

## **Housing Equity Withdrawal, Property Bubbles and Consumption**

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**Abstract:** At the peak of the recent property boom, housing equity withdrawal, or “top-up” loans, accounted for around one-third of residential mortgage loans issued. This collateral-based lending was typically issued at a significant discount to other forms of personal lending, often at tracker rates. Following the collapse of the Irish housing market, the value of “top-up” loans issued in 2011 was down 96 percent from 2006 - the peak year for this form of lending. This paper draws out some of the trends in housing equity withdrawal over the last decade, both in terms of the extent of lending that occurred and the reasons for borrowers taking out such loans. From a domestic demand perspective, the concern would be the extent to which this form of borrowing fed into domestic consumption and the longer-term implications for Irish economic growth. In this context we show that equity withdrawal trends are strongly positively correlated with a number of demand measures, mainly related to spending on durables.

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*Keywords:* housing equity, property bubbles, consumption, Ireland

*JEL Classifications:* E20, E21, R31

### **1. INTRODUCTION**

In most developed countries housing wealth represents the largest share of net worth on the household balance sheet. In Ireland, the housing boom and bust over the last decade led to a rapid rise and fall in the value of housing assets. Between 2002 and 2007, the value of housing assets increased by almost 150 per cent. With the bursting of the property bubble this has declined by 41 per cent, wiping almost €250 billion off the nominal value of Irish housing assets (Central Bank of Ireland, 2012). In this context, understanding the interaction between housing wealth and developments in the Irish economy is of critical importance.

The interaction between the performance of the housing sector and the performance of the overall economy has long been a topic of interest for researchers, see for example the discussion in McQuinn et al. (2008). In this paper we provide an overview of one aspect of the relationship between housing wealth and aggregate demand: home equity withdrawal. We summarise the level of borrowing that occurred, the terms and conditions of such borrowing and the reasons for home equity withdrawal. The latter is important as it provides important information on the link between home equity withdrawal and consumption. We place the evidence on Irish home equity withdrawal trends in the context of the extensive international literature in this area and use this to draw some high level conclusions as to the relationship between home equity withdrawal and domestic demand.

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\* The views expressed in this paper are the views of the authors and not the Central Bank or the Central Statistics Office. Contact details: email: reamonn.lydon@centralbank.ie, tel. 01-224-6809; email: [niall.ohanlon@csso.ie](mailto:niall.ohanlon@csso.ie). Thanks to Therese Grace for research assistance and Kieran McQuinn for comments on earlier drafts.

During the housing boom of the last decade an increasing number of homeowners withdrew housing equity on the back of rapidly rising asset values. Some of this borrowing was used to fund housing investment, either in the same property or in other properties, and some was used for non-housing consumption. This paper builds on the literature in this area by using micro data to analyse home equity withdrawal trends in recent years. The potential use of home equity withdrawal to part-finance an additional property is of particular interest in the case of Ireland where intergenerational transfers of housing wealth (parents funding their children's house deposits) and buy-to-let property investment became an increasingly common feature of the Irish property market during the property boom.

By analysing data from the peak years of the property boom, our paper builds on earlier work by Hogan and O'Sullivan (2007), which looks at the relationship between housing wealth and consumption up to 2005. Hogan and O'Sullivan conclude that "until very recently, the dramatic rise in personal income has explained all of the increase in consumption and the marginal propensity to consume out of housing wealth is essentially zero." (p. 47). We show that housing equity withdrawal represented a substantial proportion of mortgage borrowing during the property boom, such that one-third of all mortgage draw-downs were "top-ups" on existing mortgages. We explore the reasons for equity withdrawal and, on the basis of self-reported loan-purpose data, observe that the bulk of equity withdrawal was re-invested in housing. We show that following the bursting of the housing bubble there has been a substantial drop in the propensity for home-owners to withdraw equity.

The remainder of this paper is outlined as follows. Section 2 provides some background on the interaction between the Irish housing market and the real economy. Section 3 describes the data and presents some stylised facts relating to housing equity withdrawal in Ireland. Section 4 discusses Irish trends in the context of the international literature on housing equity withdrawal on the real economy. Section 5 concludes.

## **2. HOUSING MARKET DEVELOPMENTS AND THE REAL ECONOMY**

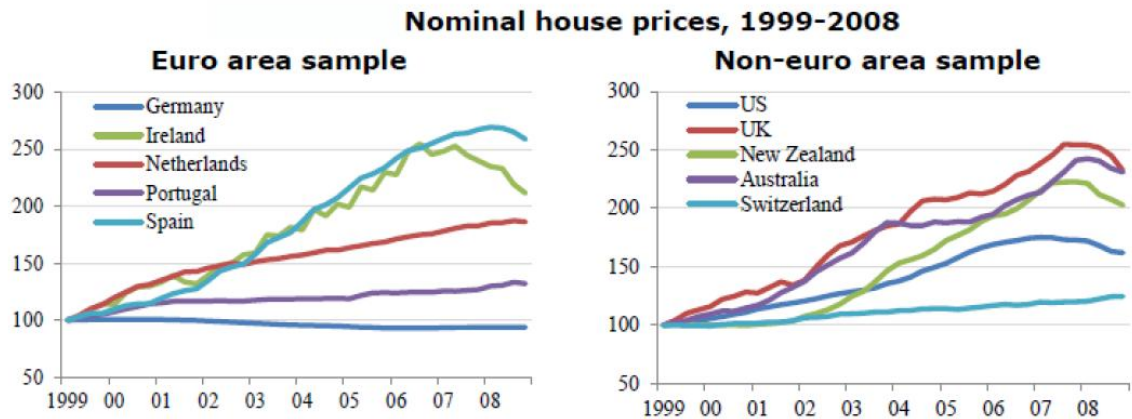
As noted in Gerlach (2012), changes in the fortunes of the housing market can have far-reaching consequences for the health of the economy. The closer the linkages between the housing market and economic activity, the more far-reaching these effects.

Figure 1, taken from Gerlach (2012), shows that between 1999 and 2007, growth in Irish house prices far exceeded that in most OECD countries, with house prices growing by over 250 per cent over the period. Figure 1 also shows that the rise in house prices led to a significant credit expansion in Ireland, where private sector credit increased by just under 600 per cent over the same period.

Since the bursting of the property bubble in 2007, Irish house prices have declined by almost 50 per cent. Kennedy and McQuinn (2012) note that the scale of the collapse in Irish house prices is similar to that observed in other OECD countries, like Japan for example, albeit over a much shorter time-span. The collapse in housing market activity is illustrated in Figure 2, taken from the Kennedy and McQuinn paper, which shows loan volumes down by over 90 per cent from the peak of the housing boom.

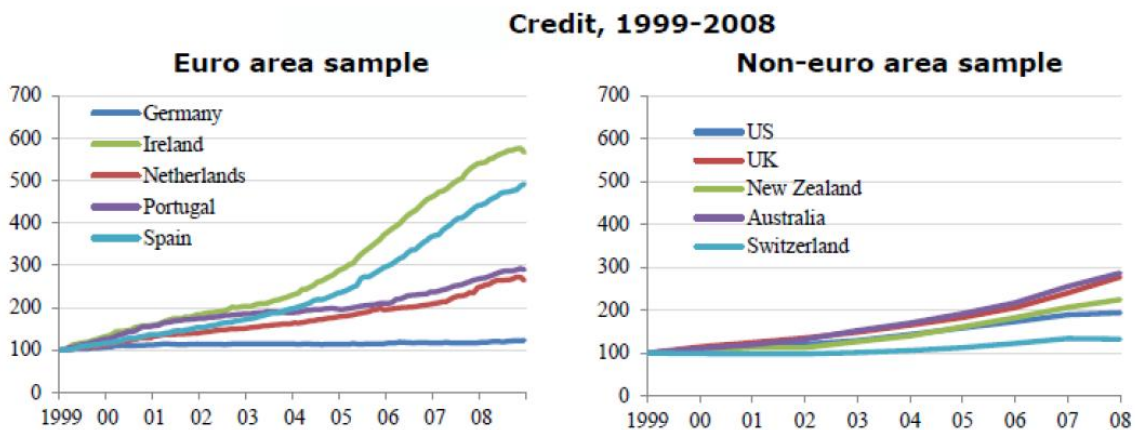
McQuinn et al. (2008) highlight some of the direct linkages between the housing market and economic activity: between 1998 and 2008, the number of persons directly employed in construction more than doubled such that at the peak about 13 per cent of the work force was directly employed in this area. There were also significant exchequer benefits associated with a rapidly expanding housing market: Stamp duty and capital gains accounted for 15 per cent of all tax revenue in 2006, compared with just 4 per cent in 1996.

Figure 1: Irish Mortgage Credit Growth 1999-2008 (Gerlach, 2012)



Source: BIS, CBI calculations.

Notes: Data are indexed to 1999 = 100. Data are property price per dwelling for a dwellings, where possible. Data for Germany, Spain and Portugal are per square metre. Data for the Australia, Germany, Ireland and the Netherlands are for existing dwellings. Data for US are for 1-family existing dwellings. Data for Switzerland are for all 1-family dwellings.

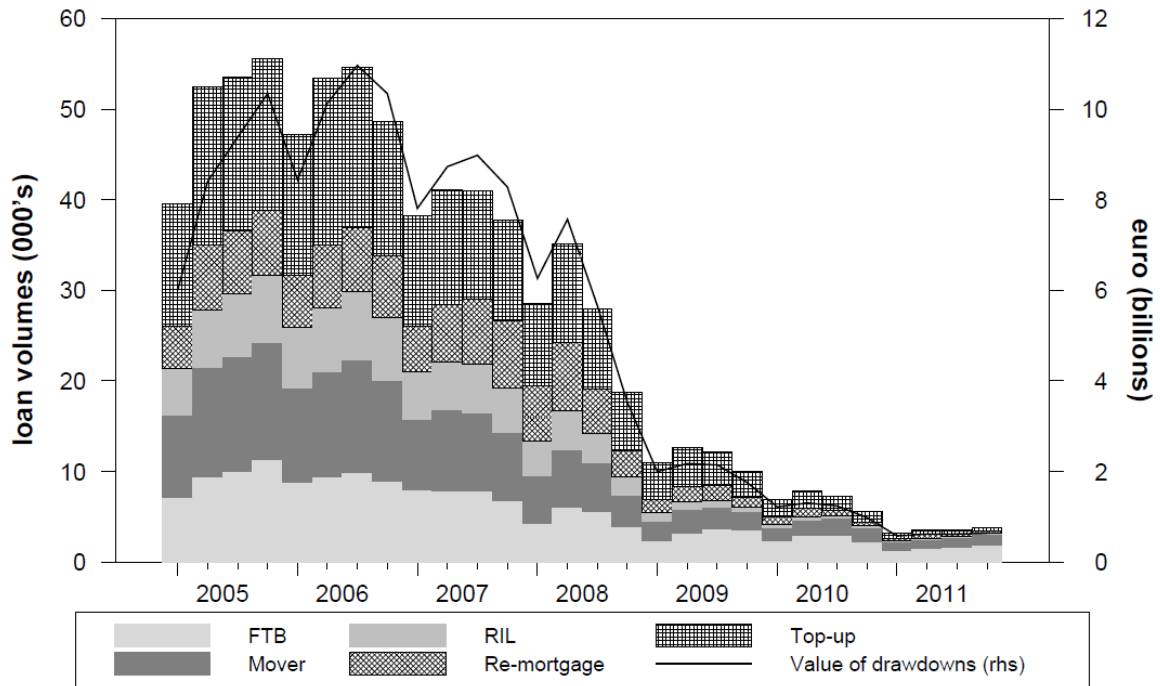


Source: IMF, CBI calculations.

Notes: Data are indexed to 1999 = 100. Data are claims on private sector.

The direct employment and exchequer effects arising from a housing boom are the more easily measured aspects of the relationship between housing and economic activity. However, the precise mechanism whereby housing market activity and housing wealth impact on consumption and other measures of domestic demand is difficult to isolate empirically, as we discuss in Section 4. That said, there is an extensive crisis literature that looks at the effects of housing busts on the real economy - the implication being that housing *is* important for economic activity. For example Claessens et al. (2008) find that prolonged house price declines have a significant impact on output, investment, credit and consumption. Interestingly, for Ireland, they also find that the unemployment effect arising from a housing bust has a long lag of up to two years after house price declines bottom-out.

Figure 2: Mortgage market activity 2005 - 2011 (Kennedy and McQuinn, 2012)

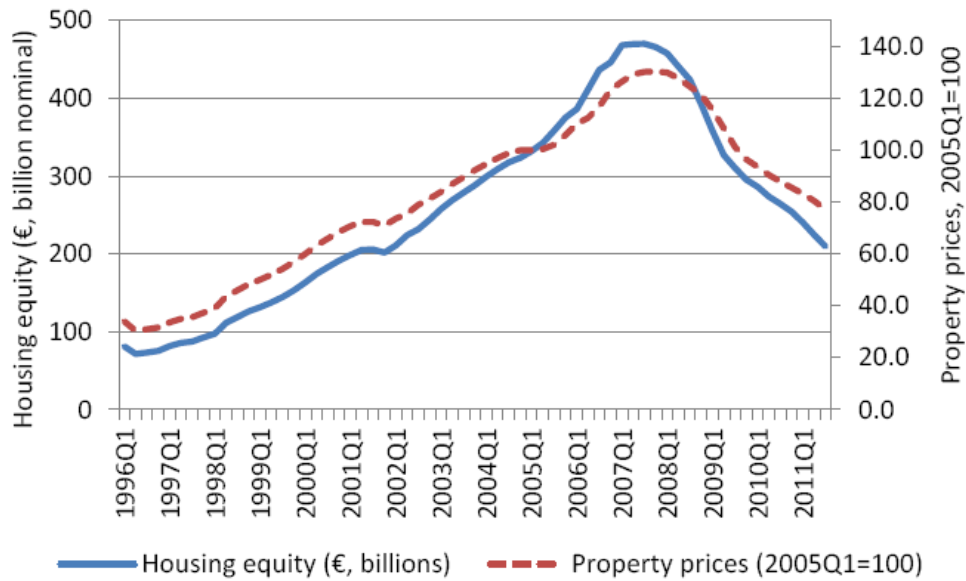


Source: Irish Banking Federation

The use of housing equity as collateral is one of the main channels whereby house prices can impact on aggregate demand (Gerlach, 2010). Figure 3 shows the evolution of aggregate housing equity over the period 1996 to 2011, calculated as the gross value of housing assets less the total outstanding stock of residential mortgage debt.<sup>1</sup> Housing equity increased steadily from the mid- 1990s, growing broadly in-line with house prices to peak at just under €500 billion in 2007. Since then, housing equity has returned to levels seen in the early 2000s. The second chart in Figure 3 shows the value of home equity withdrawal as a percentage of the gross value of all housing assets, i.e. both owner occupier and rented housing. The measure of equity withdrawal used for this chart is mortgage “top-ups” only. As discussed in the data section, we do not have data to observe equity withdrawal implicit in housing transactions or switching mortgage provider. Using this measure, we find that at the peak of the housing boom, just over 1 per cent of housing equity was withdrawn annually.

<sup>1</sup> Data on the gross value of housing assets from 2002 onwards is taken from the Central Bank of Ireland Quarterly Financial Accounts. Estimates prior to this point use housing stock figures from the CSO and the Department of the Environment and house price changes from the Permanent TSB/ESRI house price index. The gross value of residential mortgage debt is taken from the Central Bank of Ireland *Money and Banking Statistics*.

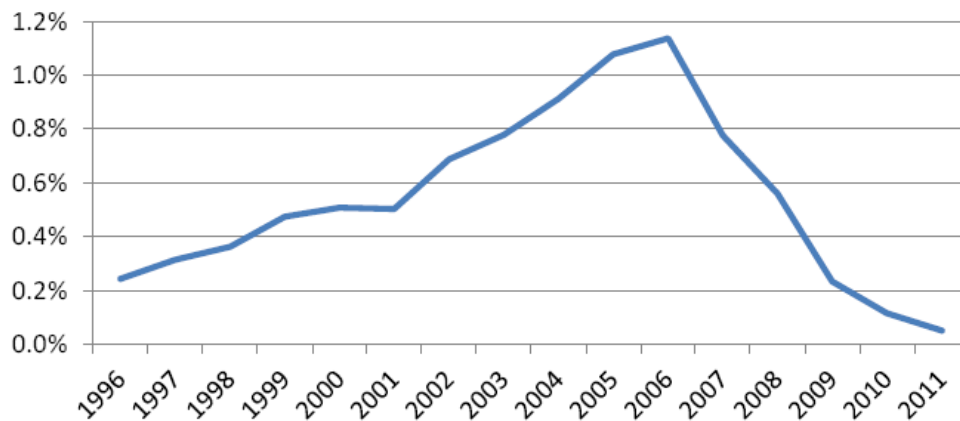
**Figure 3: Housing equity and housing equity withdrawal trends**



*Source:* Central Bank of Ireland Quarterly Financial Accounts, Central Bank of Ireland Calculations, and PTSB/ESRI house price index

*Notes:* Housing equity is defined as the gross value of housing assets, less the value of credit secured against housing.

### Equity withdrawal as a percentage of gross housing wealth

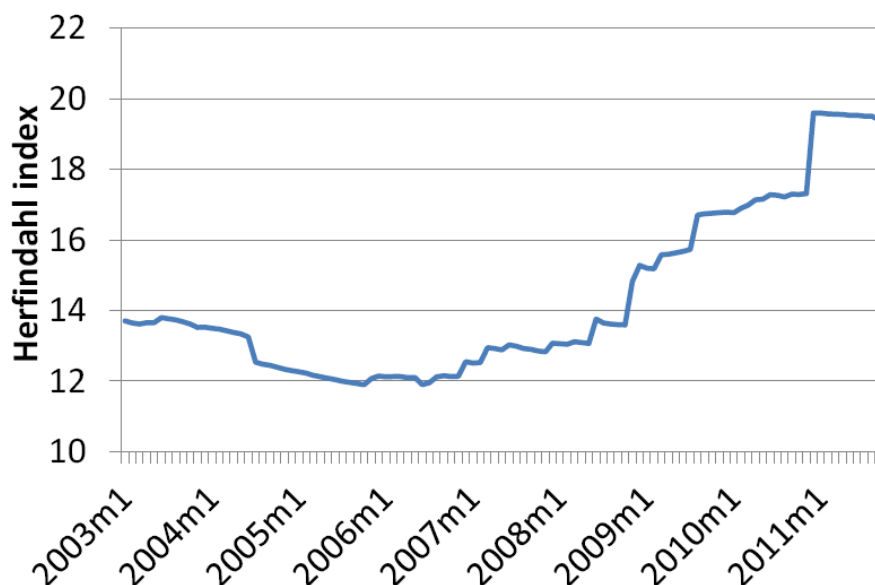


*Source:* Equity withdrawal trends from 2005 onwards is 'Top-up' data from the Irish Banking Federation. Prior to 2005 it is equity withdrawal as calculated from the Central Bank of Ireland loan-level data base, aggregated up to the market using market share information.

*Notes:* Gross housing wealth from 2002 onwards from the Central Bank of Ireland Quarter Financial Accounts. Prior to this it is a Central Bank estimate using estimates of the housing stock from DoE and the Census and house price changes from PTSB/ESRI

The impact of equity withdrawal on aggregate demand can be significantly greater if it enables previously credit-constrained households to obtain finance; see Benito (2009) and Gerlach (2010). In this context, it is important to be aware of the fundamental shift in market structure that accompanied the housing boom and bust. The booming domestic property market saw a number of foreign, mainly UK lenders, enter the Irish market. At the same time, previously smaller market players sought to increase their market share. These developments contributed to increased competition and falling concentration levels in the market for new lending throughout the property boom. Figure 4 shows the fall in market concentration throughout the boom period, and the subsequent rise as major players, both foreign and domestic, exited the market in the wake of the property crash.

**Figure 4: HHI measure of market concentration**

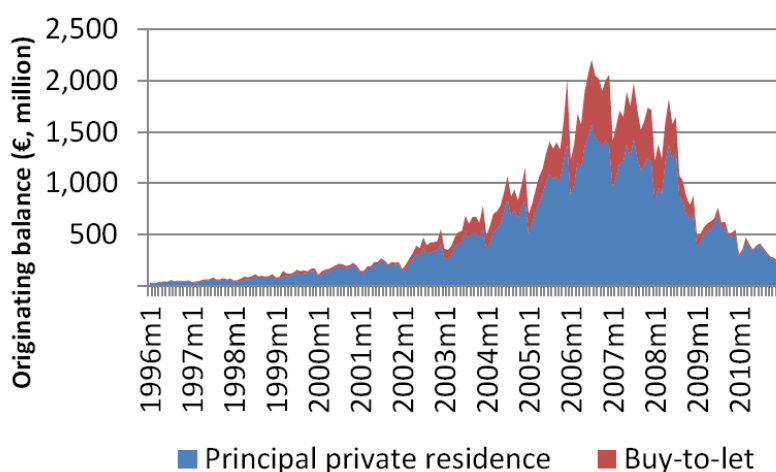


Source: Goggin *et al.* (2012)

Another, often overlooked, aspect of the Irish housing boom during the last decade is the substantial increase in buy-to-let property investment that occurred during this period. Prior to the 2000s, a very small proportion of loans on the banks' balance sheets could be counted as buy-to-let or 'small-scale' investor loans. This share increased substantially during the mid-2000s, such that 29 per cent of originating balances during 2006 and 2007 were classed as buy-to-let loans.<sup>2</sup> Why is this trend relevant for an equity release paper? As we will show below, an increasingly common trend during the property boom was for owner-occupiers to extract equity from their primary residences for the express purpose of investing in buy-to-let property. To the extent that buy-to-let purchases affected the general trend in property prices, these borrowers were partly availing of asset price increases to invest in similar assets that, to a large extent, were themselves driving the general increase in asset prices.

<sup>2</sup> The sums involved here are worth quoting in full: at the end of 2010, the FMP credit institutions had some €42 billion of loans which originated in 2006-07. Of these, €12 billion was lending for buy-to-let purposes.

**Figure 5: Buy-to-let versus Principal Private Residence loans**



Source: CBI loan data for the four FMP credit institutions.

### 3. IRISH EQUITY WITHDRAWAL TRENDS

This section summarises trends in housing equity withdrawal in Ireland over the last decade. We begin by defining exactly what we mean by housing equity withdrawal. Drawing on Klyuev and Mills (2006), housing equity withdrawal can occur by:

- re-mortgaging or refinancing an existing mortgage with a higher principal, including taking out a second mortgage on an existing property;
- moving to a new house, but taking out a higher mortgage than is necessary such that net liabilities are unaffected;
- trading down to lower value house but decreasing the level of secured debt by a smaller amount than the difference in value; and
- selling a house to move into rental accommodation, subject to there being positive equity in the property prior to sale.

For reasons of data availability, the focus of our analysis in this paper is the first type of equity withdrawal above, and second loans in particular. One important caveat here is that we are unable to track the home equity withdrawal that could have occurred when borrowers re-mortgaged properties and folded the old loan into a new loan. This includes switching mortgage provider. We need loan-to-value ratios both pre- and post-remortgaging in order to establish the degree of equity withdrawal implicit in these transactions, and this data is not available. The Irish Banking Federation (IBF) mortgage data shows that 14 per cent of loans during 2005 to 2011 were re-mortgages (IBF, 2011).

#### 3.1 Data used in the analysis

The micro data on equity household equity withdrawal in this paper comes from two sources. The first source is the monthly loan transaction data collected by the CSO for the purposes of its Residential Property Price Index. This dates back to 2005 and further information on the raw data is provided in O'Hanlon (2011). All of the loan and borrower characteristics in this database are as at the loan origination date.

The second source is loan-level data collected by the Central Bank of Ireland (CBI) as part of the analysis underlying its Financial Measures Programme (FMP, Central Bank of Ireland, 2011), as described in Kennedy and McIndoe Calder (2011). The data is similar to the CSO data in that it provides loan and borrower characteristics at loan origination. It also provides up-to-date current information on the loan characteristics and loan performance (i.e. arrears status). The CBI dataset contains information on over 570,000 loans, originating

from 1996 onwards. Of these, 194,000 (34 per cent) are classed as equity release loans. The degree of market coverage differs between the CBI and the CSO data, as the former is only for the four FMP institutions (Bank of Ireland, Allied Irish Bank, EBS and Irish Permanent), whereas the CSO dataset includes information on mortgage drawdowns by eight of the main Mortgage Lending Institutions.

There is not a 100 per cent overlap in borrower and loan characteristics in the two datasets, therefore combining them allows us to present a more complete picture of housing equity withdrawal trends over time. One advantage of the Central Bank data is that it anonymously identifies individual borrowers and properties. This allows us to analyse the extent to which home equity withdrawal was used to part finance other property investment (i.e. buy-to-let) during the boom period. The transactions based data contains limited information on household characteristics, and certainly not enough to replicate the structural modelling approach in Ebner (2010) for example. Rather, as we describe in Section 4, our general approach is compare aggregate equity withdrawal trends with trends in key consumption variables over time.

Aggregate measures of the total volume and value of equity release are obtained from the IBF mortgage data as these are more complete than both the CBI and CSO data. A high percentage loans classified in the CSO data as “Further Advance/Top-up/Equity Release with no associated property acquisition” are surprisingly large, 27 per cent are over 100,000 and 11 per cent are over 200,000. Furthermore, there are a not insignificant number of very small value loans, 3 per cent of the total being under 10,000. It is likely that at least some of these loans are erroneously classified and require further investigation and perhaps reclassification. Discussions with mortgage lending institutions in this regard are ongoing and pending satisfactory resolution, analysis of Equity Release loans with no associated property acquisition will focus on those of values falling between 15,000 and 150,000. There are just under 100,000 of these loans accounting for 73 per cent the total reported.

The analysis of the trends in the following sections is presented under four headings: (i) the level of borrowing that occurred; (ii) the terms and conditions attached to such lending, compared with other consumer lending; (iii) the characteristics of borrowers; and (iv) reasons for home equity withdrawal.

### 3.2 Home equity withdrawal trends

Table 1 shows the volume and value of equity withdrawal draw-downs in the IBF data set. We use the definition of a “top-up” loan, that is “a further mortgage advance to an existing borrower which is issued to finance expenditure other than house purchase” (IBF, 2011), as the measure of equity withdrawal. At the peak of the property boom (2004-2007) equity release account for around one-third of loans. In value terms, the share of equity release loans is significantly less, accounting for around 14 per cent of the value of loans drawn-down.

**Table 1: “Top-up” loan drawdowns - IBF Data**

	Volume of loans (% all loans)	Value of loans (€million) (% total value)
2005	64,821 (32)	4,717 (14)
2006	66,598 (33)	6,039 (15)
2007	47,967 (30)	4,684 (14)
2008	35,315 (32)	3,253 (14)
2009	14,947 (33)	1,123 (14)
2010	6,631 (24)	493 (10)
2011	2,005 (14)	195 (8)
Total	238,284 (31)	20,504 (14)

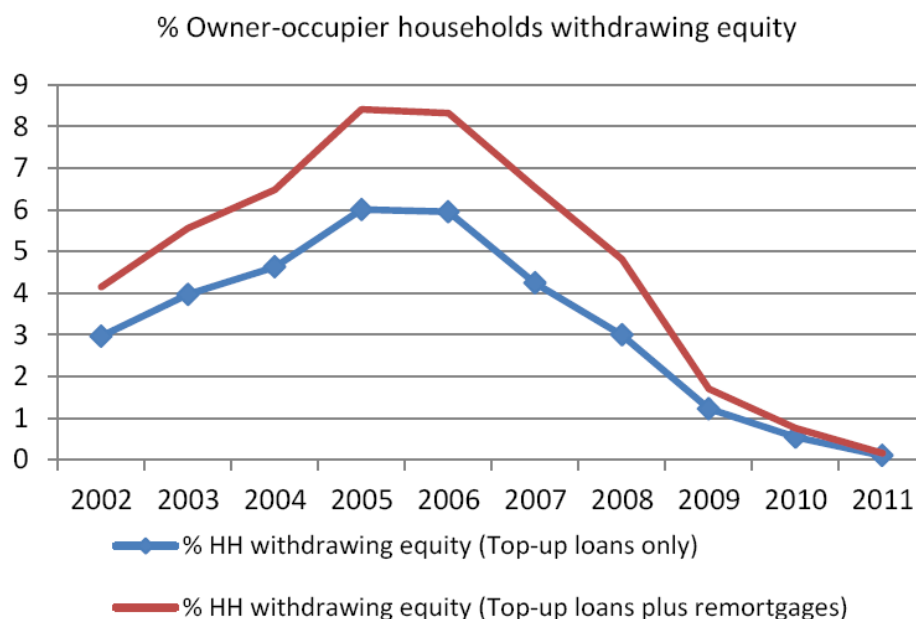
**Source:** Irish Banking Federation Mortgage Market Profile

IBF “Top-up” is defined as “a further mortgage advance to an existing borrower which is issued to finance expenditure other than house purchase”



We use the IBF mortgage data and CSO data on the number of owner-occupier households to estimate the proportion of owner-occupier households withdrawing equity in each year. Figure 6 shows that equity withdrawal peaked at 9 per cent of owner-occupier households in 2005 and 2006. Since then, the proportion has fallen to just 0.2 per cent in 2011.<sup>3</sup> These figures are in-line with similar data for the UK (Benito, 2009), for both the peak of the property boom (c.10 per cent of UK households withdrew equity) and more normal periods (c.4 per cent of households withdrawing equity).

**Figure 6: Propensity to withdraw equity and amount withdrawn**

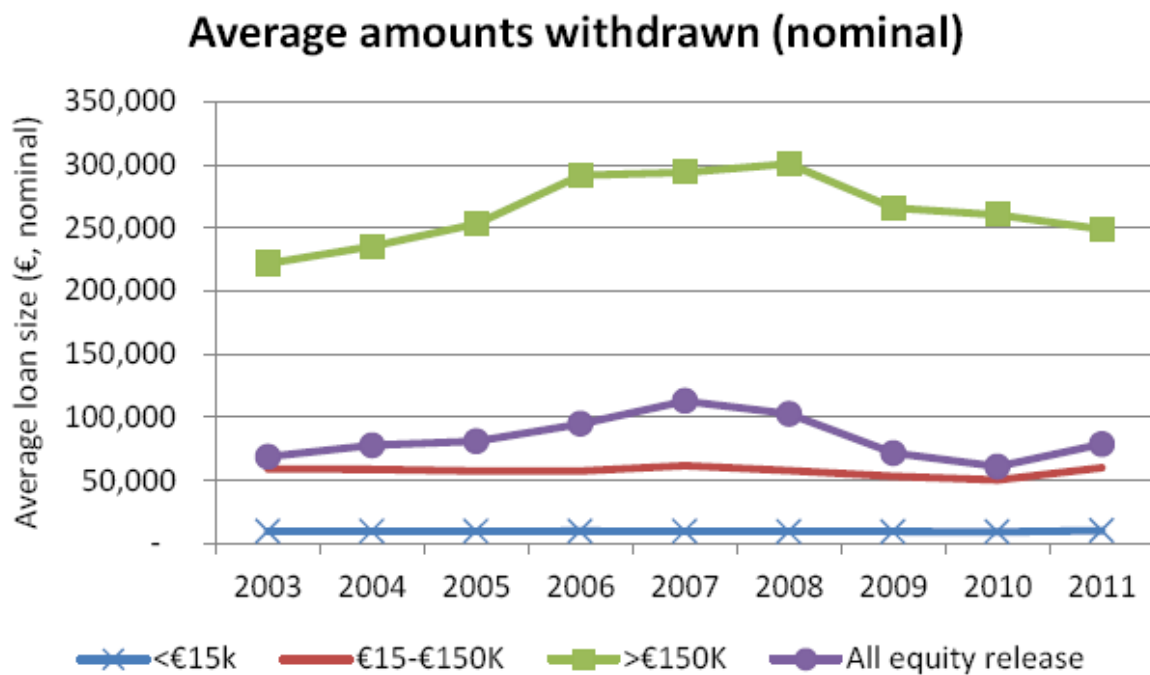
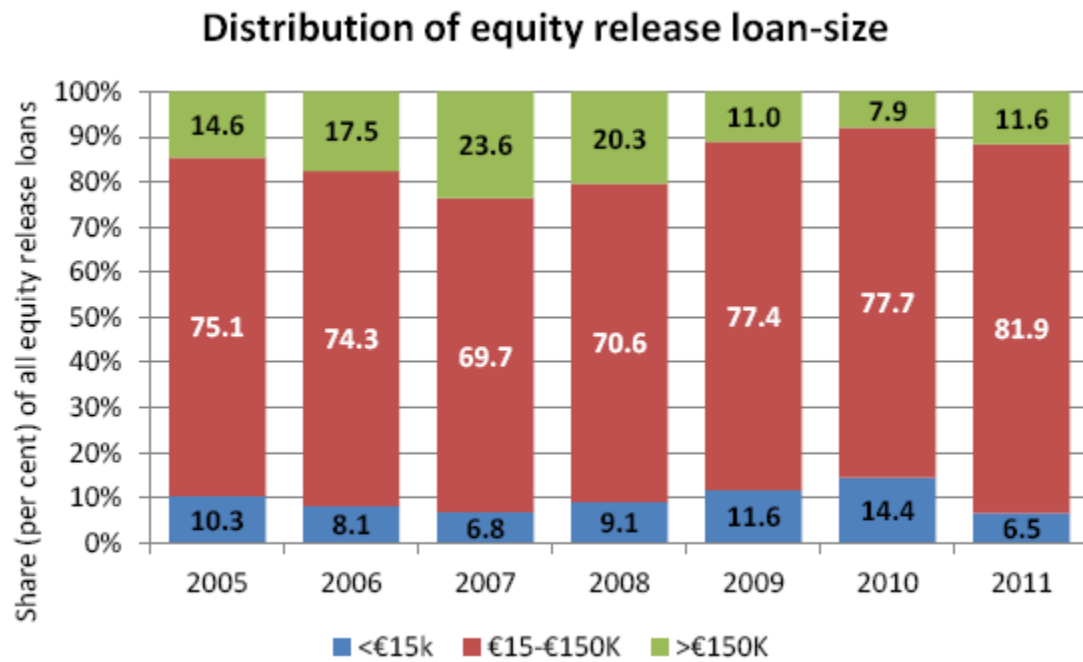


*Source:* CBI and IBF equity release data. QNHS for household numbers

Figure 7 uses the loan-level data to show equity withdrawal trends by three categories of loan size: less than €15,000, €15,000 to €150,000 and greater than €150,000. The bulk of equity release lending is in the middle category, although throughout the period of the property boom, the larger category grew steadily to account for almost one-quarter of equity release loans at the peak. The increase in larger loans largely drives the trend in the overall average loan size. The average loan peaked at €113,000 in 2007 (nominal), but fell to €61,000 by 2010. For the size category that accounts for the bulk of equity release loans (€15,000 to €150,000), the average loan size remained within the €50,000 to €60,000 range for the period. Benito (2009) estimates the average amount of equity withdrawn for UK homeowners at around €30,000 in 2003. There may be several reasons for difference in the average loan size for Irish versus UK equity withdrawal, for example, the reasons for home equity withdrawal may differ. However, when we deflate by average house prices, we find that the amount of equity withdrawn is very similar across the UK and Ireland, remaining within a tight range of 15 to 20 percent of house prices for much of the 1995 to 2010 period (see Figure 8).

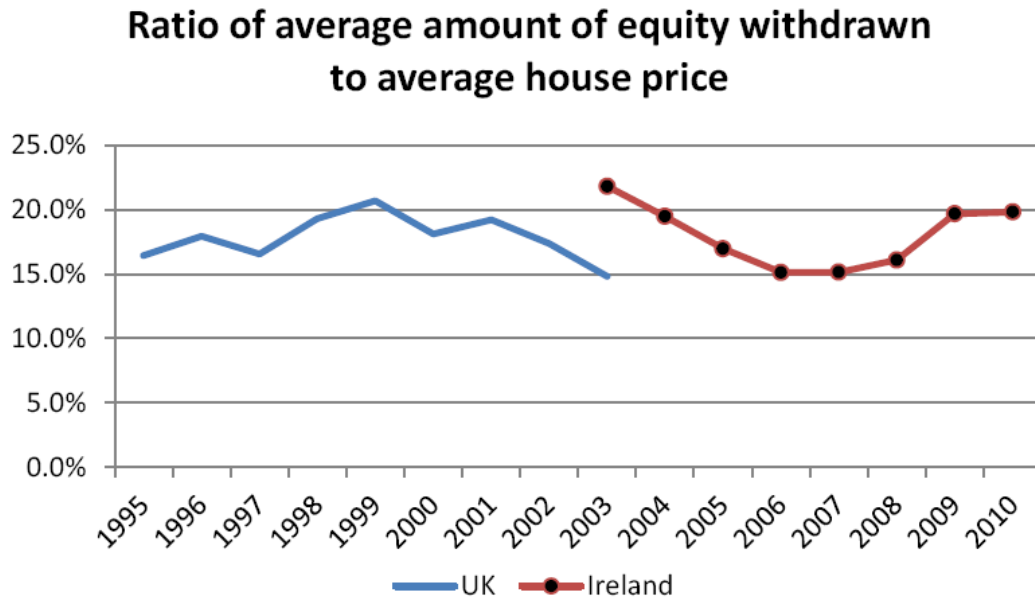
<sup>3</sup> This estimate includes remortgages from the IBF data. The lower line in Figure 2 shows the estimated proportion using figures on the number of top-ups only.

Figure 7: Loan size



Source: (a) CSO loan-level data; (b) CBI loan-level data to 2005, CSO data thereafter.

Figure 8: Ratio of equity release amount withdrawn to house prices



Source: Central Bank of Ireland calculations and Benito (2009). Average house prices from Dept. of Environment (Ireland) and UK Land Registry.

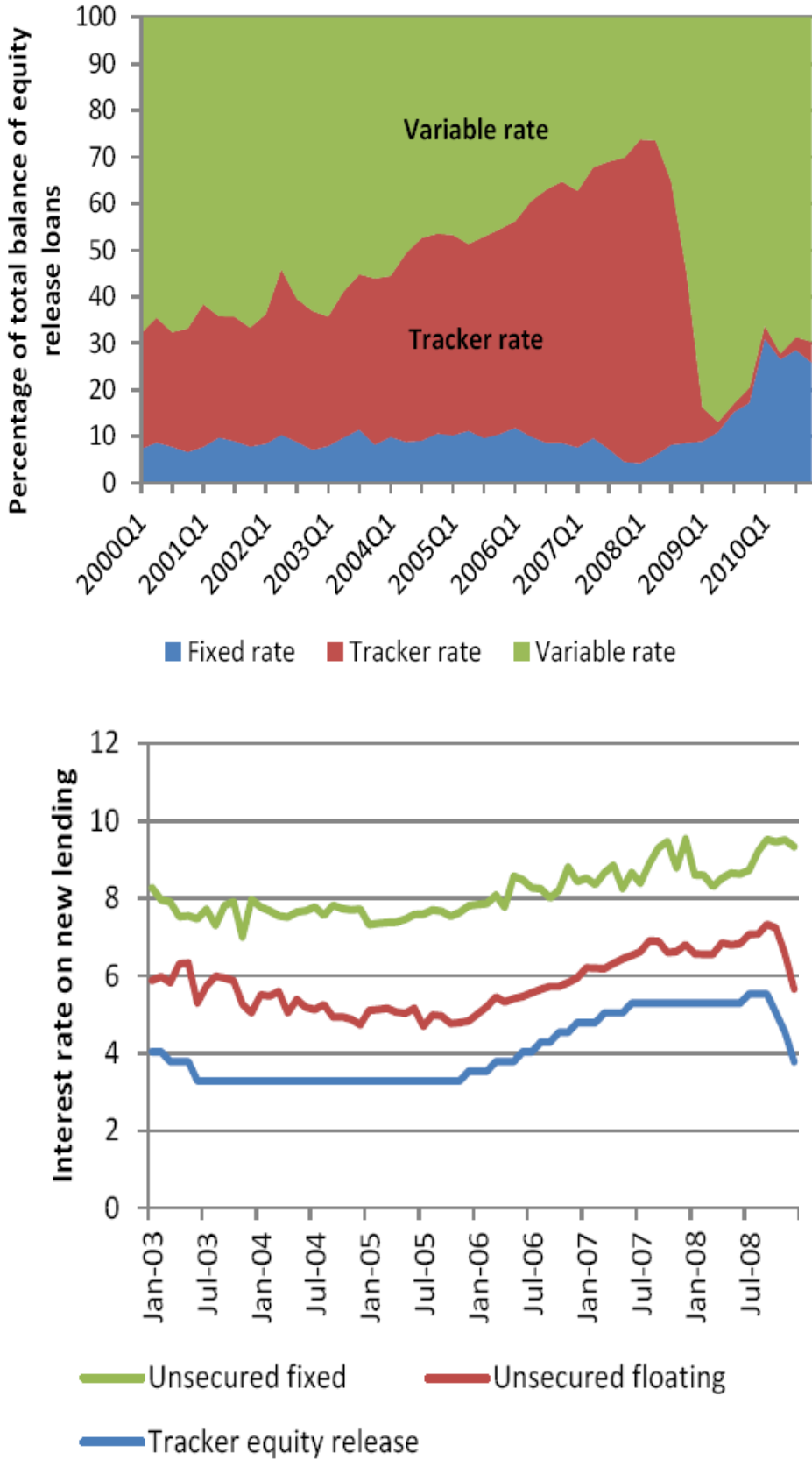
### 3.3 Interest rates on equity release lending

Housing equity can be used as collateral to obtain a secured loan on more favourable terms than an unsecured loan. For the UK in 2008, Hellebrandt et al. (2009) observe a margin of over 4 percentage points on the interest rate for secured versus unsecured personal loans. The increase in the total value of equity release borrowing in the last decade coincided with an increase in tracker-type mortgages, which track the ECB base rate at a set margin, usually between 1 and 1.5 per cent.

Figure 9 shows the *interest rate type* for equity release loans at end 2010, by year of origination since 2000. The rapid rise in tracker-rate loans for equity release is evident from the figure. Tracker rate loans grew to account for almost 70 per cent of equity release loans by the end of 2007. What is equally stark about the trends in Figure 9 is the collapse in tracker lending from 2009 onwards. In

2009 and 2010 equity release lending at tracker rates accounted for just 3 per cent of such lending. In terms of the stock of equity release loans at the end of 2010, 43 per cent were tracker, 47 per cent variable and 10 per cent were fixed rate loans.

**Figure 9: Interest rates on equity release borrowing**



Source: (a) CSO loan-level data; (b) CBI loan-level data to 2005, CSO data thereafter.

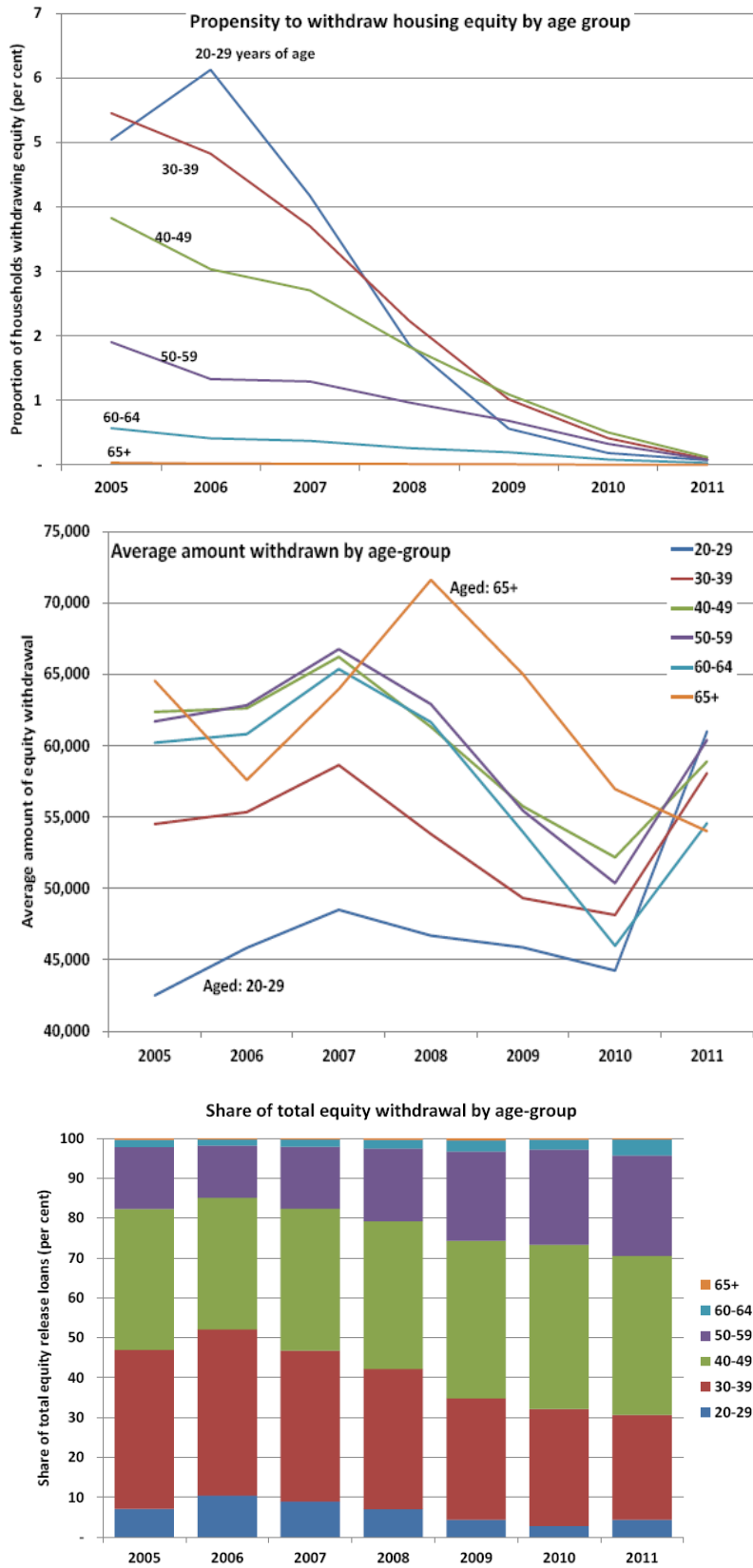
Using the loan-level data, we estimate the average margin over the ECB base rate for tracker rate loans was around 1.3 per cent during 2008 to 2010. Applying this margin to the base rate over time, we can compare the rates for new equity release tracker lending with the rates for consumer lending collected by the Central Bank of Ireland. The trends from 2003 to 2008 are shown in Figure 9. Equity release lending is priced at a considerably lower rate than unsecured personal lending. The margin is between 2 and 4 per cent, depending on whether the unsecured lending is on a variable or a fixed rate.

### ***3.4 Characteristics of borrowers***

The life-cycle model predicts that younger households wishing to borrow against rising incomes will be the group most likely to withdraw housing equity. Figure 10 uses the CSO loan data for the €15,000 to €150,000 loan bracket to look at equity withdrawal trends by age-group. The proportion of owner-occupier households withdrawing equity is indeed highest for the younger age-groups, at 5 to 6 per cent for owner-occupiers in the 20 to 39 years age-bracket. We observe that the probability of equity withdrawal is almost monotonically decreasing with age, although the range of probabilities compresses rapidly as the decline in asset prices begins to take-hold. While not within the scope of this paper, it is worth noting that the income expectations surrounding the life-cycle decisions taken by younger borrowers at the peak of the boom are unlikely to be realised in the medium term at least, with possible implications for consumption over their lifetime.

Figure 10 shows that while the propensity for equity release is higher amongst young owner-occupier households, the average amount of equity withdrawn is significantly lower when compared with other age-groups. For example, the peak values (2007) are €50,000 to €57,000 for borrowers aged under 39 years, whereas as other groups are in excess of €65,000. This may simply reflect relatively lower levels of equity accumulated, or different reasons for equity withdrawal in the first place. Figure 10 also shows the share of total equity release borrowing by age-group. The decline in asset prices is reflected in the rapid fall in the share of equity release accounted for by younger cohorts. Having accounted for 50 per cent of borrowing in 2006-07, the share fell to 30 per cent by 2011, with older borrowers (>50 years of age) making up much of the difference.

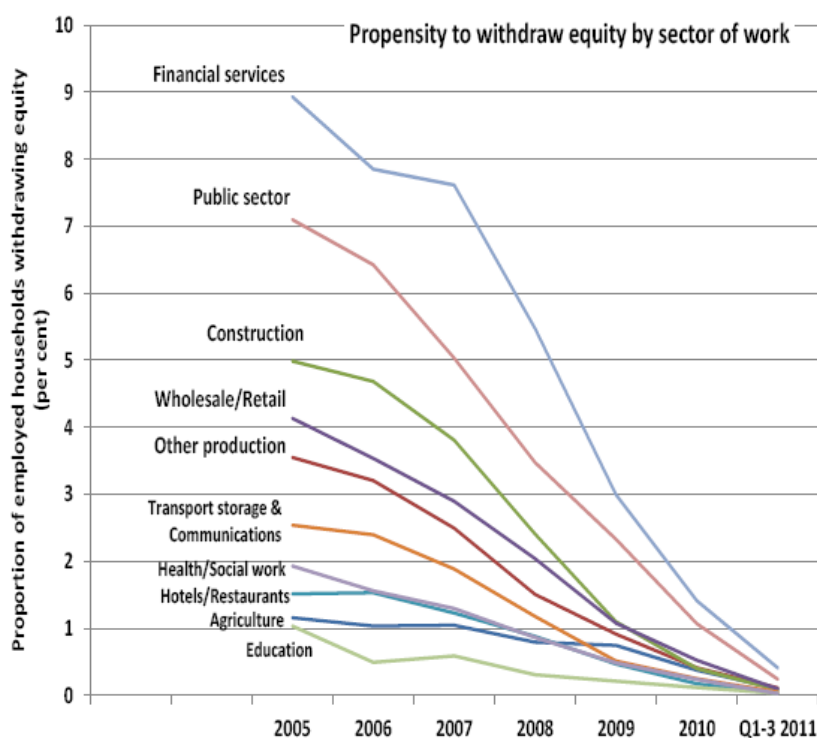
**Figure 10: Equity withdrawal by age-group**



Source: CSO and CBI calculations, restricted to loans €15,000 - €150,000

The CSO loan-level data also records the sector of work of the primary borrower (NACE codes). Figure 11 shows the propensity for equity withdrawal was highest where the main borrower was working in the Financial Services sector. This may reflect the fact that heads of households working in this sector might have easier access to credit. In 2005, almost 9 per cent of owner occupier households working in this sector withdrew equity from their homes, withdrawing just under €63,000 on average. As the decline in the property market began to take hold both the propensity to withdraw equity and the average amount withdrawn also declined. Although, the figures on amounts withdrawn in the first three quarters of 2011 show an increase, particularly for workers in those sectors where the propensity to withdraw equity is lower, such as the public sector, education and health and social work.

**Figure 11: Equity release by sector of work**



	Average amount of equity withdrawal				
	2005	2007	2010	2011	2011/2007
All sectors	€56,976	€59,545	€48,833	€56,825	-4.6%
Agriculture etc	€65,426	€73,387	€54,767	€75,904	3.4%
Other Production	€56,480	€59,170	€47,044	€56,724	-4.1%
Construction	€57,499	€60,990	€49,394	€51,680	-15.3%
Wholesale retail	€54,845	€56,716	€47,207	€43,298	-23.7%
Hotels, restaurants	€59,084	€59,120	€54,747	€50,500	-14.6%
Transport, storage, communications	€54,290	€56,195	€50,276	€60,294	7.3%
Financial	€62,917	€64,304	€52,662	€55,793	-13.2%
Public admin and defence	€54,335	€56,057	€45,831	€58,262	3.9%
Education	€76,099	€70,542	€54,575	€62,250	-11.8%
Health and social work	€48,540	€55,024	€47,391	€68,923	25.3%

Source: CSO and CBI calculations. Loan-size €15,000-€150,000

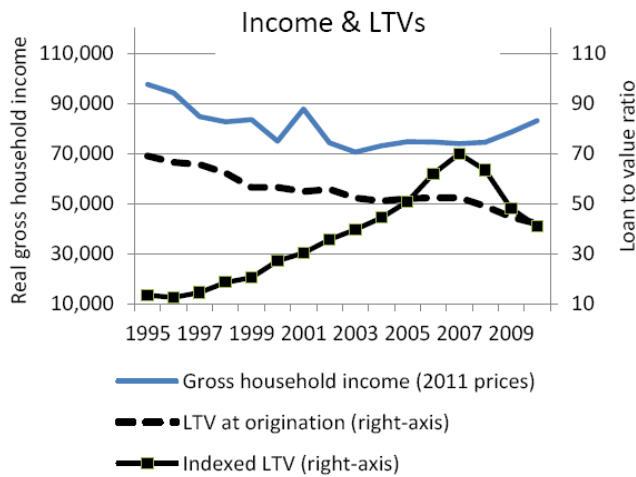
Gross household income at time of loan origination is recorded in the Central Bank data. Figure 12 shows the trend in real gross household income from 1995 to 2010. We restrict the comparison to loans where the original loan term was greater than or equal to 15 years. This is because the Central Bank data is a snap-shot as at end-2010 and loans originating in the past and maturing before this date will not appear in the sample. With the exception of 2001, from the mid-1990s, there was a steady decline in the incomes of households withdrawing equity, falling from €98,000 to €70,000 (2011 prices). This may reflect looser credit standards or merely the large increase in property prices during this period which resulted in the accumulation of significant housing equity amongst younger cohorts.

Figure 12 also shows the loan-to-value ratios (LTV, total property debt) at origination and indexed to 2010 house prices and balances. The indexed LTV figure indicates that the LTV at end 2010 for most borrowers that withdrew equity during the boom is significantly higher than at loan origination.

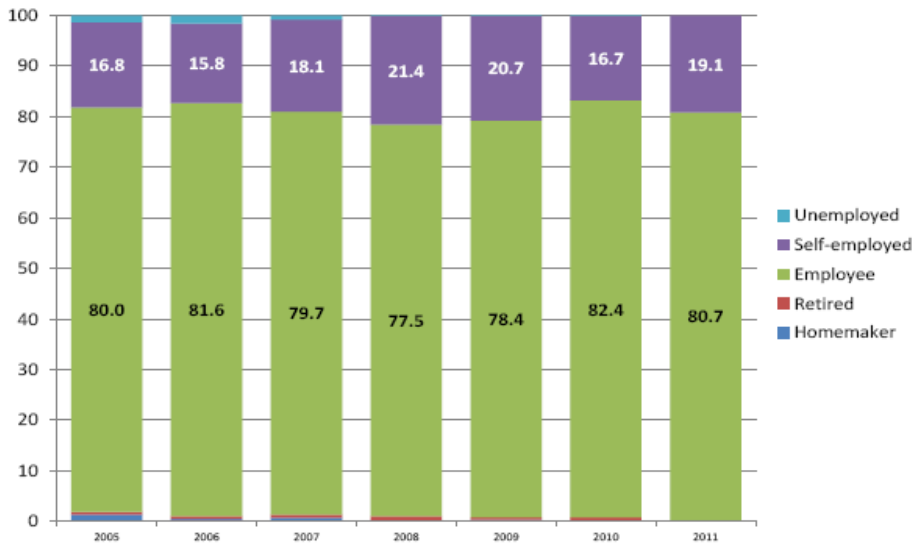
Finally in this section, we look at the economic status of the main borrower. Unsurprisingly, almost all are in some form of employment, with 80 per cent of borrowers classified as employees and 18.4 per cent as self-employed over the entire period. The final chart in Figure 12 shows that owner-occupier households where the head of household is self-employed withdraw significantly more on average over the period. The largest difference is in 2008, when the average home equity withdrawal loan was one-third higher when compared with employees (€70,000 versus €53,000). This difference could point to a number of factors, for example the use of housing equity as an additional source of firm-financing, or even the use of housing equity as financial buffer when the recession began to hit.



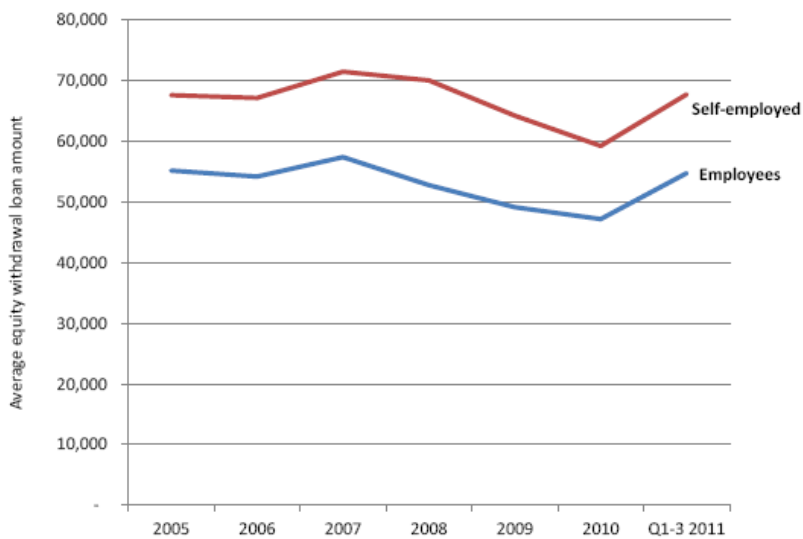
**Figure 12: Equity release, income and economic status**



**Share of equity withdrawal by status**



**Average amount withdrawn by employee/self-employed**



Source: CSO and CBI calculations, restricted to loans €15,000 - €150,000

### ***3.5 Reasons for equity withdrawal - evidence from the loan data***

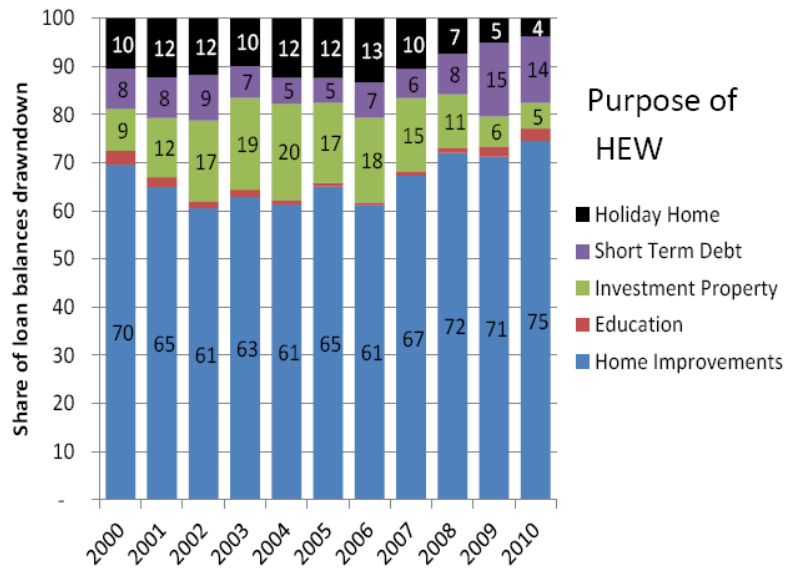
It is important to know the main reasons for home equity withdrawal as it adds to our understanding of the relationship between economic activity and this form of collateral-based lending. Drawing on the existing literature, the reasons for home equity withdrawal can be grouped under three broad headings:

1. Durables consumption - for younger households in particular, consistent with the life-cycle model of consumption;
2. Housing investment, including home improvement - either in the same property or in other properties; and
3. Home equity as a capital buffer - accumulated housing equity can be used as a buffer against an adverse financial shock or as a source of capital when liquidity constraints are binding, for example, for business owners or the self-employed.

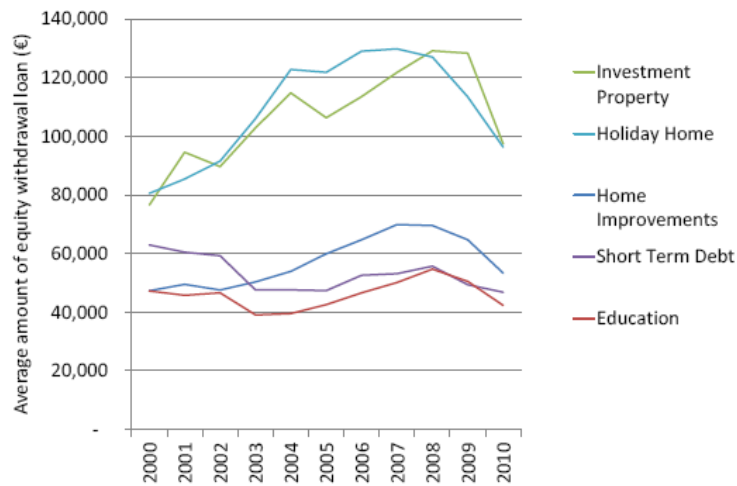
For a subset of 52,000 owner-occupier equity release loans, borrowers provided information on the "purpose" of the loan at loan origination. It is important to point out that this is self-reported, and there is no evidence of lenders subsequently verifying the information provided. Figure 13 shows the percentage of drawn-down balances accounted for by the five main loan purpose categories since 2000. Over the entire period, two-thirds of borrowers report the purpose of the equity release loan as "Home Improvement", similar to UK trends in Benito (2009). Just over a quarter of loans are described as being for either "Investment Property" (15 per cent) or a "Holiday home" (11 per cent). The average loan size for the latter is significantly higher, peaking at over €120,000 in 2008.

Two other categories of loan purpose are reported: "Education" and "Short-term debt". Interestingly, the use of equity release for "Short-term" debt purposes grew significantly in 2009 and 2010, which could be indicative of the use of housing equity as a financial buffer. The loan size averages at €46,000 and €53,000 for "Education" and "Short-term debt" loans respectively over the 2000 - 2010 period.

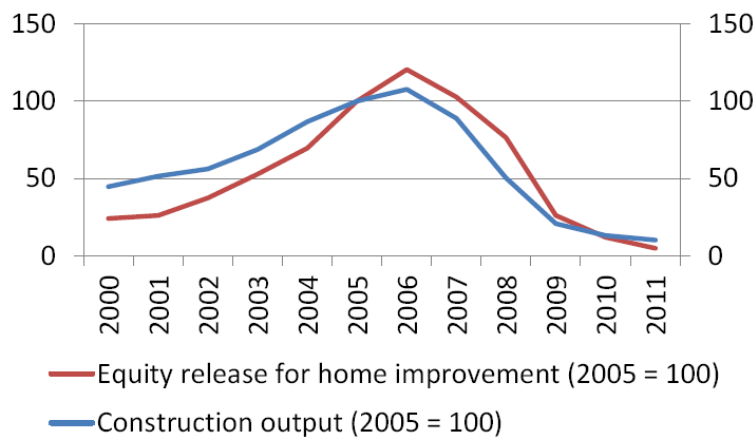
**Figure 13: Purpose of home equity withdrawal**



**Average loan size by purpose**



**Home improvement equity release and construction output (2005=100)**



Source: CSO and CBI calculations, restricted to loans €15,000 - €150,000

As noted above, the loan purpose information is self-reported and not audited by the lender, either ex-ante or ex-post. It is possible that the "Home Improvement" category may also be picking up borrowing for other purposes, including consumption of durable and non-durable goods. However, it is not possible to check this with the current data set. That said, we do observe a strong correlation between trends in equity withdrawal for home improvement and the CSO's construction output indicator, as shown by the third chart in Figure 13.<sup>4</sup>

### 3.5.1 Equity release for property investment

According to the reported loan-purpose data, 15 per cent of equity release draw-downs are for other property investment, excluding holiday homes. We can use the borrower IDs in the loan data to analyse the impact that equity release has on the probability of a borrower subsequently investing in a buy-to-let property. The analysis is restricted to other borrowing within the same bank, as the data does not allow us to identify borrowing from other lenders.

Table 2 summarises the loan balances used in this analysis. We are interested in those borrowers who already have an owner-occupier mortgage with one bank, and subsequently take out a buy-to-let mortgage on a different property with the same bank. This group, highlighted in the table below, accounts for 3 per cent of owner-occupier loans in the sample.

**Table 2: Owner-Occupier borrowers with BTLs (Dec 2010)**

	Number of borrowers (%)	Balance €billion (%)
Owner-occupier - total	250,950 (100%)	€42.0 (100%)
<b>Have a BTL loan from same lender</b>	<b>8,005 (3.2%)</b>	<b>€1.9 (5%)</b>

*Source:* CBI loan-level data for three out of the four PCAR credit institutions.

The question we ask is as follows: how does owner-occupier equity release impact on the probability of an existing borrower taking out a BTL mortgage with the same lender? We estimate a probit regression where the dependent variable is equal to one if an existing owner-occupier borrower has a BTL loan with the same lender, or zero otherwise (i.e. the row highlighted in the table above). The regression includes a dummy variable equal to one if the borrower has taken out an equity release in the preceding twelve months. To control for the fact that equity release for property investment are likely to be larger (see Figure 13), we interact this with a dummy variable equal to one if the equity release amount exceeds €100,000. The results, shown in Table 3, indicate a strong correlation between equity release and subsequent buy-to-let borrowing, particularly for larger equity release draw-downs where the marginal effect (7 per cent) is both large and statistically significant. The regression includes controls for income at origination (+), current loan balance (+) and loan term remaining (-); the latter is included as a proxy for the age of the borrower, which is not directly observed.

<sup>4</sup> We have also compared the home improvement equity release trends with Department of Environment annual data on the nominal value of construction output for *repair, maintenance and improvements* in private housing, published as part of its *Construction Industry Statistics* up to 2008. The correlation between these two series is weaker, in fact we observe that the annual growth-rate in equity release borrowing for "Home Improvement" actually outstrips the annual growth rate in expenditure on home improvements and repair.

**Table 3: Probability of OO having BTL with same bank**

Dependent variable =1 if	
OO with BTL	Marginal effects
Equity release <sup>a</sup>	0.00908*** (0.00130)
Equity release * €100k <sup>a</sup>	0.0704*** (0.00387)
Current OO loan balance (Dec 2010)	0.0117*** (0.000486)
Real gross household income at origination	0.0105*** (0.000510)
Mortgage term remaining	-6.92e-05*** (4.01e-06)
Observations	250,590
Pseudo R-squared	0.0708

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

(a) Marginal effects are for a discreet change in the dummy variable from 0 to 1

When we aggregate up the equity release balances across owner-occupiers with and without BTL we find that 9 per cent of equity release draw-downs loans are followed by a buy-to-let purchase in the subsequent twelve months (we can only infer correlation and not causation with this data). This is lower than the 15 per cent figure from the reported loan purpose data, however this is to be expected as the former is restricted to BTL borrowing from the same lender. Overall, we find that a substantial portion of equity release borrowing in recent years was associated with other property investment. While it is difficult to pin down a precise proportion, the analysis in this section suggests that at least 9 to 15 per cent of equity withdrawal by owner-occupier households in recent years was, in some way, related to other property investment.

#### 4. EVIDENCE ON THE RELATIONSHIP BETWEEN EQUITY RELEASE AND AGGREGATE DEMAND

The literature on how changes in housing wealth affect the economy can be broadly divided into two strands. The first considers the extent to which changes in house prices affect consumption - effectively measuring the marginal propensity to consuming out of housing wealth. Ebner (2010) calls this the *direct wealth effect*. The second strand looks at the *mechanisms* whereby changes in housing wealth are actually transmitted to the real economy. The main focus of this literature is the *collateral effect* (Ebner, 2010), or housing equity withdrawal. Another way to think about collateral effects is in terms of the financial accelerator model in Bernanke and Gertler (1995), where increasing house prices can increase consumption via the effect on both the amount and the terms of credit available to households. Hogan and O'Sullivan (2007) implicitly consider both effects in their analysis of housing wealth and consumption.

The literature on the housing wealth and consumption dates back to Modigliani's life-cycle hypothesis of saving and consumption (see reviews in Miles, 1992 and Mishkin, 2007). There remains, however, considerable empirical and theoretical disagreement as to the exact nature of *direct* consumption effects from changes in housing wealth, and in particular whether the consumption effects are larger or smaller than those observed from changes in other forms of wealth such as financial assets; see the discussions in Buiter (2010) and Aron et al. (2010).

In the context of house price cycles, several papers have sought to quantify the relationship between housing wealth and consumption, for example Herralá (2010, Finland) and Bostic et al. (2009). The latter paper reports significant housing wealth effects for the US, with elasticities of 6 cents in the dollar, although these are by no means the largest estimates for the US. Mishkin (2007) points out that the Federal Reserve Board Macroeconometric models incorporate a marginal propensity to consume (MPC) out of housing wealth of 3.75 cents in the dollar - the same MPC used for stock market wealth.

Mishkin (2007) looks at the relationship between housing equity withdrawal and the macro-economy and finds that the impact of equity withdrawal is also a function of the role of monetary policy channels and different types of financial innovation. In a wide-ranging, cross-country study (which includes Ireland) Case et al. (2005) use panel data to estimate the marginal propensity to consume out of stock market and housing wealth. Excluding the United States, they estimate a housing wealth effect of around 0.14. The effects for the United States are considerably smaller, at around 0.04. Aron et al. (2010) also estimate consumption functions with housing wealth effects for the UK, Japan and the US. They find a marginal propensity to consume out of housing wealth of between 0.03 and 0.04 for the UK and the US. They also find that the MPC has been drifting upwards over-time, which is attributed to credit market liberalisation effects and other forms of financial innovation.

Several papers have looked at the wider economic impact of equity withdrawal. Klyeuv and Mills (2006) analyse, amongst other things, the extent to which housing wealth has been responsible for the decline in US savings rates over the last 30 years, and thereby impacting on consumption. Using a measure of housing net worth, they find a negative relationship between housing net worth and the savings rate.

At a micro level, Benito (2009) and Ebner (2010) use panel data to analyse the decision to extract home equity in the UK and Netherlands. Both papers estimate the equity withdrawal decision in a latent variable framework. In the UK it appears that transactors, i.e. buying or selling a property, are *less* likely to withdraw equity, whereas for the Netherlands the average loan amount is around 30 per cent higher for this group when compared with non-transactors. In line with the evidence for Ireland, the research also finds strong life-cycle effects, with equity withdrawal higher amongst younger home-owners, as well as evidence of the use of equity withdrawal as a financial buffer. Benito also examines the relationship between durable consumption spending and equity withdrawal in a Tobit model. He finds evidence of increased durables spending amongst credit constrained households that withdraw equity. Benito also tests whether the precautionary savings model can predict a role for housing wealth as a financial buffer.

The major difference between the Benito (2009) and Ebner (2010) studies and the analysis in this paper is that we are unable to link the decision to withdraw equity to subsequent consumption behaviour at the individual level - with the exception of borrowers that take out a BTL loan from the same bank. This means that we aggregate up from the individual loan data to compare trends in equity release with different demand measures. Even at this level, the data is indicative of a strong relationship between housing equity withdrawal and aggregate demand. One of the key contributions of our paper is that we can *directly* observe the change in lending through the collateral channel for a group of lenders which, between them, account for over 70 per cent lending.

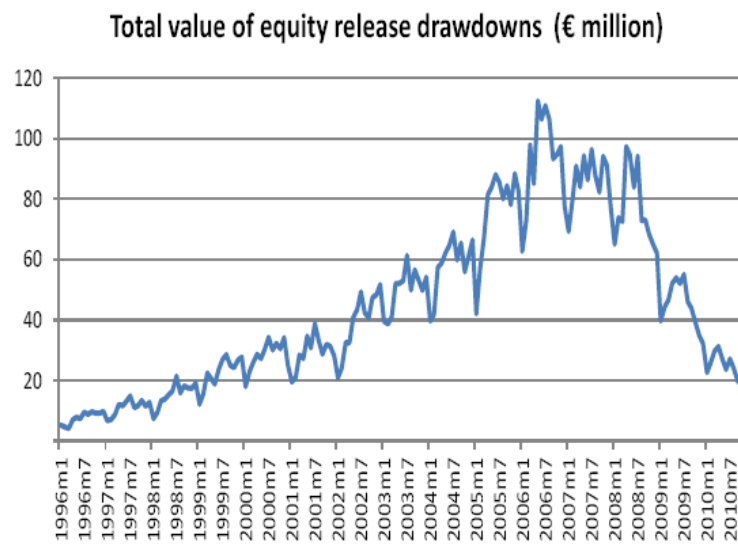
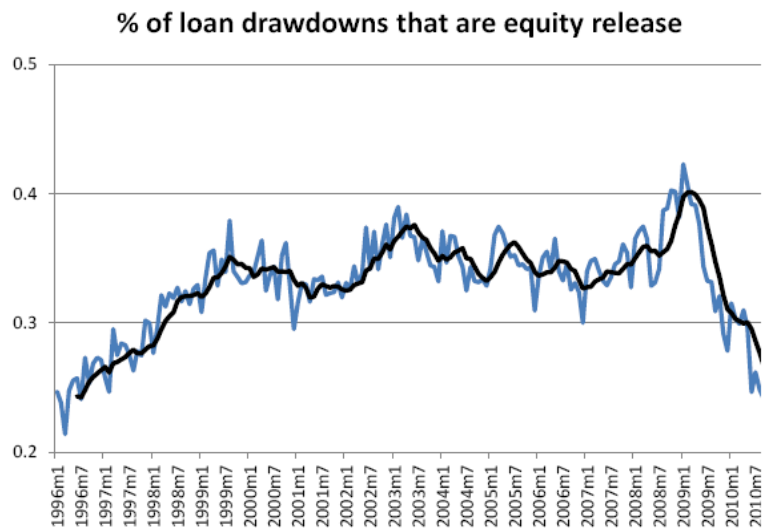
Finally, we would point out that in this paper we do not delve into the role of financial innovation or other supply-side factors in explaining home equity withdrawal, as in Bernanke and Gertler (1995). Although the changes in the market structure throughout the period (see Figure 4) would lead us to believe that this was a potentially important factor. Furthermore, as shown in McCarthy and McQuinn (2012), changes in credit standards and leverage ratios have played a significant role in the credit expansion and contraction in Ireland over the last decade.

#### **4.1 Evidence for Ireland**

From a macroeconomic perspective, it is important to understand the extent to which aggregate demand was effected by the equity withdrawal trends discussed in Section 3. We use two measures of equity withdrawal in this section: the total value of equity withdrawal loans and the proportion of mortgage loan draw downs that are equity withdrawal. Both series are monthly, available from 1996 onwards and are aggregated from the Central Bank loan level data. An important caveat with this data is that it is drawn from a snap-shot of the books of the FMP credit institutions as at end-2010. This introduces a potential selection problem whereby loans originating in the past but maturing before this date are unobserved. It is not possible to gauge the extent of the selection issue, however we would note that the average loan term for on equity release loans is in excess of 20 years throughout the time period (see Figure 14). Furthermore, the average loan-term for non-equity release loans is only marginally higher in the early years of the sample.

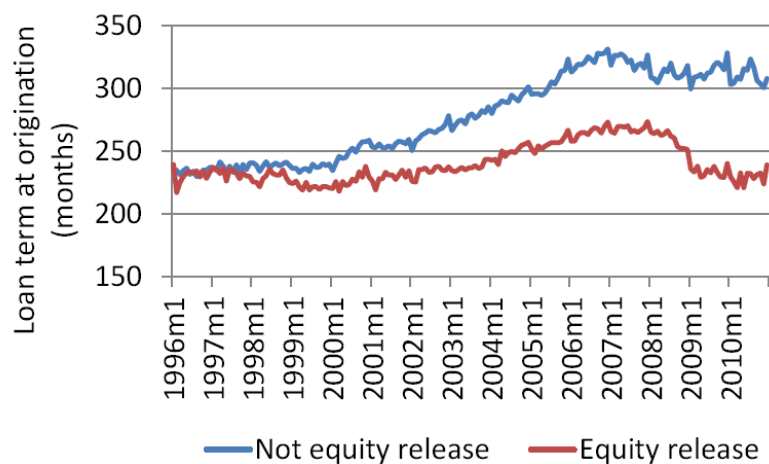
Figure 14 shows the trends in the two equity release figures from 1996 onwards. There is over a five-fold increase in the nominal value of equity release drawdowns in the ten-year period to 2006. This is driven by a combination of an increasing propensity to withdraw equity - prevalent in the late 1990s and the period between 2007 and 2009 in particular - and an increase in the value of housing equity itself (largely driven by house prices as shown in Figure 3).

**Figure 14: Aggregate equity withdrawal trends**



Source: Central Bank of Ireland, loan data for FMP credit institutions

Notes: Owner-occupier loans only, €15,000 - €150,000 for equity release loans



Source: Central Bank of Ireland, loan data for FMP credit institutions

Notes: Owner-occupier loans only.

In choosing domestic demand measures against which to compare equity release trends we are motivated by both the existing literature as well as the data limitations. The literature tells us that consumption of durables is typically correlated with equity release. From a data perspective, monthly demand measures stretching back to 1996 would be ideal. With this in mind, we look at the following categories of consumption and retail sales: motor sales, department store sales, sales of electrical goods, furniture sales, household equipment, all non-food retail sales and the CSO measure of personal consumption from the quarterly national accounts.

**Table 4: Correlation between equity release and demand measures**

	% Equity release loans	Value of equity release loans
Motor	0.5326	0.6619
Dept. stores	0.5370	0.8755
Furniture	0.5908	0.9022
Electrical	0.4923	0.8364
Household equipment	0.0481	0.6761
Non-food retail	-0.0349	0.5871
Aggregate personal consumption	0.5276	0.8956

*Notes:* All data monthly 1996 - 2010, except:

Household equipment and non-food retail: 2000 - 2010, and

Personal consumption: quarterly 1996 - 2010

Table 4 shows the correlation between each of the demand variables and the two equity release measures. Figures 15 and 16 at the end of the paper plot the trends over time. For both measures, there is a strong correlation between equity release and the different demand measures. The correlation is stronger for the value measure of equity release, we therefore focus on this measure for the remainder of the analysis.

We test the relationship more formally by estimating an OLS regression in first differences, where all of the variables are measured in logs. The results are shown in table 5 below. With the exception of retail sales in *Department Stores*, the coefficients are all positive and statistically significant.<sup>5</sup> The range of coefficients is between 0.08 and 0.16, indicating a potentially significant role for equity release in explaining demand trends in these categories.

<sup>5</sup> *Department Stores* is defined by the CSO as: "Other retail sale in non-specialised stores [including]: retail sale of a large variety of goods of which food products, beverages or tobacco are not predominant activities of department stores carrying a general line of merchandise, including wearing apparel, furniture, appliances, hardware, cosmetics, jewellery, toys, sports goods etc." See [www.cso.ie](http://www.cso.ie).



**Table 5: Regression of demand measures on value of equity release (first differences)**

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Motor	Dept. Store	Furniture	Electrical	HH equip.	Non-food
$\Delta$ Equity release	0.158*** (0.0456)	-0.0221 (0.0261)	0.106*** (0.0377)	0.0901*** (0.0269)	0.135*** (0.0270)	0.0817*** (0.0159)
Constant	0.000305 (0.00523)	0.00580* (0.00299)	0.000138 (0.00432)	0.00581* (0.00308)	0.00315 (0.00270)	0.00309* (0.00159)
Observations	179	179	179	179	131	131
R-squared	0.063	0.004	0.043	0.060	0.163	0.171

Standard errors in parentheses. All variables real, logs and seasonally adjusted

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

The first difference regression does not control for any other factors that might affect demand. Chief amongst these is income. We therefore extend the bivariate regression to include controls for changes in income over time. The specification including income is estimated as an error correction model (ECM), including lags of both the dependent and independent variables. The results are shown in Table 6 below. The regression also includes a dummy variable *SSIA* equal to one for the period June 2006 to April 2007. The *SSIA*, or *Special Savings Incentive Account*, was a Government-sponsored multi-year savings scheme launched in May 2001 and maturing between June 2006 and April 2007. The scheme had the potential to significantly increase consumer spending for a certain period and we therefore include a dummy variable for this effect.<sup>6</sup>

The ECM results including income show little change from short-run coefficients on equity release in the bivariate specification. The range has increased marginally to 0.08 to 0.17. Looking at the long-run coefficients, we only observe a statistically significant result for motor sales (long-run elasticity of 0.2) and furniture sales (long-run elasticity of 0.25). This is consistent with the observed trends in Figure 16. For electrical, all household equipment and all non-food retail, the short-run effect of equity release dominates. As expected, income is highly positively correlated with retail spending, with significant short- (1 to 3.7) and long-run (0.7) effects. The *SSIA* dummy variable is positive in all specifications (bar Department Stores), but statistically significant for the household equipment and all non-food categories only.

<sup>6</sup> For further information on SSIA's and potential consumption effects see CSO (2005).

**Table 6: Regression of demand measures on value of equity release (error correction model)**

VARIABLES	(1) Motor	(2) Dept. Store	(3) Furniture	(4) Electrical	(5) HH equip.	(6) Non-food
$\Delta$ Equity release	0.173*** (0.0438)	-0.0217 (0.0260)	0.118*** (0.0363)	0.0853*** (0.0264)	0.134*** (0.0254)	0.0764*** (0.0150)
$\Delta$ Income	3.770*** (1.414)	-0.0943 (0.837)	1.631 (1.167)	1.046 (0.847)	1.948*** (0.639)	1.020*** (0.375)
SSIA	0.0291 (0.0219)	-0.00385 (0.0133)	0.0271 (0.0183)	0.0138 (0.0133)	0.0280*** (0.0100)	0.0161*** (0.00586)
Dep. var (t-1)	-0.218*** (0.0451)	-0.123** (0.0372)	-0.236*** (0.0479)	-0.145*** (0.0408)	-0.190** (0.0456)	-0.184*** (0.0456)
Equity release (t-1)	0.0459** (0.0205)	0.0172 (0.0105)	0.0590*** (0.0162)	-0.00234 (0.00939)	-0.00434 (0.00881)	-0.00188 (0.00502)
Income (t-1)	-0.0331 (0.0412)	0.0856** (0.0372)	0.0146 (0.0326)	0.181*** (0.0499)	0.125*** (0.0313)	0.123*** (0.0313)
Constant	0.483** (0.242)	-0.598** (0.263)	-0.132 (0.189)	-1.107*** (0.334)	-0.308 (0.196)	-0.363** (0.150)
Observations	179	179	179	179	131	131
R-squared	0.196	0.078	0.175	0.149	0.320	0.323

Standard errors in parentheses. All variables real, logs and seasonally adjusted

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## 5. CONCLUSION

Using two loan level datasets this paper examines housing equity withdrawal trends in Ireland in recent years. Equity release loans accounted for approximately 31 per cent of mortgage related loans (in volume terms) and 14 per cent of loans drawn down between 2005 and 2011. In absolute terms the *total value* of equity release borrowing increased in line with the housing boom throughout the late 1990s and up to 2007. We show that up to 9 per cent of owner-occupier households were withdrawing equity at the peak of the property boom, with the vast bulk of loans being within the €15,000 to €150,000 bracket. However, the period of the property boom also saw an increasing number of equity release loans exceeding €150,000, such that in 2007 they accounted for almost one-quarter of all loans drawn down. By any international comparison this is a large figure and it helped to drive the *average* equity release loan in 2007 to just over €113,000. This figure had fallen to €60,000 by 2010. The presence of a substantial minority of large outlier loans in the sample has the potential to distort the trends. When these loans are excluded (around one-quarter of balances), equity release trends in Ireland look very similar to those observed in the UK, for example.

We show that, in line with the predictions of the life-cycle model, equity release borrowers are likely to be younger households that want to borrow against rising incomes. An important challenge from a macro-economic perspective is the extent to which income expectations at the time of the equity release draw-downs might not be realised in the medium-term.

Using self-reported loan-purpose data, we show that, in line with the international evidence, around two-thirds of equity release borrowing is for home improvement purposes. The property boom also saw an increasing number of owner-occupier households withdraw equity to invest in other properties, both buy-to-let (15 per cent of equity release balances) and holiday homes (11 per cent). Controlling for income and other personal characteristics, equity release borrowers are 7 per cent more likely to take out a buy-to-let loan with the same lender when compared with non-equity release borrowers. This is against a sample mean of just 3 per cent.

We show that equity release was strongly positively correlated with a range of demand measures over the period 1996 to 2010. These effects, which are predominantly in the area of durables consumption, remain even after controlling for income. For some categories, such as motor sales and furniture sales, the effects of changes in equity release spending appear to be longer-lived. For others, such as electrical and other household equipment, the long-run effect of income changes dominates.

While we believe that the range of evidence presented here point to some role for equity release in driving aggregate demand trends in Ireland, the data does have its limitations. For example, the loan-level data provided to the CSO contains a number of anomalies which require further examination and interaction with the lenders. One particular concern is that 2011 equity release figures may contain some loan restructures which should be filtered out. This may be behind the increase in average equity withdrawal loans observed in some of the figures.

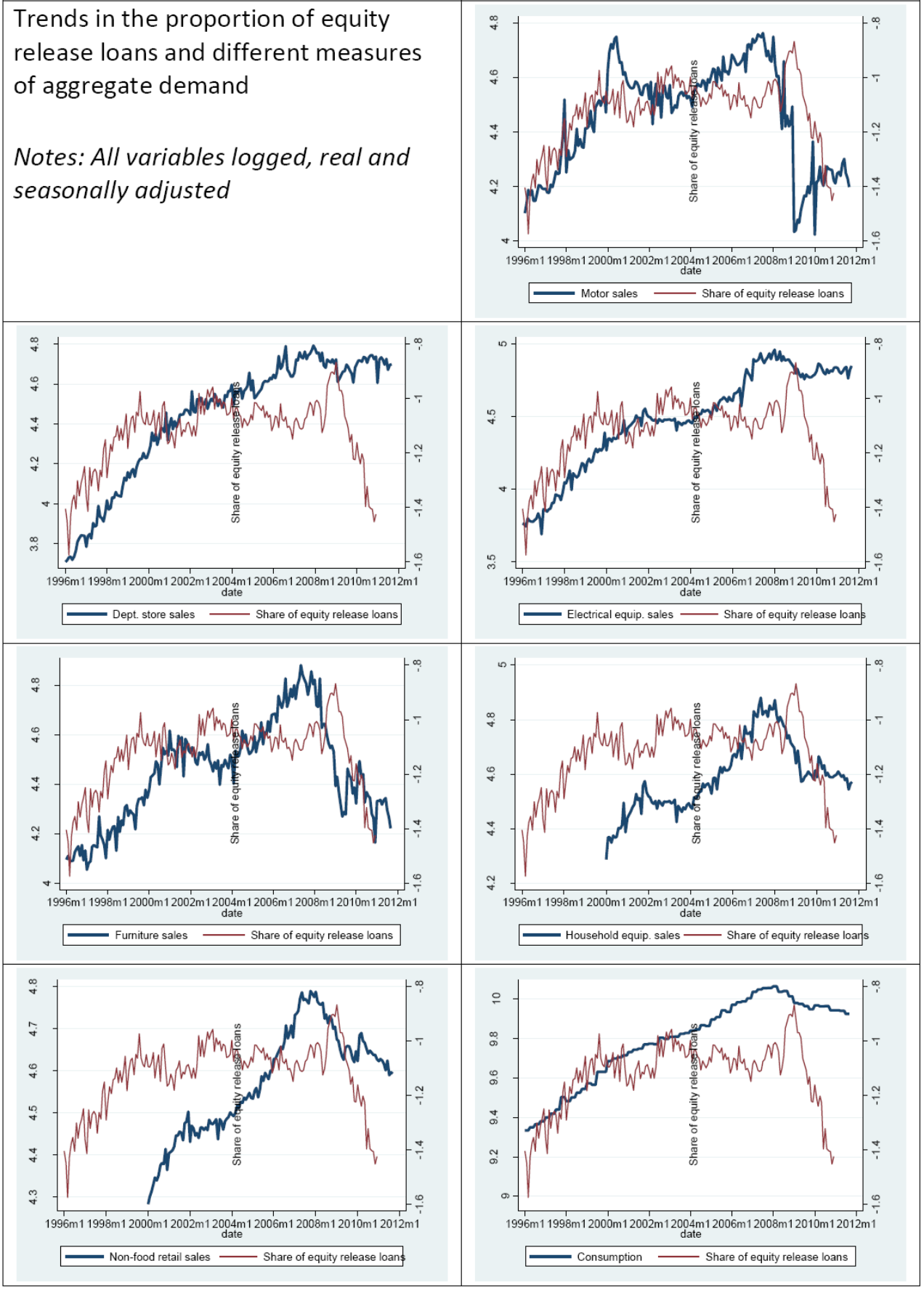
Finally, it is important to point out that for a significant portion of the period we look at, Ireland underwent a substantial and unprecedented property boom. Therefore, extrapolation to more 'normal' economic times should be undertaken with caution. That said, from a domestic demand perspective, the collateralisability of housing wealth via equity release represents an important credit channel which appears to affect certain categories of demand, particularly in the short-run. A decline in house prices therefore has the potential to depress demand in the short-term for those who are 'long housing' (Buiter, 2010), i.e. both older borrowers and borrowers with substantial negative equity. This effect may be offset in the longer-term as younger (yet-to-be) house-owners acquire housing assets at lower prices than might otherwise have been the case.

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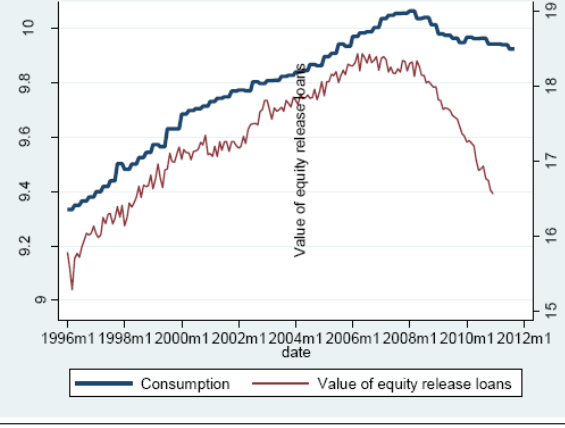
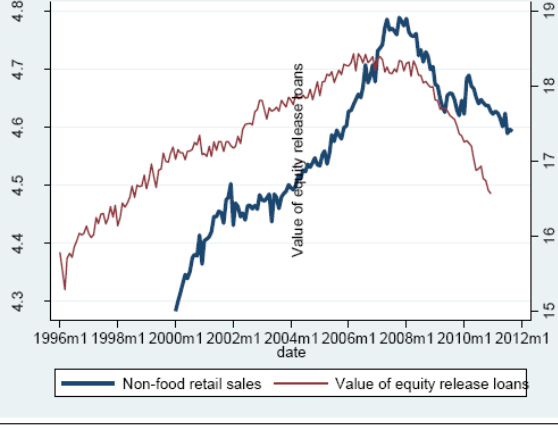
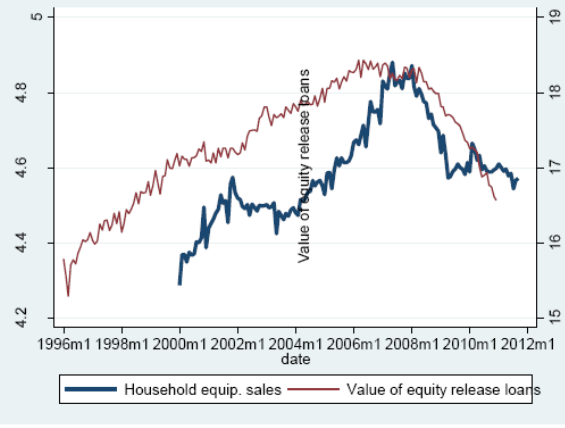
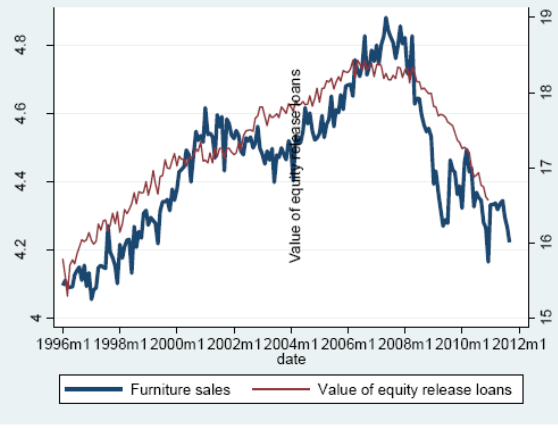
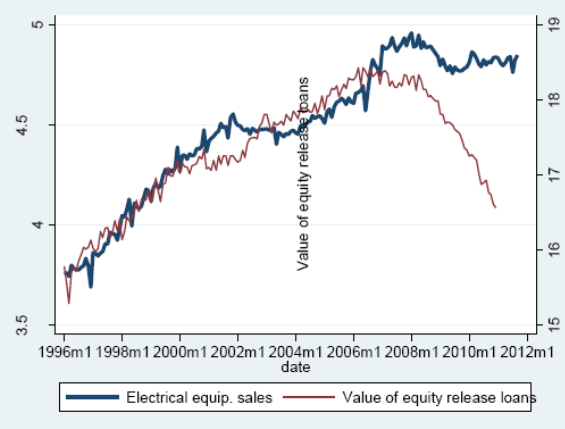
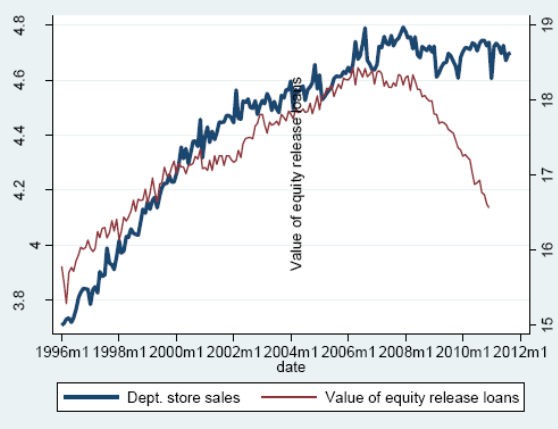
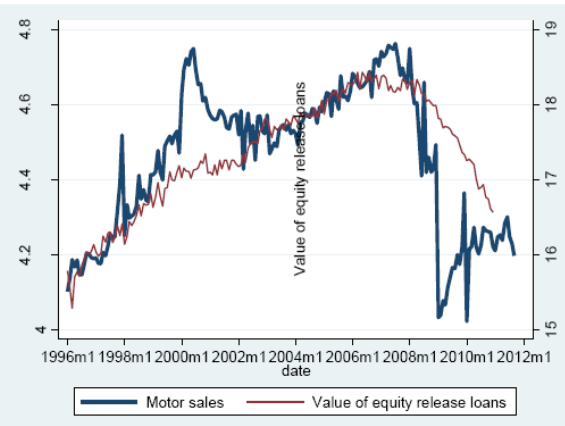
**Figure 15: Equity release trends (proportion of loans drawn-down) and domestic demand**



**Figure 16: Equity release trends (total value of loans drawn-down) and domestic demand**

Trends in the total value of equity release draw-downs and different measures of aggregate demand

*Notes: All variables logged, real and seasonally adjusted*



### FIRST VOTE OF THANKS PROPOSED BY NAT O'CONNOR, TASC

I was very pleased to be asked to give the vote of thanks for this evening's paper. My previous work was in the research team in the Homeless Agency. As you can imagine, housing economics and financing is a major concern for everyone concerned with social housing. For those of you who do not know my current organisation, TASC is an independent, progressive think-tank, dedicated to promoting equality, democracy and sustainability in Ireland through evidence-based policy recommendations.

This evening's paper shines more light on the role that housing played in the rise and fall of the Irish economy. I want to focus on just one implication of this evening's paper, which is the relationship between consumption from housing equity withdrawal and employment.

I want to begin by quoting a sentence from the conclusion of the paper.

“An important challenge from a macro-economic perspective is the extent to which income expectations at the time of the time of the equity release draw-downs might not be realised in the medium-term.”

In my brief response, I am going to present the bones of an argument in response to that macro-economic challenge. Specifically, I will argue that we need to increase quality renting options as a partial solution to the position of people (especially younger households) whose expectations for future income have been disappointed and whose ability to contribute to aggregate demand may be suppressed for years by the high level of their personal debt, not least debt exacerbated in some cases by equity release.

I am going to base my argument on the statistical relationship between home ownership and unemployment, drawing on the work of Andrew Oswald of the University of Warwick. I am grateful to my former colleague, Dáithí Downey, for introducing me to Professor Oswald's work.

We are all painfully aware that the property bubble created unsustainable levels of employment in construction and related industries, not least finance. In turn this led in turn to unsustainable levels of retail employment.

Figure 1

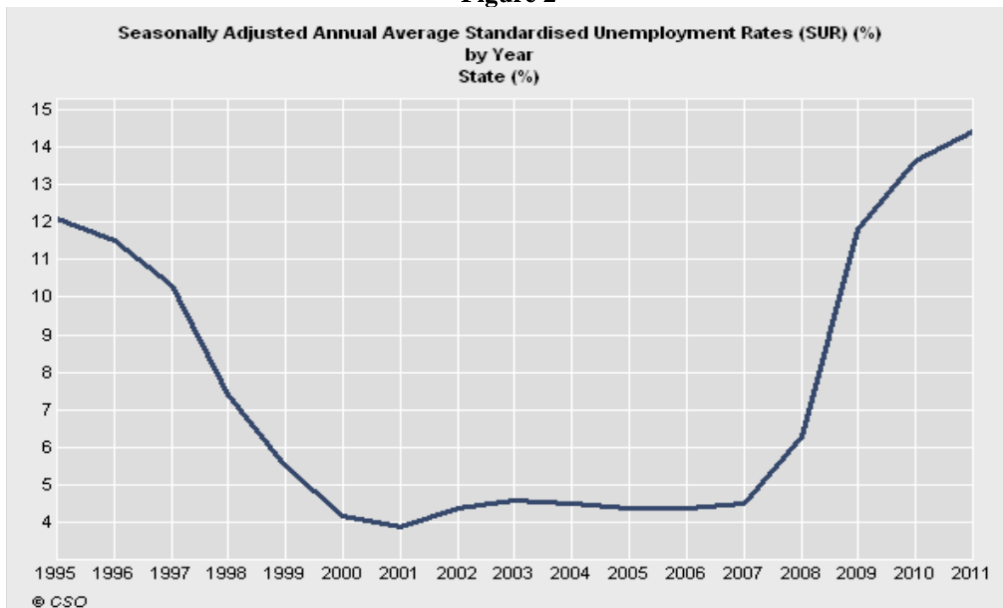


We are now looking at a stark rise in unemployment. We know that we cannot – and should not – seek to return to unsustainable employment based on credit and false expectations of future earnings. This evening's paper gives us more information on the extent to which housing equity release funded unsustainable consumption.

Section 4 of the paper looks at the ‘evidence on the relationship between equity release and aggregate demand’. The regression analyses in this section show the effects of equity release on demand for various forms of goods; unsustainable demand leading to unsustainable jobs. I’d like to ask the authors whether you have quantified what effect equity release may have had on employment levels during the housing bubble.

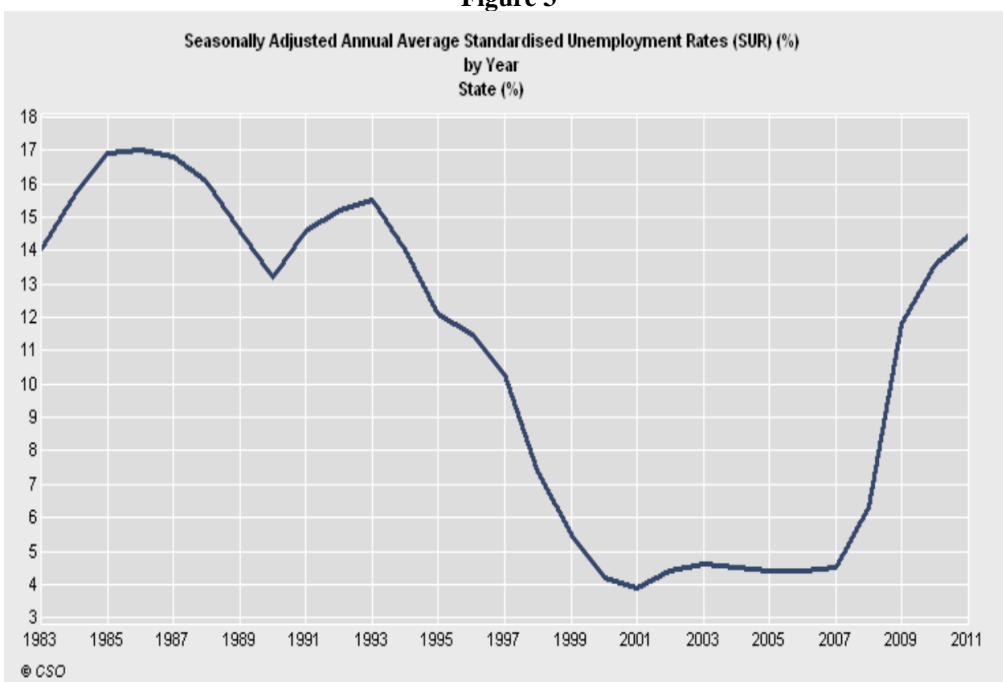
In looking at the current rate of unemployment, it is worth remembering that (according to Census 2011) there are nearly a million children in Ireland [979,590] who were born since ‘97. They were born into a social and economic context where four or five per cent unemployment was ‘normal’. Well over another half million young adults [580,250; aged 14 to 25 last year] were born between ‘87 and ‘97, with little or no memory of the high unemployment that scarred the 1980s and 1990s.

**Figure 2**



The rapid decline in unemployment occurred between ‘95 and 2000. When we take the longer view, high unemployment is a more typical trend for Ireland than low unemployment.

**Figure 3**





And people had very different life expectations – including expectations about housing and credit. The authors note in their conclusion that the hangover of debt may depress certain short-term categories of demand (although lower house prices now may offset some of this in the longer-term). Less demand means more unemployment.

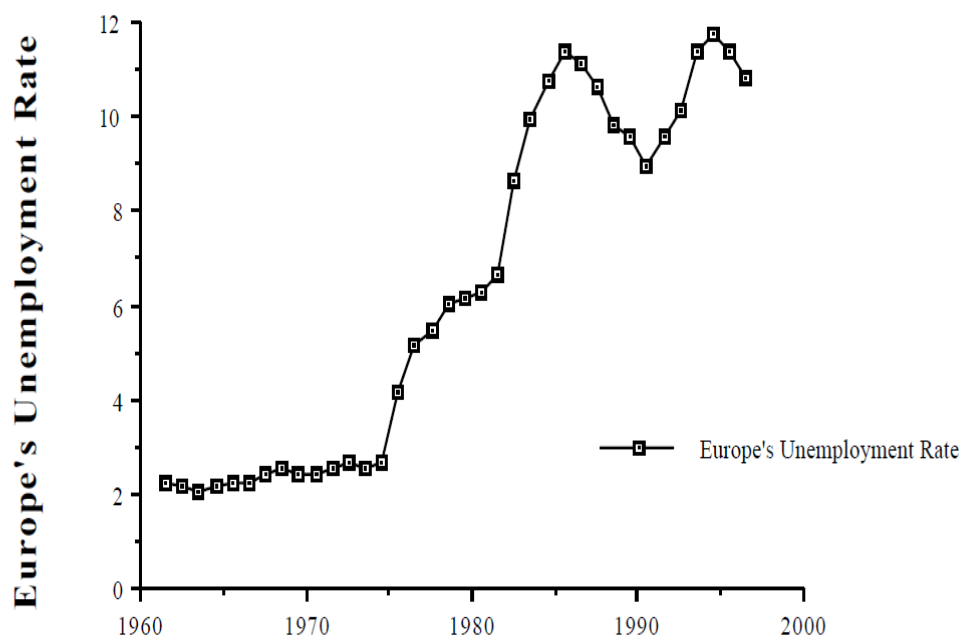
But how do we avoid another housing bubble? One thing we need to do is to re-examine the centrality of home ownership as the long-standing central pillar of national housing policy, and all that flows from that in terms of tax breaks and other incentives for home ownership.

These were the conditions that permitted a housing bubble, false expectations and equity-funded consumption. In passing, national policy also permitted many social housing tenants to become owner occupiers throughout the '90s, '80s and before. I would be interested to know if the paper's authors have any information on what proportion of equity release occurred from housing that was owned through tenant-purchase arrangements. Also, would it be possible to align equity release data with geo-directory or any other spatial analysis of Ireland, in order to identify locales where short-term demand will be particularly depressed?

In order to challenge the assumption that increasing home ownership is always beneficial to the economy, I want to revisit the statistical evidence assembled by Andrew Oswald in the 1990s.

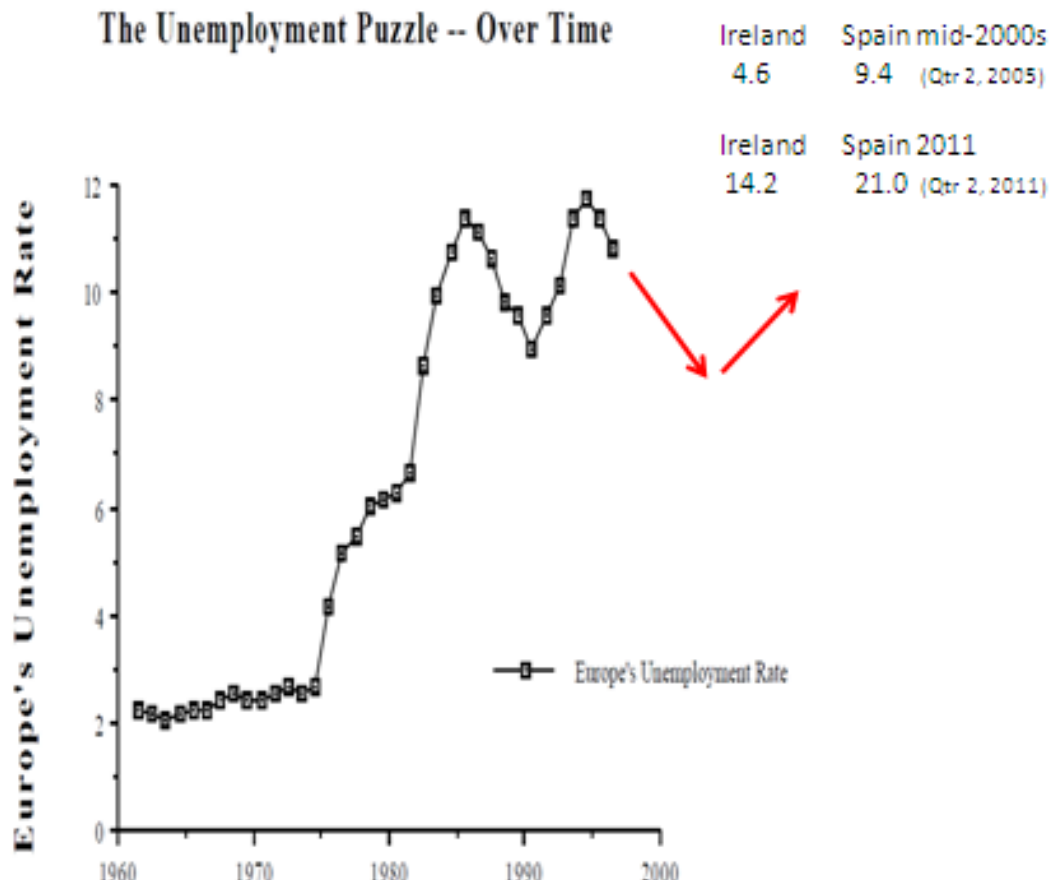
Figure 4

### The Unemployment Puzzle -- Over Time



Oswald was puzzled by the phenomenon of high and growing unemployment in Europe. In the small print, I note that Ireland's unemployment was 6 per cent in the 1960s and Spain's was 3 per cent. By the 1990s, this had risen to 14 per cent in Ireland and 24 per cent in Spain.

Figure 5



What we saw during the boom years here, was that Irish unemployment dropped to 4.6 per cent in mid-2005 and Spanish unemployment fell to 9.4 per cent. (Spain had a property boom too). These were unsustainable employment levels. By mid-2011, unemployment has returned to levels similar to the 1990s. (Ireland 14.2 per cent, Spain 21 per cent).

Figure 6

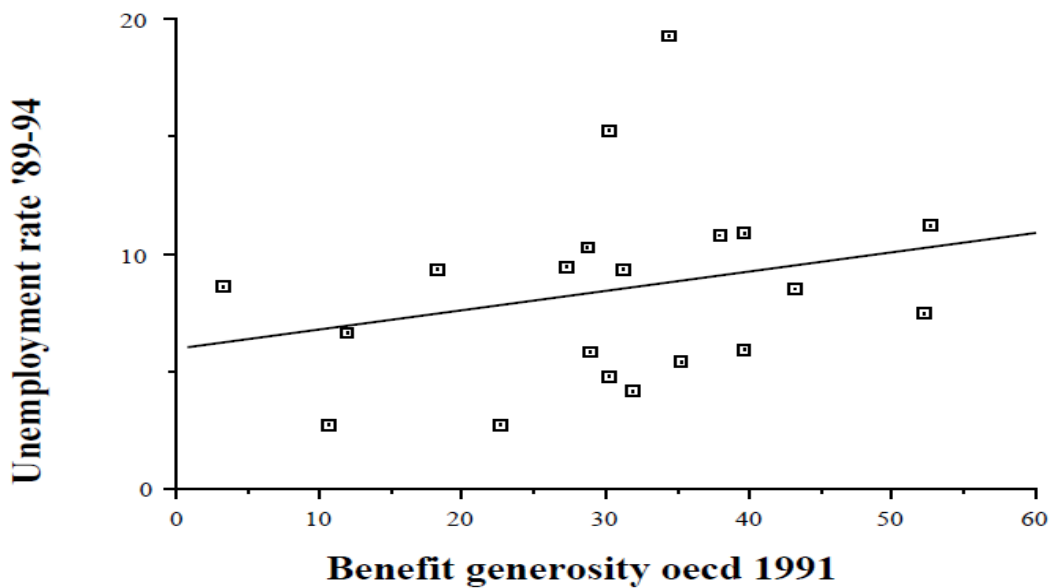


So are we back to 'normal'? Average unemployment was 10.7 per cent between '83 and 2011. It is likely that the current level of c. 14.7 per cent unemployment is due in part to the debt hangover from the housing bubble. But can we hope to see long term unemployment reduce to much less than 10 per cent? Oswald tested a number of hypotheses to explain the high unemployment he observed in Europe. This data needs to be updated, but his findings illustrate the argument I want to make to you this evening.

Figure 7

**Countries with More Generous Unemployment Benefits Have Only Slightly More Unemployment**

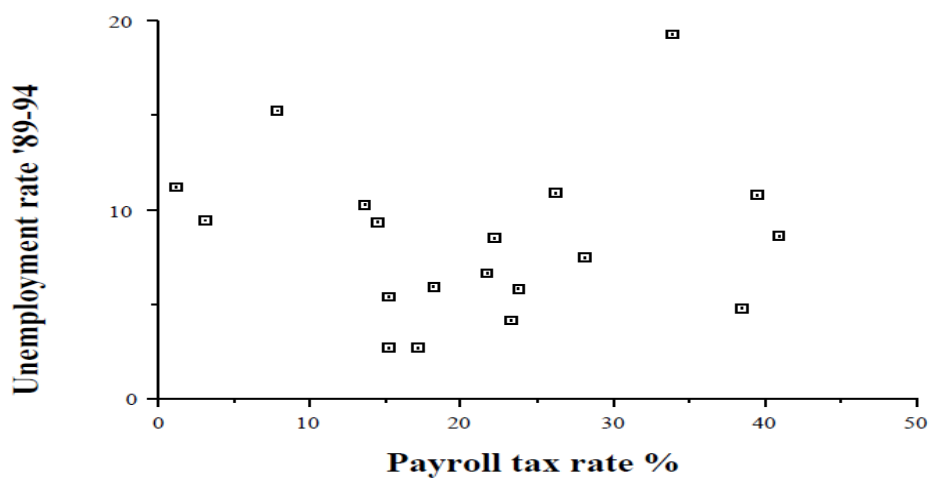
$$y = 5.5745 + 8.1891e-2x \quad R^2 = 0.066$$



He found little or no relationship between higher benefit levels and unemployment.

Figure 8

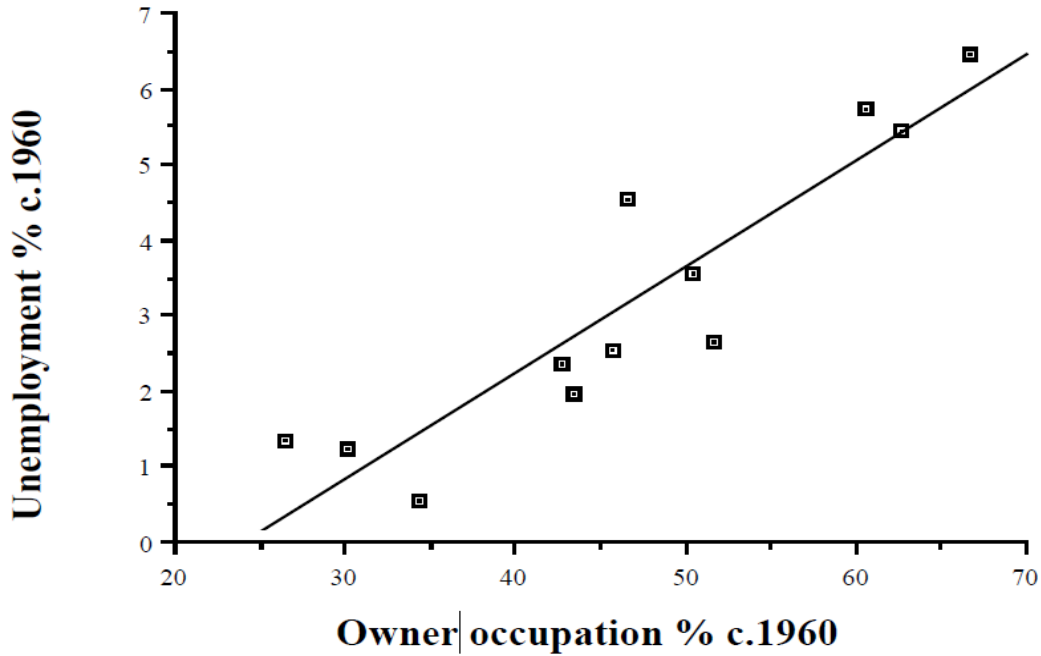
**Countries Which Tax Labour Highly Do Not Have More Unemployment**



He found little or no relationship between higher labour taxes and unemployment.

**Figure 9**  
**Unemployment and Home-Ownership across Countries in the 1960s**

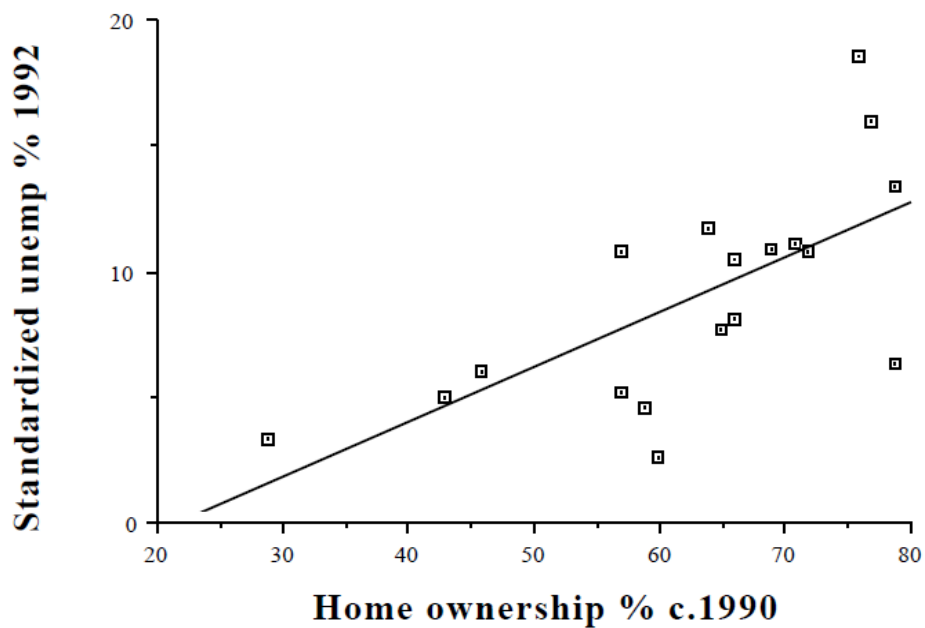
$$y = - 3.4010 + 0.14006x \quad R^2 = 0.830$$



But he did find a very high correlation between unemployment and home ownership. This relationship was stronger in the 1960s, with an R-squared of 0.83. It was weaker, but still statistically significant in the 1990s. R-squared 0.455.

**Figure 10**  
**Cross-Section Correlation Between Home-Ownership and Unemployment: Countries in the 1990s**

$$y = - 5.0876 + 0.22084x \quad R^2 = 0.455$$



Why might this be the case? I am going to take it as read that over-investment in housing is a poor allocation of capital from the point of view of productive investment and sustainable job creation. We can add to this that releasing housing equity can lead to unsustainable consumption levels. Oswald's own theory focuses on the effect of home ownership in dampening labour mobility. In brief:

- Home owners are more reluctant to move to follow job opportunities, or are constrained from moving.
- Home owners are willing to commute longer distances, which is inefficient use of resources and adds to traffic congestion.
- People, especially young unemployed people, find it hard to move into areas with high home ownership density; and thus few or no opportunities to rent. They typically lack the capital to buy.
- Immobile labour leads to increased inefficiency across the workforce. People end up doing jobs they are less suited for due to labour immobility, and these inefficiencies price some jobs out of existence.

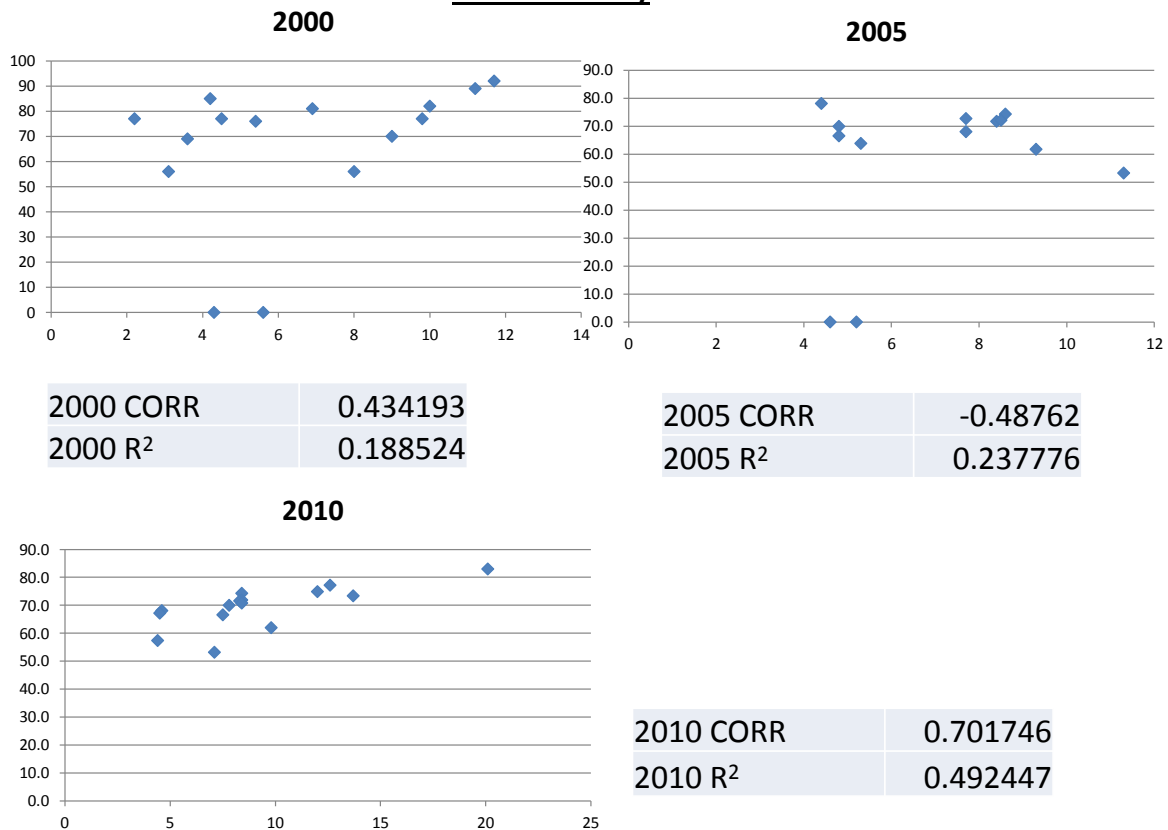
All of these seem plausible reasons to help explain high unemployment in Ireland. But what evidence supports this argument? I just scratched the surface and looked at some elementary data for the purposes of illustration this evening.

**Figure 11**

Country	UnE 2000	UnE 2005	UnE 2010	HO 2000	HO 2005	HO 2010
Romania	6.8	7.2	7.3	97	:	97.5
Lithuania	16.4	8.3	17.8	95	88.3	93.1
Slovakia	18.8	16.3	14.4	:	82.1	90.0
Hungary	6.4	7.2	11.2	94	88.1	89.7
Bulgaria	16.4	10.1	10.2	:	85.4	86.9
Estonia	13.6	7.9	16.9	86	:	85.5
Latvia	13.7	8.9	18.7	61	:	84.1
Spain	11.7	9.2	20.1	92	:	83.0
Poland	16.1	17.8	9.6	71	:	81.3
Malta	6.7	7.3	6.9	80	80.0	80.1
Czech Republic	8.7	7.9	7.3	:	73.5	78.7
Slovenia	6.7	6.5	7.3	93	83.2	78.1
Greece	11.2	9.9	12.6	89	:	77.2
Portugal	4.5	8.6	12	77	74.4	74.9
Cyprus	4.8	5.3	6.2	:	:	74.7
Finland	9.8	8.4	8.4	77	71.8	74.3
Ireland	4.2	4.4	13.7	85	78.2	73.4
Italy	10.0	7.7	8.4	82	72.8	71.9
Belgium	6.9	8.5	8.3	81	72.2	71.6
Sweden	5.6	7.7	8.4	:	68.1	70.8
United Kingdom	5.4	4.8	7.8	76	70.0	70.0
Luxembourg	2.2	4.6	4.6	77	:	68.1
Netherlands	3.1	5.3	4.5	56	63.9	67.2
Denmark	4.3	4.8	7.5	:	66.6	66.6
France	9.0	9.3	9.8	70	61.8	62.0
Austria	3.6	5.2	4.4	69	:	57.4
Germany	8.0	11.3	7.1	56	53.3	53.2

I looked at European unemployment in 2000, 2005 and 2010, and compared it to the level of home ownership to see if there is any relationship. My working hypothesis was that Oswald's labour mobility effect would become less prominent during a credit-fuelled boom, where unsustainable employment was created. But, after the dust has settled and we move back into longer term patterns, I expected to see a stronger relationship between unemployment and home ownership. There is a great deal more work to be done to claim anything more than curious findings for the moment. Oswald looked at European unemployment, with a focus on Western Europe. Due to the different structure of Eastern European economies and their very high home ownership from privatised state housing, it may be inappropriate to expect labour mobility effects to have the same effects there. So I focus on the available data from the EU-15 Western European countries.

**Figure 12**  
**EU 15 data only**



These comparisons show a relationship between home ownership and unemployment in 2000, but a negative correlation and weak R-squared in 2005. However, there is a substantial correlation and an R-squared of 0.49 in 2010, which is line with expectations. These tentative findings suggest that it is at least plausible to consider that Ireland's high levels of home ownership have a strong relationship with high long-term unemployment.

**Figure 13**

Country	UnE 2000	UnE 2005	UnE 2010	HO 2000	HO 2005	HO 2010
Spain	11.7	9.2	20.1	92	:	83.0
Greece	11.2	9.9	12.6	89	:	77.2
Portugal	4.5	8.6	12	77	74.4	74.9
Finland	9.8	8.4	8.4	77	71.8	74.3
Ireland	4.2	4.4	13.7	85	78.2	73.4
Italy	10	7.7	8.4	82	72.8	71.9
Belgium	6.9	8.5	8.3	81	72.2	71.6
Sweden	5.6	7.7	8.4	:	68.1	70.8
United Kingdom	5.4	4.8	7.8	76	70.0	70.0
Luxembourg	2.2	4.6	4.6	77	:	68.1
Netherlands	3.1	5.3	4.5	56	63.9	67.2
Denmark	4.3	4.8	7.5	:	66.6	66.6
France	9	9.3	9.8	70	61.8	62.0
Austria	3.6	5.2	4.4	69	:	57.4
Germany	8	11.3	7.1	56	53.3	53.2

It is interesting to note that, in 2010, Ireland, Spain, Greece and Portugal had an average of 77.1 per cent home ownership, and an average of 14.6 per cent unemployment. Whereas, Germany and Austria had an average of 55.3 per cent home ownership, and 5.8 per cent unemployment. At the two extremes, there is a gap of nearly 30 percentage points between home ownership of 83 per cent in Spain and 53.2 per cent in Germany. And unemployment in Spain at 20.1 per cent is nearly three times Germany unemployment of 7.1 per cent.

This is where I want to address part of the macro-economic challenge posed by this evening's paper. The solution to two dilemmas is the same, as I said at the outset. The return to possibly intractable high unemployment in Ireland is a major social problem. This evening's paper poses another dilemma. Many people (especially younger people) had mistakenly high expectations about their lifelong income trajectory and ability to consume. They are now seeking to maintain some quality of life while dealing with the reality of lower than expected income and a high level of personal debt, which affects their ability to consume goods and services (and contribute to aggregate demand).

Currently, private rented accommodation in Ireland is, for the most part, considered to be temporary, lower status and is seen to represent a poorer quality of housing. But there is no reason why this should continue to be the case. A plausible solution to the question for the high debt generation of home owners is to lower their future housing costs. Housing is a major cost item for most households (especially the younger households in question who rarely own outright and are more likely to have higher mortgage debt).

Also, if there ever is debt relief or personal insolvency on any scale, we may have a lot of households in Ireland who may never be home owners again, but who will need secure, quality housing. Following Oswald's theory, a larger rental sector would also increase labour mobility. This represents a plausible way for the 'high debt generation' to increase their chance of employment (and higher income, to manage their debt).

More renting could plausibly decrease unemployment more generally; and Oswald's theory is worth further examination as a component in rebuilding Ireland's economy, and as a safeguard against future housing bubbles. This all implies major shifts in housing policy towards incentivising high quality private rented accommodation and regulating it with stronger tenant protection.

And with that, I would like to propose the vote of thanks to the authors of this evening's paper, Reamonn Lydon and Niall O'Hanlon.

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Oswald, Andrew J (1996) 'A Conjecture on the Explanation for High Unemployment in the Industrialized Nations: Part I' <http://www2.warwick.ac.uk/fac/soc/economics/staff/academic/oswald/unempap.pdf>

### SECOND VOTE OF THANKS PROPOSED BY JOHN FITZGERALD, ESRI

This paper is one of a series of papers using micro-data to do important research about the Irish economy. This very valuable stream of research could not have happened a decade ago but is the result of very important advances over the last 10 years made by the CSO, the Central Bank of Ireland, and other public bodies in Ireland in making such data available. The staff of the Central Bank has made very good use of this facility to do important research. The collaboration by the two authors of this paper from the CBI and the CSO shows how co-operation in research can make a big contribution to understanding what is happening in the Irish economy.

The data for research could be further improved if additional information were collected by the banks issuing loans. While this might be considered an additional regulatory burden, this additional information should be of use to the banks themselves. The fact that banks collected so little information on their own business represented a significant failure in management information and it needs to be addressed anyway, whatever about the needs of research. The CBI should look for the additional data for the future. An important criterion in choosing whether to seek such additional information should be whether a well run bank would want this information for its own purposes.

In this study a significant number of very large equity release loans have been excluded from the analysis. Presumably they were for property purposes. (Alternatively, they could have been self-employed funding working capital). It would be useful to know something about the characteristics of these loans. The authors point out that, having excluded these loans Ireland looks a bit like the UK, it is the big ones that make us look different. For that reason understanding more about these large loans would be useful.

A number of questions for the authors:

Do the data allow us to look at self-employed funding investment in a small business – would this be classified as SME lending or as a home loan, where the collateral is the owner-occupied dwelling? How did SMEs / self-employed finance business expansion? Was it using housing as collateral? How would this show up in the data? The inability or reluctance of SMEs to do this in the future may constrain expansion. Both banks and the SMEs may see the use of a business person's dwelling as collateral as too high risk leaving no alternative source of funding.

The conclusion of this paper should be about investment not consumption. The paper shows that a quarter of the draw downs were to buy property – buy to let and holiday homes. In addition, two thirds of loans were for home improvement. While a small part of these latter loans may have gone on consumption – durables etc. – the bulk of it will be recorded as investment. Thus, on the basis of the evidence in Figure 13, the vast bulk of the funding from equity withdrawal should have shown up as investment, not consumption. The "short-term" debt could have been for cars.

As far as I can judge from the Figures, at peak housing equity was c. €400bn. Equity withdrawal was c. 1% of equity – say €4bn. Short term debt was 6% of this – say €240m. Total new car sales in 2006 were c. €4 billion. Maybe the surprise was that more of car sales were not funded through equity withdrawal. The size of the short-term loans was large if it was for car sales: €53,000 a loan.

Also a significant part of the equity withdrawal may have gone on investment outside Ireland (mainly holiday homes but also some buy to let). The issue of foreign investment in property such as holiday homes having been funded by Irish banks is significant. I suspect that this was probably by older households – having more time than young families to enjoy the holiday home. Larger loans were made for older people. This was probably a



significant factor in investment in Spain. A significant part of the Spanish boom in holiday properties was probably funded by banks outside Spain – things could be worse for Spanish banks. Is there a breakdown of the reason for the loan by age group?

The results on consumption are not surprising. However, as Figure 3 shows housing equity withdrawal and housing equity were highly correlated – withdrawal may not have been necessary to affect consumption. Also the pattern of investment in home improvements was very similar to that for house building – hence the effect on furniture may be just the new housing, not the home improvements. As indicated above, on the evidence in this paper of the use to which the loans were put, I suspect their major effect was to fund enhanced investment by the household sector, not enhanced consumption. It is only indirectly, through allowing investment plans to be advanced, that the equity withdrawal might have impacted consumption.

## DISCUSSION

**Gabrielle Veale:** I am curious about whether there is any information on the amount of equity release mortgages taken out by the older generation to help their offspring with deposits?

**Steve MacFeely:** I would like to congratulate Raemonn and Niall on an excellent paper. I would also like to return to a point made by Raemonn in his concluding remarks. A point also stressed by Prof. Fitzgerald as important point in his vote of thanks; the importance of inter-institutional cooperation. In the past four or five years CSO staff have begun to more regularly present and publish papers, here at SISSI and through other journals. However, in the past year or two we have seen CSO authoring papers in cooperation with colleagues from other institutions - ESRI, InterTrade Ireland, Failte Ireland, UCC and now the Central Bank. This is a very welcome development. By breaking down institutional silos through cooperation we will get richer and better informed analyses.

**Kieran Walsh:** Do the authors have any comment on additional work which could be done by linking the mortgage data to other sources such as the household budget survey microdata, to assess for examples issues such as households with highest levels of negative equity also having highest mortgage payments, and how concentrated this phenomenon was?

**David Duffy:** Thank you for a very interesting paper. I wonder if the available dataset includes any information on the type of mortgage product used by the borrower. Would this information give any insight into the role played by mortgage market competition, mortgage product innovation and the availability of credit?