



Home purchases, downpayments and savings

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Abstract

In 2016, the typical Irish home-buyer had a downpayment of 20% of the house price – for First-Time Buyers (FTBs), the figure is closer to 15%. The median downpayment for a non-Dublin FTB in 2016 was €25,000, well below earlier peaks. For Dublin FTBs, however, downpayments have been rising steadily since 2012, reaching €50,000 (median) in 2016. Comparing Irish FTB Deposit-to-Value ratios (DTVs) with those in other European countries for the period *pre-dating* the Loan-to-Value (LTV) rules (2008-14), Ireland was towards the lower-end of the range – typically between 10 and 20% for most countries. The latest figures for 2016 suggest that Ireland may be moving more in-line with other countries, although maximum LTV rules are becoming increasingly common across Europe and may be impacting upon such patterns.

1 Introduction

In recent years, limits on LTV ratios for property purchases have become one of the key levers of macro-prudential policy. However, comparative cross-country data on downpayments and savings of borrowers, which could shed light on the economic and social impact of such policies, remains relatively scarce.

This *Economic Letter* uses a mix of administrative and survey data to (i) highlight trends in downpayments in Ireland in recent years; and (ii) compare Irish downpayments and savings patterns with those of home-buyers in other European countries. We show

that, compared to 2008, the value of mortgage downpayments has fallen relative to property values nationally across all buyer-types and for First Time Buyers (FTBs) outside Dublin. However, Dublin FTBs buck this trend, with a rise in deposit to value *ratios*. In the first half of 2016, this equates to a *median* euro value of €25,000 for a FTB outside of Dublin and €50,000 for a FTB in Dublin.

To address a lack of comparable cross country data, we exploit the newly released Household Finance and Consumption Survey (HFCS, wave 2, conducted 2013 - 2014), to compare downpayments and savings for

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house purchase across Europe. To the best of our knowledge this is a novel use of this dataset. After controlling for differences in house prices and incomes, the median level of downpayments in Ireland is found to be at the lower end of the range relative to many other countries. Savings and inheritance patterns are remarkably similar across most countries. Notwithstanding significant differences in housing, mortgage and rental markets, our analysis does not suggest that Irish FTBs are a significant outlier when it comes to deposit and savings patterns.

2 Downpayment trends

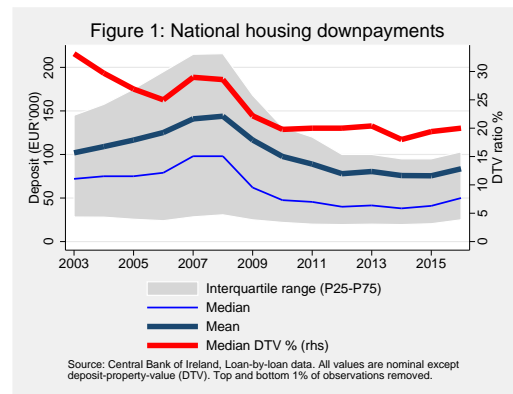
Mortgage downpayments, and the challenges FTBs face in getting on to the housing ladder, are the subject of considerable debate and a large international economic literature.² There are no official Irish statistics on housing downpayments.³ Therefore, we construct a series using loan-by-loan data from the residential mortgage books of a number of Irish banks - details are provided in a data appendix.

We know that mortgage downpayments have risen in recent quarters but how do they compare over the longer term? Relative to the house purchase price, median downpayments have generally trended lower over the past decade, notwithstanding occasional increases e.g. 2007-08 (the red line in Figure 1). In euro terms, median downpayments rose during the 2000s boom and then fell from 2009 until 2014. Despite rising in 2015/16, the level remains well below 2007-08 highs.

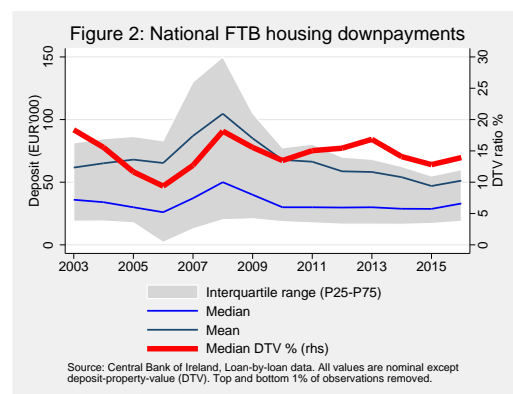
²See for example, [Laeven & Popv \(2016\)](#) on the experience of young Americans during the 2000s housing boom. For Ireland, see [CBI Review of Mortgage Measures, November 2016](#).

³The Banking & Payments Federation (BPF) have recently published FTB down-payment estimates for 2012Q2 to 2016Q2. [Kelly and McCann \(2016\)](#) also estimate *required* Irish down-payments and time-to-save for house purchase using house prices, rents and the mortgage rules.

⁴For SSBs, by comparison, although median DTV ratios have fallen significantly over the longer term, the euro value of downpayments rose during the boom. In euro terms, national SSB median down-payments peaked at just under €155,000 in 2007 and fell to €75,000 in 2014 before rising to €96,000 in the first half of 2016. For Dublin SSBs, median down-payments peaked at €180,000 in 2006 and stood at €135,000 in the first half of 2016. See, for example, [Ortalo-Magne et al. 2006](#) for a discussion of why the potential to draw on housing equity may increase (fall) during a property price boom (collapse).

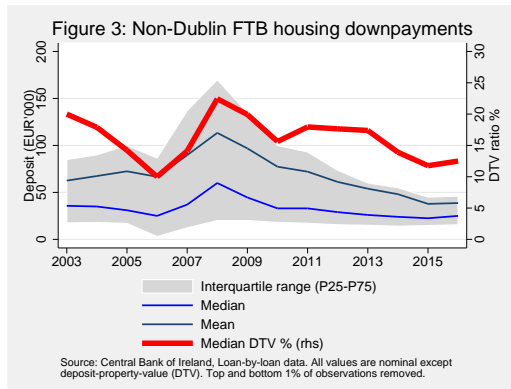


This analysis includes second and subsequent buyers (SSBs) as well as FTBs, but our main focus here is on FTBs. Nationally, both the median euro value of downpayments and the ratio relative to the house purchase price (DTV ratio) declined for FTBs during the boom (c.2005/2006) as the share of zero down-payment (or 100 per cent LTV) mortgages increased – note the spike around zero in the inter-quartile range in Figure 2.⁴



During 2007-08, FTB median down-payments and DTV ratios rose sharply, with a peak median euro value of c.€50,000 nationally in 2008. The number of FTB borrowers declined

however.⁵ While a third of FTBs had a downpayment below 5 per cent in 2006, this fell to 18 per cent by 2008. For the lowest quartile of FTBs, downpayments rose from c.€2,000 in 2006 to €20,000 in 2008. Nationally, median FTB downpayments subsequently levelled off up until 2015 and stood at €33,000 in the first half of 2016, below the crisis peak.

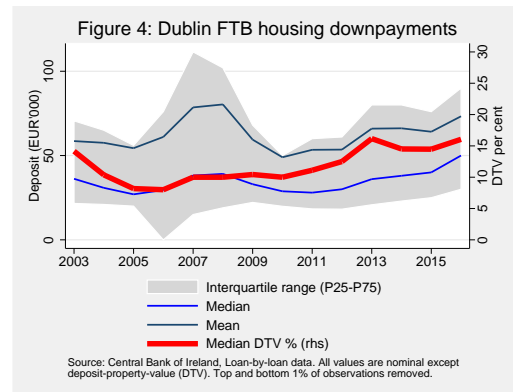


The national trends mask divergences between FTBs in Dublin and those in the rest of the country. For example, between 2006 and 2008, the share of FTBs outside Dublin with a deposit below 5 per cent of the property value halved from around a third to 16 per cent, while those with a deposit above 40 per cent rose from around a fifth to a third. By comparison, for Dublin FTBs, the share of those with a deposit below 5 per cent remained comparatively higher (25 per cent from 36 per cent), while the share of those with deposits of over 40 per cent did not rise as much (up 3 to 15 per cent). In the more recent period, the national trends largely reflect those outside Dublin (Figure 3), where the median euro value of FTB downpayments was c.€25,000 in the first half of 2016 and where median DTV ratios have fallen relative to the crisis and compared to the early 2000s.

⁵The number of FTBs in our sample falls from just under 21,000 in 2006 to less than 5,000 by 2011, notwithstanding the increase in the share of FTBs among mortgaged buyers since 2008.

⁶Since around 2014, median DTV ratios among Dublin FTBs have surpassed those of FTBs outside Dublin. In the past and particularly during the crisis years, median DTV ratios among non-Dublin FTBs were generally higher.

⁷See ING International Survey, Homes and Mortgages September 2015.



By contrast, for Dublin FTBs, both the median euro value of down-payments and the DTV ratio have been rising in recent years. The median euro downpayment in the first half of 2016 (c.€50,000) matches the crisis peak for national FTBs (Figure 4).⁶ Our data does not reveal whether these trends are borrower or bank led. We only know that house prices started to recover sooner in Dublin than elsewhere.

Table 1 highlights the regional variation in median down-payment levels and DTV ratios from 2012 to 2016. The lowest down-payments – of around €20,000 – are in the Border, Midlands and Western region, the highest are in Dublin.

	South-East, Mid-East, Mid- West	Border, Midlands, Western	South-West	Dublin
2012	25,000 (15%)	30,000 (20%)	33,600 (20%)	30,000 (13%)
2013	25,000 (15%)	25,000 (19%)	30,500 (20%)	36,000 (16%)
2014	24,500 (13%)	20,500 (14%)	26,900 (15%)	38,000 (15%)
2015	24,000 (11%)	18,650 (11%)	26,000 (13%)	40,000 (14%)
2016	26,720 (15%)	19,745 (11%)	30,000 (14%)	50,000 (16%)

Source: Loan-by-loan data.

In the next section, we want to put the Irish FTB downpayment data into a cross country context to get a better idea of how Irish FTB downpayment patterns compare.

3 Cross-country patterns

FTBs right across Europe are said to be finding it increasingly difficult to buy a home.⁷ However, consistent cross country downpayment data are not available.⁸ One country where data is available is the UK. The national average DTV trends for UK and Irish FTBs are quite similar, as are the 2014 ratios (latest available for UK, **mean** DTV of 21.3% vs. 22.8% for Ireland).⁹ What about other EU countries? This section uses the *Household Finance and Consumption Survey* (HFCS, Wave 2, 2014) - described in more detail in the data appendix - to explore this issue.

The survey asks households for information on the purchase price of their property and, for households with a mortgage, the size of the initial mortgage drawn-down. We define the downpayment as the purchase price minus the loan drawn down. We focus on purchases between 2008 and 2014, where the buyer was aged under-40 at the time of purchase.

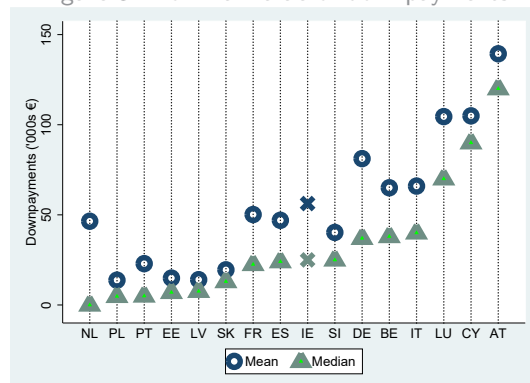
We restrict the sample to under 40s to try and capture FTBs, who are not explicitly identified in the HFCS. Based on the loan-level data in the previous section, average FTB age was 34 in Ireland in the first half of 2016 and almost 90 per cent of our sample were under 40. Again, there are no official statistics on average FTB age for EA countries but survey data suggests that it tends to be under 40 but increasing internationally in recent years.¹⁰

In order to have a sufficiently large subsample on home-buyers for each country, we look at purchases since 2008. Alternatively, if we used purchases in the year prior to the survey, the cell size for some countries would

be very small, leading to questions around robustness. The data appendix lists the number of observations per country. In the appendix we also show that the survey data on downpayments is a reasonably close match to the loan-by-loan data in Ireland, alleviating concerns we might have around measurement error in the survey responses.¹¹

Figure 5 shows mean and median downpayments across countries, ranked by median downpayment. The median (mean) downpayment for Ireland (marked 'X') of €25,000 (€56,000) is around the middle of the range of values, with the Netherlands at the bottom (median=€0, mean=€46,500) and Austria at the top (€120,000 & €139,400), followed by Cyprus.

Figure 5: Nominal value of downpayments



Source: HFCS Wave 2 (2014), purchases 2008-14, mortgaged home-buyers under 40 at time of purchase

Several factors could lead to cross-country differences in the value of deposits, including dif-

⁸The European Systemic Risk Board (ESRB) provides some estimates of average EA LTV ratios but warn comparison is hindered by differing types of borrowers (FTBs vs all), lending (new vs. outstanding) and LTVs (origin vs. current). See for example [ESRB Report on residential real estate and financial stability in the EU, December 2015](#).

⁹The UK ONS publishes a series on average FTB DTV ratios dating back to 1998.

¹⁰A 2011 global survey by [Genworth Insurance](#) found that average age of FTBs was 29 in Australia, 30 in Canada, 32 in Italy, 28 in the UK and 29 in the US for example. The latest data shows that average UK FTB age had risen to 33 by 2014. A 2014 [German real estate survey](#) put average FTB age at 39.9 years.

¹¹Using a longer time-span raises other issues, however. For example, in the 2008-14 time-period, house prices rose in some countries (Austria and Germany, for example), but fell in others (Spain, Ireland, and Italy, for example). We try to address these issues by also looking at DTV at time of purchase and downpayment-to-gross income ratios.

ferences in incomes and/or house price levels; characteristics of national mortgage and rental markets (e.g. tax treatment) and institutional arrangements (such as rules on LTV or Loan-to-income ratios). For example, in the Netherlands, traditionally many FTBs did not provide a down-payment for a mortgage and loans were often repaid at maturity rather than amortised, but this has become less common and new LTV limits are being phased in since 2012.¹²

The next two charts control for some of these differences by plotting the DTV and downpayment-to-income ratio. The Netherlands and Austria remain at either extreme, but the median DTV ratios are generally grouped in the 10 to 20 per cent range and Ireland is towards the lower end (Figure 6). The mean values are usually higher, but again, generally grouped in the 20 to 30 per cent range.

For most countries, median downpayment-to-income ratios are in the range of 40 to 60 per cent of gross household income (Figure 7). Ireland is also towards the lower-end of this range, at just under 40 per cent of gross income. Both Austria and Cyprus stand out as countries with very high deposit-to-income ratios. By comparison, the ultra-low deposits in the Netherlands (at the median) result in a deposit-to-income ratio close to zero.

Figure 6: Downpayments-to-value ratio

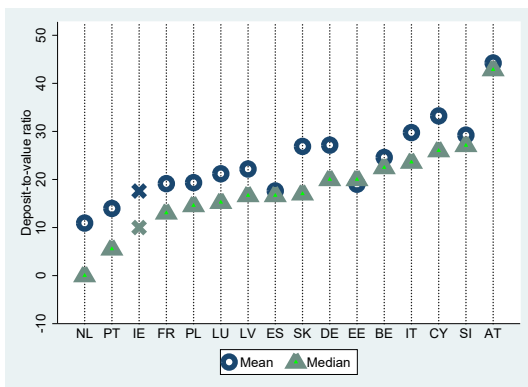
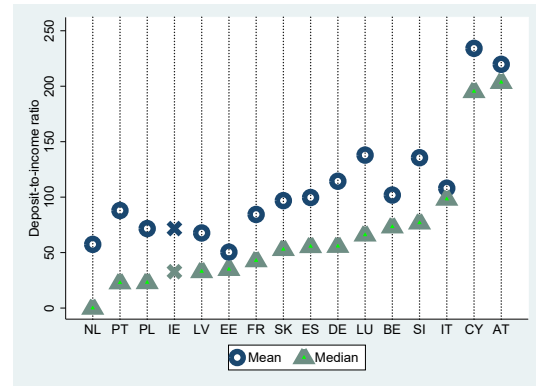


Figure 7: Downpayments-to-income ratio



Source: HFCS Wave 2 (2014), purchases 2008-14, mortgaged home-buyers under 40 at time of purchase

The role of inheritances

From an economic perspective, how home-buyers – and first-time buyers in particular – finance their downpayment is of some interest. For example, if the downpayment is primarily sourced from savings out of income, then changes in downpayment levels will have implications for the savings behaviour of prospective buyers, and possibly aggregate savings. If, however, inheritances play an important role, then the tax treatment of inter-generational transfers will be important.

There is no *specific* information in the HFCS on how exactly home-buyers finance their downpayment. There is however extensive information on inheritances, i.e. when it was received, size and type of asset (e.g. cash, property, etc.). We analyse this information to determine whether the timing of an inheritance broadly coincides with the timing of house purchase. If a household received an inheritance in the years immediately preceding their home-purchase, then it seems likely that at least part of the inheritance value could be used to fund the purchase.

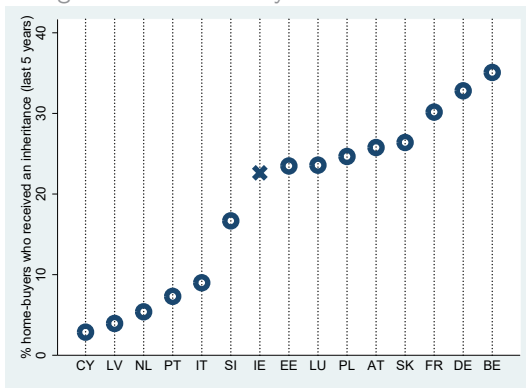
Focusing on the same group as before – i.e. mortgaged home-buyers between 2008 and 2014, who were under-40 at the time of purchase – Figure 8 plots the proportion who

¹²See, for example, [ECB report on Housing Finance in the euro area, March 2009.](#) and [ESRB Overview of Macroprudential policy measures in Europe, January 2017.](#)

received an inheritance *no more than five years* before purchasing a home.¹³

Countries where inheritances are relatively uncommon (i.e. less than 10 per cent of buyers claim to have received a substantial inheritance) include Cyprus, the Netherlands, Portugal, Italy and Latvia. Ireland is in the group where inheritances are more common, where more than a fifth of home-buyers received an inheritance.¹⁴ The proportion of homebuyers receiving an inheritance in Ireland is very similar to results quoted in other studies, such as Duffy and Quail (2005) and SCSI (2016).

Figure 8: % home-buyers with inheritance



Source: HFCS Wave 2 (2014), purchases 2008-14, mortgaged home-buyers under 40 at time of purchase

Figures 9 and 10 show the value of the inheritances and the value relative to downpayments, for those home buyers who receive one. The euro-value can be quite large in some cases, with median inheritances of just under €90,000 in Cyprus and Luxembourg. Ireland is towards the low end of this range, with a median (mean) inheritance of €10,000 (€21,300). However, when we divide by the downpayment itself, inheritances are generally

equal to between 50 and 100 per cent of the downpayment in most countries (Figure 10).

Figure 9: Value of inheritance

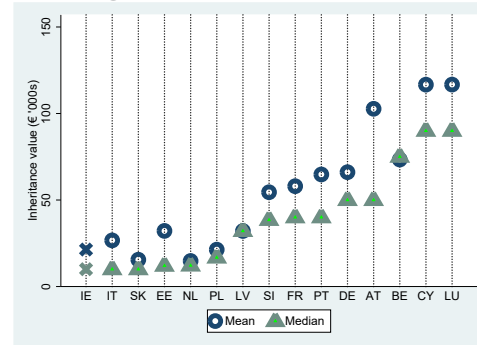
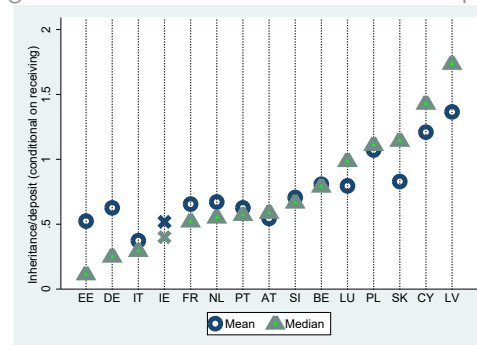


Figure 10: Ratio of inheritance value to deposit



Source: HFCS Wave 2 (2014), purchases 2008-14, mortgaged home-buyers under 40 at time of purchase

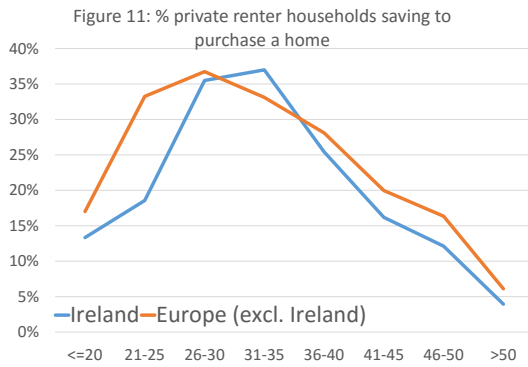
4 Savings for home purchase

Thus far, we have focused on downpayment patterns amongst *recent* buyers. The HFCS also contains information on *prospective* home-buyers – that is, households who cite “home purchase” as a reason for saving.¹⁵

¹³The cross-country patterns and rankings are not particularly sensitive to the timing of the inheritance window chosen. For example, restricting it to receiving inheritance one or two years prior to purchase only moves the line marginally down in a fairly uniform manner.

¹⁴According to the [English Housing Survey Headline Report for 2014/15](#), 27 per cent of FTBs had help from their families and friends, which covers the definition of ‘inheritance’ in the HFCS.

¹⁵HFCS households are asked what are their *most important* reasons for savings. Multiple answers are possible, of which “savings for home purchase” is just one. Other popular motives include saving for unexpected events, bequests, education and holidays. Across all households, saving for home purchase is the third most popular reason given. See [Le Blanc \(2016\)](#) for further details.



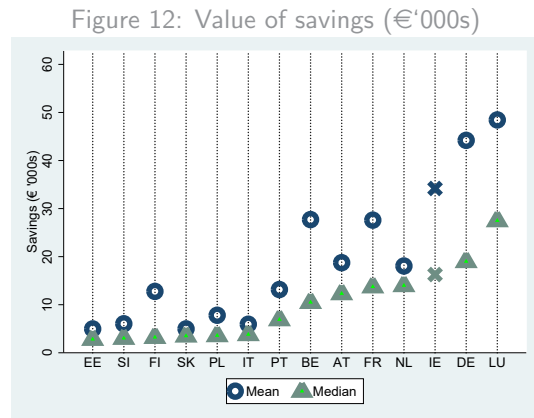
Source: HFCS Wave 2 (2014). Renters account for 30.7% of households in the Euro area (EA) and 29.5% of Irish households.

The propensity to save for home purchase is highest amongst private renters aged between 26 and 40 (Figure 11). Around one-third of these households claim to be saving to purchase a home and age-savings patterns are similar in Ireland and Europe.

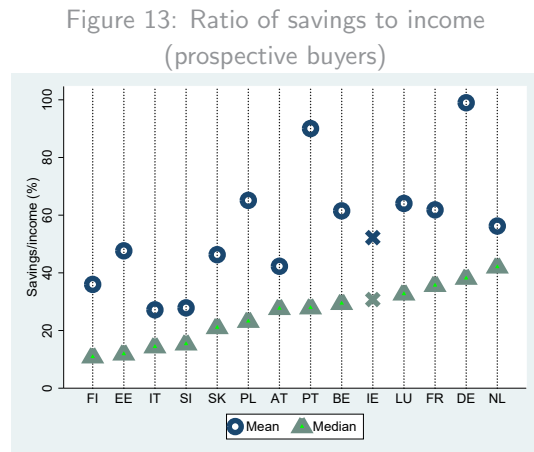
The HFCS also asks savers about the value of their savings. This is as at the survey date (i.e. 2013/2014) as opposed to the 2008-2014 period used for the downpayment data discussed earlier. The savings patterns may differ from the downpayment patterns for several reasons, such as changes in incomes and prices, or changes in deposit requirements due to new regulations or changing credit conditions more generally. The euro-value of total savings held by prospective buyers in some countries can be quite high, particularly amongst older buyers who have had more time to save. Figure 12 plots median and mean savings¹⁶ for private renter households aged between 26 and 39 who say that one of their most important reasons for saving is to purchase a home. At the median, Ireland ranks towards the top-end of countries – alongside Germany, Luxembourg and the Netherlands with median *reported* savings in the €20,000 region in 2013/2014.

¹⁶Savings are, in HFCS terminology, defined as gross liquid financial assets (sum of deposits, mutual funds, bonds, business wealth, shares and other managed accounts).

Whilst the euro-value of savings appears quite dispersed, once we divide by income the degree of dispersion declines (Figure 13). For many countries, the median ratio of savings to gross income is in the range of 20 to 30 per cent of gross household income, with Ireland towards the top end of this range.



Source: HFCS Wave 2 (2014), renters aged 26-39 saving to purchase a home. Conditional on savings > €500

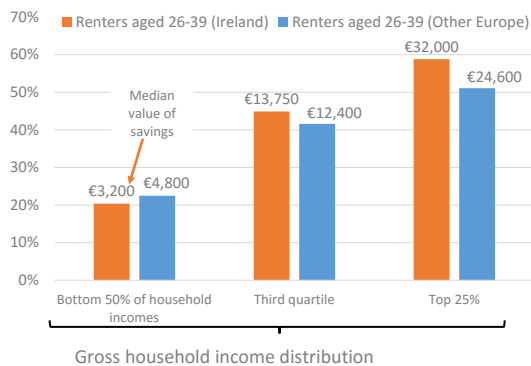


Source: HFCS Wave 2 (2014), renters aged 26-39 saving to purchase a home. Conditional on savings > €500

Within countries, how do savings of prospective buyers vary by income? Figure 14 shows that among private renter households in the 26-39 age-bracket in Ireland, those in the top half of the income distribution are more than twice as likely to say they are saving to

purchase a home, with vastly different median savings. This is also the case in other European countries (the blue bars in the chart).

Figure 14: % Households saving for home



Source: HFCS Wave 2 (2014), renters aged 26-39 saving to purchase a home. Conditional on savings >€500

Conclusion

Loan-by-loan data suggests that median mortgage downpayments have generally fallen relative to property values over the past decade. The value of (median) FTB downpayments outside of Dublin in the first half of 2016 were still significantly below peak levels observed in 2008 despite rising recently (€25,000). For FTBs in Dublin, however, downpayments have risen steadily since 2012 to levels approaching the crisis peak among national FTBs (€50,000).

Using survey data, we compare patterns of downpayments (for recent home purchases among the under 40s) and savings (for prospective buyers) across countries. Notwithstanding significant institutional differences across countries, the joint behaviour of borrowers and lenders across many countries produces reasonably similar outcomes in terms of savings and downpayments.

For example, the median downpayment-to-value ratio is found to be in a range of 10 to 20 per cent for many of the countries in the sample. Similarly, the median ratio of savings-to-income for prospective buyers is in the range of 20 to 30 per cent for most countries. Ireland is in the middle of the range in

terms of the euro value of downpayments but at the lower end relative to property values and incomes – it is important to emphasise once again, that here we are analysing data on home purchases over the 2008-14 period.

Using the data on inheritances in the HFCS, we show that around one-fifth of Irish home-buyers report having received an inheritance in the years immediately preceding the purchase – broadly in-line with most other European countries. For Irish home-buyers, the value of the inheritance tends to be around half of the downpayment amount, a figure towards the lower end of the range when compared with other countries.

We also consider prospective buyers. Among private renter households, under the age of 40, higher income households are found to be more than twice as likely as those in the bottom half of the income distribution to say they are saving for home purchase and their median savings are a multiple of the lower income group. This applies to other EU countries as well as Ireland.

The downpayment patterns are drawn from survey data, analysing transactions for the period 2008 to 2014. Newly introduced macro-prudential policies across Europe may be impacting upon such patterns. For example, in Cyprus, where maximum LTV rules have applied since 2003 we find that the median value of downpayments is towards the top of the EA range in euro terms, relative to property values and relative to incomes. By contrast, median downpayments in the Netherlands are found to be among the lowest in the EA during the sample period. LTVs in the Netherlands often exceeded 100 per cent in the past but new limits are currently being phased in to reduce LTV ratios. Our analysis reinforces the case for the introduction of consistent EA LTV and downpayment data and for further analysis of the potential impact of macroprudential policies on EA housing markets.

Appendix – Data description

A1. Loan-by-Loan Data

The loan-by-loan data combines two data sources collected by the Central Bank of Ireland from lenders: the *Loan Level Database* (LLD) and the *Monitoring Template Database* (MT).

The LLD was first collected for the 2011 Prudential Capital Assessment Review (PCAR 2011) and has been collected at six-month intervals since. The data contains micro-level information on the current status of each residential mortgage loan as well as originating terms. One of the drawbacks of this type of data is potential survivor bias, particularly for older data. For a detailed description of the data, see [Kennedy & McIndoe Calder \(2011\)](#).

The MT is a six-monthly return collected by the Central Bank from all lenders since 2015 to monitor compliance with the mortgage Regulations. The MT contains similar information on loan-characteristics at origination, including LTV. The dataset is described in detail in [Keenan et al. \(2016\)](#). One important thing to note about the 2015 data is that it contains a mix of loans covered by the Regulations introduced in early 2015 ('in-scope' loans) and loans exempted from the Regulations ('out-of-scope' loans).

For the purposes of this analysis, we focus on residential loans for house purchase only and so exclude top-up loans, switchers and buy-to-let loans. The dataset consists of approximately 300,000 residential mortgages, drawn from the Irish mortgage books of Allied Irish Bank, Bank of Ireland and Permanent TSB. The down-payment is calculated as $((100 - \text{LTV at origination}) * \text{property value})$ where the LTV is calculated as the ratio of the loan balance at origination to the original valuation of the house. The top and bottom one per cent of outliers are removed.

A2. Survey Data – HFCS

The cross-country data used in this survey comes from the second wave of the ECB's Household Finance and Consumption Survey. The ECB papers on [Results from the Second Wave](#) and [The Methodological Report](#) provide more background. As Table A1 shows, for most countries the fieldwork is 2014 although there are some exceptions, including Ireland, where the fieldwork was carried out in 2013. The fieldwork for the Irish survey was carried out between March and September 2013. For more background on the Irish component of the HFCS, see [Lawless, Lydon and McIndoe-Calder \(2015\)](#) and [CSO \(2015\)](#) for a description of the survey. [LeBlanc \(2016\)](#) also describes the savings information in the survey.

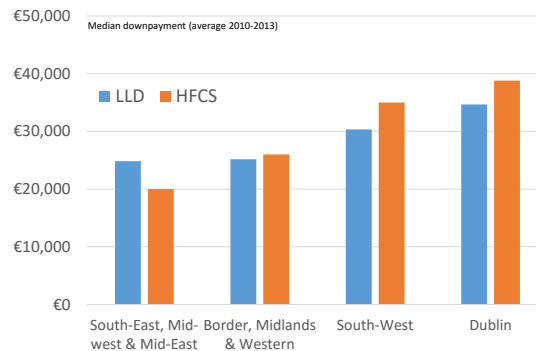
One concern we might have about using the survey data relates to measurement error. In particular, whether respondents accurately recall or report house value and original loan at the time of purchase. To at least partially address this concern Figure A1 compares median downpayments by region in Ireland from the HFCS with the loan-by-loan data. Both sources match up very closely, which gives us some comfort that, for Ireland at least, measurement error is unlikely to be a significant concern.

Table A1 HFCS data

	Reference year	Sample size (downpayments)	Sample size (prospective buyers)
Belgium	2014	114	85
Germany	2014	122	248
Estonia	2013	81	50
Ireland	2013	206	267
Greece	2014	NA	NA
Spain	2011	52	NA
France	2014	758	430
Italy	2014	90	105
Cyprus	2014	74	NA
Latvia	2014	41	NA
Luxembourg	2014	139	82
Hungary	2014	NA	NA
Malta	2013	NA	NA
Netherlands	2013	91	45
Austria	2014	72	196
Poland	2013	128	45
Portugal	2013	271	29
Slovenia	2014	65	32
Slovakia	2014	81	38
Finland	2013	NA	540
Total		2417	2192

'NA' implies that either the question was not asked for that particular country, or the cell-size was too small.

Figure 1A: Downpayments in LLD & HFCS



Source: HFCS & LLD. Transactions from 2010-13.

Savings questions in the the HFCS – HFCS households are asked about their most important reasons for saving, with multiple answers possible. The most common reason cited is to 'provide for unexpected events' (48% of households), followed by saving for 'education/support of children or grandchildren' (31%). By comparison, a relatively small proportion of households claim to be saving 'to purchase [their] own home' (9%).¹⁷ However, conditioning on housing tenure status and age shows that amongst younger (26-39) private renters, saving for home purchase is important, with 37% of households citing it as a reason for saving.¹⁸

¹⁷See [LeBlanc \(2016\)](#) for an analysis of Irish households' savings behaviour in a European context.

¹⁸This corresponds to 729 of the 5,419 households in the survey. In population terms, this represents 214,000 households out of a total of 1.69 million, or 13%.