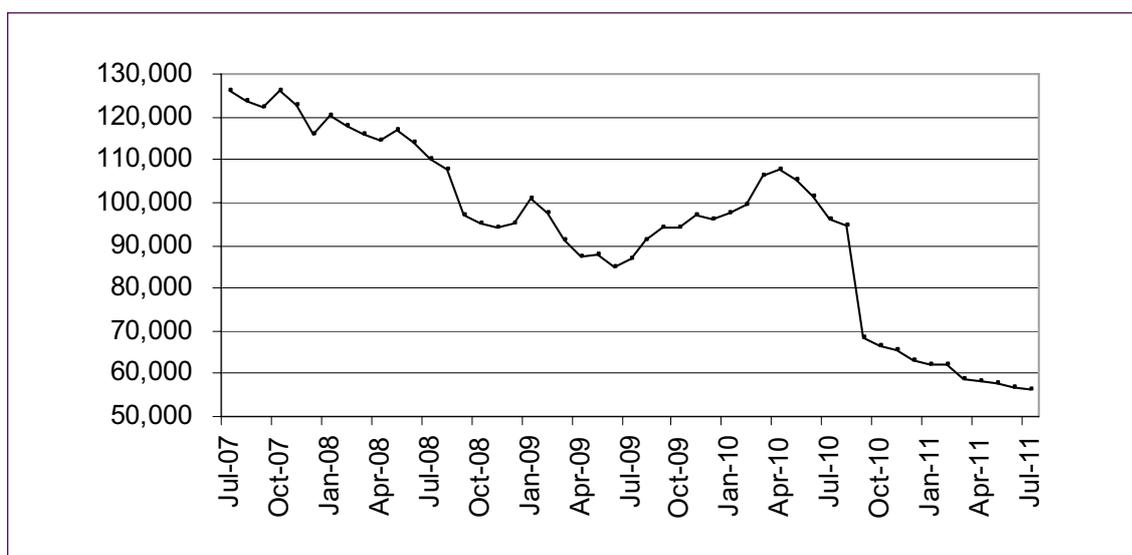
Such information as a credit institution may have on the holders of its debt, would be indicative only and based on an institution's client-specific and general market information. Such information would be commercially sensitive and subject to the normal provisions on client confidentiality where applicable.<sup>xvii</sup>

Nevertheless, there are some sources of data in the public domain, which can be cross-referenced to shed light on ownership. These are discussed in turn below.

## 5.1 Debt instruments of covered Institutions

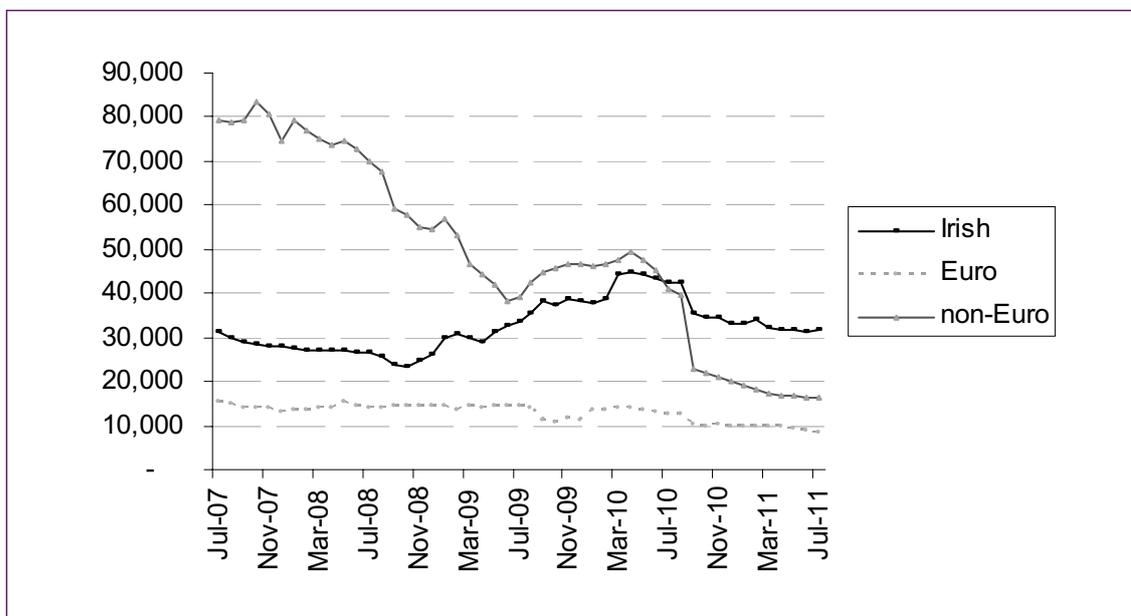
On a monthly basis the CBI issues an aggregate balance sheet for the covered institutions. Chart 9 below, sourced from Central Bank of Ireland Statistics<sup>xviii</sup> shows the debt securities issued by Irish-resident covered institutions over the three years to July 2011.

**Chart 9: Debt Securities Issued by Irish Resident Covered Institutions (€m)**



The most marked decline is in September 2010. To understand this better, Chart 10 below shows the residence of the holders of these debt securities, broken into Irish, non-Irish Eurozone and non-Euro, meaning outside of the Euro area.

**Chart 10: Residence of the Owners of Covered Institutions Debt (€m)**



The September 2010 decline is mainly due to a marked reduction in bonds held by non-Euro holders from August to September 2010. As a wider trend, the bonds held by residents outside the Euro area declined significantly, while the amount held by Irish residents has risen to the point where most of the bonds of the Irish covered institutions are now held by Irish residents. This data is difficult to interpret, however, as it is complicated by the high levels of back-office activity in the IFSC. It remains unclear which Irish residents hold these debt securities overall; they may be hedge funds, pension funds, nominee companies or the financial institutions themselves.

The Central bank have clarified that an additional €17bn of bonds were issued in January 2011, and are being held by the banks themselves. These “own use bonds” are used as collateral with the ECB for emergency funding, and are discussed further below. For technical reasons of comparability across the Eurozone, they are not included in the aggregated balance sheets.

Information on the ownership of Irish bonds also comes from other, sometimes ad-hoc sources. For example, Carswell (2011b) reports that the hedge fund Aurelius Capital purchased subordinated bonds in Anglo Irish Bank in November 2010. At the time, it paid 20 cents for the bonds with a nominal value of one euro, the price offered by the bank in a buy-back at the time. “It followed a similar strategy at AIB, investing in junior bonds in January during a debt buyback”

Caution must be exercised in the reliance on such secondary sources, particularly when the provenance of the data is uncertain. For example, while rumours abounded throughout 2009 and early 2010 that Irish Credit Unions owned a substantial proportion of the bonds issued by Anglo Irish Bank, this was forcefully denied by the Chief Executive, Kieron Brennan.



The organisation representing credit unions has said that it invested just €99 million in Anglo Irish Bank bonds, and has called on the government to “cease referring to these investments as justification for guarantees and the continuation of Anglo Irish Bank.

(Leahy, 2010)

The Irish League of Credit Unions confirmed in September 2011 that their exposure to Anglo Irish Bank bonds has not increased since 2009.

Similarly, a great deal of analysis is done on figures released on anonymous blogs, which may or may not be accurate. The Minister for Finance in answer to Dáil questions in June 2010 confirmed that he did not have the breakdown of the identity of the bondholders<sup>ix</sup>.

### 5.2 Covered Institutions’ Own Use Bonds

“Own use bonds” are bonds issued by the banks guaranteed as part of the ELG Scheme to themselves. They are then held by these covered institutions as an asset and used as collateral to borrow from the ECB. The CBI Annual Report 2010<sup>x</sup> explains the origin of own use bonds as follows:

 In January 2011, a number of credit institutions issued bonds which they retain for their own use. The ECB has authorised the use of these bonds in substitution for collateral that is no longer eligible in normal Eurosystem operations. Risks from lending to credit institutions where such bonds are used as collateral, should they materialise, are borne by the bank (i.e. the loss sharing mechanism in place for other Eurosystem operations does not apply). Just as with ELA, credit risk to the bank in respect of repo operations on these bonds is effectively mitigated by government guarantee in so far as these bonds have been issued under the Eligible Liability Guarantee Scheme.

(CBI Annual Report 2010, 117)

These own use bonds were issued by four of the covered institutions: AIB, Bank of Ireland, Irish Life and Permanent and EBS. In January these four institutions issued floating rate notes (FRNs) of approximately 3 month maturity, guaranteed under the ELG Scheme. Bank of Ireland also issued a guaranteed 3 month FRN on 10<sup>th</sup> February for €980m, although it is unclear whether this Note is also an own use bond.<sup>xi</sup> Table 4 below, sourced from NTMA data, details these bonds issued in the first two months of 2011.

**Table 4: Own Use Bonds Issued January/February 2011**

Issue Date	Issuer	Description	Maturity Date
25/01/2011	Allied Irish Bank plc	€2.87bn FRN	April 2011
26/01/2011	Bank of Ireland	€3bn FRN	April 2011
26/01/2011	Bank of Ireland	€1.9bn FRN	May 2011
26/01/2011	Bank of Ireland	€2.6bn FRN	May 2011
26/01/2011	Bank of Ireland	€2.2bn FRN	May 2011
26/01/2011	Irish Life and Permanent plc	€3.44bn FRN	April 2011
28/01/2011	EBS Building Society	€1.82bn FRN	April 2011
10/02/2011	Bank of Ireland	€980m FRN	May 2011

Like ELA itself, the deployment of own used bonds was originally intended as a temporary measure. However, it would seem that all these notes have been rolled over again at maturity as can be seen in the table below. Table 5 below, sourced from NTMA data, shows the rollover of Own Use bonds in April and May of 2011.

**Table 5: Own Use Bonds Rolled Over and Reissued April/May 2011**

Issue Date	Issuer	Description	Maturity Date
26/04/2011	Allied Irish Bank plc	€2.87bn FRN	August 2011
26/04/2011	Bank of Ireland	€2bn FRN	July 2011
03/05/2011	Bank of Ireland	€1.9bn FRN	August 2011
28/04/2011	Bank of Ireland	€2.6bn FRN	August 2011
27/04/2011	Bank of Ireland	€2.2bn FRN	August 2011
27/04/2011	Irish Life and Permanent plc	€3.44bn FRN	August 2011
27/04/2011	EBS Building Society	€1.82bn FRN	August 2011
10/05/2011	Bank of Ireland	€980m FRN	August 2011

The notes are for the same maturity and amounts as previously issued except for one BOI note which is issued for 1bn less. It is unclear at this stage how many times these notes will be rolled over.

These are clearly artificial instruments, whose use has advantages for both the banks themselves, and the CBI. The own use bonds provide collateral to allow the banks to borrow from the ECB at a low interest rate of around 1%. This is considerably more favourable than the rate on ELA borrowing, which is reported by Noonan (2011) to be close to 3%. The advantage for the CBI is that the availability of ECB lending to the banks reduces the need for relatively unsustainable ELA provisions. This improves the quality of assets on the books of the CBI, and reduces their funding requirements.

### 5.3 Covered Institutions cross holdings of Debt Securities

As discussed earlier, it is difficult to determine bond ownership from the data available from the CBI. However, the annual reports of the banks themselves shed some light on cross-holdings. For example, Bank of Ireland's 2010 Annual Report gives a breakdown of its holdings of bonds issued by the other covered institutions. Table 6 below summarises this data as at 31 December 2010:

**Table 6: Cross-holdings - Bank of Ireland at 31/12/2010**

Bonds issued by	€'m
Allied Irish Bank plc	222
Anglo Irish Bank plc	89
EBS	-
Irish Nationwide Building Society	105
<b>Total</b>	<b>416</b>

Bank of Ireland significantly reduced their holdings in Anglo Irish Bank from €329 million of bonds at the end of 2009 to €89 million at 31 December 2010. There is also evidence from the Irish Life and Permanent Plc 2009 Annual Report, which states:



As at 31 December 2009, debt securities includes €701m (2008: €330m) of securities issued by Anglo Irish Bank and loans and receivables to bank includes loans amounting to €375m (2008: €262m) issued to Anglo Irish Bank.<sup>xxii</sup>

The June 2010 Interim Report of Irish Life and Permanent Plc shows an increase in holdings of bonds issued by Anglo Irish Bank:

As at 30 June 2010 debt securities includes €886m (30 June 2009: €328m, 31 December 2009: €701m) of securities issued by Anglo Irish Bank, and loans and receivables to bank includes loans amounting to €282m (30 June 2009: €nil, 31 December 2009: €375) issued to Anglo Irish Bank.<sup>xxiii</sup>

The Anglo Irish Bank interim report for the first six months of 2011 reveals that at 31 June, 2011 the bank held:

... a portfolio of securities that are classified as available-for-sale ('AFS'). This portfolio comprises sovereign bonds, debt issued by financial institutions and subordinated NAMA bonds.

Anglo (2011:15)

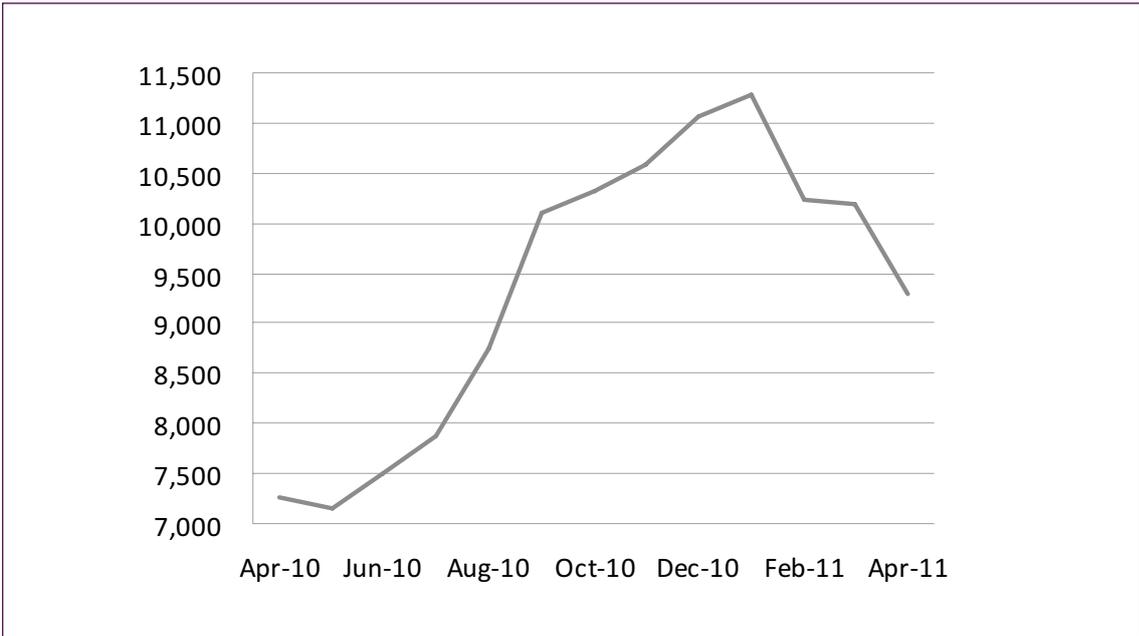
It is likely, although not certain, that these securities include Irish bank and government bonds.

Since this information is not consistently available for all of the covered institutions, it provides an indicator of the practice of cross-holding debt securities, without quantifying the scale of that practice.

### 5.4 Ownership of Government Securities by covered institutions

As well as holding bonds issued by each other, or by themselves, the Irish covered institutions also hold Irish government bonds. As at 13 June 2011 there were a total of €89,580m Irish government bonds in issue<sup>xxiv</sup>. As previously discussed, these bonds are cleared through the clearing house Euroclear, so the identity of the bondholders is not revealed. From CBI statistics<sup>xxv</sup>, however, it is possible to identify how much of this debt is held by the covered institutions. Chart 11 below, sourced from CBI Statistics<sup>xxvi</sup>, shows the covered institutions holdings of Irish Government debt over the last 12 months.

**Chart 11: Covered Institutions' Ownership of Irish Government Debt (€m)**



The Financial Measures Programme Report released by the Central Bank in March 2011 breaks down details of sovereign debt held by the four institutions<sup>xxvii</sup> which were the subject of stress tests by the European Banking Authority (EBA). The data is from 31 December, 2010, and is shown in Table 7 below.

**Table 7: Sovereign Holdings by some covered institutions, 31/12/10**

	Short term government bonds €'m	Long term government bonds €'m	Nama bonds €'m
<b>AIB</b>	227	5153	8,036
<b>BOI</b>	212	3057	5,075
<b>EBS</b>	308	175	321
<b>Irish Life &amp; Permanent</b>	125	1684	0

This shows that a substantial percentage of Irish government debt is held by the Irish banks which are in turn controlled by the government. These details were confirmed by Minister Michael Noonan in a written answer to a Dáil question<sup>xxviii</sup> on June 2<sup>nd</sup>, 2011. It is likely that the situation has changed since 31 December 2010, but it is difficult to establish all the facts at a later date. As an indication of change, the Anglo Irish Bank Interim Report says that the principal not yet drawn down on the government promissory note amounted to €23.6bn from 31 March, 2011. They go on to say that the total exposure to the Irish Government at 30 June, 2011 is €26bn. This leaves a balancing figure of €2.6bn, leaving scope for some ownership of government bonds by Anglo Irish Bank. However, the amount on hand at year end cannot exceed the €321m shown in note 21 to the accounts.

## 5.5 ECB Ownership of Irish Bonds

Since May 2010 when the ECB established the Securities Markets Program (SMP), it has been purchasing Irish debt on the secondary markets. As discussed earlier, this program was established to allow both national central banks in the Eurozone and the ECB to operate in the financial markets buying and selling debt securities. The objective of this program is to “*address the malfunctioning of securities markets and restore an appropriate monetary policy transmission mechanism.*”<sup>xxix</sup>

In a press conference on the 4<sup>th</sup> August 2011, Jean-Claude Trichet stated that although there had been no use of the SMP in the past 18 weeks, the program was ongoing rather than dormant. Following this press conference the ECB went into the secondary market and actively purchased more Irish and Portuguese debt with the aim of increasing liquidity and driving down rising bond yields. Although it is not reported exactly how much of the SMP debt is Irish, as at 26/08/2011 the total debt held by the ECB under the SMP was €115,595m<sup>xxx</sup>.

## 5.6 Ownership of Irish Bonds by European Banks

In July 2010, the Committee of European Banking Supervisors (CEBS) identified investors in Irish sovereign debt among ninety-one large international and regional banks. The exercise was part of a stress test on the banks, and CEBS was seeking to establish information on risk. As reported in the Financial Times by Murphy (2010), the banks were asked to report the government debt in 20 countries. The Financial Times compiled a table showing the top holders of Irish government debt at that time. The top three holders of Irish government debt at the time among European banks were Royal Bank of Scotland, AIB and Bank of Ireland. Beyond this, it's clear that Danish, French and German banks had big exposures.

Such a table is useful as a snapshot of ownership at a moment in time, but becomes far less relevant over time. Given the changes in the volume of trade in Irish government bonds shown in Table 5 above, and the increase in hedge fund activity since mid-2010, this data is largely of historical interest.

## 6. Total Debt

This section attempts to integrate what we know of Irish debt in early 2011. As previously discussed, at 31 March, 2011, Irish Government debt totalled €91,785 million euro, made up of €89,892m in long and medium term bonds and €1,893m in short term debt<sup>xxx1</sup>. Table 8 below shows the aggregated balance sheets of covered institutions, sourced from CBI statistics<sup>xxxii</sup>.

**Table 8: Aggregated Balance Sheet: Covered Institutions**

	31/03/2011	31/12/2010	30/09/2010
<b>Assets</b>			
Loans and receivables (including finance leases)	332,174	342,223	328,611
Available-for-sale financial assets	46,217	47,047	52,511
Cash & cash balances with central banks	5,877	6,673	4,287
Financial assets	7,834	8,098	11,958
Other Assets	38,075	43,458	85,386
<b>Total Assets</b>	<b>430,177</b>	<b>447,500</b>	<b>482,753</b>
<b>Liabilities</b>			
Deposits other than from Credit Institutions	155,077	159,217	182,357
Deposits from Credit Institutions and Central Banks	168,348	167,275	146,713
Debt Certificates	51,957	60,393	66,900
Subordinated Liabilities	6,609	9,809	13,147
Other liabilities	29,095	31,240	49,213
<b>Total Liabilities</b>	<b>411,086</b>	<b>427,934</b>	<b>458,330</b>
Equity & Minority Interest	19,091	19,566	24,424
<b>Total Liabilities, Minority Interest and Equity</b>	<b>430,177</b>	<b>447,500</b>	<b>482,753</b>
<b>Government Guaranteed Liabilities</b>	<b>110,673</b>	<b>113,132</b>	<b>146,737</b>

The table as released by the CBI also highlights the bank liabilities which have been guaranteed by the Irish Government, as the ultimate responsibility for these debts falls to the Irish Government. The CBI notes a number of limitations in respect of this data, most significantly that it does not distinguish between collateralised and un-collateralised lending, that it does not include all government guarantees, and that it may include recent provisional data, which is subject to revision in the future.

Table 8 above shows total bank liabilities at the end of March totalling €411,086m for the covered institutions. In Table 9, below, we attempt to break this amount down to establish exactly how much is actually guaranteed by the Irish government, and how it increases the national debt.

**Table 9: State Cover for Covered Institution Liabilities at 31 March 2011 (€bn)**

<b>(1) ELG Scheme:</b>	
Guaranteed Deposits	€81
Bonds Guaranteed	€30
<b>Total</b>	<b>€111</b>
<b>(2) Deposit Guarantee Scheme</b>	
Customer Deposits	€155
Less deposits covered by the ELG Scheme	(€81)
<b>Deposit Guarantee Scheme Guaranteed</b>	<b>€74</b>
<b>(3) Promissory Notes</b>	
Anglo Irish Bank	€25.3
Irish Nationwide	€5.3
EBS	€0.3
<b>Total</b>	<b>€30.9</b>
<b>(4) NAMA</b>	
Bonds outstanding at 31/3/11	<b>€28.7</b>
<b>(5) Emergency Liquidity Assistance</b>	
“Other Assets”	€66.8
Reduced by estimated €1.3bn of non-ELA other assets	(€1.3)
Less promissory notes above (conservative assumption)	(€30.9)
<b>Net increase in national debt due to ELA</b>	<b>€34.6</b>
<b>Total ultimately backed by the state 31/03/11</b>	<b>€279.3</b>

The Eligible Liabilities Guarantee Scheme guarantees just under €111bn in total. Under this scheme, eligible liabilities for the scheme are either customer deposits or unsecured debt<sup>xxxiii</sup>. Since we know that €81bn is customer deposits<sup>xxxiv</sup>, it follows that the remaining €30bn is bank debt.

Deposits other than from Credit Institutions and Central Banks totalled €155bn<sup>xxxv</sup>. Since €81m is covered under the ELG scheme, the remaining €74bn customer deposits would be covered under the deposit guarantee scheme.

There are approximately €30.bn<sup>xxxvi</sup> promissory notes outstanding issued to Anglo Irish Bank, Irish Nationwide and the EBS. There are also NAMA bonds in issue with a nominal value of €29bn<sup>xxxvii</sup>.

Finally, we include Emergency Liquidity Assistance which is ultimately backed by the Irish Government. The ELAs are listed as ‘Other Assets’ on the CBI’s balance sheet. This totalled €66.79bn on the 25<sup>th</sup> March 2011. However, following Buitier (2011) we deduct €1.3bn as a stable estimate of the other components of “other assets”. Also, following Buitier (2011a)<sup>xxxviii</sup>, we make the conservative assumption that all of the promissory notes have been offered as collateral for the ELA lending, and so they are deducted to arrive at a net figure approximating the increase in national debt.

When these additional liabilities are taken into account we can see a clearer picture of the scale of the Irish sovereign responsibility for the debts of banks. Of the €411.1bn total covered bank liabilities shown in Table 8 above, a very conservative estimate of approximately €279.3bn is ultimately backed by the state. This is approximately 68%.

To provide a complete snapshot of Irish debt at this date, this liability is added to the government bonds in issue, as shown in Table 10 below

**Table 10: Scale of actual and contingent national debt at 31 March, 2011**

<b>Direct Government Debt</b>	<b>Billion €</b>
Long Term Debt Securities Government	89.9
Short Term Debt Securities Government	1.9
<b>Total</b>	<b>91.8</b>
<hr/>	
<b>Covered debts of Irish banks</b>	
ELG Scheme	111
Deposit Guarantee Scheme	74.1
Promissory Notes	30.9
Nama Bonds	28.7
ELA, net of Promissory Notes	34.6
<b>Total</b>	<b>279.3</b>
<hr/>	
<b>Scale of Irish national debt at 31 March, 2011</b>	<b>371.1</b>

This figure of €371.1bn carries a number of caveats. Firstly, it is a very conservative estimate of the contingent liabilities, as it is unclear to what extent assets of covered institutions for which the State has a contingent liability are pledged as collateral for further liquidity assistance. Secondly, care should be taken in interpreting the breakdown between “mainstream” government bonds in issue and the covered debts of Irish banks. Given the sharp increase in overall long-term government bonds outstanding since the start of the financial crisis, it is reasonable to assume that a large part of the €91.8 billion raised by the sale of government bonds was also due to the banking crisis. Thirdly, while the totals do not include unguaranteed bonds in the covered institutions, at the time of writing in early September, 2011, the prospect for avoiding the repayment of these bonds appeared mixed. Finally, our figures are based on data from the CBI and NTMA, and so are subject to the same caveats as they apply on their own websites.

# 7. Other Market Activity

Aside from borrowing, some other market transactions have been cited as influencing factors on sovereign debt activity since the crisis began. The effects of these activities have been linked primarily to issues around market transparency and in particular to the healthy operation of the European sovereign bond market. In June 2010, the German chancellor Angela Merkel and French president Nicolas Sarkozy wrote a joint letter to European commission president Jose Manuel Barroso, in which they said:

“ There is an urgent need for the commission to speed up its work to establish stricter control of markets in sovereign credit default swaps (CDS) and of short-selling. We believe it is indispensable to reinforce the transparency of short positions on equities and bonds, especially sovereign bonds.

(Reported in Moya, 2010)

In this section, we look at credit default swap (CDS) market activity and short-selling activity as it relates to Irish sovereign debt. In doing so, it is worth noting that as well as the more complex CDS activity and short selling, hedge funds and other speculative investors have also taken straight ownership positions in Irish bonds.

## 7.1 Credit Default Swaps

Credit Default Swaps or CDS are tradable, over-the-counter derivatives that function like a default insurance contract for debt. If a borrower defaults on a loan or bond, the holder of a CDS (the protection buyer) is paid compensation. When the holder of a CDS is protecting an investment that they own, there is a very real sense that it is a form of insurance, paying out to compensate the holder for loss in the event of a default. However, CDS can also be bought on assets which are not owned by the purchaser. In this case, it is more useful to think of the instrument as a bet that the borrower will not meet their obligations. So swap buyers may be protecting investments they own or simply making bearish bets against the possibility of a country or other borrower defaulting. The trigger for the CDS paying out to the holder rests with a decision made by a committee in the International Swaps and Derivatives Association. This means that a CDS credit event can occur without a formal default on the debt.

The price of a CDS is quoted in basis points, or one-hundredth parts of one percent. This means that a one basis point change on a CDS protecting, say, €10m of debt from default for 5-years is equivalent to €1,000 a year.

CDS are categorised as sovereign where the borrower is a government or corporate where the borrower is a corporation. Trading activity in the market for sovereign CDS is a little over a decade old and is small relative to corporate CDS. Irish CDS can provide hedges for holders of Irish government bonds as well as for international banks that lend to Irish corporations and banks. To date, the Bank for International Settlements (BIS) has not published any research detailing the banking institutions that may hold CDS on European sovereign debt. This lack of transparency may be having some impact on the policy approach to dealing with the Greek re-structuring. The recent agreement between the EU-IMF and the Greek government is carefully drawn up so as to avoid those criteria that would trigger a CDS “credit event.”<sup>xxxxix</sup>

Although CDS have little direct impact on the sovereign bond market, the price investors are willing to pay for CDS is an indication of credit risk. As an indicator, it has the advantage of coming out almost in real time, which is more useful than the intermittent credit ratings provided by agencies such as Standard and Poor’s etc. For example, during recent Greek debt talks and the speculation on their potential impact on Ireland, the price of CDS on Irish sovereign debt rose by 27 basis points to 740.

On the 21<sup>st</sup> of June, 2011 the ISDA announced a credit event had occurred in AIB debt arising from a missed payment on Lower Tier 2 AIB debt. The CDS sold on these AIB subordinated and senior bonds have been triggered. This means that those bondholders who also held CDS on their debt were able to recover their losses without a direct cost to the bank<sup>xl</sup>.

Overall, CDS activity was seen to be a problem during the ongoing crisis, contributing to a lack of transparency, increased risk of negative price spirals and higher settlement risk. There has been some official response to this, reasonably well-coordinated between the EU and the US. This centres on the setting up of a clearinghouse that would stand between over-the-counter (OTC) derivatives counterparties, protecting them from each other's default. If this is successful, it should reduce the overall systemic risk, as the potential domino effect of counterparty default would be halted<sup>xli</sup>.

## 7.2 Short-Selling

Short selling essentially describes the situation where an investor sells an asset before he or she purchases it. This is profitable in times of falling prices, as the asset can be sold at a higher price than that at which it is later bought back. Bonds and shares can both be subject to short-selling. In practice, a short seller in the bond market borrows the bond from another investor for a fixed period. The borrowed bond is sold on the market immediately, and is bought back on the open market in time to return it to the original holder. As long as the price of the bond falls between these two dates, the short seller will make a profit overall.

Short selling is what's known as a marginable transaction, which means that an investor must open a margin account with a broker in order to sell short. This essentially means you need to maintain a cash balance with the broker, or offer some of your investment assets as "margin," a kind of collateral to enable you to borrow. For this reason, short-selling requires both a strong view of market dynamics and significant capital. It is high-risk speculation, and is generally undertaken by hedge funds. Aggressive short-selling can manipulate a market and depress the value of an asset, a sort of self-fulfilling prophecy.

When we look at the market effects of CDS activity and short-selling of Irish government bonds, it is the latter that is likely to have much greater effect. For these reasons, in mid-May 'naked' short selling of government bonds was banned by German Government. Short –selling of bank shares has been banned in a piecemeal way by several Euro-zone countries, and there are moves for an EU-wide ban.

Throughout 2011, government bond price volatility has been aggravated by the market activities described above, and by credit rating changes. This had immediate implications for the ownership profile of Irish government debt, because many pension funds and financial institutions are only permitted to hold debt that meets strong ratings criteria. The lower credit rating also resulted in a higher margin to trade the debt throughout summer 2011.

## 8. Summary and conclusions

The profile of investors in Irish sovereign debt has changed significantly since the Irish banking guarantee was put in place in 2008. Prior to the crisis, Irish debt was viewed by the market as a low yielding, low risk asset and it usually found a home on European banking books, insurance companies and pension funds. The crisis has changed the nature of Irish sovereign debt and has led to the creation of a number of credit instruments that affect the credit risk of the Irish sovereign. Over the past three years the trading activity in Irish sovereign debt and related instruments has been unprecedented both in terms of volume and trade-type.

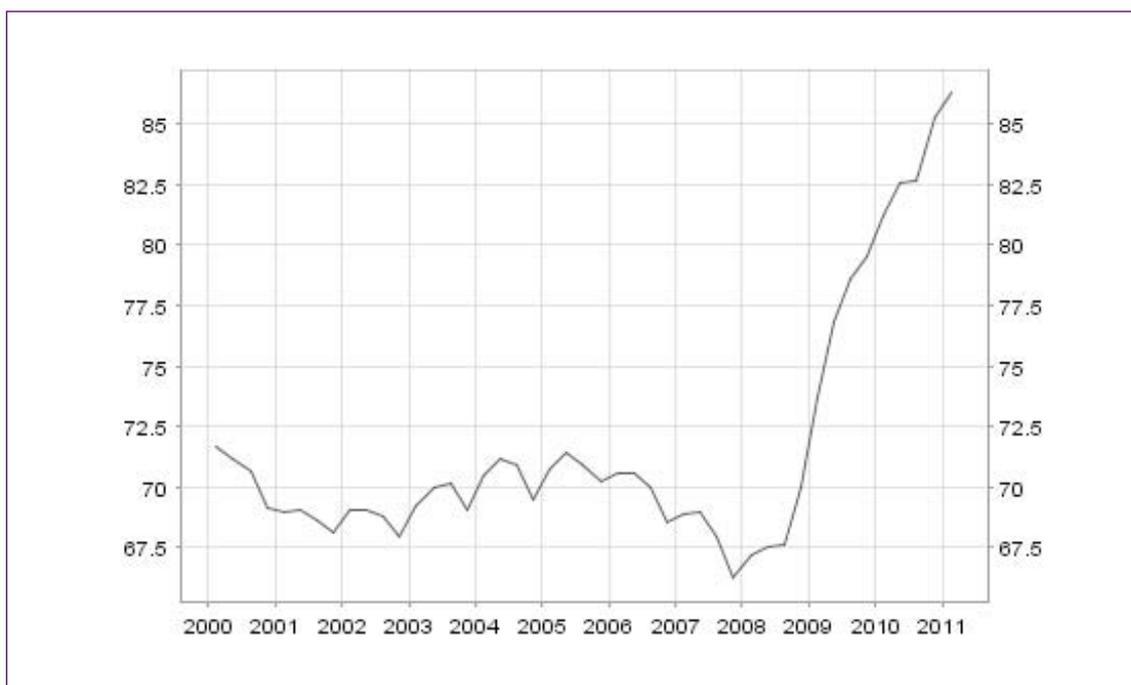
Throughout 2009, there was increased institutional ownership in Irish sovereign debt as deficit reducing action and 'quantitative easing' were expected to positively affect the ability of the Irish state to repay. By mid-2010 these institutions began to reduce their positions in Irish sovereign debt as the ECB increased the purchasing of Irish debt of all maturities.

The second quarter of 2010 was a period when trading activity in relation to Irish sovereign debt changed. There was an increase in speculative trading by hedge such as Groveland Capital, Matrick Group and Corriente Advisors LLC, as covered in media reports such as Webb (2010). Many of these trades in CDS were betting that Ireland and other peripheral countries will default or restructure. The changed view of Irish sovereign debt could be observed in the activity of CDS sellers who began borrowing Irish sovereign debt as a hedge should they have to payout if a default occurs.

The spike in Irish bond yields in 2011 reflected a nadir in confidence about the sovereign debt, which has since been mitigated, as earlier discussed, by increased trading by non-Irish investors.

It is also important to note that this is more than an Irish problem. Chart 12 below, sourced from ECB statistics<sup>xlii</sup>, shows government debt as a percentage of GDP all across the Eurozone.

**Chart 12: Government debt as a % of GDP across the Euro area**



The term “constructive ambiguity” was introduced into common currency by Henry Kissinger to describe the deliberate use of unclear language in negotiating on a sensitive issue. It is also used to describe the ECB’s policy on public information on bank bailouts. Ihle (2010) also reports it as part of the thinking behind the original bank bailout of 2008. The idea is that if banks are not clear on exactly to what extent they will be supported, this will reduce the moral hazard in the system.

Often criticised as a synonym for fudging, constructive ambiguity is certainly not a concept consistent with transparency. As recently as 2010, the ECB has reiterated this need for secrecy. In an opinion published in January 2011 on a proposed directive, it says

“... information on central banks’ lending or other liquidity facilities provided to a particular credit institution, including emergency liquidity assistance, needs to be kept confidential in order to contribute to the stability of the financial system as a whole and maintain public confidence in a period of crisis<sup>xliii</sup>.”

Such secrecy may contribute to stability, although this is arguable given recent evidence. In the context of a lender of last resort such as a central bank, it is generally intended to reduce moral hazard among banks which might in the future avail of a bailout. Again, this is not unanimously accepted. In an ECB working paper, Freixas et al (2003) take the view that clarity and transparency actually reduce moral hazard. Advocating clarity in the conditions for emergency liquidity assistance they write:

“This recommendation contrasts with the notion of “constructive ambiguity” often invoked to reduce the moral hazard allegedly associated with a CB safety net.  
(Freixas et al. 2003:27)

More recently, Vinogradov (2010) finds that in times of high volatility, particularly when there is a bailout involved, such a policy can be unhelpful. It certainly does not serve the needs of Irish people who wish to determine how they have been held responsible for this increased national debt.

The anonymity of bondholders is of long standing, and in normal circumstances has some justification. The purchase of a “bearer bond” is essentially like the possession of a large-denomination banknote, entitling the holder to redeem a sum of money from the central bank in the future. At any given time, it is not important to know exactly who is holding these notes.

By contrast, the names of shareholders are maintained on a register by the company which has issued the shares, and this register is updated to take account of secondary trading between investors. The rationale for identifying shareholders is clear: these are the people who control the company, who decide on policy via the AGM and who elect the directors. In these circumstances it is obviously in many people’s interest that they are not anonymous. There is an argument to be made that in very unusual circumstances where policy is predicated on the needs of bondholders, their anonymity is not helpful.

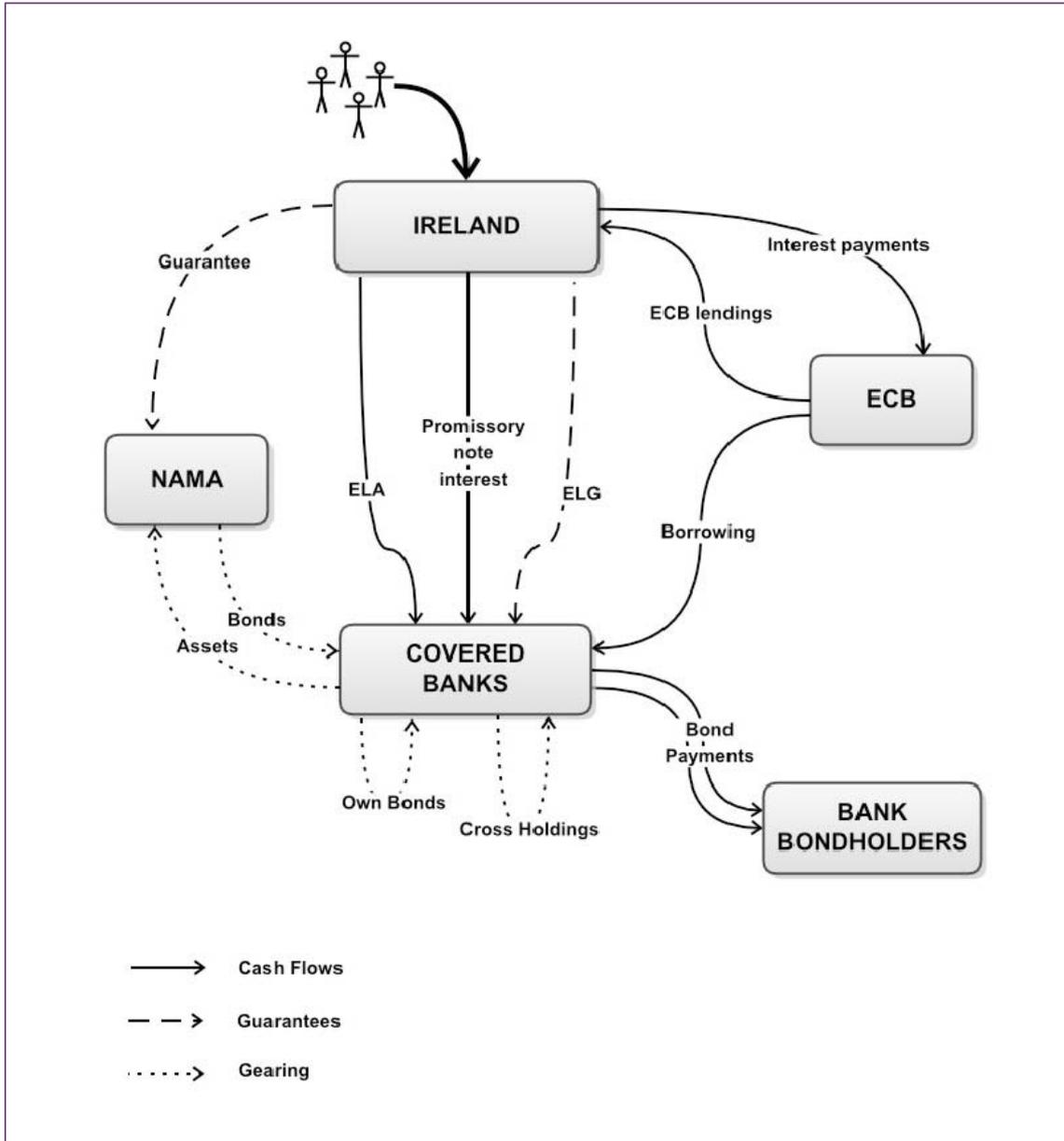
It is clear that the bulk of the debts for which the Irish sovereign is now responsible are due, in one form or other, to the bank guarantee of September 2008, and the follow-on ELG scheme and ELA operations. The thinking around the decision to issue a blanket guarantee is revealed in a confidential cable from the US Embassy in Dublin, released by Wikileaks two years later. The cable reveals that at the time of the guarantee, the scale of impaired loans was severely underestimated by government officials. Embassy officials commented:

“It may be that government officials are being a bit optimistic in their assessment of the level of impaired assets. It begs the question: if the level of impaired assets is not a problem, why the sudden pressure on Irish banks<sup>xliiv</sup>.”

Subsequent cables from 2009<sup>xiv</sup> express the concern of US Embassy officials at government handling of the situation. Nevertheless, the situation has evolved to one in which liquidity flows from the government to the six troubled banks, apparently compensating for the flow of deposits away from these banks, to institutions located in other parts of Europe.

Chart 13 below represents in graphic form the main flows of cash and guarantees between the Irish government and people, the covered institutions, NAMA, the ECB and the bondholders.

**Chart 13: Cashflows and Guarantees**



The chart is a simplified image of the situation, which for clarity omits such details as the flight of deposits from Irish banks to other banks in the Eurozone, the ownership of Irish sovereign debt by Irish and European banks, etc. It does show some of the main flows of cash, and lines of guarantee. It also shows how the banks' borrowing from the ECB is geared up in three ways, by the use of Nama bonds, own-use bonds and cross-holdings of each other's bonds as collateral. There are several such circular flows of cash. Overall, however, it is clear that liabilities, both real and contingent, flow from Ireland as a country and a people through the covered banks to the holders of bank bonds, leaving Ireland carrying most of the debts.

In addition to these liabilities, there are unguaranteed bonds owed by the covered institutions but not covered by the ELG scheme. Table 8 above shows that at 31 March, 2011, total liabilities of the covered institutions excluding deposits and minority interests came to €87.6bn.<sup>xlvi</sup> Excluding the subordinated debt, the total is €81bn. Since the amount of debt covered under the ELG scheme is stable at roughly €30bn, this leaves a potential of over €50bn in unguaranteed bank bonds. While there is no formal guarantee in place for these debts, the state-owned banks have to date repaid these bonds as and when they have fallen due.

Given this situation, we leave the last word to former US President, Rutherford B Hayes, who wrote in 1879: "*It is the debtor that is ruined by hard times.*"<sup>xlvii</sup> For the foreseeable future, times will be hard. Short of some structural change, the Irish people will bear the bulk of the debt that has arisen from the banking crisis.

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# Appendix 1

## Glossary of Acronyms

For a comprehensive glossary of financial terms relevant to this audit see <http://www.centralbank.ie/Pages/glossary.aspx>

<b>CBI</b>	Central Bank of Ireland
<b>CDS</b>	Credit Default Swap
<b>CIFS</b>	The Credit Institutions (Financial Support) Scheme 2008
<b>EBA</b>	European Banking Authority
<b>ECB</b>	European Central Bank
<b>ELA</b>	Irish Central Bank's Emergency Liquidity Assistance
<b>ELG</b>	The Credit Institutions (Eligible Liabilities Guarantee) Scheme 2009
<b>EU</b>	European Union
<b>FRN</b>	Floating Rate Note
<b>IMF</b>	International Monetary Fund
<b>ISE</b>	Irish Stock Exchange
<b>LTRO</b>	The ECB's Longer-term refinancing operations
<b>NAMA</b>	National Asset Management Agency
<b>NTMA</b>	National Treasury Management Agency
<b>SI</b>	Statutory Instrument
<b>SMP</b>	The ECB's Securities Markets Programme
<b>SPV</b>	Special Purpose Vehicle

# Appendix 2

## ELG Certificates to mid-August, 2011

These details are summarised from data on the NTMA website

<b>Date</b>	<b>Institution</b>	<b>Guaranteed</b>
4/1/2010	Irish Life & Permanent	US\$ 4bn US Commercial Paper Note Programme
4/1/2010	Irish Life & Permanent	UK , Eligible Debt Securities Programme
8/1/2010	Irish Life & Permanent	€8bn Euro Commercial Paper Programme
8/1/2010	Irish Life & Permanent	€1.5bn French Certificats de Depot Programme
11/1/2010	Bank of Ireland	€1bn French Certificats de Depot Programme
11/1/2010	Bank of Ireland	US\$ 10bn US Commercial Paper Note Programme
11/1/2010	Bank of Ireland	US\$ Yankee CD's
11/1/2010	Bank of Ireland	London CD's (CREST eligible)
11/1/2010	Bank of Ireland	London CD's
11/1/2010	Bank of Ireland	€5bn Euro Commercial Paper Programme.
14/1/2010	Irish Life & Permanent	US\$ 1.75 bn. 3.6% Notes due 2013.
13/1/2010	Bank of Ireland	€4bn guaranteed Euro Note Programme
21/1/2010	Allied Irish Banks, plc	Programme for the issuance of certification of deposits (US CD's)
21/1/2010	Allied Irish Banks, plc	€5bn Euro Commercial Paper Programme
21/1/2010	Allied Irish Banks, plc	Programme for the issuance of certification of deposits (London CD's)
21/1/2010	Allied Irish Banks North America Inc	US\$ 10bn US Commercial Paper Programme
28/1/2010	Bank of Ireland	€2.5bn 4% notes due 2015
28/1/2010	Anglo Irish Bank	US\$4bn US Commercial Paper Programme.
28/1/2010	Anglo Irish Bank	London CDs
28/1/2010	Anglo Irish Bank	€2.5bn Euro Medium Term Note Programme
28/1/2010	Anglo Irish Bank	€3bn Euro Commercial Paper Programme
23/2/2010	Anglo Irish Bank	€2bn French CD Programme
01/2/2010	EBS Building Society	London Certificate of Deposit Programme
01/2/2010	EBS Building Society	€1.5bn Euro Commercial Paper and Certificate of Deposit Programme
01/2/2010	EBS Building Society	€2.5bn Euro Medium Term Note Programme
09/2/2010	EBS Building Society	€1.5bn French CD Programme
04/2/2010	Allied Irish Banks, plc	€1.5bn Notes due 2013
10/2/2010	Bank of Ireland	Bank of Ireland SEK Notes due 2011
01/3/2010	Allied Irish Banks, plc	€172m Floating Rate Notes due 2013
24/2/2010	Irish Life & Permanent	€3bn Euro Note Programme
25/2/2010	EBS Building Society	€1bn notes due 2015
01/3/2010	Allied Irish Banks, plc	SEK 700m Floating Rate Notes due 2013.
11/3/2010	Irish Life & Permanent	€2bn guaranteed notes 2015
15/3/2010	Allied Irish Banks, plc	\$750m FRN due 2013
12/3/2010	Allied Irish Banks, plc	€100m puttable notes due 2011
19/3/2010	Allied Irish Banks, plc	\$1bn FRN due 2012

<b>Date</b>	<b>Institution</b>	<b>Guaranteed</b>
19/3/2010	Allied Irish Banks, plc	€2bn Notes due 2015
23/3/2010	Allied Irish Banks, plc	AIB €100m EMTN due 2011
24/3/2010	Allied Irish Banks, plc	€4 billion Euro Medium Term Note Programme
15/4/2010	Anglo Irish Bank Anglo	€1.5bn EMTN due 2012
15/4/2010	Anglo Irish Bank Anglo	€750m EMTN due 2015
22/4/2010	Irish Life & Permanent	€1.25bn EMTN due 2013
03/9/2010	Irish Nationwide	BS €4bn 3% EMTN Note due 2011
03/11/2010	Bank of Ireland	€750m 5.875% EMTN Notes due 3 May 2013
30/12/2010	Bank of Ireland	£172.9m 6.75% EMTN notes due 30 Jan 2012
30/12/2010	Bank of Ireland	€531m 6.75% EMTN notes due Jan 2012
07/01/2011	Bank of Ireland	€5bn EMTN programme
25/01/2011	Allied Irish Banks, plc	€2.87bn FRN due April 2011
26/01/2011	Bank of Ireland	€3bn FRN due April 2011
26/01/2011	Bank of Ireland	€1.9bn FRN due May 2011
26/01/2011	Bank of Ireland	€2.6bn FRN due May 2011
26/01/2011	Bank of Ireland	€2.2bn FRN due May 2011
26/01/2011	Irish Life & Permanent	€3.440m FRN due April 2011
28/01/2011	EBS Building Society	€1.82bn FRN due April 2011
10/02/2011	Bank of Ireland	€980m FRN due May
17/02/2011	Bank of Ireland	CAD FRN due Jan 2012
26/04/2011	Bank of Ireland	€2bn FRN due 29 July 2011
26/04/2011	Allied Irish Banks, plc	€2.87bn FRN due 12 Aug 2011
27/04/2011	Irish Life & Permanent	€3.44bn FRN due 12 Aug 2011
27/04/2011	EBS Building Society	€1.82bn FRN due 12 Aug 2011
27/04/2011	Bank of Ireland	€2.2bn FRN due 3 Aug 2011
28/04/2011	Bank of Ireland	€2.6bn FRN due 5 Aug 2011
03/05/2011	Bank of Ireland	€1.9bn FRN due 10 Aug 2011
10/05/2011	Bank of Ireland	€980m FRN due 12 Aug 2011
26/07/2011	Bank of Ireland	€2bn FRN due 28th Oct 2011
27/07/2011	Bank of Ireland	€2.2bn FRN due 1st Nov 2011
02/08/2011	Bank of Ireland	€2.6bn FRN due 4th Nov 2011
02/08/2011	Allied Irish Banks, plc	€4,700,000,000 Fixed Rate Notes due 10 Nov 2011
05/08/2011	Irish Life & Permanent	€3,300,000,000 4% due 27 Oct 2011
04/08/2011	Bank of Ireland	€1,900,000,000 3 month Euribor Notes due 9 Nov 2011
08/08/2011	Bank of Ireland	€1,000,000,000 3 month Euribor Notes due 11 Nov 2011

# Endnotes

- i Source: The website of the Irish stock Exchange (ISE), accessed on 13/6/2011  
[http://data.ise.ie/app/bondGenerateGraphTemp.asp?start\\_day=1&start\\_month=6&start\\_year=2011&end\\_day=1&end\\_month=6&end\\_year=2010&bToGraph=72953&bToCompare=](http://data.ise.ie/app/bondGenerateGraphTemp.asp?start_day=1&start_month=6&start_year=2011&end_day=1&end_month=6&end_year=2010&bToGraph=72953&bToCompare=)
- ii Available online at <http://www.ntma.ie/Publications/2010/InfoPackageOct2020Bond.pdf>
- iii Written answer from 17 May, 2011, available online at  
<http://debates.oireachtas.ie/dail/2011/05/17/00076.asp>
- iv As explained in the Quarterly Financial Accounts for Ireland, Q1, 2011: “During 2010, the State financed capital injections to Anglo Irish Bank and Irish Nationwide Building Society (INBS) through the issuance of a promissory note to the banks, which is classified as a loan in Government accounts. During Q1 2011, the promissory note accounted for 17 per cent of Government liabilities.” (CBI 2011b:6)
- v Available online at <http://www.centralbank.ie/polstats/stats/sis/pages/issues.aspx>
- vi For example, Oliver (2011)
- vii The benchmark bonds are traded through Euroclear.
- viii Data obtained from the Irish Stock Exchange at [www.ise.ie](http://www.ise.ie)
- ix Data obtained from the Irish Stock Exchange at [www.ise.ie](http://www.ise.ie)
- x In response to a question by Deputy Sean Fleming, available online at  
<http://debates.oireachtas.ie/dail/2011/04/20/00071.asp> Minister Noonan said: “The Central Bank of Ireland maintains a register of Irish Government bonds. The bonds held by Euroclear, representing 99.74% of Irish Government bonds in issue, are registered in one omnibus account in the Central Bank’s register but details of the bond transactions relating to those bonds are held by Euroclear. All transactions in relation to the remaining 0.26% of Irish Government bonds are made through the Central Bank and information regarding individual holders is treated as confidential.”
- xi Dáil answers, available online at <http://debates.oireachtas.ie/dail/2010/06/01/00109.asp#N2>
- xii Details of the extension at <http://ntma.ie/Publications/2011/ELGScheme.pdf>
- xiii Available online at [http://ntma.ie/Publications/2011/Outstanding\\_ELG.pdf](http://ntma.ie/Publications/2011/Outstanding_ELG.pdf)
- xiv See CBO (2010), page 122 for a discussion on the penalty rate
- xv Dáil answers, available online at <http://debates.oireachtas.ie/dail/2011/07/20/00075.asp>
- xvi Noonan (2011) in the Irish Independent
- xvii Dáil answers, available online at <http://debates.oireachtas.ie/dail/2010/04/20/00109.asp>
- xviii Extracted from Table A.4.2 of the Money and Banking Statistics: July 2011- Accessed online 2 September 2011 at [http://www.centralbank.ie/polstats/stats/cmab/Documents/2011m07\\_ie\\_monthly\\_statistics.pdf](http://www.centralbank.ie/polstats/stats/cmab/Documents/2011m07_ie_monthly_statistics.pdf)
- xix Dáil answers, available online at <http://debates.oireachtas.ie/dail/2010/06/09/00044.asp#N2>
- xx Page 117
- xxi Figures for this table have been taken from the NTMA list of ELG certificates.
- xxii ILP (2010), p.209
- xxiii ILP (2011) p. 97
- xxiv Available online [http://www.ntma.ie/GovernmentBonds/Daily\\_Bonds\\_Outstanding.pdf](http://www.ntma.ie/GovernmentBonds/Daily_Bonds_Outstanding.pdf)
- xxv Table A.4.2 - Accessed online 28 June 2011 at  
[http://www.centralbank.ie/polstats/stats/cmab/Documents/2011m05\\_ie\\_monthly\\_statistics.pdf](http://www.centralbank.ie/polstats/stats/cmab/Documents/2011m05_ie_monthly_statistics.pdf)
- xxvi Table A.4.2 - Accessed online 28 June 2011 at  
[http://www.centralbank.ie/polstats/stats/cmab/Documents/2011m05\\_ie\\_monthly\\_statistics.pdf](http://www.centralbank.ie/polstats/stats/cmab/Documents/2011m05_ie_monthly_statistics.pdf)

- xxvii These are AIB, Bank of Ireland, Irish Life and Permanent and EBS
- xxviii Available online at <http://debates.oireachtas.ie/dail/2011/06/02/00051.asp>
- xxix ECB press release 10 May, 2010. Available online at <http://www.ecb.int/press/pr/date/2010/html/pr100510.en.html>
- xxx Available online <http://www.ecb.int/mopo/liq/html/index.en.html>
- xxxi Table A.2 Financial Statement of the Bank of Ireland: Accessed online at <http://www.centralbank.ie/publications/Documents/Quarterly%20Bulletin%20Q3.pdf>
- xxxii Compiled from data available online at <http://www.centralbank.ie/polstats/stats/conbs/Pages/data.aspx> and <http://www.centralbank.ie/polstats/stats/cmab/pages/Money%20and%20Banking.aspx>
- xxxiii Available online at [http://www.ntma.ie/Publications/2009/ELG\\_Scheme.pdf](http://www.ntma.ie/Publications/2009/ELG_Scheme.pdf)
- xxxiv Available online at [http://ntma.ie/Publications/2011/Outstanding\\_ELG.pdf](http://ntma.ie/Publications/2011/Outstanding_ELG.pdf)
- xxxv Available online [http://www.centralbank.ie/polstats/stats/conbs/documents/ie\\_consolidated\\_banking\\_statistics\\_covered\\_in\\_st\\_aggregate\\_bs.xls](http://www.centralbank.ie/polstats/stats/conbs/documents/ie_consolidated_banking_statistics_covered_in_st_aggregate_bs.xls)
- xxxvi Source: <http://ntma.ie/GovernmentDebt/CompositionOfDebt.php>
- xxxvii Available online <http://www.nama.ie/Publications/2011/Section55QuarterlyReport31032011.pdf>
- xxxviii Buiter (2011a:4) notes: “Since these promissory notes were issued by the Irish sovereign and are already accounted for in the public accounts, the increase in the ‘true’ (not the official) consolidated general government Irish gross debt as a result of ELA would be somewhat smaller than the headline €49bn or so – how much smaller depends on the amount of lending granted against such collateral.”
- xxxix In the context of CDS contracts, the decision to classify whether a credit event occurs falls to a committee in the International Swaps and Derivatives Association (ISDA). Thus a CDS credit event is materially different from a default.
- xl See Carswell (2011c) for more details
- xli CDS clearinghouses have been launched with varying success. Clearing houses have been initiated in the US by CME and Euronext Liffe, while in Europe, current clearing providers Eurex Clearing and LCH.Clearnet have been involved in initiatives. These initiatives have looked to create effective counterparty solutions, an issue of central concern for regulators. There is little consistency of approach to calculating margin requirements, and there are concerns that this could become a key tool for competition between clearinghouses. There are also unresolved issues around clearing positions in different jurisdictions.
- xlii Available online at <http://sdw.ecb.europa.eu/home.do?chart=t1.11>
- xliii Opinion of the European Central Bank of 11 January 2010 on a proposal for a directive of the European Parliament and of the Council amending Directives 2003/71/EC and 2004/109/EC (CON/2010/6), cited in Buiter et al (2011)
- xliv Cable ID 08DUBLIN556, available online at <http://wikileaks.org/cable/2008/10/08DUBLIN556.html>
- xlv See for example <http://wikileaks.org/cable/2009/02/09DUBLIN86.html> and <http://wikileaks.org/cable/2009/10/09DUBLIN422.html>
- xlvi The total of debt Certificates: 51,957, subordinated Liabilities: 6,609 and other liabilities of 29,095
- xlvii Diary entry, 1879









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