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**How Housing Killed the Celtic Tiger: Anatomy and Consequences of Ireland’s Housing Boom and Bust**

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Between 1996 and 2006, Ireland experienced unprecedented house price inflation, driven by a fourfold increase in the volume of outstanding private mortgage debt and accompanied by a radical growth in housing output. This article outlines the most significant features of the housing boom and explains how it generated and disguised crucial risks in the macro economy and public finances, among mortgage lenders and in the finances of individual households. This is followed by an outline of the key features of the unwinding of the boom since and of its implications for the Irish economy, mortgage lenders and households. The conclusions examine the lessons regarding appropriate regulatory and policy responses to a house price boom which arise from the Irish experience.

**Key words:** mortgage, credit crunch, housing finance.

1 **Introduction:**

From the mid 1990s, the economic fortunes of the Republic of Ireland changed radically as the arrival of the ‘Celtic tiger’ economic boom ended two decades of economic stagnation and a much longer pattern of economic under-performance compared to the rest of north-western Europe (Kennedy *et al.,* 1988). Irish GDP per capita increased from 14.8 per cent below the EU15 average in 1995, to 48 per cent above the EU 15 average in 2006 and concurrently, the unemployment rate fell from 10 per cent above the EU15 average to 45 per cent below this average (Eurostat, various years). There is little consensus about the causes of this economic transformation. It has been variously attributed to: the devaluation of the Irish currency in 1992; Ireland’s young population structure and high proportion of university graduates; low labour costs and low taxes on corporate profits; the stimulus effects of EU Structural Fund expenditure and the corporatist Irish wage bargaining and public policy making system under the auspices of which employers, trade unions and government exchanged pay restraint for income tax decreases during the 1980s and 1990s (see: Barry, 1999; Barry, 2002). However there is little doubt that the boom had significant social implications. For instance, between 1996 and 2006 the Irish population rose by 17 per cent and the number of households expanded by 14 per cent (Central Statistics Office, 2007).

The economic boom was accompanied by unprecedented house price inflation which jumped from 8 per cent per annum between 1990 and 1993 to 22 per cent per annum between 1996 and 2002, and continued to rise albeit at a lower rate (12.7 per cent per annum) until 2006 (Permanent TSB/ ESRI, various years). This house price boom paralleled, but significantly outpaced, similar developments in other western European countries and the USA – nominal house price growth in Ireland was just under twice the Euro area average between 1999 and 2007 (11.1 compared to 6.1 per cent per annum according to the European Central Bank, 2009).

The particular strength of house price inflation in Ireland reflects both the factors which stimulated concurrent property bubbles elsewhere and the influence of distinctive domestic drivers. Thus credit growth was a key stimulus, as between 2000 and 2006 outstanding private mortgage debt increased fourfold in Ireland, the numbers of lenders and mortgage products expanded, lending standards liberalized and repayment terms became more flexible (Doyle, 1999; Murphy, 2004; Kelly and Everett, 2004). These developments mirror changes in the mortgage markets of several other EU members, particularly the southern countries such as Spain, Greece and Italy, but they were more extreme in Ireland than the EU norm (European Central Bank, 2009). In addition, domestic factors including population growth, rising numbers of households, rising average incomes stimulated housing demand and therefore house price growth in Ireland (Bacon and Associates, 1998, 1999, 2000), as did a marked growth in the vacant dwellings which helps to explain why a radical increase in house building failed to dampen price inflation (Norris and Shields, 2007).

As its title implies, this article describes the key features of the unprecedented boom in Ireland’s housing market which commenced in the mid 1990s and the equally dramatic bust which began in 2007. Despite the scale and significance of the Irish housing bust, it has been subject to relatively little attention in the international research literature, therefore this case study fills a significant information gap. The purpose of this case study is not to further elucidate the drivers of the boom and bust, which have been sketched above. These have been extensively researched in Ireland, and there is a vast international literature on this subject (see: Leung, 2004 and Gilchrist and Leahy, 2002 for surveys of this literature). Rather the article focuses on a question which has only recently received significant attention from researchers – the wider economic impact of housing market cycles (Jaeger and Schuknecht, 2007; Cecchetti, S. 2008; Agnello and Schuknecht, 2011). Thus, drawing on the international literature and a detailed description (rather than econometric testing) of relevant trends in the Irish economy, mortgage lending and the housing market since the mid 1990s, we argue that Ireland’s house price boom drove, but also masked, severe risks in the macro-economy and public finances, the banking system and among households and was the primary cause of the ‘death’ of the Celtic tiger. Therefore the Irish case supports the results of more conventional econometric research on housing booms which indicates that they generate particularly serious wider economic risks (Cecchetti, 2008; Case *et al,* 2005; Case and Quigley, 2008). In view of this finding, a further objective of the article is to elucidate the lessons regarding the appropriate regulatory and policy responses which arise from the Irish case.

The discussion of these issues presented here is organised into three further sections. The next section outlines the most significant features of the housing boom and explains how it generated and disguised crucial risks in the macro-economy and public finances, among mortgage lenders and in the finances of individual households. This is followed by an outline of the key features of the housing bust which followed the boom and of its implications for the macro-economy, mortgage lenders and households. The conclusions examine the lessons regarding appropriate regulatory and policy responses to a housing boom which arise from the Irish case.

**2 The Housing Boom**

*2.1 Macro-Economy*

As mentioned above, the demand created by the Celtic tiger era economic, employment and income growth began to feed into house prices from the mid-1990s (see Figure 1). 1996 was the first year of significant inflation and between then and the peak in 2006, house prices increased by 292 per cent in nominal terms.

*Figure 1 here*

Concerned about the implications of rising house prices for access to the tenure which, according to the 1991 census, accommodated 80.2 per cent of Irish households, the government commissioned a series of economic analyses of the housing market (Bacon and Associates, 1998, 1999, 2000) and introduced related policy reforms (detailed in: Department of the Environment and Local Government, 1998, 1999, 2000). These economic analyses identified under-supply of dwellings as a key driver of price inflation and, in response, government introduced a range of reforms to the planning system intended to increase housing output. The relatively modest taxation measures intended to discourage residential landlords from buying dwellings which were proposed in the economic analyses were ignored by government, and these analyses failed to examine the potential for controlling mortgage credit access in order to stem house price inflation, and no action was taken by policy makers on this issue (see: Norris and Shields, 2007).

Efforts to increase housing output were successful – output grew from 33,725 new dwellings in 1996 to 49,812 dwellings in 2000, but from the latter year it expanded radically to a high of 93,419 dwellings in 2006 (see Figure 2). To place these figures in context, in 2006 the UK built just over twice the number of dwellings Ireland did (209,000 units) for a population 15 times greater than that of Ireland (60 million, compared to 4 million) (European Mortgage Federation, various years). However, increased output failed to significantly moderate house price inflation because (in addition to the expansion in mortgage credit, discussed below) a significant proportion of new dwellings were left vacant (vacancy rates increased by a third between 1996 and 2006) and/or were located outside the key population growth centres (Fitz Gerald, 2005).

*Figure 2 here.*

In addition, the building boom created a number of serious macro-economic distortions. First, construction came to account for an increasingly large proportion of national wealth. It accounted for 5.5 per cent of GNP in 1996, but this rose to 10.3 per cent by 2006 (see Table 1) and most construction investment (62.6 per cent between 2002 and 2006) was on residential building (Central Statistics Office, 2008). Second, growing construction activity led to over reliance on construction employment. Construction accounted for 8.4 per cent of total employment in 1998 and 12.4 per cent in 2006 (see Table 1) and indirectly generated a further 3 per cent of total employment in the former year and 5 per cent in the latter (DKM Economic Consultants, various years). In contrast, 8 per cent of the EU15 working age population worked in construction in 2006 (Eurostat, various years). Kelly (2009: 13) also argues that due to the rising labour demand generated by the Irish construction boom and rising housing costs due to house price inflation ‘wage rates across the economy were driven up out of proportion to productivity growth, leading to a fall in international competitiveness’. This trend is supported by the earnings data presented in Table 1 which reveals that average construction earnings growth outpaced industrial earnings growth between 1998 and 2002, but wage inflation in these two sectors converged at around 4.4 per cent per annum between 2003 and 2006. The other key macro-economic distortion associated with the housing boom relates to the public finances. Receipts from residential property-market related taxes (stamp duties on house purchases, consumption tax (Value Added Tax) on new houses, tax on the profits from house sales and property taxes) rose from €2.75 billion in 2002, to a peak of €8.1 billion in 2006 (Addison-Smyth and McQuinn, 2009). During this period this windfall revenue facilitated a marked increase in public spending and also cuts in income taxes, which in turn further increased reliance on property-related taxes. As Table 1 demonstrates, property related taxes accounted for 8.0 per cent of total tax revenue in 2002 but this grew to 15.1 per cent by 2006, while income taxes fell from 27.5 to 24.9 per cent of tax revenue concurrently.

*Table 1 here*

**2.2 Mortgage Lenders**

Between 2000 and 2007 mortgage credit outstanding in Ireland rose by over 300 per cent (from 31.1 to 75.3 per cent of GDP) (see Table 2). Although mortgage lending and private sector credit more broadly increased across the EU and most developed countries concurrently, this trend was especially pronounced in Ireland (Doyle, 2009). Between 2000 and 2007 outstanding mortgage credit in Ireland expanded by four times the rate of growth in the 27 current EU members (80.3 per cent). Consequently, in the latter year, the Irish mortgage debt to GDP ratio was over one third higher than the EU27 average of 50.2 per cent (see Table 2) (European Mortgage Federation, various years).

*Table 2 here*

Table 2 reveals that this dramatic growth in mortgage lending was concentrated in the 2002 to 2005 period, when mortgage credit outstanding rose by 117 per cent, and this development was driven both by a rise in the number and size of mortgages granted. The number of mortgages granted per annum rose from 57,300 in 2000 to a peak of 111,300 in 2006. However, residential mortgage debt per capita rose even faster concurrently - from €8,620 to €29,290.

The decline in mortgage interest rates was key to enabling this radical growth in mortgage lending because it reduced average mortgage servicing costs from 36 per to 31 per cent of income between 2000 and 2006, despite marked concurrent house price growth (see Table 2). The mortgage interest rate reduction was significant in nominal terms, but its impact was further magnified by particularly low real interest rates (which averaged -0.9 per cent between 1999 and 2004) and an historic context of high and volatile interest rates in Ireland (Honohan and Leddin, 2006).

In common with several other ‘peripheral’ EU members where interest rates were traditionally high such as Greece, Italy, Spain and Portugal, interest rates fell due to entry to European Monetary Union (EMU) in 1999, and the resultant transfer of interest rate setting powers from national central banks to the European Central Bank (ECB) (European Central Bank, 2009). However unusually intense competition in the Irish mortgage market, particularly after 2003, also played a key role in diving down interest rates and in liberalising lending standards which in turn contributed to growth in the number and the size of mortgages (European Central Bank, 2009).

Between 2000 and 2010 the number of major mortgage lenders operating in the Irish market (i.e. registered with the Irish Central Bank) increased from 12 to 17 (Central Bank, various years). This was due to the entry of some Irish banks into the mortgage market for the first time, the establishment of specialist mortgage lending subsidiaries by existing Irish mortgage lenders and the entry of a number of foreign lenders into the Irish market (eg: Bank of Scotland and Danske Bank A/S). In 2007 these foreign lenders accounted for approximately 30 per cent of mortgage loans advanced in Ireland (European Central Bank*,* 2009). This level of market penetration by foreign mortgage lenders is unusual in Europe - traditionally these institutions have been reluctant to lend ‘across borders’ (Stephens, 2003). In the Irish case, their penetration may reflect similarities between the Irish and British legal systems and also the lack of competition in the Irish mortgage market prior to 2000 and therefore its potential for growth (European Central Bank, 2009).

Although mortgage lending had already grown significantly in Ireland prior to this expansion in the number of lenders, the increased competition reinforced this trend, by driving financial product innovation and an associated decline in lending standards. For instance, the number of interest-only mortgage products on the market increased radically from 2004, 100 per cent mortgages first became available at this time, as did mortgage equity withdrawal products (Hogan and O’Sullivan, 2007; Doyle, 2009). Thus unlike in the United States the Irish housing boom was associated with a decline in lending standards among mainstream lenders rather than with the growth of a specialist sub-prime sector. Although four sub-prime lenders entered the Irish market between 2004 and 2007, they accounted for only 0.5 per cent of mortgage lending by value in the latter year (Coates, 2008).

In addition, increased competition drove down interest rates by forcing Irish mortgage lenders to reduce their margins on mortgages significantly (McElligott, 2007). An initial round of cuts in these margins was sparked by the entry of Bank of Scotland, which charged significantly lower margins than Irish mortgage lenders at this time. These low margins were copper fastened by the arrival of tracker mortgages, fixed at a very low margin above ECB refinancing rates, which currently account for 60 per cent of outstanding variable rate mortgages in Ireland (Doyle, 2009).

Concurrently the sources employed by mortgage lenders to fund mortgage lending changed, which reinforced the institutional risks associated with the decline in lending standards and profit margins. Traditionally, retail deposits by households and private institutions were the principal funding source for Irish mortgage lenders – they provided 50.2 per cent of funding in 2000 (see Table 2). Although total retail deposits in Irish mortgage lenders grew by 76.2 per cent between 2003 and 2007, lending expanded faster, resulting in a funding gap which was filled by borrowing from the wholesale money markets mainly via interbank lending but also from debt securities. Reliance on these two funding sources grew from 30.2 per cent in 2000 to 53.7 per cent in 2006 (see Table 2). The increasing reliance on the wholesale markets was greatly facilitated by Eurozone membership which eliminated the exchange rate risk previously associated with accessing this finance and, by extension, the need to cost this risk into the interest rates charged to customers (Conefrey and Fitz Gerald, 2010). A similar funding gap emerged in all Eurozone countries (except Germany) during this period, but this gap was largest in countries such as Spain, Ireland, the Netherlands and Portugal which experienced the greatest concurrent expansion in mortgage lending (European Central Bank, 2009).

Table 2 demonstrates that the structural risks associated with the funding sources of the Irish banks and other mortgage lenders, were further reinforced by their over-exposure to the real estate sector of the economy, including not only mortgage lending, but also loans for property development and real estate acquisition. In 2000 real estate related lending made up 37.4 per cent of the total lending by Irish mortgage lenders but this increased steadily as the decade progressed to a high of 72 per cent in 2006. An Irish Central Bank financial stability report published in this year raised concerns that the ‘share of the banking sector’s loan book in property related lending continues to grow and is high by historic standards’ (Kearns and Woods, 2006: 133). The fact that in five of the thirteen credit institutions surveyed over 80 per cent of the loan book related to real estate in 2005 was singled out as a particular concern.

*2.3 Households*

Table 3 reveals that the combination of rising house prices between 1996 and 2006 and growth in lending during the second half of that period had a number of significant implications for households’ access to mortgages and borrowing decisions.

*Table 3 here.*

Despite the increase in affordability associated with interest rate reductions from 2000, the marked rise in the house price to average industrial earnings ratio (from 6.0 to 9.9 between 1998 and 2006) led to a decline in lending to home owners. Home owners held 80.0 per cent of outstanding mortgages in 2004 but only 73.3 per cent in 2006. As a result, between 2002 and 2006 owner occupation declined (from 79.7 to 77.2 per cent of households) for the first time in the history of the Irish State, (Central Statistics Office, various years). The growth in new mortgages granted during the mid 2000s is the result of a marked rise in lending to private residential landlords. The proportion of outstanding mortgages held by this sector rose by 6.3 per cent between 2004 and 2006 (see Table 3).

These data also confirm that the increase in the number of mortgages drawn down post 2000 was accompanied by an increase in their size. Loans of over €250,000 increased from 2.3 per cent of new mortgages in 2000, to 41 per cent in 2006. One hundred per cent mortgages first became available around 2004 and between then and 2008 rose from 4 to 12 per cent of new mortgages granted. Furthermore, mortgages with terms of 30 years plus increased from 10 to 39 per cent of mortgages drawn-down during this period (Department of the Environment, Community & Local Government, various years). The proportion of interest only mortgages also increased significantly between 2003 and 2007, and according to Duffy (2009) most of these were taken up by buy-to-let investors.

**3. The Housing Bust**

*3.1 Macro Economy*

Ireland’s house price boom started to falter in early 2007 and the most robust house price data available, presented in Figure 1, indicates that prices nationally fell by 33.7 per cent between this year and Q4 2010. However, most commentators agree that these data underestimate the true extent of price decline which is closer to 45-50 per cent (see: Duffy, 2009). In addition, new house building declined by 65.2 per cent and gross value added (GVA) from construction declined by 51.6 per cent between 2007 and 2009 (see Table 1).

The economic collapse slightly lagged the housing market crash. GNP grew by 5.7 per cent in 2007, but it declined by 5.0 per cent in 2008 and by 15.2 per cent in 2009 - the largest contraction in any developed economy since the Great Depression. Employment fell by 8.3 per cent between 2007 and 2009 and the exchequer balance, which had been positive for most of the 1997-2007 period, fell sharply to -8.2% per cent of GNP in 2008 and to -18.8 per cent in 2009 (see Table 1) (Central Statistics Office, various years). Thus in 2008 Ireland breeched the terms of the Stability and Growth Pact (which obliges Euro members to keep public debt below prescribed levels) for the first time since this agreement was adopted in 1997.

The housing market bust made a central contribution to the economic and fiscal bust and, of course, the latter subsequently helped to reinforce the former. The data presented in Table 1 illustrates the direct relationship between the two busts: the decline in gross value added (GVA) from construction accounted for 27.3 per cent of the decline in GNP between 2007 and 2009 and falling construction employment accounted for 65.3 per cent of the decline in employment concurrently. Falling revenue from residential property market related taxes accounted for 35.2 per cent of the contraction in total tax revenue between 2007 and 2008. The indirect macro-economic effects of the construction bust were also significant. The loss of spin-off jobs from construction accounts for a further 26.1 per cent of the reduction in employment between 2007 and 2009 (DKM Economic Consultants, various years). This contraction in employment obviously also contributed to the 26.9 per cent fall in income tax revenue between 2007 and 2009.

The Irish government was one of the first in the EU to initiate an austerity programme in response to the fiscal crisis. Two emergency budgets in 2008 introduced income tax increases and public spending cuts, which were followed by similar measures in 2009 and as a result, total government expenditure contracted by 9.0 per cent between 2009 and 2010 (Central Statistics Office, various years). Unsurprisingly, these measures reinforced the radical drop in GNP and consumer demand caused by the economic crisis, but they proved insufficient to arrest the stratospheric growth in Ireland’s government debt due to the fiscal crisis and the government recapitalization of the banking sector, described below. Ireland’s general government debt grew from 24.8 to 65.6 per cent of GDP between 2007 and 2009 and by late 2010 interest rates on Irish government bonds rose to a level which forced the Irish government to apply for emergency loan from the EU and IMF. A bailout package of €85 billion has been negotiated, including a €17.5 billion contribution from the Irish State’s own sovereign wealth fund. 58.8 per cent of this package will finance public spending and its availability is dependent on the implementation of a four year programme of further tax increases and public spending cuts (Government of Ireland, 2010).

*3.2 Mortgage Lenders*

As the Irish housing market began to decline from 2007, the projected loan losses of Irish mortgage lenders also grew and their capital was eroded as provisions exceeded operating incomes and all except one reported large operating losses in 2008/09. Thus, as concerns about their over-exposure to property loans increased, they experienced a flight of customer deposits and following the international credit crunch which emerged first in 2007 but accelerated following the collapse of Lehman Brothers in 2008, Irish mortgage lenders experienced significant difficulty in accessing the wholesale money markets (International Monetary Fund, 2010).

In response, the Irish government introduced a series of radical measures to stabilise the banking sector. These commenced in September 2008, when it guaranteed the full value of all deposits, covered bonds and senior debt and some categories of subordinated debt in all Irish-headquartered mortgage lenders and their subsidiaries. Ireland was the first EU member to introduce a guarantee of this type and its duration and scope were subsequently extended on several occasions (Department of Finance, 2008). In December 2008, the government commenced a recapitalization programme for all except one of the six Irish-headquartered banks which was implemented via the purchase of shares. This was expanded incrementally over the following year with the result that twos mortgage lenders were fully nationalized and the State took on substantial majority shareholdings in three others (National Asset Management Agency, 2009). Also in 2009 the government established the National Treasury Management Agency – a ‘bad bank’ tasked with acquiring most of the property-development related loan books (including all loans of €5m+, which collectively total €81 billion) of the five banks and building societies which required recapitalization (Daly, 2010). These were acquired at a discount (calculated on the current market value of the underlying loans) and in return the mortgage lenders were issued with government bonds which could be used as security to enable them borrow from the ECB and the wholesale money markets. However, despite these and several other support measures Irish mortgage lenders remained effectively locked out of wholesale money markets in 2009 (International Monetary Fund, 2010).

The failure to resolve the banking crisis, coupled with the high exchequer costs of the recapitalization programme and the interlinking of sovereign and banking sector creditworthiness by the bank guarantee played a key role in undermining Ireland’s sovereign creditworthiness. The Irish Government’s letter of request for emergency IMF/EU loan explained ‘At the root of the problem is the domestic banking system… The fragility of… [which] is undermining Ireland’s hard won economic credibility and adding a severe burden to acute public finance challenges’ (Government of Ireland, 2010: 1). 41.2 per cent of the ‘bailout’ fund mentioned above has been earmarked for banking sector recapitalization.

The banking crisis also contributed to a dramatic fall in mortgage lending which further reinforced deflationary trends in the housing market. The number of new mortgages granted fell from 111,300 in 2006 to 53,600 in 2008 and real-estate related lending fell from 72.0 to 58.0 per cent of total lending concurrently (see Table 2). This development was related to the withdrawal of one Irish and several foreign headquartered mortgage lenders from the Irish mortgage market (Doyle, 2009). Notably, in a reversal of trends during the first half of the decade, since 2007 Irish mortgage lenders have begun to increase the interest rates charged on existing and new variable rate mortgages in an effort to improve their margins and rebuild their balance sheets. It is this development, rather than an increase in ECB base rate, which drove the increase in average interest rates on new mortgages between 2006 and 2008 highlighted in Table 2.

*3.3 Households*

Rapidly rising unemployment coupled with falling incomes among those in work due to tax increases and in many cases cuts in pay and/or working hours, coupled with interest rate increases have effected a marked rise in mortgage arrears. 3.3 per cent of mortgages were in arrears of over ninety days in September 2009, this increased to 4.1 per cent in March 2010 and to 5.7 per cent in December 2010 (Central Bank, 2010).

Falling house prices have also had a very severe impact on household wealth – the vast majority of which is made up of housing equity. Using the house price data set out in Figure 1 Duffy (2009) estimates that 9 per cent of mortgage holders were in negative equity by end-2008. This rose to 18 per cent by the end of 2009 and 30 per cent by end-2010. This analysis indicates that levels of negative equity in Ireland are similar to those in the US (where 10 per cent of mortgages in single family dwellings were in negative equity in 2008) and the UK (7 to 11 per cent of owner occupier mortgages in the same year) (Hellebrandt, *et al*, 2009; Ellis, 2008). However, Duffy’s (2009) estimates do not include mortgage top ups or interest only mortgages and they are based on conservative estimates of scale of house price decline, therefore negative equity is probably more widespread than he suggests .

Despite the high levels of mortgage arrears and negative equity, rates of repossessions of dwellings by lenders have remained low to date. 110 dwellings were repossessed or voluntarily surrendered by borrowers in Q4 2009 compared to 81 dwellings in Q4 2010 (Central Bank, 2010). This is due principally to government intervention. Take up of mortgage interest supplement – the means-tested government housing support for unemployed home owners - grew from 3,424 households in 2006 to 17,648 in 2010 (Department of Social Protection, various years). Also as part of the banking sector recapitalization programme in 2008, mortgage lenders agreed not to repossess dwellings for twelve months after the first missed mortgage payment. This repossessions moratorium has recently been extended to five years in the case of home owners who can service at least two thirds of their mortgage interest payments (Mortgage Arrears and Personal Debt Expert Group, 2010). There is some disagreement about the likely scale of future repossessions in the absence of a significant economic up-turn. Goldman Sachs Global Economics (2010: 5) has estimated that Irish repossession rates would be four times higher in the absence of the moratorium and that ‘… a reasonable (if cautious) cumulative rate of default over a five-year credit cycle might be as high as 3%-4%’. This default rate would be similar to that seen during the UK housing market bust in the early 1990s. However, it is contradicted by Kelly (2009) who argues that the scale of Ireland’s housing market crash is similar to that currently underway in the United States, therefore US rates of default (8-9 per cent) are likely in Ireland. The veracity of these predictions is likely to be tested in the near future because in 2012 Irish government enacted legislation which reforms the hitherto harsh personal insolvency regime and it is likely that a significant number of distressed borrowers are nearing the end of the moratorium on repossessions period will be forced to avail of these new insolvency arrangements.

**4. Conclusions**

This article has sketched the anatomy and economic impact of the house price boom which emerged in the mid 1990s following a radical reversal in Ireland’s long record of economic under-performance. Although economists disagree on how the Celtic tiger boom should be interpreted (as a delayed convergence with the north-western European norm or a regional boom) there is agreement that during the second half of the 1990s, Ireland enjoyed real gains in national wealth, employment and household disposable income (Barry, 2002; Nolan *et al.* 2000). The analysis presented in this article has not employed econometric testing to explore the relationship between Ireland’s housing boom and the death of the Celtic tiger, however the data presented here do suggest that the housing boom played an important role in this development by generating (and disguising) severe risks in the macro-economy and public finances, the banking system and households’ finances. From 2000, rising house prices and rents undermined economic competitiveness by driving wage inflation, but because public finances were supporting property market related revenue and the job market was buttressed by construction employment it appeared deceptively healthy (O’Leary, 2010). Mortgage indebtedness increased radically but low interest rates kept repayments affordable and ready access to credit enabled further non-mortgage debt accumulation and rising consumption (Norris and Winston, 2009). Banks became over exposed to property related lending via mortgages and construction industry lending and grew more reliant on inter-bank lending to fund these activities, but due to the property boom, their profits remained high (Kearns and Woods, 2006). Due to these developments, the public finances, banking system and households were over-exposed to potential external macroeconomic shocks, therefore the collapse in Irish house prices, housing output and mortgage lending following the international ‘credit crunch’ in 2007 is a central reason why the global financial crisis has had a particularly severe impact on this country (se Figure 2).

*Figure 2 here.*

This case study of Ireland therefore supports the results of more conventional econometric research on housing booms which indicates that they generate particularly serious economic risks. Housing assets are owned by a much larger proportion of household wealth than, for instance, equities, and house price rises are more likely to be interpreted as a permanent change in wealth, therefore house price booms inspire particularly strong changes in consumption (Cecchetti, 2008; Case *et al,* 2005). Thus as Case and Quigley (2008) explain unwinding housing booms have negative impacts on household spending, employment and on the profitabity and in some cases viability of financial institutions. However, the impacts of Irish bust, as described in this article, were more widespread and serious than the recent collapse of the US housing boom Case and Quigley (2008) examine. This is because Ireland was unusual in that galloping house price inflation was accompanied by a particularly large increase in housing output; the regulation of the Irish banking sector was weak and the Irish government failed to appreciate the short-term nature of the property related tax revenues and made permanent (or at least painful to reverse) current expenditure commitments on the basis of this revenue. In addition of course, factors outside the scope of this article, most notably the decision that all Irish banks would be saved by the state rather than be allowed to fail and the inability of this eurozone member to unilaterally devalue her currency, were also amplified the scale of the Ireland’s economic crash (see: Dellepiane and Hardiman, 2010).

The seriousness of the secondary impacts generated by Ireland’s housing bust raises the issue of whether the housing boom and associated risks could have been more effectively managed by government and, if so, how. Not surprisingly this topic is currently the subject of lively debate in Ireland. A prominent theme in this debate relates to the failure of the Irish government to counter the loss of national control over interest rates following accession to Economic and Monetary Union with alternative property market stabilization mechanisms (Honohan and Leddin, 2006). Conefrey and Fitz Gerald’s (2010) analysis of this issue criticises the lack of a residential property tax in Ireland, because this deprived government of a key fiscal instrument to control house prices. However, this view is contradicted by a recent International Monetary Federation (2011: 5) report on managing real estate booms which concludes:

Fiscal tools may be, in principle, effective. But, in practice, they would likely create distortions and are difficult to use in a cyclical fashion. Macroprudential tools (such as limits on loan-to-value ratios) are the best candidates to deal with the dangers associated with real estate booms as they can be aimed directly at curbing leverage and strengthening the financial sector.

Thus a key lesson arising from the Irish case is the importance of the regulating lending standards in order to control housing bubbles.

The reasons for the Irish government’s failure to do this have also been extensively debated in the media and inspired a plethora of books by political commentators, but have been subject to limited robust research to date. This research which has been conducted blames both the design and implementation of regulatory structures for this oversight (Honohan, 2010; Regling and Watson, 2010). The former were significantly reformed in 2003, when the Central Bank and Financial Services Regulatory Authority of Ireland (CBFSRAI) was established. Thus a non-supervising central bank and a new Financial Regulator were combined within a single framework, overseen by one board. This was a compromise between the UK model of a non-supervising central bank and separate financial regulator (the Bank of England and the Financial Services Authority) and the US model of a central bank responsible for bank supervision (the Federal Reserve). Irish government commissioned research on the banking crisis concluded that this compromise structure sought to deliver stronger banking competition and consumer protection but failed to focus sufficiently on macorprudential risk (i.e. the stability of the financial system as a whole) (Regling and Watson, 2010; Borio, 2003). A second government report on this issue indicates that inadequate implementation of banking regulation further compounded these structural deficiencies:

The style of supervision adopted did not generate the most relevant or useful information to anything near the extent required. By relying excessively on a regulatory philosophy emphasising process over outcomes, supervisory practice focused on verifying governance and risk management models rather than attempting an independent assessment of risk, whether on a line-by-line or whole-of-institution basis. This approach involved a degree of complacency about the likely performance of well-governed banks that proved unwarranted. It was not just a question of emphasising principles over rules, it was the degree of trust that well-governed banks could be relied upon to remain safe and sound

(Honohan, 2010: 8).

Thus, in addition to the now very obvious dangers associated with assuming that banks are well-governed, two further policy lessons which can be drawn from the Irish crisis, these relate to the importance of ensuring that controlling macroprudential risk is core to the mandate of banking regulators; that regulators have the numbers of skilled staff required to subject banks to the intense scrutiny required to fulfill this mandate. The political drivers of the Irish government’s failure to appreciate these lessons during the celtic tiger boom and the role which the regulatory and policy ‘capture’ by financial industry played in this oversight, have been much speculated upon, but require much more robust analysis before definitive conclusions can be drawn (see: Dellepiane and Hardiman, 2010 for preliminary comments).

Not all of the policy lessons arising from the death of the celtic tiger are domestic. Dellepiane and Hardiman (2010) argue that, in view of the massive one-off adjustment in interest rates and credit availability associated with economic and monetary union and growing domestic demand, it is unlikely that national policy interventions could have entirely eliminated the house price bubble. This view is supported by the strong credit growth and associated house price booms in Eurozone members such as Spain, Greece and Italy, where interest rates were high and volatile prior to EMU but, unlike Ireland, fiscal and credit regulation measures were in place to stem house price inflation (European Central Bank, 2009). Notably, despite the risks associated with the windfall tax revenues generated by the Irish property boom and interconnectedness of banking systems across the Eurozone (at least in retrospect), the sustainability of tax revenue not factored into arrangements for the surveillance of EU economies under the Stability and Growth Pact, nor was the European Central Bank afforded any role in banking supervision at the time of its establishment (O’Leary, 2010). Thus, two further lesson arising from the Irish case relate to the need to strengthen arrangements for the surveillance of EU economies and to introduce pan-European banking sector supervision (eg. Lane, 2012). The latter is currently under discussion, but the former has recently been approved by most Eurozone members as part of the Treaty on Stability, Coordination and Governance (commonly known as the fiscal compact). However, the poor record to policing adherence to the Stability and Growth Pact (the terms of which was breeched by ten of the seventeen current Euro members prior to 2007) indicate that implementation of the fiscal compact will pose a much greater challenge than its design.

*Table 1 Macroeconomic Implications of the Irish Housing Market Boom and Bust, 1996-2010*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1996 | 1998 | 2000 | 2002 | 2004 | 2006 | 2008 | 2010 |
| Population (N) | 3,626,087 | Nav | Nav | 3,917,203 | Nav | 4,239,849 | Nav | 4,588,2522 |
| Households (N) | 1,127,318 | Nav | Nav | 1,287,954 | Nav | 1,469,521 | Nav | 1,654,2082 |
| GNP(€m) | 51,906 | 68,531 | 89,530 | 106,768 | 126,465 | 154,078 | 154,672 | 125,728 |
| Of which is gross value added from construction (€m) | 2,875 | 4,270 | 7,008 | 8,966 | 11,813 | 15,924 | 12,297 | Nav |
| Employment (N) | 1,328,500 | 1,505,500 | 1,684,100 | 1,768,500 | 1,852,200 | 2,034,900 | 2,112,800 | 1,895,100 |
| Of which is in construction (N) | Nav | 126,100 | 166,200 | 182,200 | 206,000 | 241,400 | 241,400 | 125,300 |
| Mean annual industrial earnings (€) | 18,726 | 20,153 | 22,683 | 26,079 | 29,160 | 31,263 | 33,736 | Nav |
| Mean annual construction earnings (€) | 19,729 | 23,054 | 28,066 | 33,523 | 36,601 | 39,884 | 42,718 | 37,150 |
| Total tax revenue (€m) | 18,187 | 23,381 | 30,947 | 34,346 | 41,805 | 53,787 | 50,714 | 42,279 |
| Of which is from residential property related taxes (%)1 | Nav | Nav | Nav | 8.0 | 10.9 | 15.1 | 10.7 | Nav |
| Of which is from income taxes (%) | 35.0 | 29.8 | 28.2 | 27.5 | 27.3 | 24.9 | 27.7 | Nav |

Note: all monetary data are at current prices. Nav means not available. 1: calculated using Addison-Smyth & McQuinn’s (2009) estimates. 2: 2011 data.

Source: Central Bank (Various Years), Central Statistics Office (various years).

*Table 2 Banking and Credit Implications of the Irish Housing Market Boom and Bust, 1996-2010*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1996 | 1998 | 2000 | 2002 | 2004 | 2006 | 2008 | 2010 |
| Mortgage credit outstanding (€m) | Nav | Nav | 29,474 | 43,416 | 73,120 | 110,602 | 114,290 | 108,2821 |
| Mortgage debt to GDP ratio (%) | Nav | Nav | 31.1 | 36.3 | 55.2 | 70.1 | 80.0 | Nav |
| New mortgages (N) | 56,000 | 61,400 | 74,300 | 79,300 | 98,700 | 111,300 | 53,600 | 18,382 |
| Mortgage debt per capita (€) | 3,830 | 5,650 | 8,620 | 12,110 | 19,120 | 29,290 | 33,750 | 30,400 |
| Interest rates on new Mortgages | 7.10 | 6.00 | 6.17 | 4.69 | 3.47 | 4.57 | 4.33 | 3.01 |
| % of MFI’s funding generated from: |  |  |  |  |  |  |  |  |
| Private sector deposits | Nav | Nav | 50.2 | 48.8 | 38.7 | 32.1 | 26.0 | Nav |
| Inter-bank lending and debt securities  | Nav | Nav | 30.2 | 32.5 | 46.0 | 53.5 | 56.6 | Nav |
| Real estate related lending as a % of total | Nav | Nav | 37.4 | 43.3 | 54.4 | 72.0 | 58.0 | Nav |

Note: all monetary data are at current prices. Nav means not available. 1: includes first 11 months only.

Source: Central Bank (Various Years).

*Table 3 Household Implications of the Irish Housing Market Boom and Bust, 1996-2010*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1996 | 1998 | 2000 | 2002 | 2004 | 2006 | 2008 | 2010 |
| % of average income required to service a mortgage on an average priced dwelling1 | 23 | 35 | 36 | 34 | 25 | 31 | 29 | Nav |
| % of outstanding mortgages which are: |  |  |  |  |  |  |  |  |
| Fixed rate | Nav | Nav | 31.1 | 23.7 | 17.2 | 18.3 | 20.0 | Nav |
| For principal private residences | Nav | Nav | Nav | Nav | 80.0 | 73.7 | 71.9 | 72.82 |
| For buy-to-let dwellings | Nav | Nav | Nav | Nav | 18.8 | 25.1 | 26.9 | 26.12 |
| For holiday/second homes | Nav | Nav | Nav | Nav | 1.1 | 1.2 | 1.2 | 1.12 |
| % of new mortgages which are: |  |  |  |  |  |  |  |  |
| >€250,000 | Nav | Nav | 2.3 | 5.9 | 18.0 | 37.0 | 41.0 | Nav |
| 100% loans | Nav | Nav | Nav | Nav | 4.0 | 14.0 | 12.0 | Nav |
| >30 year term | Nav | Nav | Nav | Nav | 10.0 | 31.0 | 39.0 | Nav |
| Interest only | Nav | Nav | 2.4 | 2.7 | 5.7 | 12.6 | Nav | Nav |

Note: all monetary data are at current prices. Nav means not available. 1: Data refer to two earner, married households, whose income = average industrial wage + average non-industrial wage. Mortgage payments are on a 20 year mortgage for 90 per cent of the average new house price for that year, repaid at average mortgage rates for that year. 2: includes the first 6 months only.

Source: Department of the Environment, Community and Local Government (various years).

*Figure 1 Mean House Prices in Ireland (€), 1996-2010.*

Source: Permanent TSB/ESRI (various years); Department of the Environment, Community and Local Government (various years).

*Figure 2 Housing Output in Ireland, 1996-2010.*

Source: Permanent TSB/ESRI (various years); Department of the Environment, Community and Local Government (various years).

**References:**

Addison-Smyth, D and K. McQuinn (2009), *Quantifying Revenue Windfalls from the Irish Housing Market,* Dublin: Central Bank Paper 10/RT/09.

Agnello, L and L. Schuknecht (2011), Booms and Busts in Housing Markets: determinants and implications, *Journal of Housing Economics,* **20**: 171-190.

Bacon, P and Associates (1998), *An Economic Assessment of Recent House Price Developments,* Dublin: Stationery Office.

Bacon, P. and Associates (1999), *The Housing Market: An Economic Review and Assessment,* Dublin: Stationery Office.

Bacon, P. and Associates (2000), *The Housing Market in Ireland: An Economic Evaluation of Trends and Prospec*ts, Dublin: Stationery Office.

Barry, F. (2002), The Celtic Tiger Era: Delayed Convergence or Regional Boom?. In: *ESRI Quarterly Economic Commentary*, Summer: 36-42.

Barry, F. (ed) (1999), *Understanding Ireland’s Economic Growth,* Basingstoke: Macmillan.

Borio, C. (2003). *Towards a macro-prudential framework for financial supervision and regulation?* Basel: Bank for International Settlements, Working Papers No 128

Case K and J. Quigley (2008), How Housing Booms Unwind: income effects, wealth effects and feedbacks through financial markets, *International Journal of Housing Policy,* **8**: 161-180.

Case, K, J. Quigley and R. Shiller (2005), Comparing the Wealth Effects: the stock market versus the housing market, *Advances in Macroeconomics,* **5**: 1235-1235.

Cecchetti, S. (2008), Measuring the Economic Risks Posed by Asset Price Booms (in J. Campbell (ed), *Asset Prices and Monetary Policy,* Chicago: University of Chicago Press: 4-39.

Central Bank (various years), *Quarterly Review,* Dublin: Central Bank.

Central Bank (2010), Residential Mortgage Arrears and Repossessions Statistics, Dublin: Central Bank.

Central Statistics Office (2007), *Census 2006: Principal Demographic Results,* Dublin: Stationery Office.

Central Statistics Office, (various years), *Statistical Yearbook,* Dublin: Stationery Office.

Central Statistics Office (2008), *Construction and Housing in Ireland,* Dublin: Stationery Office.

Coates, D. (2008), The Irish sub-prime residential mortgage sector: international lessons for an emerging market, *Journal of Housing and the Built Environment,* **23**: 131–144.

Conefrey, T. and J. Fitz Gerald (2010), Managing Housing Bubbles in Regional Economies Under EMU: Ireland and Spain, *National Institute Economic Review,* **211**: 91-108.

Dellepiane, S. and D. Hardiman (June, 2010), *Governing the Irish Economy: From Boom to Bust,* Paper Presented to the ECPR Standing Group on Regulatory Governance Biennial Conference, Dublin.

Department of Finance (2008), *Credit Institutions (Financial Support )Scheme, 2008,* Dublin: Department of Finance.

Department of Social Protection (various years), *Statistical Information on Social Welfare Services,* Dublin: Department of Social Protection.

Department of the Environment, Community and Local Government (various years), *Annual Housing Statistics Bulletin,* Dublin: DoECLG.

Department of the Environment and Local Government (1998), *Action on House Prices,* Dublin: DoELG.

Department of the Environment and Local Government (1999), *Action on the Housing Market,* Dublin: DoELG.

Department of the Environment and Local Government (2000), *Action on Housing,* Dublin: DoELG.

Daly, F (2010, June), *NAMA – the objectives, progress and challenges*, Paper presented at the CPA Annual Conference, Dublin.

DKM Economic Consultants (various years), *Review of the Construction Industry and Outlook,* Dublin: DoECLG.

Doyle, N. (2009), Housing Finance Developments in Ireland, *Central Bank Quarterly Bulletin,* **09:** 75-88.

Duffy, D. (2009), *Negative Equity in the Irish Housing Market,* Dublin: Economic & Social Research Institute Working Paper No 319.

Ellis, L. (2008), How many in negative equity? The role of mortgage contract characteristics, *Bank of International Settlements Quarterly Review*, December: 81-90.

European Central Bank (2009), *Housing Finance in the Euro Area,* Frankfurt: European Central Bank.

European Mortgage Federation (Various Years), *Hypostat,* Brussels: European Mortgage Federation.

Eurostat (various years), *Population and Social Conditions Database: employment and social conditions theme*, Luxembourg: Eurostat.

Fitz Gerald, J. (2005), The Irish Housing Stock: Growth in Number of Vacant Dwellings, *Quarterly Economic Commentary*, Spring: 1-22.

Gilchrist, S. and J. Leahy (2002), Monetary Policy and Asset Prices, *Journal of Monetary Economics,* **49** (1): 75-94.

Goldman Sachs Global Economics (2010), *European Weekly Analyst Issue No: 10/40,* London: Goldman Sachs.

Government of Ireland (2010*), EU/IMF Programme of Financial Stability Support for Ireland: programme documents,* Dublin: Stationery Office.

Hellebrandt, T., S. Kawar and M. Waldron (2009), The economics and estimation of negative equity, *Bank of England Quarterly Review*, Quarter Two: 110-121.

Hogan, V. and P. O’Sullivan (2007), Consumption and House Prices in Ireland, *Quarterly Economic Commentary*, Autumn: 46-61.

Honohan, P. (2010), *The Irish Banking Crisis - Regulatory and Financial Stability Policy, 2003-2008,* Dublin: Central Bank.

Honohan, P. and A. Leddin (2006), Ireland in EMU: More Shocks, Less Insulation?, *Economic and Social Review*, **37**: 263-294.

International Monetary Fund (2010), *Cross-Cutting Themes in Economies with Large Banking Systems*, New York: IMF.

International Monetary Fund (2011), *Policies for Macrofinancial Stability: Options to Deal with Real Estate Booms*, New York: IMF.

Jaeger A. and L. Schuknecht (2007), Boom-bust Phases In Asset Prices and Fiscal Policy Behaviour: theory and evidence, *Emerging Markets, Finance and Trade,* **43**: 45-66.

Kearns, A. and M. Woods (2006), The Concentration in Property-Related Lending – a Financial Stability Perspective (In Central Bank (ed) *Financial Stability Report, 2006,* Dublin: Central Bank: pp. 133-144.

Kelly, J. and M. Everett (2004), Financial Liberalisation and Economic Growth in Ireland, *Central Bank Quarterly Bulletin*, **04**: 91-112.

Kelly, M. (2009), *The Irish Credit Bubble,* Dublin: University College Dublin.

Kennedy, K., T. Giblin and D. McHugh (1988), *The Economic Development of Ireland in the Twentieth Century*, London: Routledge.

Lane, R. (January, 2012), Ireland and the Fiscal Compact, Paper Presented to the Dublin Economic Workshop conference Dublin.

Leung, C. (2004), Macroeconomics and Housing: a review of the literature, *Journal of Housing Economics,* **13**: 249-267.

McElligott, R. (2007), Irish Retail Interest Rates: Why do they differ from the rest of Europe?, *Central Bank* *Quarterly Bulletin,* **07**: 137-252.

Murphy, L. (2004), Mortgage Finance and Housing Provision in Ireland, 1970- 90, *Urban Studies*, **32**: 135-154.

National Treasury Management Agency (2008), *Government Announcement on Recapitalisation, 21st of December, 2008*, Dublin: NTMA.

National Treasury Management Agency (2009), *Minister’s Statement regarding Anglo Irish Bank, 2008,* Dublin: NTMA, unpublished press release.

Nolan, B, P. O'Connell and C. Whelan (eds) (2000), *Bust to Boom? The Irish Experience of Growth and Inequality,* Dublin: Institute of Public Administration.

Norris, M. and P. Shiels (2007), Housing affordability in the Republic of Ireland: Is planning part of the problem or part of the solution?, *Housing Studies*, **22:** 45-62.

Norris, M. and Winston, N. (2011), Housing wealth, debt and stress before, during and after the Celtic Tiger. In: R. Forrest (eds) *Housing Markets and the Global Financial Crisis*, Cheltenham: Edward Elgar: 74-92.

O’Leary, J. (2010), External Surveillance of Irish Fiscal Policy During the Boom, Maynooth: NUI Maynooth.

Permanent TSB/ ESRI (various years), *Permanent TSB/ ESRI House Price Index*, Dublin: Economic & Social Research Institute.

Regling, K. and M. Watson (2010), *A Preliminary Report on the Sources of Ireland’s Banking Crisis*, Dublin: Stationery Office.

Mortgage Arrears and Personal Debt Expert Group (2010), *Final Report,* Dublin: Department of Finance.

Stephens, M. (2003), Globalisation and housing finance systems in advanced and transition economies, *Urban Studies*, **40** (5-6): 1011-1026.