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Household wealth: what is it, who has it, and why it matters

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Non-Technical Summary

The Household Finance and Consumption Survey (HFCS) collects granular information on households' incomes, assets, debts, net wealth, credit burdens and spending. Granular survey data on households financial positions are increasingly important in understanding the distribution and accumulation of wealth within and across countries. The HFCS is a joint project of the national central banks of the Eurosystem and national statistical institutes, including the Central Statistics Office. The distribution of wealth, incomes and spending is crucial to understanding the differential impacts of economic shocks and recoveries across households and how their responses to changes in the economic environment affect macroeconomic aggregates.

This article presents the results from HFCS 2018, including key developments since the last survey, in 2013. While the survey was carried out prior to the outbreak of COVID-19, the HFCS data provides insight into issues relevant to the assessment of the economic impact of the pandemic on Irish households. For example, the data highlight the improved financial position and resilience of households prior to the COVID-19 crisis than was the case leading into 2008. Moreover, these data highlight distributional considerations and differences between households that align with the asymmetrical effects the COVID-19 induced economic shock has had on households, including along age, employment sector and housing tenure status dimensions.

Using data from the latest wave of the HFCS, we show that household net wealth grew by over €76,000 for the median household – or by 74 per cent – to €179,200 between 2013 and 2018. House price growth and declining mortgage debt were the primary drivers of this development.

Net wealth increased across the entire wealth distribution. Inequality, as measured by the gini coefficient, fell between waves. A key driver of this is the decline in negative equity, which fell from 33 per cent of mortgaged househods in 2013 to 4 per cent in 2018. Median gross household income surpassed its previous peak in 2007, reaching €47,700 in 2018.

In the 2018 survey, households were more resilient than they were in 2013. Debt-to-asset and debt-to-income ratios had declined. Households' financial buffers – i.e. liquid savings net of debt – had also increased. The debt service burden, which measures the percentage of income used for repaying debt, had also fallen since 2013, primarily due to rising incomes.

Spending patterns vary substantially by income. The average household spends about 80 per cent of their income on non-durable goods and services. For lower income households, the share is higher. One-in-eight housholds report having expenses *greater* than their income, similar to findings in other surveys, such as the Household Budget Survey. Typical strategies to help bridge the gap include using savings, especially for middle income households; getting help from friends and family, especially for lower income households; and using credit cards and overdrafts.

Between 2013 and 2018, the homeownership rate fell from 70.5 to 68.8 per cent of households. For buyers under the age of 40, the median age of homebuyers between

2016 and 2018 was 32. This compares with a median age of 29 for buyers who bought between 2003 and 2007.

Households in 2018 were less likely to say they were credit constrained compared to 2013. Although, more heavily indebted households in general are more likely to face credit constraints. Whilst housing wealth has grown significantly since 2013, the real economy effects of this increase are likely to be significantly less than previous episodes of increases in housing wealth, for example between 2003 and 2007. The household sector as a whole continues to inject rather than withdraw housing equity. This reflects two factors. First, the continued repayment of large debts from the early-2000s. And second, extremely low levels of equity withdrawal via remortgaging or mortgage top-ups – a practice that was far more common in the past.

Household wealth: what is it, who has it, and why it matters

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Abstract

The distribution of wealth, incomes and spending is crucial to understanding the differential impacts of econmic shocks and recoveries across households. Household wealth in Ireland increased by over €76,000, or 74 per cent, for the median household between 2013 and 2018. House price growth and declining mortgage debt were the primary drivers of this development. Median incomes grew by more than 18 per cent, while wealth inequality – as measured by the gini coefficient – fell over the five year period. The decline in the number of negative equity households – down from 33 to 4 per cent of mortgaged households – is one driver of the fall in inequality. Home ownership has fallen slightly from 2013, and the age at which households take out their first mortgage has risen. Despite wealth in 2018 exceeding the previous peak in 2007, most households are not using this wealth to fund spending or further housing investment, as was previously the case. We find that the household sector continues to inject housing equity at a rate of 10 per cent of disposable income, reflecting, amongst other factors, the continued repayment of mortgage debt taken out at the height of the credit boom in the mid-2000s.

JEL classification: D31, E21, G5 .

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1 Introduction

The Household Finance and Consumption Survey (HFCS) collects information about households' incomes, assets, debts, net wealth, credit burdens and spending. In Ireland, the survey is carried out by the Central Statistics Office (Central Statistics Office 2020). The survey is a joint project of the national central banks of the Eurosystem, the central banks of three EU countries that have not yet adopted the euro, and national statistical institutes. It includes a household questionnaire, which asks about assets, debts and spending; and a personal questionnaire, which asks about income, employment and other characteristics, such as education and age.

The second Irish survey of just under 4,800 households was conducted between April 2018 and January 2019.[1] This article presents the results from HFCS 2018, including key developments since the last survey, in 2013. When comparing changes between 2013 and 2018, it is important to be aware of the underlying economic context for the two surveys. In many ways, 2013 represented the low-point of the last recession in Ireland. House prices had bottomed-out after falling by 55 per cent from their peak; the unemployment rate peaked at just under 16 per cent in late-2012; and median disposable household incomes had fallen to €34,088 from €40,500 in 2007. In contrast, by 2018 all of these indicators had rebounded – unemployment had fallen significantly, but was still above pre-recession levels, at 5.4 per cent; household incomes had recovered some ground; and, house prices grew by 74 per cent between 2013 and 2018.

While the survey was carried out prior to the outbreak of COVID-19, the HFCS data provides insight into issues relevant to the assessment of the economic impact of the pandemic on Irish households. For example, the data highlight the improved financial position and resilience of households prior to the COVID-19 crisis than was the case leading into 2008. Moreover, these data highlight distributional considerations and differences between households that align with the asymmetrical effects the COVID-19 induced economic shock has had on households, including along age, employment sector and housing tenure status dimensions.

At the household level, headline changes between the 2013 and 2018 surveys include:

- The number of households increased from 1.69 to 1.85 million;

[1] See Lawless et al. (2015) for a summary of the 2013 results. The survey is not currently a panel, i.e. the same households are not surveyed again at a later date. Information on concepts, definitions and the sampling frame – including oversampling of wealthy households to aid precision – is provided in the CSO's extensive background notes to the survey.

- Median gross household incomes rose by almost a fifth (18.5 per cent), from €40,240 to €47,700.[2]
- Household net wealth grew by over €76,000 for the median household – or by 74 per cent - from €102,825 to €179,200.
- Increases in property values and declining property debt levels were the main drivers of improvements in the net wealth position for many households.
- Wealth inequality decreased: the gini coefficient for net wealth in 2018 was 0.67, compared to 0.75 in 2013;[3] the top 10 per cent of households held 50 per cent of total wealth, down from 53 per cent in 2013.
- A key reason for both the increase in wealth levels and decrease in inequality is the rise in house prices since 2013; this has led to a fall in the proportion of owner-occupier households with a mortgage in negative equity, from 33 per cent to 4 per cent.
- Owner-occupier home-ownership rates were marginally down, from 70.5 per cent (or 1.19 million households) in 2013 to 68.8 per cent (1.25 million households) in 2018.[4]
- The age at which households take out their first mortgage is rising. For purchases that occurred between 2003 and 2007, the median age of buyers under the age of 40 was 29; for mortgages for purchase taken out between 2016 and 2018, the median age was 32.[5]

Each section in this article describes the main components of net wealth, that is, real and financial assets, minus debt held by households. We also summarise changes in measures of household resilience, such as the debt-to-asset ratio and the debt-service burden. Given the centrality of housing wealth to overall household net wealth, the final section discusses two aspects of homeownership. First, and in the context of changing home-ownership rates over time, we describe the characteristics of recent (2014-18)

[2]Unless otherwise stated, all figures in this article relate to the median households. That is, the middle-ranking household if we ordered all households from lowest to highest income or wealth. We use the median because it provides a more representative picture than the mean (average) in this case, which can be distorted by extreme values. We use real values inflated to 2018 price levels (inflation of the 2013 figures affects comparability between 2013 figures in this paper and 2013 figues published by the CSO (here) where the 2013 figures are in current 2013 values.). Only gross income is recorded in the survey.

[3]The gini coefficient is a commonly used measure of statistical inequality. A lower value indicates a more equal distribution of wealth. The gini coefficient for the euro area in 2017 was 0.695 (see Appendix Table 12). In contrast the gini coefficient for income in Ireland was 31.8 in 2013 down to 29.7 in 2018 (CSO, SILC, 2018).

[4]The total number of households in the State increased from 1.69 to 1.85 million between 2013 and 2018. Hence, the absolute number of owner-occupier households is higher in 2018, but the homeownership rate is lower.

[5]This is consistent with findings in Kelly et al. (2018) and Central Bank of Ireland (2019).

home-buyers/owners. Finally, we consider the real consequences of increased wealth for household spending behaviour.

2 Wealth – what is it and who has it?

This section describes the composition of household balance sheets in 2018, and how they have changed since 2013. We build up the picture from the three components of *net* household wealth: (i) real assets; (ii) financial assets; and (iii) debt.

2.1 Real Assets

Real assets are items of value owned or part-owned by a household, and are divided into five categories here: (1) the household main residence ('HMR', i.e. owner-occupied property); (2) other property (including land); (3) vehicles; (4) other valuables; and, (5) self-employment business wealth. In 2018, real assets accounted for 84 per cent of total gross household wealth (before subtracting debt), financial assets made up the rest. However, for the median household, the share of real assets in gross wealth was higher, at 94 per cent.

For the household sector – i.e. summing across all households – the total value of real assets grew by €240 billion between 2013 and 2018, to €667.4 billion. As Figure 1a shows, the increased value of property – both the HMR and non-HMR property – accounts for much of this increase (€173 billion). As the overall home-ownership rate has changed little during this period – actually falling by 1.7 percentage points – this increase in the *aggregate* wealth of households is driven entirely by price changes. That is not to say individuals or sub-groups are not moving in or out of homeownership – they are, as we explain below – rather, for the aggregate picture, it is all about house prices.

The bottom 20 per cent of households by gross wealth tend to hold very few property assets, as the right-hand panel in Figure 1b shows. As such, these households have benefited little from the increase in house prices. Table 1 shows the percentage of households holding a type of real asset, and the conditional median value of that asset, at the household level. For most real asset categories, the percentage of households holding each asset is broadly unchanged since 2013. The percentage of households reporting 'valuables' as a real asset has increased from 61 to 79 per cent, but this accounts for a very small share of household wealth.

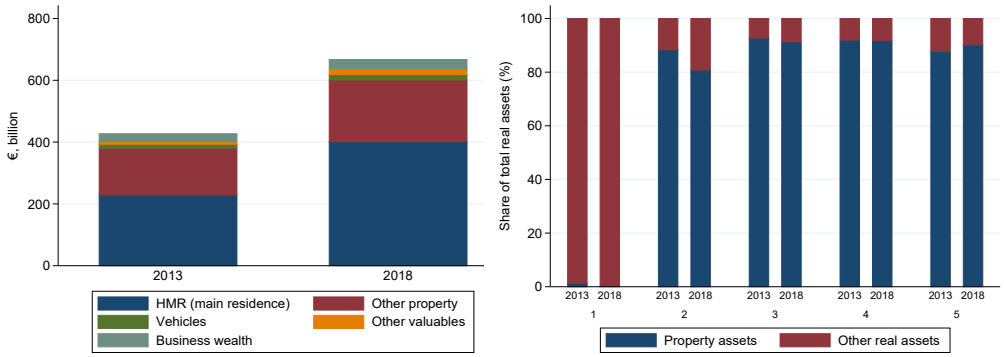
In line with the increase in house prices, the conditional median value of property in the survey has increased by almost €100,000 between 2013 and 2018, from €151,700 to €250,000. For the median household (Table 1), the value of 'Other Property' has

increased by a similar amount. However, as 'Other Property' can cover multiple holdings, including land, the median value for a household, conditional on ownership, tends to be higher (€285,000 in 2018).[6] Conditional on holding it (18 per cent of households), self-employment business wealth increased from around €10,000 to €23,000.

Figure 1. Real Assets

(a) Aggregate value of real assets

(b) Property and non-property real asset share (%), by quantile of gross wealth



Notes: 'HMR' refers to ownership of the 'Household Main Residence'. In other words, owner-occupied property. Income is gross income. Business Wealth refers to self-employment business wealth. All 2013 values have been inflated to 2018 prices using the annual Consumer Price Index. In the chart on the right, 'Property assets' is the sum of HMR and non-HMR property.

Table 1. Percentage of households holding a real asset type and conditional median values

	HMR	**Other property**	**Vehicles**	**Valuables**	**Self-employment business wealth**
Participation					
2013 (% households)	70.5	23.0	82.5	61.0	20.2
2018 (% households)	68.8	20.8	78.8	79.0	17.7
Median value					
2013 (€'000s)	151.7	200.0	6.0	3.2	10.0
2018 (€'000s)	250.0	285.0	8.0	5.0	23.0

Notes: 'HMR' refers to ownership of the 'Household Main Residence'. All 2013 values have been inflated to 2018 prices using the annual Consumer Price Index.

[6] Just over half of other property wealth is accounted for by farm land, another third is accounted for by residential dwellings for rent with the remainder split between holiday homes and commercial property.

2.2 Financial Assets

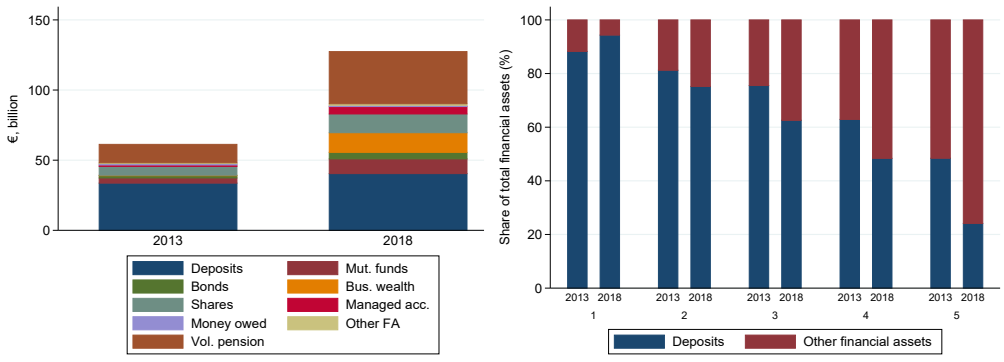
For this article, financial assets are divided into nine categories: (1) Deposits – including both current and savings accounts/products; (2) Mutual funds; (3) Bonds; (4) Non self-employment business wealth; (5) Publically traded shares; (6) Managed accounts; (7) Money owed to the household; (8) Other financial assets; and (9) Assets in voluntary pension plans. The survey does not record or impute any values of public or occupational pension plans.[7]

The left panel in Figure 2 shows the breakdown of financial assets for the entire household sector. Deposits account for the largest share of total financial wealth in 2018, 31.7 per cent. This is down from 54.9 per cent in 2013, despite an increase in total and median deposit amounts (Table 2). Over 90 per cent of households had deposits in 2018. It is important to acknowledge that deposit values tend to be under-recorded in the survey, as Cussen et al. (2018) showed using the 2013 wave. This earlier work showed that under-reporting appears to be broadly similar across characteristics – for example, ages, regions and types of deposits – and across the wealth distribution, which indicates that the data is still informative about the distribution of deposit-based financial wealth in the population.

Figure 2. Financial Assets

(a) Aggregate value of financial assets

(b) Households with an asset (%), by quantile of gross wealth



Notes: 'Mut. Fund' is mutual fund wealth. 'Bus. Wealth' refers to non self-employment business wealth. 'Vol. pension' are voluntary pension plans, including whole life insurance assets. 'Other FA' are other financial assets All 2013 values have been inflated to 2018 prices using the annual Consumer Price Index.

The value of all other types of financial asset holdings had increased in the five years to 2018. Both increased participation (in the case of bonds and voluntary pensions) and prices/values are behind this increase. Whilst the increased value of financial assets is

[7] In Pensions terminology, the survey collects information on the value of Pillar 3 (voluntary) pension assets, but not Pillar 1 (public) or Pillar 2 (occupational) pensions.

apparent right across the gross wealth distribution, wealthier households tend to hold a more diverse set of financial assets (Figure 2b), i.e. both pension and other assets, alongside deposits. In the section below on Net Liquid Assets – which subtracts non-collateralised debt from liquid financial assets – we consider whether the stock of liquid savings had changed across the age distribution between 2013 and 2018.

Table 2. Percentage of households holding a financial asset type and conditional median values

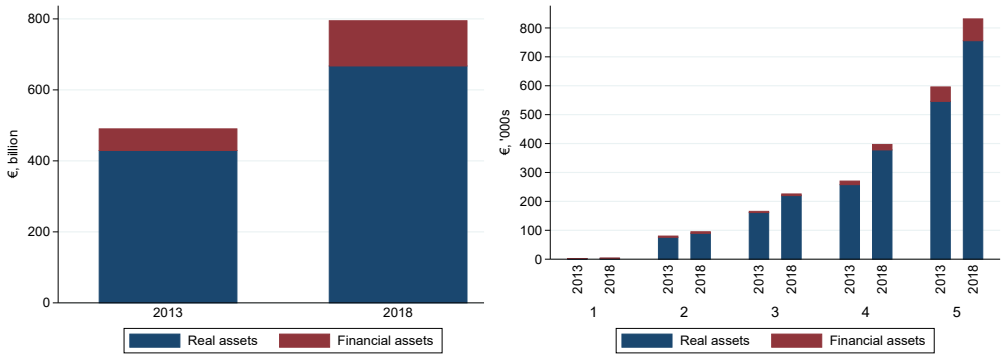
	Deposits	Mutual funds	Bonds	Business wealth	Shares	Managed accounts	Money owed	Other FA	Voluntary pension
Participation									
2013 (% households)	93.9	3.3	4.5	0.6	13.1	0.4	5.4	0.6	10.0
2018 (% households)	94.6	3.5	7.2	1.2	10.4	1.9	2.7	0.9	15.2
Median value									
2013 (€'000s)	3.8	20.0	2.8	0.0	4.0	22.0	1.4	8.0	44.7
2018 (€'000s)	5.0	46.0	2.0	100.0	10.0	45.0	3.3	11.0	50.0

Notes: All 2013 values have been inflated to 2018 prices using the annual Consumer Price Index.

Figure 3. Total gross assets = Real assets + Financial assets

(a) Aggregate value of total assets

(b) Median real and financial assets, by quantile of gross wealth (2018)



Notes: See notes for 1 and 2 for a description of the variables. All 2013 values have been inflated to 2018 prices using the annual Consumer Price Index.

Putting real and financial assets together, Figure 3a shows the composition of total *gross* assets. In 2018, real assets accounted for 84 per cent of gross wealth. The right hand-panel shows the median values of real and financial assets by gross wealth quantile.

Households in the bottom of the gross wealth distribution tend to be younger and lower income households on average. They are also far less likely to be homeowners, with a homeownership rate of just one-in-a-thousand. The homeownership rate in the third, fourth and fifth gross wealth quintiles is over 95 per cent. This pattern of wealth and homeownership changes somewhat when we take account of debt to estimate net wealth, as the next section shows.

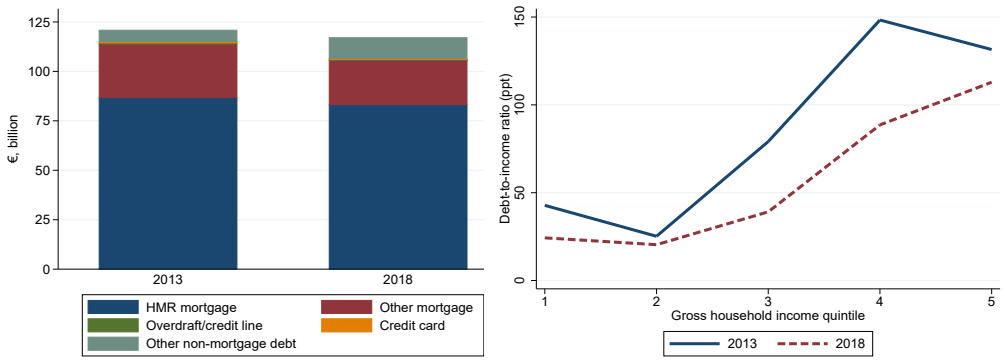
2.3 Debt

Net wealth is equal to gross wealth minus debt. Figure 4a shows five categories of debt: (1) Mortgages on the Household Main Residence (HMR); (2) Other mortgage debt; (3) Credit lines/overdraft debt; (4) Credit card debt; and, (5) All other non-mortgage debt. Credit card debt refers to balances carried forward from month-to-month, i.e. where interest payments apply.

In 2018, 51.8 per cent of households held some form of debt, down from 56.8 per cent in 2013. The largest drop is in the 30-35 age bracket, where the proportion of households with any debt fell by over 10 percentage points, from 64.4 to 54.3 per cent. Only the under 25s and 60 to 65 year olds had seen an increase in the proportion of households with debt, both of under 5 percentage points. In aggregate terms (Figure 4a), total debt had fallen from €120.0 to €117.0 billion over the five years, with significant declines in mortgage debt (-€8.2 billion) offsetting the €4.8 billion rise in non-collateralised 'other' debt, which does not include credit cards or overdrafts. At the median, and conditional on having the debt, HMR mortgage debt fell by €5,400 (Table 3). Non-HMR mortgage debt had risen amongst the small proportion of households that hold this debt, 7.3 per cent in 2018.

Figure 4. Debt Composition

(a) Aggregate value of debt (b) Debt-to-income ratio



Notes: Income is gross income. Credit card debt refers to interest payable balances only. The debt-to-income ratio refers to the stock of all outstanding debt a household owes in 2013 and again in 2018.

Non-collateralised 'other' debt, which does not include credit cards or overdrafts, had increased since 2013. The proportion of households holding this debt was up marginally, from 29.6 to 30.4 per cent. This disguises considerable variation between age-groups. Amongst younger- to middle-aged households, the proportion holding non-collateralised debt was up from 35 to 40 per cent; whereas in the 65+ age-group, the proportion had fallen from 14 to 12 per cent (see Figure 5b). This category of debt tends to be low-value, €6,200 for the median household in 2018. It also covers a wide range of 'purposes' – including home improvement, purchasing other property, covering living expenses, buying vehicles, business investment, debt consolidation, funding education, and, supporting friends and family. However, the most common self-reported purposes are purchasing of vehicles, home improvement and covering living expenses, in that order. Lending for vehicle purchase jumped significantly since 2013 for the 30-45 age group in particular. The (conditional) median monthly repayment on non-collateralised loans for this age group increased by €60 in 2018 compared to 2013, €300 versus €240. Furthermore, as we discuss in more detail below, the burden of this repayment is even lower still because the median income for this group had increased significantly from €47,264 to €58,000 (or 22.7 per cent).

Table 3. Percentage of households holding a debt and conditional median values

	HMR mortgage	Other mortgage	Overdraft/ credit line	Credit card	Other non-mortgage debt
Participation					
2013 (% households)	33.9	5.9	9.2	17.5	29.6
2018 (% households)	26.1	7.3	7.9	12.7	30.4
Median value					
2013 (€'000s)	130.4	140.0	1.0	1.4	5.0
2018 (€'000s)	125.0	152.0	0.8	1.3	6.2

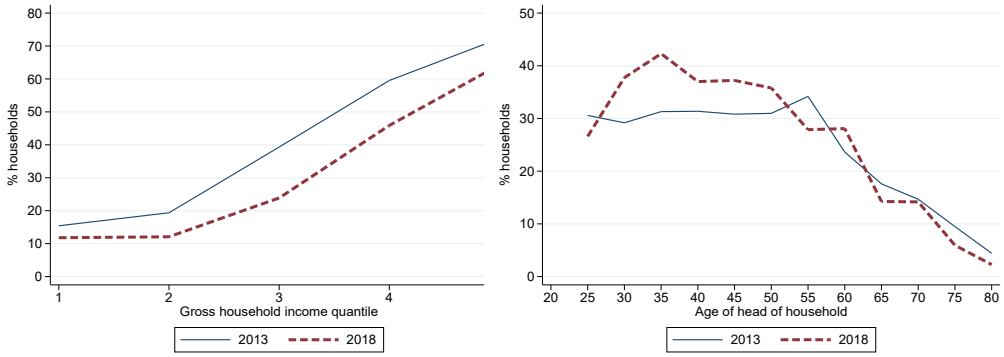
Notes: 'HMR' refers to ownership of the 'Household Main Residence'. All 2013 values have been inflated to 2018 prices using the annual Consumer Price Index.

The left panel in Figure 5 highlights an important aspect of the overall debt reduction narrative: less new debt being taken out by households. Whilst households with outstanding debts have paid down some of this debt (this is explored in the next section), an important reason for the lower debt we observe in 2018 is that fewer households are becoming indebted. This is particularly the case for mortgages, and for households in the middle of the income distribution.

Figure 5. Mortgage debt by income and non-mortgage debt by age

(a) Households under-40 with an HMR mortgage (2013/18, per cent) by quintile of gross income

(b) Households with repayments on non-collateralised debt (per cent)



Notes: HMR refers to the 'Household Main Residence', i.e. owner-occupier mortgage debt. Non-collateralised debt covers overdrafts, credit lines, credit cards, personal loans and other debt.

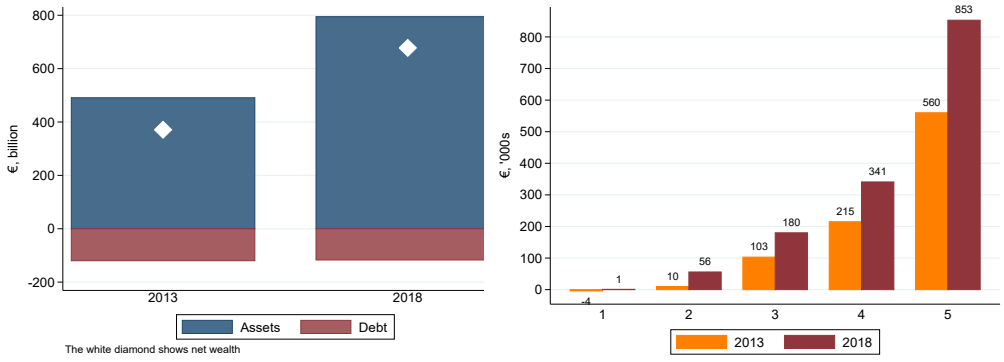
3 Net Wealth

Net wealth is equal to gross wealth minus debt. Figure 6 shows the components of net wealth in 2013 and 2018 for the household sector as a whole. Whilst debt had fallen over the period, the scale of the increase in assets, and property assets in particular, drove the large increase in net wealth. Table 4 summarises net wealth in 2013 and 2018 according to household characteristics.

Figure 6. Net wealth = Total assets – Total debt

(a) Aggregate net wealth

(b) Net wealth (median), by net wealth quintile



Notes: See notes for Figures 1-4 for a description of the variables and underlying components.

In the case of the Irish HFCS, comparing the distribution of net wealth across periods is complicated by two factors. First, it is well known that adjustments to the

gini coefficient in the presence of negative values can have large non-linear effects on comparisons of statistical measures of inequality between periods; see Chen et al. (1982). In the case of Ireland, where negative equity is down from 33 to 4 per cent of HMR mortgage households, this is particularly apt.

The other important change since 2013 is how the CSO over-samples wealthy households, which is necessary to provide an accurate characterisation of wealth across all households.[8] The oversample for the 2013 survey was based solely on deprivation/affluence measures derived from income; whereas the 2018 survey used both deprivation/affluence measures and information on areas with high-ownership rates and high Local Property Tax (LPT). It is reasonable to expect that the 2018 sample frame does a better job of capturing wealthier households.

With these provisos in mind, Table 5 summarises a range of statistical inequality measures for net wealth. We use data from both the 2013 and 2018 HFCS surveys. We also include results from the 1987 Survey of Income Distribution, Poverty and Usage of State Services (see Nolan (1991)). Since 2013, the Gini coefficient on wealth has declined from 0.75 to 0.67. Furthermore, if the over-sampling in 2018 does indeed do a better job of capturing wealthy households, then the change could understate the fall in inequality.

Across most indicators, Ireland also had lower levels of inequality than the rest of the euro area.[9] The increase in the gini coefficient since the late 1980s largely reflects growing mortgage indebtedness amongst middle- and lower-wealth households, as shown in Lydon (2015).

The combination of rising house prices and debt repayment has reduced the prevalence of negative equity. This is highlighted in Figure 7, which plots the percentage of households in negative equity by year of HMR loan in the two waves. As might be expected, the biggest falls are for those households who took out mortgage debt when house prices peaked, between around 2005 and 2009. For this buyer cohort, the average conditional value of negative equity in 2013 was €80,000; in 2018, it was €40,000. Most importantly, however, the *prevalence* of negative equity in this group has fallen from 50 to 8 per cent of households.

[8] Over sampling wealthy households is an important aspect of wealth surveys where wealth in the very top of the distribution tends to be characterised by large variations in wealth holdings within this cohort.

[9] References to the 'euro area' in this article exclude Ireland and Spain, unless otherwise indicated. Whilst published results for the third Spainish wave (2016) are available, the underlying household survey data for is not yet available. Hence, comparisons across characteristics such as age are not possible.

Table 4. Net wealth by household characteristic (€000s)

	Median			Mean		
	2013	**2018**	***Change***	**2013**	**2018**	***Change***
All households	102.8	179.2	*76.4*	221.1	365.5	*144.3*
Size household						
1	76.1	144.7	*68.6*	153.3	274.1	*120.8*
2	125.7	220.1	*94.3*	242.0	389.5	*147.5*
3	98.3	126.4	*28.1*	218.7	334.3	*115.6*
4	102.6	224.8	*122.2*	234.6	457.9	*223.3*
5+	107.9	205.7	*97.8*	278.8	428.5	*149.7*
Age*						
<=20	3.0	11.0	*8.0*	13.6	78.4	*64.7*
21-30	4.1	17.0	*12.9*	34.8	180.0	*145.3*
31-40	27.1	91.2	*64.2*	120.0	247.7	*127.7*
41-50	161.5	235.0	*73.5*	284.6	424.1	*139.5*
51-60	201.8	287.8	*86.0*	356.3	539.7	*183.4*
61-70	210.8	282.0	*71.2*	380.3	452.5	*72.3*
70+	190.6	236.5	*45.9*	311.6	401.0	*89.4*
Education*						
Primary	124.9	150.2	*25.3*	251.7	269.2	*17.6*
Secondary	100.9	165.0	*64.1*	208.5	320.2	*111.7*
Post-secondary	82.4	220.6	*138.2*	227.8	442.1	*214.3*
Housing tenure status						
Outright owner	244.3	333.0	*88.7*	409.4	573.4	*164.0*
Mortgage owner	90.2	231.9	*141.7*	182.4	402.5	*220.2*
Renter or other	3.6	6.5	*2.9*	32.0	49.9	*18.0*
Work status*						
Employee	59.3	152.0	*92.7*	155.1	299.7	*144.6*
Self-employed	399.4	519.9	*120.5*	630.5	958.2	*327.7*
Unemployed	4.1	6.0	*1.9*	51.6	162.2	*110.6*
Retired	192.1	261.0	*68.9*	303.2	407.6	*104.4*
Other not working	17.4	27.4	*10.0*	98.9	152.4	*53.5*
Percentile of income						
Less than 20	72.9	97.0	*24.1*	126.2	176.4	*50.3*
20-39.9	51.2	127.9	*76.7*	139.0	210.6	*71.5*
40-59.9	82.5	124.0	*41.5*	170.0	273.9	*103.9*
60-79.9	112.6	217.9	*105.3*	233.3	380.3	*147.0*
80-89.9	145.7	329.0	*183.3*	308.4	632.2	*323.7*
90-100	292.8	578.6	*285.8*	566.4	944.2	*377.8*
Percentile of net wealth						
Less than 20	-4.4	1.2		-38.5	-8.9	
20-39.9	10.4	56.4	*46.0*	15.7	59.1	*43.4*
40-59.9	102.9	179.5	*76.6*	102.0	181.2	*79.2*
60-79.9	215.5	340.7	*125.2*	223.2	353.8	*130.6*
80-89.9	404.8	627.3	*222.5*	417.8	644.4	*226.6*
90-100	921.2	1362.6	*441.4*	1189.8	1845.2	*655.4*

Notes: (*) refers to the age, education or work status of the household reference person (HRP). In the background notes to the survey (CSO, 2020), the HRP is "considered to be the person who is most knowledgeable about the financial situation of the household and provides the financial information for the whole household, since this information is collected together for the whole household instead of by individual members. […]No specific direction is given as to who is to be taken as the reference person of the household, but it has to be an adult member".

Table 5. Distribution of net wealth – inequality indicators

	1987	2013	2018	2017/18
	Ireland	**Ireland**	**Ireland**	**Euro area**
p90/p10	NA	-127.8	707.6	481.3
p90/p50	NA	5.4	4.7	5.5
p10/p50	NA	-0.042	0.007	0.011
p75/p25	NA	63.0	13.6	20.9
Gini coefficient	0.52	0.75	0.67	0.69
Share of wealth in…				
Bottom 50%	12.2%	4.5%	6.8%	4.60%
Bottom 70%	28.5%	17.1%	20.7%	18.6%
Top 30%	71.5%	82.9%	79.3%	81.4%
Top 10%	42.3%	53.0%	50.4%	51.7%
Top 5%	29.0%	36.0%	36.0%	37.7%
Top 1%	10.0%	12.1%	14.9%	17.8%

Notes: The euro area excludes Ireland and Spain. Data for 1987 for Ireland is from Nolan (1991). The underlying household data from Nolan (1991) was not available to generate the wealth ratios by quantile for the 1987 data. Table A1 in the appendix shows statistical indicators of wealth inequality for individual countries in 2017/8.

Figure 7. Negative equity on household main residence by year of loan

Notes: Data refers to Household Main Residence (HMR) only. Negative equity households are those where the outstanding mortgage debt on the HMR exceeds the value of the home, as reported by the household reference person.

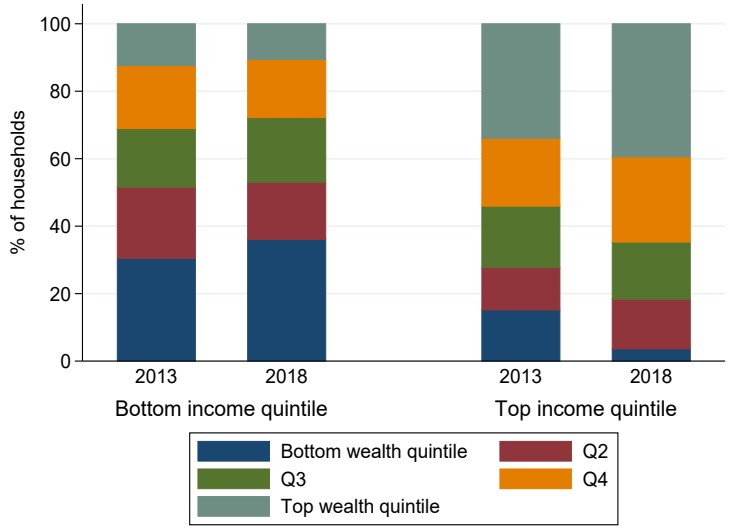
Income and wealth are closely linked. For example, higher income households might be able to save more and accumulate wealth. Higher income households may also face

fewer borrowing constraints, which could also impact wealth accumulation over the life-cycle. Jantti et al. (2013) discuss factors influencing the joint distribution of income and wealth in some detail. In the case of Ireland, we observe the following:

- The correlation coefficient between the log of net wealth and log of net income[10] is very similar to that for other countries, 0.33 in 2013 and 0.41 in 2018. The correlation coefficient for other European countries in the 2017/18 HFCS ranges from 0.30 to 0.60. CEE and Baltic countries tend to be clustered towards the bottom of this range, with countries such as France, Germany and Luxembourg towards the top of the range.
- The relatively weaker correlation between income and net wealth in the 2013 wave is driven by the large proportion of negative equity households at this time. Whilst these households tend to have higher incomes on average, they clustered in the bottom of the net wealth distribution in 2013.
- The tendency for relatively lower (higher) income households to also be relatively lower (higher) net wealth households, and vice-versa, is illustrated in Figure 8. In 2018, over 50 per cent of households in the bottom of the income distribution were also in the bottom two quintiles of the net wealth distribution. The opposite is true for high income households, nearly 65 per cent of whom are in the top two quintiles of the net wealth distribution.
- To a large extent, the correlation between wealth and income reflects life-cycle patterns common to both. High-wealth (quintile 5), low-income (quintile 1) households tend to older on average, with almost two-thirds in this group aged 60-plus. The opposite is true for low-wealth (quintile 1), high-income (quintile 5) households: over 60 per cent of this group are under the age of 35.

[10] Household income includes both labour and asset income.

Figure 8. Joint distribution of net wealth and income

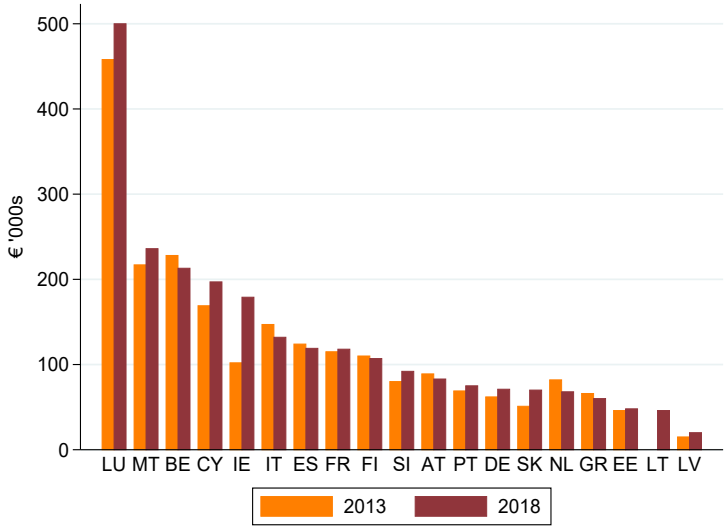


Notes: The chart shows the percentage of households in each quintile of the (equivalised) net wealth distribution, depending on whether or not they are in the bottom (first two columns) or top (second two columns) quintile of the (equivalised) gross income distribution (*) We use OECD equivalence scales for both gross income and net wealth at the household level. This scale adjusts values for size of household. It is a sum of the weight for each household member, where the head gets a weight of 1.0, 0.7 to the second and subsequent adult and all children over the age of 14, and 0.5 for each other child under-14.

3.1 Net wealth in the Euro Area

Net wealth for the median household in the euro area decreased 0.5 per cent between 2014 and 2017. In 2018, Ireland was the fifth wealthiest EA country (Figure 9), by median net wealth in the HFCS. Whilst Ireland experienced the largest rise in net wealth levels, other countries such Luxembourg, Malta and Cyprus also saw large rises. The median household in Belgium, Italy, Spain, the Netherlands and Austria saw their net wealth levels decline, in the main reflecting increasing household indebtedness in these countries.

Figure 9. Median net wealth in the Euro area

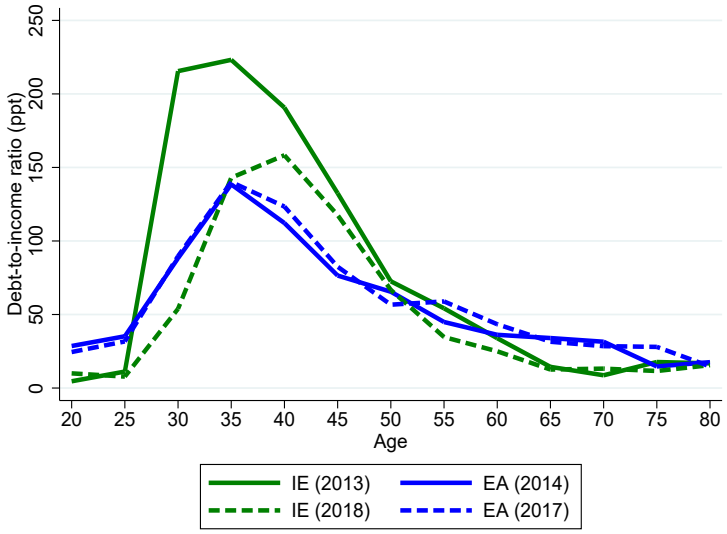


Notes: HFCS. Figures are inflated to 2018 prices.

Housing tenure status is an important factor in determining the level of net wealth, both in Ireland and across the euro area. However, countries with higher rates of homeownership also typically have more equal distributions of wealth, i.e. there is a negative correlation between measures of inequality like the gini coefficient and the homeownership rate. With a homeownership rate of 68.8 per cent and a gini coefficient of 0.67 for net wealth, Ireland is in the middle of the range compared to other European countries (see Appendix Table 12).

The 2013 survey highlighted the relatively higher debt-to-income ratios of Irish households compared to other euro area countries. By 2018, this ratio had declined significantly, and was broadly in-line with that for other countries (Figure 10). The largest debt-to-income decline is for households where the reference person is aged between 30 and 49. Approximately half of the (proportionate) decline is attributable to lower debt levels, and half to higher incomes. The decline in debt levels is itself a combination of debt repayment by households, plus fewer households taking on mortgage debt in the first instance. That latter, in particular, is consistent with findings in Central Bank of Ireland (2019).

Figure 10. Debt-to-income ratio (for households with debt)



Notes: EA: Euro area, excluding Ireland and Spain.

Whilst home-owners have benefitted most in Ireland relative to the rest of the EA, it is not the case that renters have not benefitted at all. Comparing changes in (median) net wealth by tenure status (Table 6) show that even households without any housing wealth experienced relatively larger wealth increases, when compared to non-owner Euro area households.

Table 6. Change in net wealth, HFCS waves 2 and 3

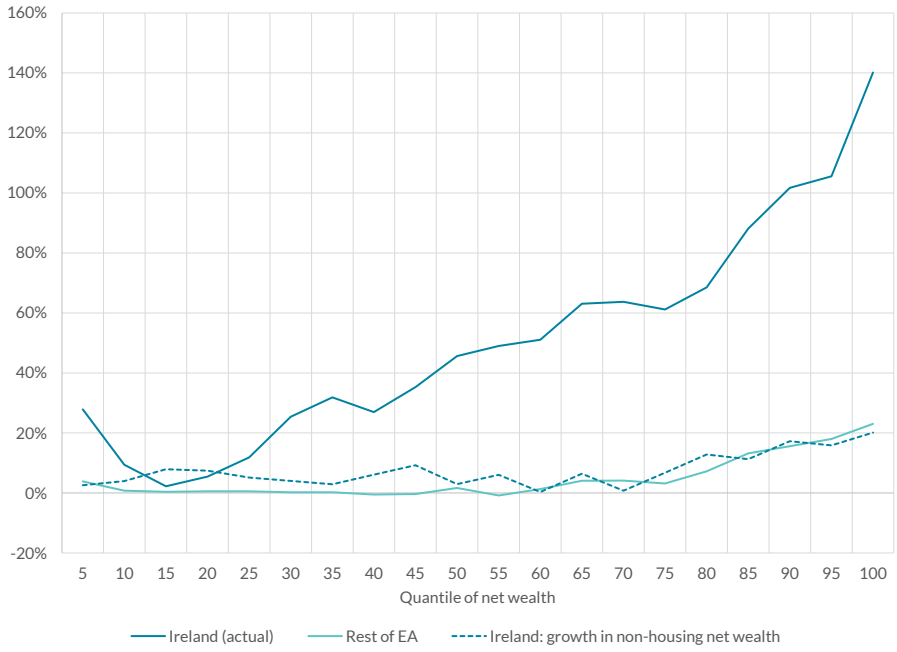
	EA	**Ireland**
Outright homeowner	-€132	€91,391
Mortgage homeowner	€18,260	€142,687
Other tenure	€115	€2,961

Notes: EA: Euro area, excluding Ireland and Spain. Change for the Euro area is from 2014-2017 for most countries, for Ireland 2013-18. All values in 2018 price levels. Change in medians.

Finally, we compare the distribution of wealth changes (on an annual basis) in Ireland with those across the euro area. Figure 11 shows the average annual growth in wealth as a percentage of income at different quantiles of the wealth distribution. To filter out level differences due to country fixed effects, such as the level of incomes or house prices, we divide wealth changes by income for that quantile in 2013. Reflecting the aggregate differences in Figure 9, growth in the wealth of Irish households dwarfs that for the rest of the euro area, right across the distribution. The U-shape at the bottom of the Irish distribution reflects the large increase in wealth for households in negative equity, who were in the bottom quantiles in 2013.

House price changes can explain the vast majority of differences we observe between Ireland and the euro area. This is illustrated by the dashed blue line in Figure 11. This line plots the growth in *non-housing* wealth relative to income, across the distribution. Increases without housing and house prices are much more in line with euro area trends.

Figure 11. Average annual growth in net wealth as a percentage of income, by quantile of the net wealth distribution



Notes: Change for the Euro area is from 2014-2017 for most countries, for Ireland 2013-18. All values in 2018 price levels. The dotted line is the change in *non-housing* wealth per year between 2013 and 2018, divided by 2013 income for each quantile.

4 Discussion: Real economy implications of changes in household finances

This section discusses what the changes in household finances between 2013 and 2018 might mean for the real economy, focusing on four areas. First, we assess what improvements in leverage and repayment burdens mean for household financial resilience. Second, we examine the prevalence of regular expenses outstripping gross incomes in the HFCS, and the strategies households employ to meet expenses in this situation. Third, and in recognition of the large part that home ownership plays in net wealth in Ireland, we summarise the characteristics of those households that became

new homeowners in recent years. Finally, we consider the implications of housing wealth increases for household spending, looking at both pure wealth effects as well as the collateral channel of housing wealth.

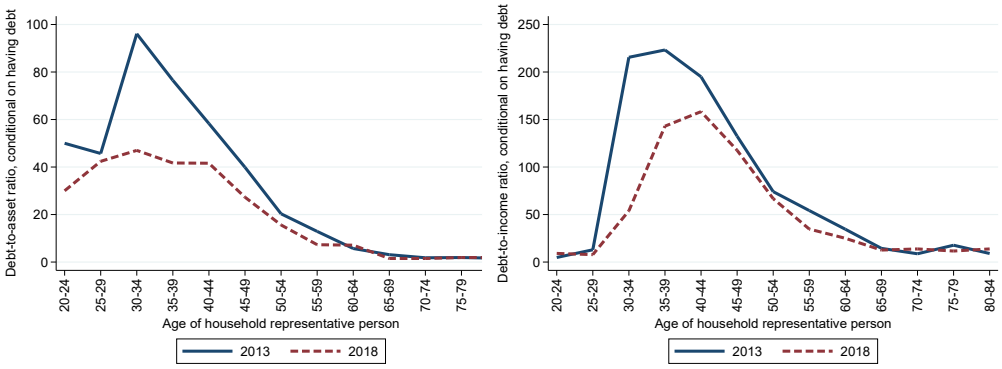
4.1 Household leverage, repayment burdens and financial buffers

A combination of deleveraging and rising asset (house) prices, has led to a large fall in the debt-to-asset ratio. For the median indebted household, the debt-to-asset ratio has fallen by just over 16 points – from 38.5 to 22.6. The largest drops are for households between the ages of 30 and 49 (Figure 12). Whilst rising house prices play an important role here, repayment of debt is also a factor. Within the 30-49 age group, debt for the median household has fallen by over €22,000, or 18 per cent.

The evolution of the debt-to-(gross) income ratio[11] follows a similar pattern (right panel in Figure 12). At the median, the ratio has fallen by over 35 points, from 102.1 to 66.7. The almost 20 per cent rise in household incomes, alongside reducing debt levels, is a key factor. Once again, the changes are most significant for 30 to 49 year olds.

Figure 12. Debt-to-asset / Debt-to-income ratio (median, for indebted households)

(a) Debt-to-asset ratio, by age (b) Debt-to-income ratio, by age



Notes: Conditional on having debt. Debt, assets and income as at the survey year.

The debt-service burden, typically measured as the ratio of debt servicing costs (i.e. repayments) to income has fallen since 2013, both for all types of debt (Figure 13, left panel) from 12.9 per cent to 10.9 per cent and HMR mortgage debt (right panel) from 14.9 per cent to 12.0 per cent for the median household. The decline in the HMR debt-service burden is due to a combination of both rising incomes (for all age groups) and

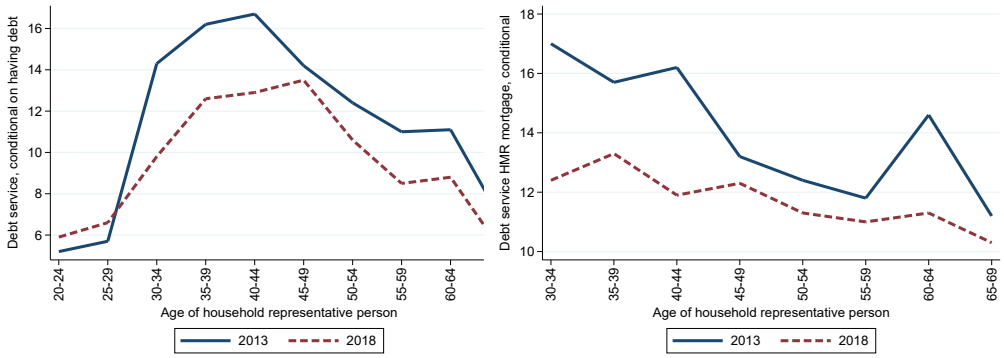
[11]The debt-to-income (or DTI) ratio measures value of debt in the survey year (2013, 2018) relative to gross income in that year. Not to be confused with the mortgage measures loan-to-income ratio which compares the originating debt value to gross income when a mortgage is taken out.

falling payments (for younger cohorts in particular) – although rising income is the main driver.

Figure 13. Debt-service ratio (median, for indebted households)

(a) Debt-service ratio, all debt (%) by age

(b) Debt-service ratio, HMR mortgage debt (%) by age



Notes: Debt-servicing costs as a percentage of gross income, conditional on having debt. Repayments and income as at the survey year.

4.1.1 Financial buffers

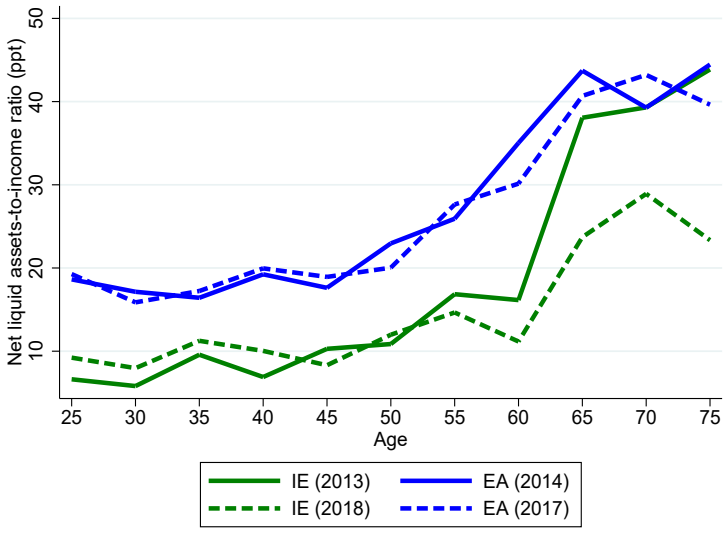
The value of net liquid assets – defined as the sum of liquid assets (deposits, mutual funds, bonds, non self-employment business wealth, shares and managed accounts) less non-collateralised debt (overdrafts/credit lines, credit cards and other non-mortgage loans) – is a commonly used financial buffer metric.

The proportion of households with some net liquid assets increased from 69.1 to 72.6 per cent of households between 2013 and 2018. This is lower than households in the rest of the euro area, at 80.1 per cent. In some countries, such as the Netherlands, Belgium and Austria, the figure can be as high as 90 per cent of households.

Reflecting the rise in deposits in the main, the median value of net liquid assets had increased from €2,000 (5.1 per cent of annual income) to €3,000 (6.4 per cent of income) between 2013 and 2018. In the rest of the euro area, the ratio of net liquid assets to income is 7.6 per cent.[12] Older households (age 65-plus) tend to hold larger stocks of liquid assets relative to their incomes (Figure 14). This is both because their incomes tend to be lower – around half the level of households aged under-65 – and because they tend to hold more liquid savings – more than double that of under-65 households.

[12]The under-reporting of Irish deposits here biases the value of net liquid assets in Ireland down, compared to other euro area countries. For example, when comparing HFCS 2013/2014 data to national accounts data across the euro area, Cussen et al. (2018) find Belgium has close to 75 per cent coverage and the Netherlands close to 50 per cent whereas Ireland has closer to a 25 per cent coverage rate.

Figure 14. Net liquid assets (NLA) to income ratio (%), by age



Notes: Euro area excludes Ireland and Spain.

4.1.2 Financial buffers and debt

As well as net liquid assets to income, the ratio of net liquid assets to debt repayments can provide an indication of financial resilience amongst indebted households. In the past, a lack of financial buffers in the face of negative income shocks proved challenging for many of these households. Here, we focus on HMR debt.

We divide households into six HMR debt-service buckets, as in Table 7. Both the number and share of 'high' debt service households (where repayments are more than 30 or 40 per cent of gross income) has declined significantly since 2013, reflecting the pick-up in incomes as a result of employment growth.

Table 7. Debt-service on HMR, number and share of households

	2013		2018	
Debt service	**Number**	**Share (%)**	**Number**	**Share (%)**
<5%	37,828	6.6	26,984	7.6
5-<10%	117,829	21.1	145,275	27.4
10-<20%	230,560	40.35	210,943	44.7
20-<30%	108,035	17.9	60,373	11.9
30-<40%	36,244	6.2	16,704	3.5
40%+	41,977	8.0	23,058	5.0
Total HMR mortgage households	**572,474**		**483,337**	

Notes: The debt-service ratio measures mortgage repayments as a percentage of gross income (monthly).

Combining the information on net liquid assets and debt service, Table 8 shows the proportion of households in each debt-service bucket in 2018, where savings account for at least three mortgage payments. The basic idea is to ascertain how indebted households might cope with a negative income shock. Lower debt-service households tend to hold more liquid savings in relation to their mortgage repayments – two-thirds have savings of at least three times their regular mortgage repayments. They also tend to be higher income households.

The highest debt-service households tend to have lower incomes, but also hold significant liquid assets relative to mortgage payments. In fact, over two in five (42.2 per cent) of these households have savings of at least three times their monthly mortgage repayment.

Table 8. Net liquid assets (NLA) to HMR debt repayments (mort) ratio, by HMR debt-service ratio bucket (2018)

	% hhlds where NLA/MORT>=3	Median income	Median MORT	Median NLA
<5%	67.8	103,700	264	5,000
5-<10%	63.2	102,000	638	7,000
10-<20%	50.4	81,800	932	3,000
20-<30%	41.2	48,000	950	1,000
30-<40%	38.5	33,000	1,000	1400
40%+	42.2	20,000	1,200	1,200

Notes: HFCS 2018. The debt-service ratio measures mortgage repayments as a percentage of gross income (monthly). 'NLA' stands for Net Liquid assets, 'MORT' is the median monthly mortgage repayment within each debt-service bucket.

4.2 Beyond indebted households

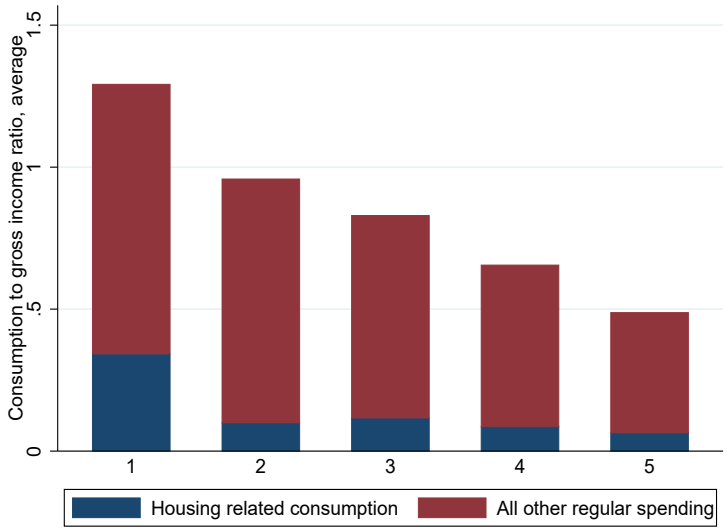
The survey contains some information on household spending. Following Le Blanc & Lydon (2019) we use the Houshold Budget Survey (HBS) alongside the consumption information in the HFCS to impute total spending for HFCS households in 2018.[13] The gross income share that households regularly spend on goods, non-housing services (including food and utilities but excluding spending on durables and insurance products) and housing services (rent and mortgage payments) varies substantially by income (see

[13]The approach is analagous to an engel curve, where, instead of analysing how expenditure varies by income, we look at how total expenditure in the HBS varies with expenditure on a given set of items (food and beverages in the home/outside of the home, utilities, and holidays/travel). These individual items are recorded accurately in the HFCS. And we use the engel curve weights estimated from the 2016 HBS to impute total spending in the HFCS.

Figure 15). The average household spends 80 per cent of gross income on goods, services and housing with those in the bottom income quantile, on average, spending more than their gross income on regular expenses and those in the top quantile spending slightly less than half of their gross income on regularly consumed goods and services. This pattern has not changed substantially between the two waves of the HFCS.

The number of outright owners, who do not have mortgage or rent payments, are spread fairly evenly across the income distribution. Housing costs can be a substantial portion of regular household spending for mortgaged and renter housholds. Households spend 14 per cent of gross income on housing, on average. This increases to 17 per cent and 31 per cent of gross income for mortgaged and renter households, respectively.

Figure 15. Ratio of regular expenses to gross income, by gross income quantiles (2018)



Notes: HFCS 2018. Regular expenses include food, utilities etc. and exclude durables (e.g. cars), rent, loan repayments, insurance policies, home improvements, etc. Housing services include rent and mortgage payments.

The survey also asks whether regular expenses (excluding regular housing-related services) are higher, about the same, or lower than household income. Figure 16a plots the share of households in each category by income decile. The likelihood of expenses being less than income increases with income level. Across all households, 45 per cent say expenses are around the same as income, 40 per cent say they are less than incomes, and 13 per cent more than incomes.

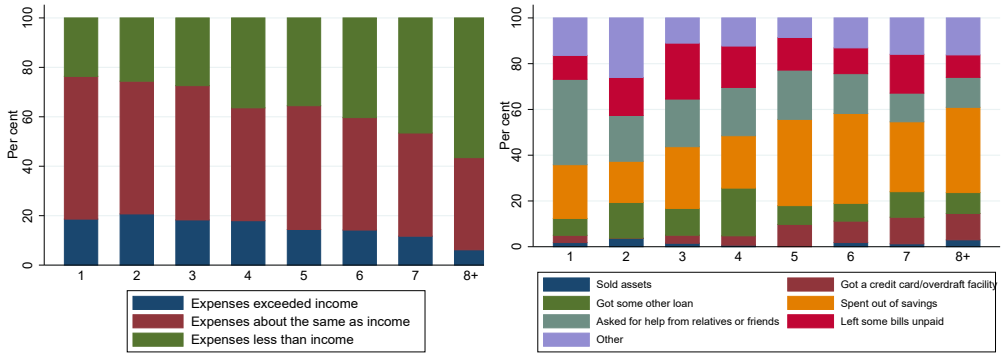
For households where expenses exceed incomes, the survey asks how households bridge the gap. Figure 16b, shows the distribution of answers to this question across the gross income distribution. Savings are a key source of funds for all households, in particular those on middle incomes. Getting private help (family and friends) and leaving

bills unpaid are additional strategies, particularly lower down the income distribution. Higher income households are more likely to use credit via over-drafts and credit cards. The least likely way to bridge the gap is by selling assets.

Figure 16. Regular expenses and income, by gross income deciles (2018)

(a) Comparison of regular expenses with income

(b) Bridging the gap when expenses exceed income



Notes: HFCS 2018. The top three gross income deciles are grouped for cell-size reasons

4.3 Trends in home ownership

Housing is central to understanding household wealth dynamics in Ireland, on both the asset value and debt side. There is a small, but growing, role for other types of assets in household balance sheets, such as voluntary pensions and other financial assets. Non-collateralised debt is also growing slowly for some households. However housing remains the dominant factor.

Home-ownership rates – that is, the percentage of outright or mortgage owner-occupier households in the state fell between 2002 and 2016. At the same time, the share of those renting their homes increased by almost ten percentage points from 20 to 30 per cent of households (according to EU-SILC). Both the fall in homeownership and the increase in the renter share have slowed since 2011, according to most sources.[14] This section profiles the characteristics of 'new' homeowners since the last HFCS wave, that is, homes purchased since the 2013 HFCS.

Of the 1.85 million (grossed up) households in the survey, 122,000 of them became HMR home-owners between 2014 and 2018.[15] Table 9 profiles this group according to age. As this is a relatively small cell-size in the survey (less than 400 observations), we group them for robustness into buyers aged under-/over-40 at the time of purchase.

[14] For example, the Census, the Labour Force Survey, the Survey of Income and Living Conditions (EU-SILC), and the HFCS.

[15] Using the EU-SILC, we get a very similar figure of 120,000.

Over 60 per cent of recent HMRs homeowners were under-40 at the time of purchase ('younger buyers'). The 2018 income of younger recent buyers is €20,000 higher, at the median, than for older buyers, although this pattern is reversed when we look at the mean, suggesting that older buyers are a much more diverse group.

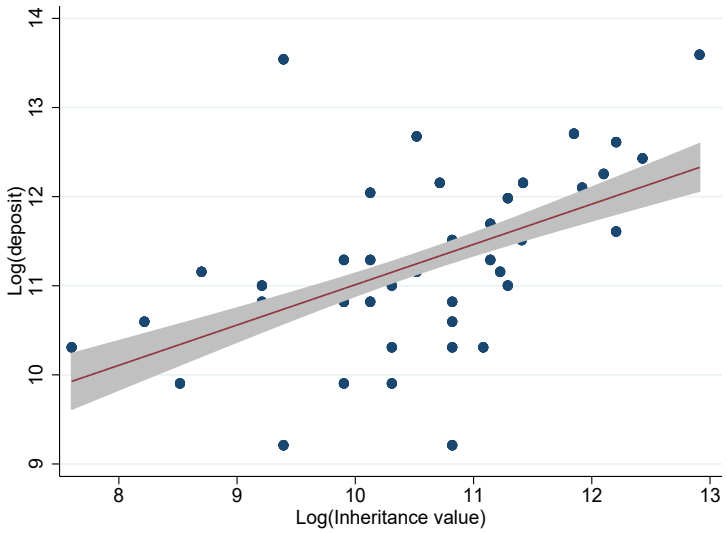
Table 9. Characteristics of households who became HMR homeowners between 2014 and 2018

Age at time of purchase	Under 40	40 and over	Under 40	40 and over
	Median		Mean	
Share of transactions (%)	60.9	39.1	60.9	39.1
Household income (gross, current €)	92,000	72,000	95,596	137,963
Share with a mortgage (%)	75.8	38.2	75.8	38.2
Current LTV (ppt, cond. on mortgage)	64.2	60.3	61.8	58.0
Original LTV (ppt, cond. on mortgage)	85.7	78.6	92.0	80.4
Deposit at time of purchase (€)	30,000	60,000	65,098	111,201
Share received an inheritance* (%)	29.4	19.7	29.4	19.7
Value of inheritance (€)*	30,000	45,000	52,041	245,039
Loan to (current) gross income (ppt)	209.1	174.8	225.3	185.7

Notes: LTV is loan-to-value ratio conditional on having a HMR mortgage. Same applies for loan-to-income. (*) Inheritances are self-reported in the survey. We cannot link inheritances directly to home ownership decisions. We say a recent homeowner 'received' an inheritance if it was three years either side of the year the household became an owner.

The mortgage share of recent buyers is over 75 per cent for those under 40, almost double the figure for older buyers, at 38.2 per cent. The role of cash buyers, whether via accumulated financial assets or intergenerational transfers (gifts or inheritances) explains the relatively lower mortgage share of older recent buyers, as well as the quarter of recent younger buyers who do not have a mortgage. The survey asks households about gifts and inheritances, and it is important to emphasise that this is self-reported. For recent homeowners under 40, 29.4 per cent received an inheritance or gift within three years of their house purchase. The median value of these intergenerational transfers was €25,000 (self-reported in the HFCS) for recent buyers. The prevalence of inheritances is lower for older buyers, but the median and average amounts tend to be higher. Whilst we are unable to link inheritances directly to the home ownership decision, there is a strong correlation between the value of inheritances and the size of deposits for this group of recent homeowners (0.60). This is suggestive of a link between the two, as the scatter plot in Figure 17 shows.

Figure 17. Deposits and inheritances (in logs) of recent homeowners (2014-18)



Notes: For HMR mortgage debt households only.

Conditional on holding a mortgage, the 2018 loan to value ratio (LTV) for younger buyers is more similar, at the median, to that of older borrowers than the original LTV. The substantial domestic house price recovery between 2013 and 2018 is evident in the improved equity positions of households when comparing their LTVs when they took out their loans (86 per cent for young buyers) and their 2018 LTV (64 per cent). The debt-to-income ratios of recently mortgaged households stand at 209 per cent for younger borrowers and 175 per cent for older borrowers, at the median. This is an improvement on the loan to income ratio of recent buyers in the 2013 HFCS which was over 310 per cent for younger borrowers.

4.4 Wealth: linkages to the real economy via spending

Between 2013 and 2018, house price changes were the primary driver of changes in household wealth. The economics literature identifies two broad channels whereby housing wealth impacts household spending. The first, sometimes labelled the 'pure' wealth effect, is when households spend more because they feel wealthier.[16] The second is the 'collateral channel' for housing wealth. This is where increased wealth makes for easier credit access, both directly through mortgage debt, and indirectly through other

[16] See Dynan et al. (2012) for a description of this channel in the context of US households during the financial crisis. Dynan argues that this wealth effect is consistent with households targeting a maximum balance sheet leverage, retaining a minimum buffer of positive net wealth.

types of debt, perhaps because lenders see lower-leverage households as a better credit risk.[17]

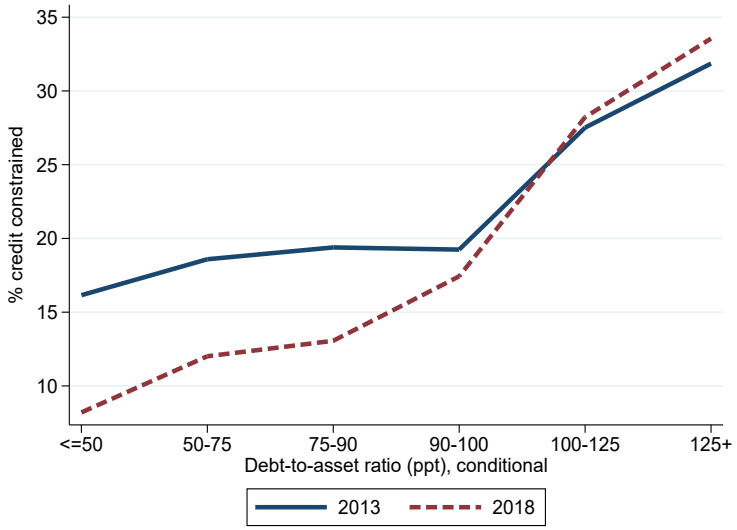
Regarding the collateral channel, we see that credit access improved between 2013 and 2018. In the HFCS, a household is defined as being credit constrained if it answers yes to either of the two following questions: (i) 'In the last three years, has any lender or creditor turned down any request you [or someone in your household] made for credit, or not given you as much credit as you applied for?'; or (ii) 'In the last three years, did you [or another member of your household] consider applying for a loan or credit but then decided not to, thinking that the application would be rejected?' As Table 10 shows, the prevalence of credit constraints fell the most for younger households and households with a mortgage.

Table 10. Percentage of credit constrained households by survey wave, age and housing tenure

	Under-45s			Over-45s		
	2013 (%)	**2018 (%)**	***Change (ppt)***	**2013 (%)**	**2018 (%)**	***Change (ppt)***
Outright owner	14.1	9.1	-5.0	5.0	3.1	-2.9
Mortgage owner	18.4	8.9	-9.5	16.5	8.3	-8.2
Other housing tenure	25.2	15.4	-9.8	15.4	10.7	-4.7

Notes: HFCS 2013 and 2018. Average within tenure group.

Figure 18. Credit constraints (per cent households) and leverage (debt-to-asset ratio)



Notes: For households with debt only.

[17] Le Blanc & Lydon (2019) discuss the collateral constraints channel for Irish households during the crisis.

The fact that fewer households self-report as credit constrained in 2018 could also reflect increased credit supply, outside of any improvement in borrower quality due to lower leverage (i.e. higher wealth). Figure 18 provides some support for this argument: when we compare the incidence of credit constraints within leverage, it is lower in 2018 compared to 2013. This would suggest that supply factors – whereby lenders are more willing or able to lend – are an important factor. Interestingly, there is a limit to this improvement. Borrowers where debt exceeds the value of their assets (debt-to-assets above 100) face similar constraints in both years.

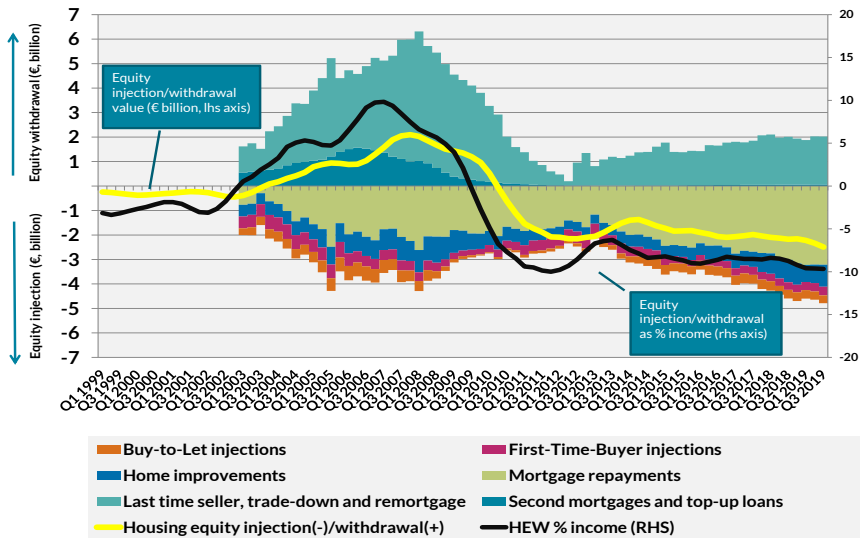
4.4.1 Housing equity withdrawal

Before the financial crisis, households withdrew large amounts of housing equity – peaking at some 10 per cent of disposable income in 2007 – which was used to fund both consumer spending and housing investment; see, for example, Lydon & O'Hanlon (2013), Lydon & O'Leary (2013) and Le Blanc & Lydon (2019). However, whilst household wealth (and housing wealth) has, at least on paper, now exceeded previous highs,[18] in 2018, the household sector as a whole continues to inject as opposed to withdraw equity. This is illustrated in Figure 19, which decomposes gross equity withdrawals and injections for the aggregate household sector, following the methodology in Lydon & O'Leary (2013).

The sum of housing equity withdrawals (last-time sellers plus re-mortgages, top-ups and trade-downs) net of injections (mortgage repayments plus home improvement investment spending and down payments) gives net housing equity withdrawal, which can be positive or negative (the yellow line in Figure 19). During the mid-2000s, when equity withdrawal peaked, mortgage credit was growing at a much faster rate than housing investment. Property sellers in the last link of a chain of transactions gained from this, whilst buyers loaded-up on debt. Mortgaged households who extracted equity by leveraging-up (through top-ups and re-mortgaging) also borrowed against property price increases, but were subsequently left holding significantly less valuable assets once prices fell, as Figure 19 shows.

[18] See the recent Central Bank 'Behind the Data' article by Bader & O'Sullivan (2019), which highlights how recent increases in wealth of the Irish household sector are attributable to both increases in the value of housing assets and declining debt.

Figure 19. Aggregate housing equity withdrawal/injection



Notes: HEW stands for 'Housing equity withdrawal'. See Lydon and O'Leary (2013) for a detailed explanation of how this series is constructed.

It is not surprising that the household sector turned from net equity withdrawal to injection once house prices started to fall. During this period households prioritised debt repayment and transactions fell by over 90 per cent, significantly curtailing the opportunities for sellers to realise the value of their housing wealth. The low point was around 2012/13. What is perhaps more surprising is that equity injection still dominates in 2019 (still well before COVID-19), despite the increases in wealth we see in the survey. There are three primary reasons for this.

1. In 2018, transaction levels remained low, both by historical standards and relative to the size of the housing stock. This limits the opportunities for last-time sellers in a chain of transactions to realise housing wealth. The number of mortgage drawdowns for house purchase in 2019 was 50 per cent of 2007 levels.[19] In 2018, houses changed ownership at a rate of once every thirty five years, on average; in 2007, it was once every twenty years.[20]

2. The second reason relates to top-up loans, which have largely fallen out of favour since the peak years in the mid-2000s. In 2007, almost one-third of loans (14 per

[19] Banking and Payments Federation data on loans by BPFI members; see www.bpfi.ie/publications/.

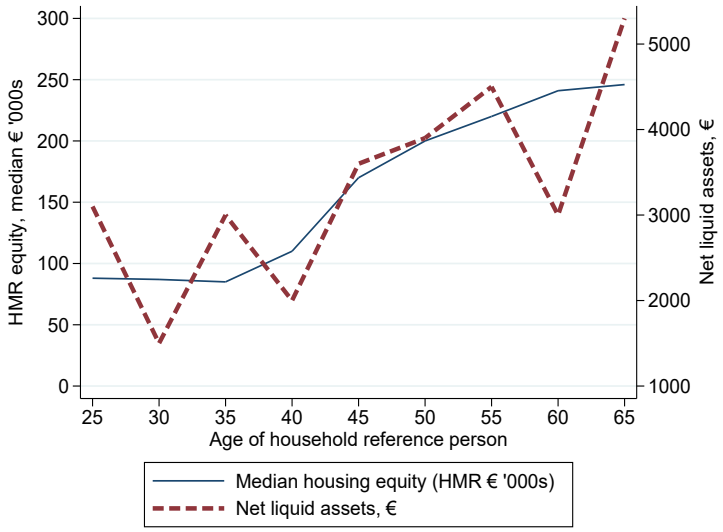
[20] Calculations based on EU-SILC data from the CSO.

cent of value) were 'top-up' loans; in 2019 the share was 7 per cent (2.6 per cent of value). There is likely to be a range of reasons for this change, but the key point from a consumer spending perspective is that households are reluctant (or unable) to leverage up housing wealth. This could mean that housing wealth is less liquid than it once was. This has implications for estimates of the marginal propensity to consume out of housing wealth, one of the key channels whereby house prices can impact the economy. The reason for the fall off in equity withdrawal loans reflects both supply and demand factors. On the credit supply side, lenders are more careful about lending to higher leverage household. On the demand side, we see that lower leverage households (measured by LTV) tend to be older. Not surprisingly, these households also tend to have more savings, which could mean they are less reliant on borrowing. Lydon & O'Hanlon (2013) showed that younger mortgage borrowers (aged 30-45) were most likely to avail of top-ups and second mortgages during the credit boom. This is not surprising as they also tend to have the lowest amount of own-savings. However, as Figure 20 shows, this group in 2018 are already relatively more leveraged.

3. The final factor contributing to net equity injection is the growing size of mortgage repayments (the light green bars in Figure 19) over time. Total repayments in 2018 were some €12 billion.[21] Ongoing repayment of the mortgage debt overhang from the mid-2000s credit boom will dominate this picture for some years to come. This is illustrated in Table 11, which allocates the overall HMR mortgage debt for the household sector to five 'term remaining buckets'. More than half of mortgaged households, accounting for 73 per cent of balances, have 16 or more years remaining on their mortgage term. Of these, 40 per cent relate to loans originating between 2004 and 2008.

[21] This is estimated by adding new mortgage lending in 2018 from the BPFI (€8.7 billion) to the change in the stock in the same year, which we estimate from the Central Bank mortgage arrears template (minus €3.1 billion).

Figure 20. Housing equity and net liquid assets by age



Notes: Figures are averages within age-group in 2018.

Table 11. Loan term remaining on HMR mortgages

	% households	% balance
<=5 five years	13%	2%
06-10 years	17%	10%
11-15 years	18%	14%
16-20 years	22%	26%
20+ years	29%	47%

Notes: Based on HMR mortgage outstanding in 2018.

5 Conclusion

We have outlined the main results of the 2018 Household Finance and Consumption Survey carried out in Ireland and examined many of the important developments affecting household finances since 2013. In particular we have highlighted the large (positive) changes in the value of household net wealth by over €76,000 (74 per cent). Ireland is an outlier in the euro area in terms of the relative size of the positive net wealth growth for the median household between HFCS surveys. Net wealth growth has been driven in the main by house price developments and households paying down mortgage debt. Median gross incomes are up by almost a fifth to €47,000. Wealth inequality has fallen substantially between the two surveys from 0.75 to 0.67. The fall

in inequality, as measured by the gini coefficient, is in large part to do with the fall in negative equity for mortgaged households as house prices have risen, and is despite the better sampling of the wealthy that the 2018 survey achieves. Between the two survey waves, owner-occupier homeownership rates fell marginally from 70.5 per cent in 2013 to 68.8 per cent in 2018. This represents a relative slowing in the fall off in home ownership evidenced since the early 2000s.

We have also discussed the linkages between household wealth and the real economy with applications to household leverage and financial buffers; household strategies to meet unexpected income shortfalls; home ownership trends and the wealth effects on household spending. Indebted households are more financially resilient in the 2018 survey than similar households in the 2013 survey. Households have lower debt-to-asset; debt-to-income and debt service ratios, with substantial falls in these ratios for those cohorts considered highly indebted in the 2013 survey. Liquid financial buffers, from which households can draw in the event of an unexpected income shock, have increased marginally for the median household, although savings (a large component of these liquid buffers) remain underreported in the survey. Despite these improvements however, 13 per cent of households state that they are unable to meet regular expenses with their incomes. Strategies employed to bridge the gap between expenses and incomes include using savings, especially for middle income households; getting help from friends and family, especially for lower income households; and using credit cards and overdrafts.

The age at which households take out their first mortgage is rising (this confirms findings elsewhere for Ireland). For purchases that occurred between 2003 and 2007, the median age of buyers under the age of 40 was 29; for mortgages between 2016 and 2018, the median age is 32. There is a strong correlation between the value of inheritances and the size of deposits for the 25 per cent of households who received inheritances within three years of home purchase between 2014 and 2018.

Theory suggests that wealthier households may spend more because they feel wealthier (the 'pure' wealth effects channel) and/or because increased wealth makes for easier credit access. However, despite the strong growth in net wealth of many households between 2013 and 2018, the real economy effects of these gains may be less pronounced than was the case in 2003-2007. Although credit access has eased for many households, equity injection remains a striking feature of the household sector, and is expected to continue to remain so for some time.

This paper also suggests several avenues for future work, in particular the HFCS data may be able to provide evidence on how households are managing the unexpected economic shock associated with with the COVID-19 public health crisis. Financial

resilience and finanical buffer measures discussed above indicate that households were in a better position going into 2020 than they were after the 2008 recession. In addition, our work indicates that if house prices and/or incomes falls we would not expect household debt to drag on spending in the same way as it did going into 2008. For example, households have rebuilt their balance sheets substantially since the previous wave of the HFCS data (2013). Further, housing equity withdrawal has fallen substantially over the last decade. This means that income shocks and expectations will be the most important determinant of household consumption in the medium term. Understanding the joint distribution of income shocks and household finances will be important for tracing the effects of the COVID-19 shock. This is an active area of research currently for example, O'Donoghue et al. (2020), Beirne et al. (2020) and one in which the HFCS will be of particular use.

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Appendix -net wealth inequality measures in the euro area

Table 12. Net wealth inequality measures

		euro area	BE	DE	EE	IE	GR	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	SI	SK
Share indicators (%)	Top 5% share	38.1	35	40.8	45.4	35.9	27	39.8	35.5	35.1	30	49.3	38.7	36	38	39.2	37	42	43.1	29.6	41.6	32.2	29.1
		(0.6)	(2.9)	(1.6)	(3.5)	-1.6	(1.3)	(1.3)	(0.9)	(4.4)	(1.0)	(4.2)	(2.7)	(3.3)	(2.7)	(1.7)	(2.6)	(2.5)	(4.5)	(1.0)	(2.2)	(2.3)	(2.3)
	Top 10% share	51.9	47.2	55.4	58.1	50.4	41.3	52.7	49.2	46.6	43.4	62.1	52.1	47.9	50.2	51.3	47.7	56.6	56.4	41.3	53.9	44	40.6
		(0.5)	(2.6)	(1.4)	(2.8)	-1.4	(1.3)	(1.1)	(0.8)	(3.8)	(1.0)	(3.6)	(2.5)	(3.0)	(2.3)	-1.4	(2.5)	(2.0)	(3.6)	(1.0)	(1.8)	(2.1)	(2.1)
	50-90% share	42.8	43.6	42	35.1	42.9	48.7	39.6	45	41.6	46.7	33.1	40.8	38.4	41.1	39	39.7	42.9	40	45.6	38	44	44.2
		(0.5)	(2.1)	(1.3)	(2.3)	-1.2	(1)	(0.9)	(0.7)	(2.9)	(0.8)	(3.1)	(2.1)	(2.1)	(1.9)	(1.2)	(1.9)	(2.0)	(3.3)	(0.7)	(1.5)	(1.7)	(1.6)
Quantile ratio indicators	p90/p50 ratio	5.3	3.6	7.9	4.7	4.7	3.7	4.6	4.7	3.3	3.6	4.8	4.6	3.3	3.7	4	3	6.6	6.3	3.2	4.3	3.2	2.9
		(0.1)	(0.2)	(0.4)	(0.3)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.1)	(0.7)	(0.4)	(0.2)	(0.3)	(0.1)	(0.2)	(0.5)	(0.4)	(0.1)	(0.2)	(0.1)	(0.2)
	p80/p20 ratio	42.4	30.5	113	18.5	44.4	18.8	18.7	38.3	8.6	26.5	45.9	26.1	5	24	9.1	6.8	53.3	38.6	7.7	17.5	13	5.5
		(1.7)	(6.8)	(15.0)	(2.9)	-5	(3.1)	(2.8)	(2.4)	(1.3)	(2.0)	(13.2)	(11.7)	(0.4)	(5.7)	(0.4)	(0.7)	(9.4)	(2.5)	(0.6)	(2.1)	(2.3)	(0.4)
Inequality measures	Gini coefficient	0.695	0.632	0.739	0.709	0.674	0.602	0.678	0.674	0.606	0.606	0.749	0.679	0.589	0.652	0.649	0.602	0.782	0.73	0.567	0.679	0.594	0.54
		(0.004)	(0.018)	(0.009)	(0.019)	(0.01)	(0.014)	(0.008)	(0.007)	(0.028)	(0.007)	(0.023)	(0.018)	(0.024)	(0.017)	(-0.010)	(0.018)	(0.016)	(0.021)	(0.008)	(0.013)	(0.016)	(0.017)
	Atkinson (e=1)	0.726	0.695	0.786	0.743	0.72	0.636	0.671	0.723	0.56	0.646	0.751	0.71	0.498	0.709	0.588	0.59	0.728	0.758	0.534	0.7	0.611	0.455
		(0.004)	(0.021)	(0.009)	(0.02)	-0.016	(0.019)	(0.011)	(0.007)	(0.032)	(0.008)	(0.028)	(0.027)	(0.033)	(0.018)	(0.013)	(0.02)	(0.014)	(0.02)	(0.01)	(0.016)	(0.019)	(0.021)
	Theil index	0.959	0.786	1.023	1.16	0.848	0.58	1.027	0.942	0.808	0.68	1.171	0.907	0.709	1.048	0.908	0.794	1.002	1.202	0.623	1.068	0.708	0.56
		(0.02)	(0.069)	(0.04)	(0.1)	-0.048	(0.026)	(0.063)	(0.032)	(0.1)	(0.024)	(0.1)	(0.072)	(0.076)	(0.1)	-0.061	(0.057)	(0.081)	(0.2)	(0.022)	(0.09)	(0.068)	(0.059)
	Pietra index	0.512	0.452	0.558	0.525	0.494	0.432	0.497	0.494	0.432	0.435	0.56	0.493	0.428	0.467	0.472	0.429	0.568	0.54	0.403	0.498	0.42	0.38
		(0.003)	(0.014)	(0.007)	(0.018)	(0.007)	(0.01)	(0.007)	(0.005)	(0.022)	(0.005)	(0.024)	(0.016)	(0.021)	(0.014)	(0.009)	(0.018)	(0.01)	(0.016)	(0.006)	(0.011)	(0.012)	(0.013)

Source: Household Finance and Consumption Survey - third wave. Preliminary data for Spain. Preliminary standard errors for France.
Note: figures based on ECB calculations. A higher value of the indicator indicates higher concentration of wealth. The indicators are scale invariant, i.e., the indicator remains unchanged by scaling the wealth distribution by a constant factor. The quantile ratio indicators are defined as the ratio of the corresponding percentiles of the distribution of net wealth. The percentiles of the distribution are available in table J3. The Gini coefficient corresponds to the normalised area between the Lorenz curve of the distribution and the 45 degrees line. The Pietra index corresponds to the maximum vertical distance between the Lorenz curve of the distribution and the 45 degreesline. The Lorenz curve shows the proportion of total wealth belonging to the bottom x % of the population. The Pietra index, also known as the Ricci index, the Schutz index or the Hoover index is equal to half the relative absolute mean deviation. The Gini coefficient and the Pietra index are bounded below by zero. They are bounded above by one in the case of non-negative values. The Atkinson index is defined as 1 minus the ratio of the equally distributed equivalent level of wealth to the mean of the actual wealth distribution. The Atkinson index lies between zero and one. The Theil index is a special case of the Generalised Entropy (GE) family of indexes. It corresponds to the index GE with parameter a = 1, and lies between zero and infinity. The Atkinson index and the Theil index are not applicable to variables with zero or negative values. Hence, observations with non-positive values have been dropped from the calculations for these indicators. The proportions of households having negative net wealth are available in table F3. These proportions are high for DE, IE, NL and FI. See country notes: AT1, AT2, BE2, EE1, EE2, EE3, EE4, EE5, FI1, FI2, FI3, FI4, FI5, FI6, FI7, FI8, FI9, FR1, FR3, GR2, GR3, HU3, HU4, IT2, LT1, LV2, LV3, PL2, PL4, PL5, PT2 for information on country-specific issues that may affect the comparability of the figures.

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