Housing Equity Withdrawal Trends in Ireland

Reamonn Lydon[1] and Brídín O'Leary[2, 3]

January 2013

Abstract

This article uses a unique data set to track changes in aggregate net housing equity withdrawal between 1978 and 2012. The analysis covers the peak years of the recent housing boom when it is estimated that net equity withdrawal reached a peak of €8 billion, or 10 per cent of disposable income. This was driven by three factors: first, there was a significant increase in the propensity for existing homeowners to take out top-up loans during this period; second, the combined effect of large numbers of transactions and booming house prices meant that sellers in the final link of a property-transaction chain, i.e. those not purchasing another property, withdrew substantial equity upon selling; and third, relative to equity withdrawals, the rate of equity injections declined due to a fall in deposits from first-time buyers and a decline in the rate of amortisation. The latter was driven by the increased prevalence of interest-only loans and significantly longer loan-terms. The dramatic collapse in the Irish property market means that all of these factors have been reversed, moving the household sector from one of net equity withdrawal to net equity injection.

1. Introduction

Irish households have suffered large declines in net worth as a result of the bursting of the Irish property bubble, with net worth declining by 38 per cent since its peak at Q2 2007.[4] The changes in housing market activity, both during the boom and since its collapse, are remarkable. As housing accounts for 51 per cent of Irish households total portfolio of assets in Q2 2012, the responses of Irish households throughout recent history to housing market developments are worthy of analysis. Trends in Housing Equity Withdrawal (HEW), which measures the equity released by households through mortgages, are of particular interest as it represents a source funds that are potentially available for investing in other assets or for private consumption.

This article presents a new series constructed by the Central Bank of Ireland, which estimates quarterly HEW trends from 1978 to 2012. It is the difference between mortgages transactions and investment in new housing assets. HEW can take either a positive or negative value. When HEW is positive, there is a *withdrawal* of aggregate housing equity; when it is negative, there is an *injection* or accumulation of aggregate housing equity.

This article identifies the main components of HEW over time, as well as the macro-economic factors that influence it. It focuses on the drivers of change over time in Ireland, including changes in housing market activity and changes to both the demand for and the supply of credit. Several Central Banks have developed similar methodologies to estimate aggregate or net HEW, to try and capture the cash flows arising from household transactions in housing stock and lending secured on dwellings. Both the Reserve Bank of Australia and the Bank of England used a similar approach for calculating HEW. In

essence, the series presented in this article is an attempt to replicate these methodologies. Section 2 provides a brief overview of the HEW concept and presents the calculation of the HEW series for Ireland. Section 3 discusses the main factors which drive the series. Section 4 concludes.

2. Housing Equity Withdrawal: Concept and Calculations

Housing Equity Withdrawal (HEW) is equal to the difference between total transactions of household mortgage debt and household investment in new housing assets. This paper constructs an estimate of HEW at the total household sector level, using aggregate transactions data.[5] The HEW series for Ireland presented in this article is equal to the sum of the following items:

(+) Mortgage transactions;

(+) Capital grants for the household sector;

(-) Additions to the housing stock;

(-) Expenditure on home improvements;

(-) Costs relating to housing transactions, such as legal and estate agents' fees.

There are details on the various components and assumptions involved in constructing the HEW series in Box 1.

---

4 Household net worth is calculated as the sum of household's housing and financial assets minus their liabilities. The Quarterly Financial Accounts, Central Bank of Ireland estimate of housing assets is based on the size and value of housing stock. Data on the value of housing is obtained from the CSO's 'Residential Property Price Index' (RPPI).

5 Another approach to estimating HEW involves surveying households and aggregating the gross flows which lead to injections and withdrawals. See Davey (2001) and Benito and Power (2004) for examples of this approach. As no suitable micro-data survey source exists for Ireland, it was not possible to estimate HEW using the bottom-up approach.

Box 1: Components of the HEW series

Net mortgage transactions — this component captures the net changes to the stock of mortgage debt secured against dwellings in each quarter from the resident offices of all credit institutions operating within the State. The variable also includes lending to other specialist mortgage lenders. It shows the net changes to house mortgage finance from Q1 1978 - Q4 2002 (from Central Bank of Ireland Quarterly Bulletins) and changes to flows-adjusted stock from Q1 2003 onwards (from Central Bank of Ireland Money and Banking Statistics). An increase in this variable corresponds to a withdrawal of housing equity.

Capital grants — this component shows quarterly estimates of annual Central and Local government grants relating to the purchase of housing, or improvements to existing houses, for households and non-profit institutions serving households. These grants to households include capital grants available under the Housing Acts, other housing grants to improve homes, for thatching, the Affordable Housing Scheme, the Sustainable Energy retrofitting programme, for houses in Gaeltacht areas and supplementary grants for housing for the elderly and disabled persons. The majority of these grants are used by households to repair, improve and adapt their homes. As capital grants fund household purchases of new houses or home improvements, an increase in this variable relates to a withdrawal of housing equity by the household sector.

From the sum of the preceding two components, the following series are subtracted to obtain the quarterly calculation of HEW.

Household investment in dwellings — this component is composed of Central Bank quarterly estimates of annual gross fixed capital formation (GFCF) in dwellings and home improvements from Q1 1978 to Q1 1994 and quarterly GFCF in dwellings and home improvements calculated by the CSO from Q1 1995 to Q2 2012. GFCF is calculated using the Dept. of the Environment housing statistics data, which states that the house completions data series are based on the number of new dwellings, connected by ESB Networks to the electricity supply and may not accord precisely with local authority boundaries. These represent the number of homes completed and available, and do not reflect any work-in progress. GFCF for private dwellings shows the transactions in new houses that take place each quarter.

GFCF for home improvements is calculated by the CSO from Q1 1995 onwards using household responses to an ESRI survey up to 2008, followed since then with responses to the EU SILC Questionnaire on Major Improvements to houses. To avoid double counting of investment by local government in dwellings and home improvements for the household sector, local authority GFCF is subtracted from the household GFCF. Prior to Q1 1995, the estimates for the GFCF of improvements were included in the dwellings calculations. An increase in GFCF in private dwellings corresponds to an injection of housing equity.

Household net purchases of land — this component is valued at zero in the HEW series for Ireland. It is assumed that the purchase of land by a member of the household sector is equal to the value recorded for the sale of land by another member of the household sector. In other words, the net change for the sector as a whole is zero. In any case, there is no data available showing the amount spent by households on land in Ireland or the inter-sectoral transactions in land. In other countries where household purchases of land from the business or government sector are common, such as Australia, the calculations of HEW include an estimate for the net value of land transfers.

Box 1: Components of the HEW series

Household transfer costs — this component is based on CSO calculations of the costs incurred by households acquiring property, such as solicitors' fees, stamp duties and auctioneers' fees. The data is available from Q1 1995. Prior to this, there was no separate calculation of transfer costs as they were accounted for in the estimation of the GFCF of dwellings. As HEW aims to capture the difference between funds borrowed for investment in property less their investment in dwellings, all costs related to household expenditure in a house that do not increase their housing equity are excluded.

This article presents estimations of HEW over a thirty-four year period to show the changing patterns of Irish households' housing-secured borrowing, compared with their investment in housing, as seen in Chart 1[6]. The value of HEW can take either a positive or negative value. HEW has a positive value when mortgage loans exceed investment in new property or related expenditure. HEW has a negative value when households invest more in newly built properties and home improvements than the total amount borrowed for property related expenditure during that quarter.

Household equity withdrawals and injections can occur in many different ways. The main methods by which households can withdraw and inject in housing equity are summarised in Table 1.

Chart 1: Housing Equity Withdrawal Trends in Ireland

- HEW (€ billion, right axis)
- HEW (% income, left axis)

---
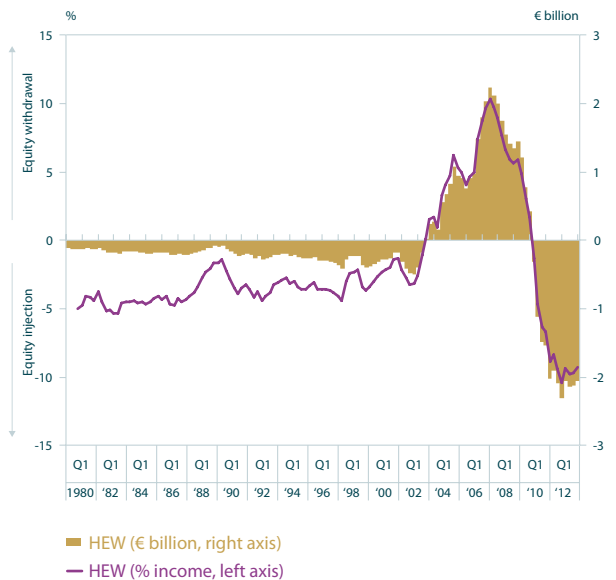
[6]   The series is reported as a four-quarter moving average to adjust for seasonality.

Table 1: Methods of Withdrawing and Injecting Equity

During a housing transaction

Withdrawals	*Injections*
Seller in the final link of a housing chain The seller does not buy a new property. Equity withdrawal in this case equals the sale proceeds net of outstanding debt secured on the property, less transfer costs.	**Buyers who are the first point in a housing chain (i.e. first-time buyers or buy-to-let purchasers)** The deposit paid by these borrowers represents an injection of housing equity.
Over-mortgaging A mover-purchaser increases their mortgage debt by *more* than the difference between the prices of their old and new houses.	**Under-mortgaging** A mover-purchaser increases their mortgage debt by *less* than the difference between the old and new house-prices.
Trading-down A mover-purchaser moves to a lower-priced property, but decreases their mortgage debt by less than the difference in prices between the old and new properties.	

By existing homeowners

Withdrawals	*Injections*
Top-up loans An existing homeowner takes out a top-up loan without carrying out home-improvements to the same value.	**Repayments of mortgage debt** Amortisation of the loan, through either regular or lump-sum payments, except through a transaction (i.e. a sale or a remortgage).
Over-mortgaging An existing borrower remortgages with a higher level of debt, while not improving the property to the same extent, i.e. an increase in the loan-to-value (LTV) ratio.	**Under-mortgaging** An existing borrower remortgages with a lower level of mortgage debt.
	Home improvements financed with unsecured debt Home improvements are carried out, but paid for either fully or partly from savings or personal loans.

Source: Schwarz et al. (2006) and Reinold (2011).

The trends in aggregate housing equity withdrawal largely reflect the changing fortunes of the housing market, as well as changes in the supply of and demand for mortgage credit, which will be examined in further detail in Section 3. From the beginning of 1980s through to Q3 2002, Irish households were injecting or accumulating housing equity. As a percentage of income, HEW ranged from 0.07 to -5.3 per cent during this period. There was prolonged inactivity in the housing market up to the mid-1990s, with real house prices virtually static from 1980 to 1995. It was also a period when credit supply for house purchases was dominated by a small number of building societies, with little competitive pressure from other providers.

From the mid-1990s through to the early-2000s, the pick-up in housing investment by households was broadly matched by the increase in housing-secured debt. During this period, banks also began to compete with building societies for mortgage business. As debt increased at broadly a similar rate as housing investment, this meant that HEW changed little from the earlier period.

There were changes from Q3 2002 onwards, as the pace of growth in household housing-secured debt began to outstrip the growth in their housing investment. This is the point in the series where households begin to withdraw housing equity in aggregate and HEW is positive. In total, there are 27 quarters of positive HEW during the peak years of the

housing boom. Households withdrew €29.8 billion of housing equity between Q3 2002 and Q1 2009. The upswings in HEW during the peak years of the property boom are extremely large, in comparison with both historical standards and trends in other countries. HEW as a percentage of disposable income peaked at 10.3 per cent in Q3 2006. The Irish HEW follows a similar trend to the HEW calculated in the UK, where equity withdrawal is historically quite pro-cyclical. Reinold (2011) shows that HEW peaked at almost 9 per cent of post-tax income during the housing booms of the late 1980s and mid-2000s. It is, however, significantly higher than the levels seen in Australia during the 2000 to 2007 housing boom, where at the peak of the housing boom, HEW was only marginally above 5 per cent of disposable income (Schwarz *et al.* (2006)).

The collapse in the Irish property market coincided with HEW becoming significantly negative. Section 3 considers the macroeconomic reasons behind this shift, as well as the underlying gross flows leading to these changes. While HEW exceeded 10 per cent of disposable income during the boom, by mid-2011, it had dropped to almost minus 10 per cent of income, as households were repaying previously held mortgage debt. Relative to the UK, Australia and historical Irish comparators, this level of equity injection as a percentage of income is extremely high. For example, even when house prices in the UK fell by just over 4 per cent in real terms in 2008, HEW never fell below -3 per cent.

As noted by Davey (2001), the relationship between HEW and consumption partly derives from the accounting identity that links them. Consumption can be financed out of income, unsecured borrowing, HEW or the disposal of assets. Trends in HEW and final consumption expenditure are compared with each other, as a proportion of income, in Chart 2.[7] Changes in savings rates aside, it would be surprising not to observe a strong relationship between HEW and consumption over time, and this is indeed the pattern shown in Chart 2.[8]

Chart 2: HEW and Consumption

— HEW (% income, left axis)
— Consumption (% income, right axis)
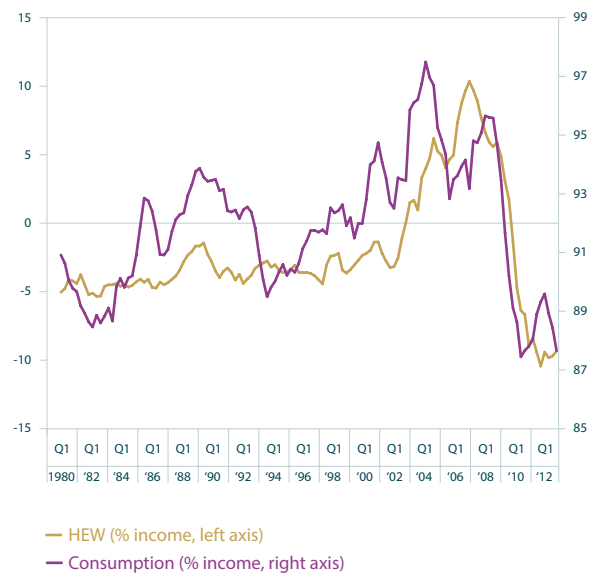
3. Factors that Influenced Housing Equity Withdrawal

This section examines the main factors that influenced HEW for Irish households. From the summary of the methods of withdrawing and injecting equity in Table 1, three important drivers of changes in HEW are evident. These are:

i. Changes in the level of housing transactions, which leads to the creation of housing chains.

---

7 From 2002 onwards, data on consumption and disposable income is taken from the National Accounts. Prior to this, the back-cast series generated by the Central Bank of Ireland's Macroeconomic Model is used; see O'Donnell (2005) and McGuire *et al*. (2002).

8 Ancedotal evidence suggests that Irish households used equity withdrawal to fund property purchases abroad. However, no data exists that would allow quantification of this.

ii. Changes in the supply of credit, both in terms of the overall volume and the conditions attached to that credit supply, such as changes to interest rates (affecting affordability), loan maturities (affecting amortisation rates), the prevalence of interest-only offers (also affecting amortisation rates) and deposit requirements (affecting the equity injections at the time of purchase).

iii. Changes in individual households' preferences for housing equity withdrawal, such as changes to amounts borrowed.

The remainder of this section considers how the first two factors in particular affected HEW trends in recent years. The third factor, analysis of changes to individual households' preferences for HEW requires household or borrower level data. Lydon and O'Hanlon (2012) used loan-level data to analyse trends in top-up loans from 2005 to 2011.

3.1. The Role of Housing Market Developments

Housing market developments are an important determinant of the positive or negative flows that can impact on the HEW and the overall stock of equity. The two main housing market-related factors are changes in house prices and housing transactions, both of which are inter-related.

House price developments will have an impact on HEW via the effect on the value of the stock of housing assets, and consequently, household net worth. Cussen et al. (2011) show how the overheating of the property market in Ireland and the subsequent collapse in property prices impacted negatively on household net worth. Irish household net worth declined by €270 billion from the peak in Q2 2007 to Q2 2012, largely as a result of falling house prices effecting the valuation of housing stock, which from 2009 coincided with reduced and then negative HEW transactions. A decrease in the value of housing equity, will generally

reduce HEW. This is because households need to have dwellings with a positive equity value in order to withdraw equity. Estimates have shown that approximately 31 per cent of mortgaged properties, 47 per cent of the value of outstanding mortgage loans, were in negative equity at the end of 2010 (Kennedy and McIndoe-Calder, 2012). Since 2008, the drop in house prices has contributed towards the reduction in housing equity as a proportion of housing wealth and HEW, as shown in Chart 3. From 2002 onwards in particular, the house price series and HEW are closely correlated (correlation coefficient of 0.77).

Chart 3: HEW, Net Mortgage Transactions, Housing Investment and House Price Index[9], Q1 1979 - Q1 2012

— Net Mortgage Transactions
— Household Investment in Dwellings
— HEW
— House Price Index
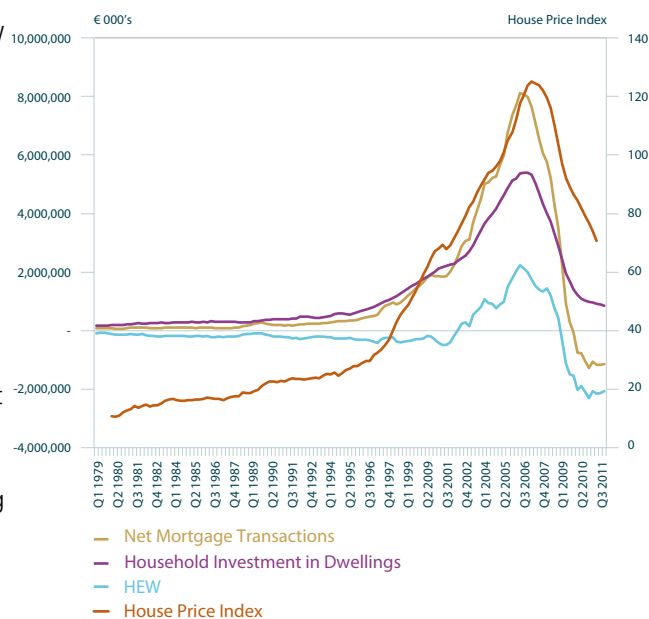
First-Time Buyers (FTB), are the starting point in a housing chain transaction that typically ends with a withdrawal of housing equity, such as when the final seller does not buy another property, (Reinold (2012), and summarised in Table 1). Therefore, it is expected that trends in the number of housing transactions and HEW are positively correlated. Schwarz *et al*. (2006) showed that during the mid-2000s housing boom in Australia, the vast majority of housing equity withdrawal came from housing

---

9 Data for housing equity withdrawal, net mortgage transactions and household investment in dwellings are presented on a four-quarter moving average basis.

transactions. Similar evidence is provided for the UK, in Davey (2001). A comparison of trends in the HEW measure (as a percentage of income) against data on the total number of new housing secured loans paid out by banks is shown in Chart 4. The latter is sourced from the CSO, using the Department of Environment, Community and Local Government ("DoE") Housing Statistics, and is used as a proxy for housing transactions.[10]

Chart 4: HEW (% income) and Number of Bank Loans Paid Out

— HEW (% income, left axis)
— Number of Bank Loans Paid Out (right axis)
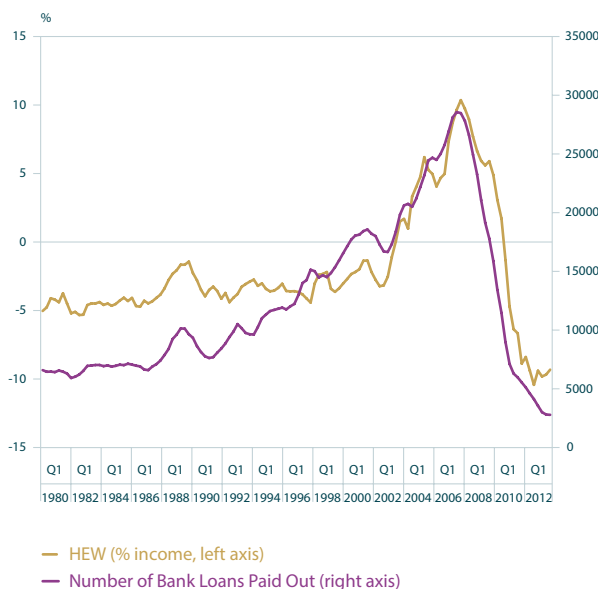
As expected, the two series moved closely together over time, with both quarter-on-quarter and long-run changes in the number of bank loans paid out reflected in the HEW series. As the number of bank loans increased during the property boom, this initiated growing numbers of housing chains, which contributed to the large increase in equity withdrawals. Conversely, the fall in the number of bank loans since early 2007 is one factor driving the reversal from housing equity withdrawal (positive HEW) to housing equity

injection (negative HEW). In this context, it is worth highlighting the scale of the collapse in the number of loans paid: the number peaked at approximately 31,000 in Q4 2005, whereas in Q2 2012 fewer than 3,000 loans were paid out, a drop of over 90 per cent.

3.2. The Role of Changes in Credit Supply

Changes to credit supply which make it easier for households to extract housing equity will also affect HEW trends. For example, changes to credit standards can make it easier to remortgage or take out a top-up loan. This will increase the gross flow of equity withdrawals. Similarly looser credit standards, such as lower deposit requirements by lenders or longer loan terms, will reduce the gross flow of equity injections, all other factors held constant.

The changes in credit standards in Ireland during the property boom are well documented; see, for example, McCarthy and McQuinn (2011) and Kennedy and McIndoe-Calder (2012). Increased competition during the early- to mid-2000s played a significant role in reducing mortgage interest rates, allowing for greater household leverage by lowering the debt repayment burden, (Goggin *et al.* (2012)). The trend in the ratio of average loans to average house prices for new and second-hand houses, from 1978 to 2011, is presented in Chart 5. Up to the early 2000s, the ratio hovered around 60 per cent, implying that the typical house purchase required a substantial deposit by the purchaser. From 2000 onwards, the ratio began to climb, reaching a peak of just over 90 per cent in 2009. Mortgages with no-deposit down ("100 per cent mortgages") became increasingly common during this period. In 2004, DoE statistics showed that just 6 per cent of first-time buyer loans had a 100 per cent LTV. By 2008, this proportion had risen to 34 per cent.

---

10 The CSO notes that "[t]his data contains an unquantified element of refinancing of existing mortgages (e.g. involving the redemption of an existing mortgage and its replacement with a mortgage from a different lender)" (see www.cso.ie). This is a particular issue with the data prior to 2005. From 2005 onwards, the Department of Environment statistics on "Number of Loans Paid" uses Irish Banking Federation Charts which *exclude* re-mortgages and top-up loans.

This represented a substantial decrease in the number of first-time borrowers injecting equity at the time of purchase, thereby contributing to an increase in HEW.

Two other changes to credit standards contributed to a reduction in housing equity injections during the property boom. Firstly, the number of interest-only mortgages (at origination) grew from a tiny share of originating loans, to account for between 4 and 12 per cent of owner-occupier mortgages loans for first-time buyers and mover-purchasers, respectively, by 2006, as shown in Chart 6. All other factors being equal, an increase in the proportion of interest-only mortgages will contribute to an increase in HEW, as fewer borrowers are injecting equity through regular mortgage repayments, thereby paying off their loans. Secondly, there was a gradual increase in loan-terms throughout this period. At the end of the 1990s, the average loan term for a first-time buyer in Ireland was 21.5 years. By 2008, this had risen to 31.5 years (Chart 7). These changes have a profound impact on the rate at which a home-owner can "accumulate" housing equity through regular

mortgage payments. For example, for a loan of €200,000 on a fixed rate of 4 per cent, the difference in amount of principal repaid after 10 years on a 20 versus a 30 year loan is almost €38,000.

Chart 6: Interest Only Loans at Origination as a Percentage of All Loans
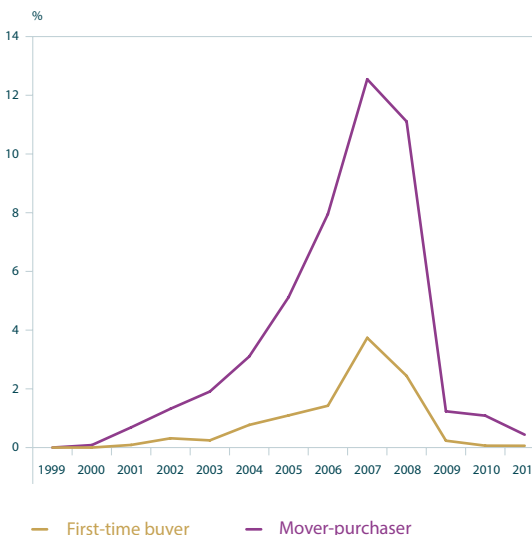

First-time buyer — Mover-purchaser

Chart 5: Ratio of Average Mortgage Loans to Average House Prices

New houses
Second-hand houses

Chart 7: Loan term at origination

First-time buyer — Mover-purchaser
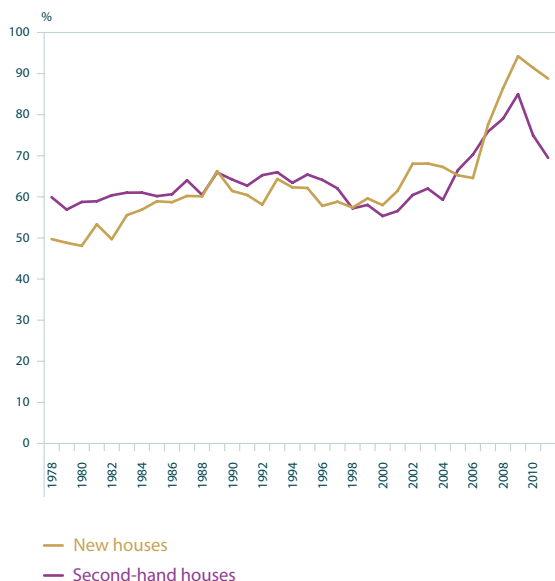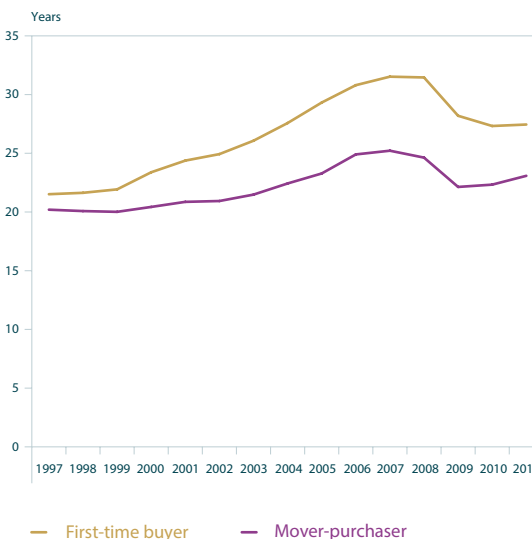
The trends discussed in this section suggest that housing market activity and changes in credit standards, both of which are inter-related, are important factors in determining HEW trends.

3.3. Gross Flows

Aggregate net HEW is the sum of many individual households' withdrawals and injections of housing equity. This section considers the underlying gross flows of withdrawals and injections, which contribute to the net HEW series. Box 2 describes how the components that form the gross flows estimates are calculated, as illustrated in Chart 8[11].

The most striking feature of Chart 8 is the shift from aggregate equity withdrawal to aggregate equity injection since the property market collapse. This has been driven almost entirely by the large reduction in gross equity withdrawals (the bars representing 'Second Mortgages and Top-Up Loans' and 'Last-Time Seller, Trade-Down and Remortgages' in Chart 8), and not by increases in mortgage repayments over and above the level observed historically (the bars representing 'Mortgage Repayments' in Chart 8). The implication of this is that, *at an aggregate level*, lump sum mortgage repayments appear to play a small role in household deleveraging. The deleveraging is mainly driven by a combination of regular mortgage repayments and households taking out very little new housing secured debt.

Between 2005 and 2007, it is estimated that gross equity withdrawal by last-time sellers, during a trade-down or remortgages averaged €16 billion per annum[12]. In 2011, the same category accounted for just over €1 billion. This result serves to reiterate the relationship between housing market activity and housing equity withdrawal. With very few transactions taking place in recent years relative to the peak of the boom, the opportunities for last time sellers to realise housing equity are reduced. Gross equity withdrawals via second mortgages and top-up loans have also fallen considerably in recent years from an average of €5 billion per annum between 2005 and 2007 to €200 million in 2011. Given the large increase in the number of borrowers in negative equity since 2007 (McIndoe-Calder and Kennedy, 2012), a collapse of this magnitude is to be expected.

The main driver of gross housing equity injections is mortgage repayments, which averaged €8 billion per annum, in nominal terms, up to 2008. The impact of the mortgage crisis is evident from 2009 onwards, with increasing mortgage arrears, as well as numerous forbearance arrangements such as term extensions, interest-only agreements and payment holidays. This has reduced the level of repayments relative to previous years. The estimates imply a fall in mortgage repayments of approximately 10 per cent since 2009, in line with recent mortgage arrears trends. As noted above, there is little evidence in the aggregate data to suggest that lump sum repayments of mortgage debt are playing a major role in household deleveraging.

---

11 The series of data for loans issued to first-time buyers and loans to buy-to-let investors are only available from 2005 onwards. Hence the disaggregation of the net HEW into the gross flows starts from this point.

12 A remortgage is defined by the IBF as "a loan which is issued by one lender to refinance an existing mortgage with another lender. This may or may not include further equity release". No data exists that woudl allow quantification of aggregate equity withdrawal by remortgages. However, the IBF data shows that €6bn of lending per annum between 2005 and 2007 was for remortgages.

Equity injections in the form of home improvements peaked in 2008, at just under €4 billion per annum, and have since halved in size. The rise and fall in expenditure on home improvements partly reflects trends in equity withdrawal from top-up loans. This is consistent with the evidence presented in Lydon and O'Hanlon (2012), which showed that the majority of this borrowing is spent on home improvements.

Equity injections by first-time buyers and buy-to-let investors in the form of deposits, averaged €1.8 billion per annum up to 2008. The collapse in housing market activity has seen both types of equity injection fall significantly in value. In 2011, it was estimated that total deposits from first-time buyers and buy-to-let buyers were €400 million and €70 million respectively. This reflects not only the collapse in the number of housing transactions, but also results from the fall in loan-to-value ratios, as shown in Chart B1.

Chart 8: Gross Flows of Housing Equity Withdrawal and Injections

Legend:
- Buy-to-let Injections
- Home Improvements
- Top-Up Loans
- HEW
- First-Time Buyer Injections
- Mortgage Repayments
- Last Time Sellers, Trade-Downs and Remortgages

Box 2: Estimating the Gross Flows which Form HEW

This box and Table B1 explains the methodology used to calculate the HEW gross flows. The estimates utilise raw data from several different sources, and incorporate certain assumptions regarding this data.

The gross flows estimates require data on the proportion of new residential mortgage loans that are first-time buyers (FTB), buy-to-let (BTL), mover-purchaser, re-mortgage or top-up loans. The most comprehensive market-level data available is the Irish Banking Federation's (IBF) Mortgage Market Profile, which has been published on a quarterly basis since 2005.[a]

Box 2: Estimating the Gross Flows which Form HEW

Table B1: Estimates of gross flows

Flow	Methodology and Sources
Injections	
Home improvements (H_t)	CSO quarterly GFCF. See Box 1.
Regular mortgage repayments (M_t)	This is estimated by the Central Bank. M_t is equal to the difference between the total value of new residential mortgage loans issued in a quarter (L_t from the IBF) and the change in the stock of lending secured on dwellings (ΔS_t from the Central Bank): $M_t = L_t - \Delta S_t$
Deposits by first-time buyers (FTB_DEP_t)	This is estimated by the Central Bank. FTB_DEP_t is equal to the total value of FTB loans issued per quarter (FTB_LOAN_t from the IBF) divided by the average loan-to-value ratio at origination for FTBs (LTV_FTB_t from Central Bank of Ireland loan level data), minus the total value of loans issued per quarter: $FTB\_DEP_t = (FTB\_LOAN_t / LTV\_FTB_t) - FTB\_LOAN_t$ (see Chart B1).
Deposits by buy-to-let buyers (BTL_DEPt)	This is estimated by the Central Bank. BTL_DEP_t is equal to the total value of BTL loans drawn down (BTL_LOAN_t from the IBF) divided by the average loan-to-value ratio at origination for BTL buyers (LTV_BTL_t from Central Bank of Ireland loan level data), minus the total value of loans issued per quarter: $BTL\_DEP_t = BTL\_LOAN_t / LTV\_BTL_t - BTL\_LOAN_t$ (see Chart B1).
Withdrawals	
Value of top-up loans (T_t)	Quarterly data from 2005 Q1, from the IBF's Mortgage Market Profile.
Gross value of equity withdrawn during a housing transaction or remortgage: L_t = Last time sellers D_t = Trade-down R_t = Remortgage $\Big\} = Z_t$	This is estimated by the Central Bank. No survey or market-level data exists that allows for the direct estimation of these gross flows separately. They are therefore estimated as a group (Z_t) as follows: $HEW_t = \text{Sum(Gross withdrawals)} - \text{Sum(Gross injections)}$ $= (T_t + Z_t) - (H_t + M_t + FTB\_DEP_t + BTL\_DEP_t)$ $Z_t = HEW_t - T_t + (H_t + M_t + FTB\_DEP_t + BTL\_DEP_t)$

(a) The IBF estimates that the data covers in excess of 95 per cent of the mortgage market and includes residential mortgage lending data from 10 institutions over the period 2005 to 2012.

Box 2: Estimating the gross flows which make up HEW

Box 2 Chart 1: Loan to Value Ratios for First-Time Buyer and Buy-to-Let

— First-time buyer   — Buy-to-let
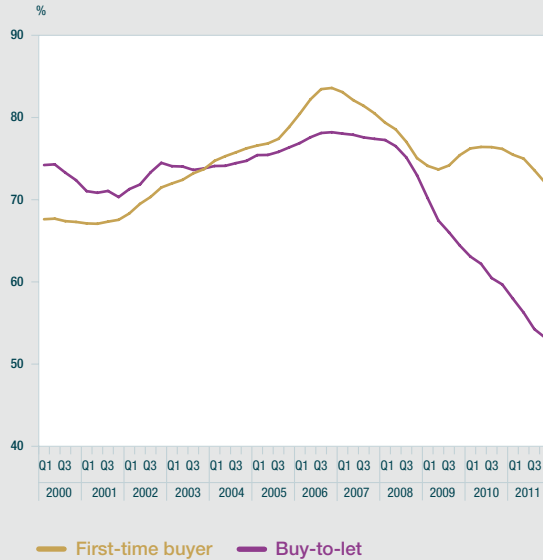
4. Conclusion

This article presents a new series on aggregate net housing equity withdrawal (HEW) for Ireland for the period, 1978 to 2012. It shows that HEW peaked at just over €8 billion in 2006, during the property boom. This level of HEW represents a significant departure from borrowing behaviour of households during the 1980s and 1990s, when aggregate equity injection was the norm. The main drivers of equity withdrawal are shown to be changes in the supply of, and demand for credit, and developments in the housing market.

The collapse in housing market activity since 2008 has moved the household sector back to a position of aggregate equity injection. A number of factors contribute to this current period of aggregate equity injection including a reduction in the number of mortgage transactions, a tightening of credit conditions and the reduction by households of their financial liabilities, including mortgage debt. As a proportion of disposable income, the level of injections observed since the property market collapse is significantly higher than

historic trends in Ireland. It is also significantly higher than aggregate injections observed elsewhere, such as in Australia or the UK. The main reason for the current low levels of equity withdrawal is the lack of housing market transactions, after a number of years of falling house prices, which in turn means fewer opportunities for sellers to realise housing equity. Irish households have suffered large declines in net worth as a result of the drop in valuations of their properties. This has also contributed towards households reducing aggregate equity withdrawals.

References

Bank of England, Explanatory Notes for Estimating Aggregate Housing Equity Withdrawal: http://www.bankofengland.co.uk/statistics/Pages/iadb/notesiadb/hew_notes.aspx.

Benito, A and J. Power (2004). "Housing equity and consumption: insights from the Survey of English Housing", Bank of England Quarterly Bulletin: Autumn 2004, pages 302-309.

Cussen, Mary, O'Leary, Brídín and Donal Smith (2012). "The Impact of the Financial Turmoil on Households: A Cross Country Comparison", Central Bank of Ireland Quarterly Bulletin Article 02 / April 12.

Davey, Melissa (2001). "Mortgage equity withdrawal and consumption", Bank of England Quarterly Bulletin: Spring 2001, pages 100-103.

Goggin, Jean & Holton, Sarah & Kelly, Jane & Lydon, Reamonn & McQuinn, Kieran (2012). "The financial crisis and the pricing of interest rates in the Irish mortgage market: 2003-2011," Research Technical Papers 01/RT/12, Central Bank of Ireland.

Kennedy, Gerard & McIndoe-Calder, Tara, (2012). "The Irish Mortgage Market: Stylised Facts, Negative Equity and Arrears," Quarterly Bulletin Articles, Central Bank of Ireland, pages 85-108, February.

Lydon, Reamonn and O'Hanlon, Niall (2012). "Housing equity withdrawal in Ireland: 2000 - 2011," Economic Letters, Vol. 2012, No. 6, Central Bank of Ireland.

McGuire, M., O'Donnell, N., and Ryan, M. (2002), "Interpolation of Quarterly Data for ECB/NCB Multi-Country Modelling Exercise – Data Update to 1999Q4", 1/RT/02, Central Bank of Ireland Research Paper.

McCarthy, Yvonne and Kieran McQuinn (2011). "Decomposing Irish house price movements: 2000 – 2010," Paper presented at Central Bank of Ireland conference on The Irish Mortgage Market in Context, October 2011.

O'Donnell, Nuala (2005). "Overview of Recent Progress in Macroeconomic Modelling in the Central Bank," Quarterly Bulletin Articles, Central Bank of Ireland, pages 115-131, October.

Reinold, Kate, (2011). "Housing equity withdrawal since the financial crisis," Bank of England Quarterly Bulletin, Bank of England, vol. 51(2), pages 127-133.

Schwartz, Carl, Tim Hampton, Christine Lewis and David Norman (2006). "A Survey of Housing Equity Withdrawal and Injection in Australia". Reserve Bank of Australia Research Discussion Paper, 2006-08.