Financial Resilience among EU households

New estimates by household characteristics and a review of policy options

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1. INTRODUCTION

It is fairly common for individuals and households to face periods of financial difficulty, but while some are able to recover relatively quickly, others experience elongated periods of financial hardship. The capacity to cope with negative income or expenditure shocks, or to recover quickly from periods of financial adversity is known as financial resilience.

Household financial shocks can result from loss of employment, reduction in hours of work, ill health of a family member, relationship breakdown, the loss of a partner, damage to household possessions as a result of flooding or fire, an unexpected large expense, such as a car or home repair bill, the replacement of domestic appliances or an increase in debt interest rates. To cope with these shocks, households need access to sufficient liquid assets or emergency savings, or be able to borrow from financial institutions, wider family or friends. For those without sufficient liquid assets or emergency savings to cover a financial shock, the effects on financial well-being will be longer lasting as any amount borrowed will have to be repaid along with any interest incurred, and borrowing from family and friends can put a strain on these relationships. Paying back any incurred debts will result in a fall in living standards over the period in which repayments are made, with some unable to return to the standard of living they enjoyed prior to the shock.

Measures of financial deprivation, such as poverty status, predominately rely on measures of financial flows such as income, while assessments of financial resilience include measures of financial stocks, in the form of liquid financial assets or emergency savings1. Although the concepts of financial deprivation and financial resilience are distinctly different, financially deprived households tend to have lower rates of financial resilience. In part this is due to the fact that they are more likely to experience financial shocks and that they are more vulnerable to these shocks as many do not have access to sufficient financial savings or liquid assets to cover such events.

Interest in financial resilience goes beyond the importance of assessing households' financial vulnerabilities, as financial resilience is associated with a number of other important outcomes such as emotional well-being, educational attainment, family stability, reliance on the State, and because the effects can extend beyond the direct impact on

[1] Although this is predominately the case, a number of attempts have been made to define and measure asset-based poverty measures (see, for example, Brandolini, Magri and Smeeding, 2009).

family members to wider society. In the short-term, financial hardship has an immediate and direct effect on households' consumption and their ability to cover the cost of basic needs such as the cost of housing, food, utilities, transport, clothing, and essential consumables. This can force families to turn to social security, extended family and friends, food banks, charities and financial markets/lenders (formal and informal) to cover the costs of these essentials. In the longer-term, increasing levels of debt are problematic for a number of reasons, including the fact that concentration of liabilities in some types of households is very important for the stability of the financial system (Murtin and d'Ercole, OECD, 2015). Bunn and Rostom (2015) estimate that household spending cuts associated with the accumulation of debt by over-indebted UK households in the lead up to the financial crisis reduced the level of aggregate private consumption by up to 2 per cent after 2007. Their findings suggest that high levels of household debt prior to the crisis in the UK meant that the recession was deeper and longer than would otherwise have been the case (Bunn and Rostom, 2015).

There are three main policy approaches to improving financial resilience: (1) assist and incentivise families to accumulate sufficient emergency savings; (2) provide an adequate and well-designed social safety net; (3) improve financial capability. Most governments do currently have policies which help incentivise households to accumulate savings, but most existing schemes tend to favour already well-off individuals. These typically take the form of tax free saving schemes or tax relief on pension contributions, which have little or no impact on the saving incentives of low income individuals and families.

There have been some attempts to increase savings among lower income households. During the 1990s and early 2000s there was a growing interest in, and development of, what are known as Asset-Based Welfare Policies (ABWPs) (for example, matched saving schemes, baby bonds, individual development accounts). However, some saw the shift towards ABWPs, including incentives to increase home ownership, as a form of welfare state retrenchment and productive welfare capitalism (sometimes referred to as credit-based welfare) which effectively moves the burden of risk onto the individual and away from the State (Ansell, 2014; Lowe, Searle and Smith, 2012; Ronald, Kadi and Lennartz, 2015; Lennartz and Ronald, 2017)2. The growth in ABWPs targeted at lower income households in the later part of the 20th Century was in part motivated by evidence of an 'asset-effect' – a range of pecuniary and non-pecuniary benefits3 associated with holding financial assets, even assets of relatively low value (Bynner and Despotidou, 2000; Bynner, 2000; Bynner and Paxton, 2001; Sherraden, 2003; McKnight, 2011).

[2] There is a large literature on housing assets in relation to households' economic well-being and the welfare state which we will not cover in this note as our focus is on financial resilience and liquid assets and emergency savings, particularly among lower income households.
[3] Pecuniary benefits refer to those that have a monetary or economic gain (for example, higher earnings) while non-pecuniary benefits refer to those without a direct monetary gain (for example, psychological health).

The aim of these policies was not just to establish savings for an emergency, but to promote a savings habit through demonstrating the benefits of regularly saving even small amounts over a period of time. However, many fell victim to austerity cuts following the 2007-08 financial crisis, but as policy makers have begun to reflect on the crisis there has been a resurgence in interest in exploring the best ways to build households' financial resilience to weather any future financial shocks.

This research note reviews existing literature on household financial resilience, considers how financial resilience can be measured, presents country-level statistics from published sources and new empirical estimates using microdata from the Household Finance and Consumption Survey and the Luxembourg Wealth Study which allow us to consider how financial resilience varies across households. Finally we explore a range of existing policies and policy options for boosting households' resilience to financial shocks.

2. Review of the Literature on Financial Resilience and Asset-effects

In this section we review the existing evidence on financial resilience, including evidence on which households are least likely to be resilient in the face of income and expenditure shocks and on what factors are related to greater financial resilience, particularly those which may be addressed through policy levers. The review includes evidence on the role assets, financial literacy and capability and household debts. We begin by introducing key terminology but note that the terms financial literacy and financial capability are not always used consistently in the literature.

Financial capability	People's ability to manage their finances well, both on a day-to-day basis and over significant life events and periods of financial difficulty. Financial capability covers financial skills and knowledge as well as behaviours and attitudes in relation to the way in which finances are managed
Financial literacy	This is a narrower term than financial capability. It is used to describe financial skills and knowledge in relation to financial management
Savings	After meeting basic expenditure needs from disposable income, households can choose to spend the remainder on non-essential items, repay existing debts or save. Savings can be held in liquid, easy access, form (cash, bank accounts or savings accounts) which can be built up with a particular expenditure in mind, as a precaution against financial shocks or invested in longer term saving

	vehicles or assets (stocks, bonds, property, valuables and collectables)

2.1 Savings, Financial Literacy, and Financial Capability

Previous research has suggested that households need a savings reserve equivalent to the value of three months' expenses or three months' income, but this goal has been found to be well out of the reach of many low and moderate income households (Collins, 2017). Although access to emergency savings is only one aspect of financial resilience, the accumulation of savings is a good indicator of households' financial well-being and their ability to cope with financial shocks without having to resort to substantial borrowing.

We know from published evidence that households vary in their ability to save and the largest determining factor is their income relative to meeting basic expenditure needs and other financial commitments (for example, debt repayments), but even holding these factors constant, saving and holding liquid forms of assets vary across households. Part of this is due to difference between households' financial literacy and financial capability, but some may be due to other factors including cultural differences in saving propensity. Recent research has found that saving behaviour is affected by culture. Costa-Font, Giuliano and Ozcan (2018) find that cultural preferences between UK migrants (first, second and even third generation), characterised by average saving rates in the country of origin, influence current saving behaviour.

A number of researchers have attempted to operationalise the concepts of financial literacy and financial capability and these studies help us to understand the role they play in determining households' financial well-being across countries. Some evidence shows that higher financial literacy and capability is associated with a greater propensity to save and to achieve higher rates of return on these savings. However, there is concern that rates of financial capability and financial literacy are low. Research has found that many people are poor at keeping track of their finances, poor at planning ahead, making ends meet, choosing financial products and staying informed and that these indicators of financial capability are not correlated with income (Atkinson et al., 2006). Research conducted on behalf of the, then, UK Financial Services Authority (FSA)[4] examined how life events impacted 'financial capability' (Taylor et al., 2009). This research shows how people's measured financial capability level changes over various life points or life stages[5]. Using

[4] Now the Financial Conduct Authority (FCA).
[5] Note that some are common reasons behind financial shocks - birth of a baby, becoming unemployed, divorce or separation, retirement - highlighting the non-standard use of these terms in the literature

longitudinal data covering 16 years, they construct an 'index of financial incapability' which includes:

- perceived current financial situation; reporting that financial situation has worsened since last year;
- whether the individual saves;
- housing payment problems;
- financial problems which required borrowing;
- financial problems which required cutbacks; and
- whether they had been at least two months in housing arrears in last 12 months.

They find low levels of financial capability particularly among certain groups (including, young people (<35 years), divorced or separated, lone parents, unemployed or inactive). Low levels of financial capability were found to be associated with greater mental stress, lower reported life satisfaction and a greater likelihood of reporting health problems associated with anxiety and depression (Taylor et al., 2009).

A 2018 survey of adult financial capability in the UK found that income levels were an important factor in people's propensity to save, but this propensity was also linked to the extent to which they: made plans; focus on the long-term rather than just living for today; believe they can determine what happens in their life; are willing to make time for their finances; and think that saving is important. Analysis of this survey revealed that 10.7 million UK adults rarely or never save (over one fifth of the population) and, 11.5 million (22%) have less than £100 in savings (Fincap/MAS, 2018).

Deuflhard, Georgarakos and Inderst (2019) use Dutch data to explore the role financial literacy plays in explaining differences in savings account returns. They use detailed information from a household survey on individual savings accounts, which includes information on the name of the account and the amount held within the account. This information is matched to market data on account specific interest rates and other account characteristics. They find considerable variation in rates of returns to savings across households. Using information collected on financial literacy, they estimate how much of this variation was due to differences in financial literacy, after controlling for a range of socio-economic characteristics and the value of savings. They find that, on average, more financially literate savers achieved higher rates of return on their savings. This was in part because more financially literate households were more likely to use new technologies (online banking and mobile payments) to identify higher interest accounts.

Blanc et al. (2015) use evidence from the HFCS 2010-2011 to examine differences in saving behaviour, saving motives and perceptions of credit constraints across the 15 Eurozone countries. The most commonly reported motive for saving in all countries was precautionary (to build up a financial reserve to protect against adverse future shocks), but the share saving for this reason varied across countries: from 89 per cent in the Netherlands to 42 per cent in Germany. The second most commonly reported motive was saving for retirement, which ranged from 71 per cent in the Netherlands to 28 per cent in Spain. Statistical analysis of saving motives across households found a strong life-cycle pattern with saving for retirement peaking in the middle part of the lifecycle. The precautionary saving motive also varied across households; lower in the oldest age group (71+ years) and the unemployed, and relatively high in higher educated households, higher income and higher wealth households. This research also assessed the role of institutions across countries in affecting the saving motives. The existence and generosity of public pension provision was found to decrease the motive for households to save for retirement, not surprisingly the results suggest a substitution effect between public and private pension savings with the payment of taxation effectively operating as a form of saving. In addition, precautionary saving was also significantly and negatively related to average income taxes, again demonstrating how the public insurance mechanism acts as a substitute for private insurance or leaves little excess to save. They also include a country level measure for financial literacy[6] and found that this was significantly positively related to propensity for precautionary saving (Blanc et al., 2015).

Less than 10 per cent (8.2%) of households reported that they had been turned down or discouraged from asking for a loan. Around one-quarter (23%) reported that they did not have a credit card or credit line, and nearly half (44%) of households had low assets, which the researchers identify as a factor limiting access to credit (Blanc et al., 2015). Households in Mediterranean countries were most likely to report liquidity constraints which may be due to differences in financial institutions (in these countries, households were more likely to turn to informal credit channels such as family) or may reflect the ongoing impact of the financial crisis. Some households were more likely to be credit constrained than others: households where the head was female, young, divorced, self-employed or unemployed; larger households; lower income and lower wealth households.

In the same research, around 1 in 10 (11%) households reported that their expenses exceeded their income over the last 12 months; this was most likely to be the case among households with female, young or divorced household heads. The majority of households in this situation reported that they coped by using past savings (55%), followed by using a credit card or overdraft facility (22%) or assistance from relatives/friends (22%), and 13

[6] Senior business leaders' evaluation of the statement: Economic literacy among the population is generally higher, measured on a 0-10 scale (International Institute for Management Development). Averages for the period 1998-2005, as reported in Figure 1 of Jappelli (2010).

per cent left bills unpaid. There were two exceptions: (1) Greek households were more likely to ask for help from relatives/family (51%) and (2) Cypriot households were more likely to use a credit card or overdraft facility (more than 90%), when expenses exceeded income (Blanc et al., 2015).

A recent US study found that almost half of Americans (44%) are "liquid asset poor"; meaning that they have less than three months' worth of savings (based on the poverty line) that they could turn to in an emergency (Brooks et al., 2014). In the UK, a 2009 study found that 43% of the lowest income households have no savings or assets at all, compared with an average of 24% across all households (Kempson and Finney, 2009). This means that financial shocks usually result in already financially vulnerable households having to resort to borrowing, often in the form of high-cost short-term loans or credit with unfavourable repayment terms (payday loans, pawnbrokers, etc.). In many cases this leads to increases in already high levels of household debt. The result is that relatively small shocks can have a long term impact on these households' financial circumstances, making them even more vulnerable to future shocks.

Only around one half of US households (54%) in a recent survey were found able to replace even one month's income using liquid savings, with over one quarter without enough liquid savings to replace even one week of income (PEW, 2015a). A 2014 survey[7] found that the median household did not have enough liquid savings – money held in checking and savings accounts, unused balances on prepaid cards, and cash – to replace even one month of income making them vulnerable to financial shocks (PEW, 2015b). They found that 6 in 10 households had experienced a financial shock in the past 12 months. People of all ages and races experience financial shocks at similar rates, although the magnitude and impact varied with some households more likely to experience a shock, such as families with children. Shocks had long lasting effects on many with more than half of households struggled to "make ends meet" after their most expensive financial shocks. Households who suffered a financial shock, had lower savings and higher credit card debt, could replace only about half as much income using liquid savings relative to other households (PEW, 2015b).

2.2 Household Debt and Financial Resilience

The relationship between household debt and financial resilience needs to be understood from two perspectives. On the one hand, access to affordable credit is an important element of financial resilience and can be key to households' ability to cope with financial shocks. Holding debt in this context can be seen as evidence of a positive coping mechanism. On the other hand, holding high levels of debt reduces these households

[7] PEW's Survey of American Family Finances was a nationally representative survey of more than 7,800 households.

resilience to future financial shocks. In addition, overly indebted households may have ended up in this position for a variety of reasons, including poor financial management and low financial literacy, and these households will struggle to cope with any further shocks.

In the prelude to the 2007-08 global financial crisis, household debt levels increased rapidly in many economies, fuelled in part by easy access to credit and rising property prices that meant buying property through mortgages required taking out larger loans (Ynesta and De Queljoe, 2017). Across OECD countries, increasing household debt levels occurred most notably in Ireland where indebtedness increased from 111 per cent of annual disposal income in 2001 to 234 per cent in 2007. Income to debt ratios, a measure of indebtedness which provides an indication of the ability to repay any debt through income, reached record highs across the OECD. Household indebtedness ratios trending up from 2000 in nearly all OECD countries, with notable exceptions of Japan and Germany (Ynesta and De Queljoe, 2017). Post-2008, the increase in indebtedness slowed considerably in many OECD countries, and even reversed in some, as households redeemed their debt and limited new borrowing (Ynesta and De Queljoe, 2017). This was, in part, due to financial institutions limiting further lending and hence why the financial crisis is often referred to as the "credit crunch". Ireland's indebtedness ratio fell 56 per cent, Latvia's fell 34 per cent, Spain's fell 33 per cent, Denmark's fell 32 per cent, and in the United States there was a 31 per cent decline (Ynesta and De Queljoe, 2017).

An explanation for why Japan and Germany appear to be outliers is that neither experienced housing booms between 2000 and 2015, and consequently debt levels fell. This reflected distinct features of home ownership and housing loans in these two countries. Japanese households tended to accumulate large down-payments before borrowing for a home, and existing home owners did not extract equity from their houses through mortgage loans. A key factor in Germany is that home ownership rates are low relative to other OECD countries and therefore there is less of an accumulation of housing debt (Ynesta and De Queljoe, 2017).

In contrast, Denmark and the Netherlands had some of the highest indebtedness ratios in 2015; 293 per cent and 276 per cent of annual disposable income respectively. Ynesta and De Queljoe (2017) argue that household indebtedness ratios may not be the best measure of households' financial resilience as one must also take into account levels of interest rates, prevalence of fixed or floating rate mortgages, and presence of tax breaks for mortgage interest payments. In the Netherlands, for example, households can deduct interest paid on mortgages from taxable income, and this may partly explain why Dutch mortgages are among the highest in Europe relative to the value of underlying collateral (Ynesta and De Queljoe, 2017). This may not necessarily be problematic due to differences in pension assets and liabilities across countries. In the Netherlands and Australia, where

funded pension schemes are well developed, pension assets represented 60 per cent and 56 per cent, respectively, of households' total financial assets in 2015. In contrast, Belgian households' pension assets only accounted for 6.5% of their total financial assets, since most pensions are funded on a pay-as-you-go system (Ynesta and De Queljoe, 2017). Variation across countries in asset portfolios highlights the importance of considering the total distribution of assets, including those provided by the state, particularly replacement income during retirement (pensions), as well as the institutional factors that prevail in various countries as they relate to liabilities and income. However, the upward trend in debt-to-asset ratios can be seen as an indication that households are becoming less resilient to shocks (Ynesta and De Queljoe, 2017) but there is a need to interpret this in the context of debt being an important coping mechanism in response to financial shocks.

3. Measuring Financial Resilience

There is no agreed standard measure for financial resilience and so we find a variety of measures used in the literature. Although the concept of financial resilience is dynamic, capturing the ability to recover quickly from financial shocks, in practice this is very difficult to operationalise as it requires high quality longitudinal data that follows households' financial circumstances as they experience shocks, and tracks their circumstances for some time after. Although assessing which households are financially resilient using longitudinal data is usually not feasible, cross-sectional measures can provide informative indicators of financial resilience.

Measures of financial resilience extend beyond assessments of financial flows, such as income, to include information on financial stocks such as liquid savings and assets, financial debts and can include access to affordable credit, ability to borrow from family and friends, assessments of financial capability and financial competence. In the literature a variety of indicator variables have been used to assess financial resilience. These include:

- *The value of savings and liquid financial assets* that could be drawn on in times of need. Common measures include measuring savings and liquid financial assets in terms of ratios of monthly income. For example, a measure of how many months a household could meet expenditure needs by drawing down on existing savings if income fell to zero, with typical values set at three or six months.

- *Subjective assessments of the ability to cope with financial shocks.* Survey evidence is often used to collect information directly from individuals about whether or not they believe that they could cope with an unexpected large expenditure, and how they would cope.

- *Measures of financial literacy.* Survey evidence covering financial management and planning skills and financial knowledge has been used to derive measures of financial literacy.

- *Measures of financial capability.* Survey evidence has been used to combine measures of skills and knowledge with behaviour and attitudinal information to derive measures of financial capability.

- *Measures which look at the opposite of resilience* capturing aspects of financial distress or financial difficulty. For example, financial debt to income ratios, credit to income ratios, financial assets to debt ratios, debt overburden and over indebtedness measures.

These measures can be computed at the aggregate level to provide country level indicators of resilience, or through using survey micro-data it is possible to estimate differences in financial resilience across households.

In the next section we explore published statistics which cover a number of these different measures of financial resilience before turning to analysis of micro data in Section 5.

4. Trends in Financial Resilience: Country-Level Published Indicators

Aggregate assessments of households' financial resilience, financial distress and financial vulnerability can be made at the country-level using published statistics from harmonised databases such as the OECD and Eurostat databases. In this section we examine trends in four indicators of financial resilience estimated at the country level.

Debt-to-income ratio	This measures at an aggregate level total household debt as a share of total annual household income. It is a measure of household indebtedness. Higher values are associated with lower financial resilience as households will be required to repay debts at a high share of their income and will find it harder to cope with any further financial shocks.

Consumer credit-to-income ratio	This measures at an aggregate level total household consumer credit as a share of annual household income. Higher values are associated with lower financial resilience as households will be required to repay credit at a higher share of their income, and will find it harder to cope with any further financial shocks. Consumer credit is less likely to be collateralised (secured) and interest repayment rates and conditions are likely to be less favourable.
Debt-to-asset ratio	This measures at an aggregate level total household debt as a share of total household assets. It gives an overall indication of the net position of household debt. Higher values are associated with lower financial resilience
Aggregate saving rate	This measures at an aggregate level total gross household saving (total annual gross household income less total annual household consumption) divided by total gross household income. Negative aggregate saving rates indicate that overall households are drawing down on savings or borrowing to fund consumption.

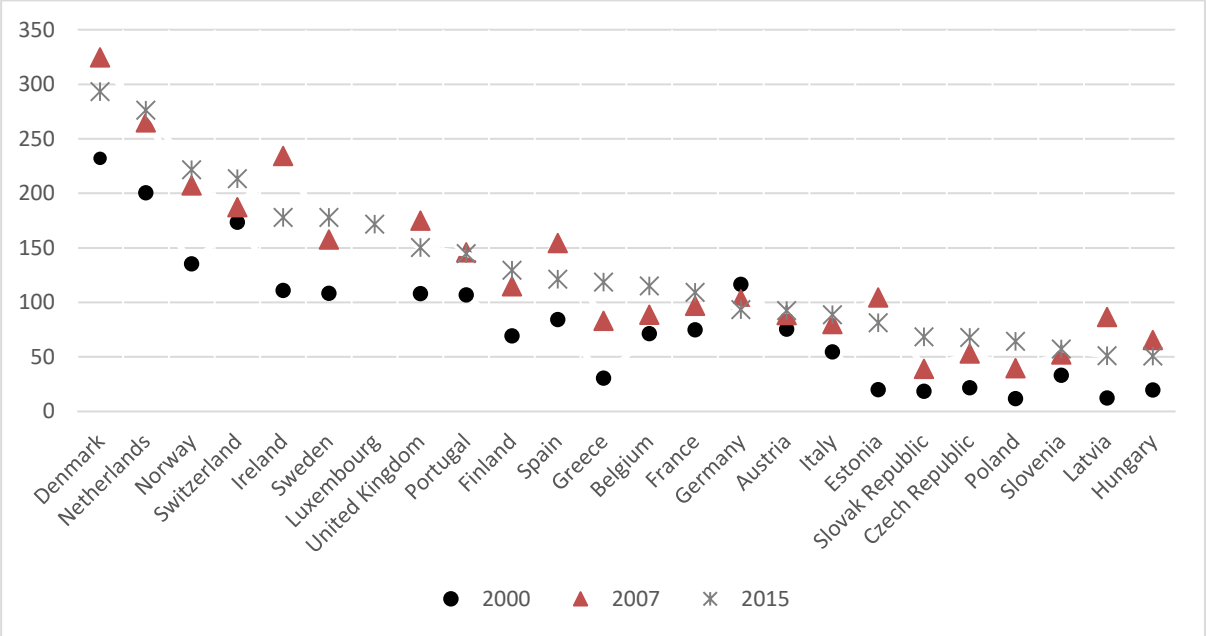
The estimates presented in this section are aggregate figures taken mainly from national accounts. They give an indication of financial resilience at the country level but do not show how assets and debts are distributed across households. In the next section we provide new estimates of financial resilience indicators across households using micro-datasets.

Overall household indebtedness, measured by the aggregate debt-to-income ratio, varies considerably between European countries (Figure 1). In 2015, household debt as a percentage of net annual disposable income ranged from nearly 300% in Denmark, to under 50% in Hungary. With Germany a notable exception, household indebtedness increased substantially between 2000 and 2007. There was a fairly even split between the share of countries where indebtedness was higher after the crisis (2015) than before (2007), and countries where it was lower. The strikingly different trend in Germany is likely to be related to the fact that homeownership rates are lower in Germany than in most other European countries (OECD, 2017). This means that German households are much less likely to have housing related loans which are typically the largest loans households hold. On the other hand, German households are less likely to hold housing assets which can act as a source of wealth either to borrow against, or as security to convert into liquid financial assets.

As we saw in Section 2, the increase in the accumulation of debt prior to the crisis has been attributed to greater access to credit and increasing house prices (OECD, 2017). In many countries house price inflation not only led to an increase in the size of loans required to enter the property market, but increases in the value of housing assets fuelled increases in consumption[8] and consumer credit. Denmark, the Netherlands, Spain and the UK all experienced high house price inflation and in each of these countries we observe large increases in household debt to income ratios.

Figure 1: Trends in household indebtedness: household debt as a percentage of net annual disposable income – 2000, 2007, 2015 (ranked in descending order)

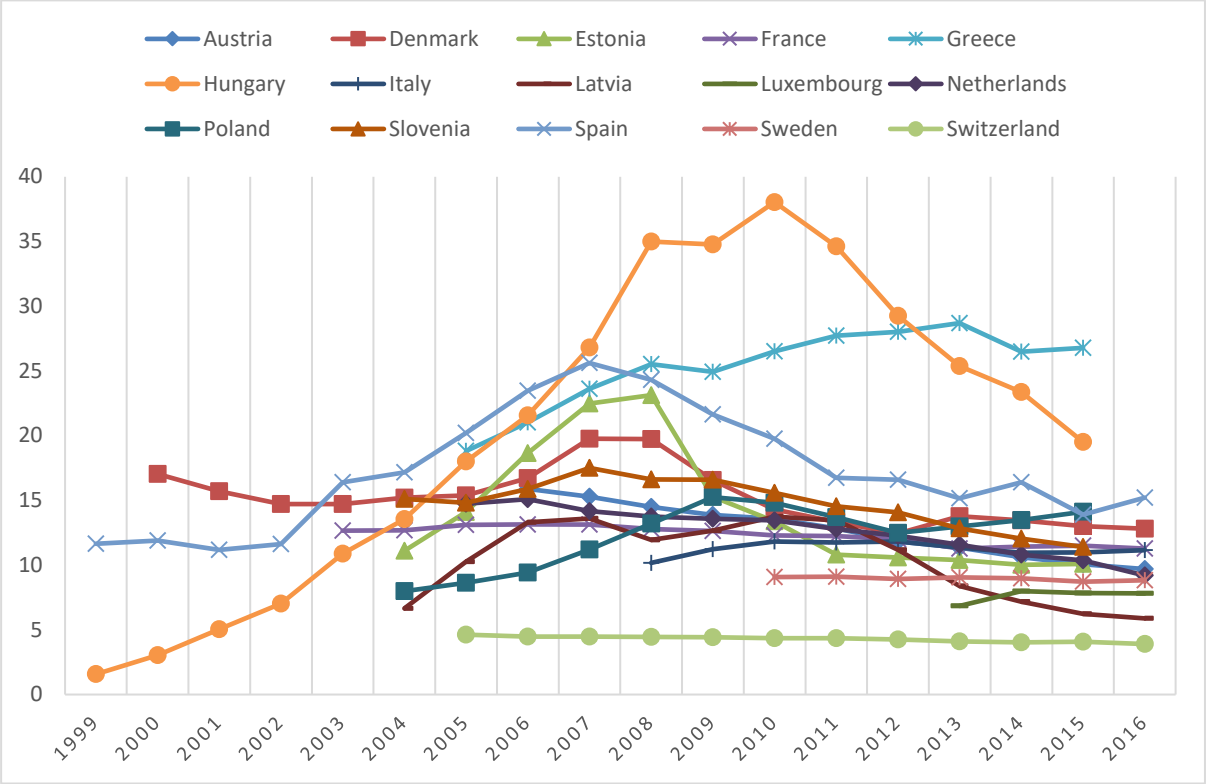
[8] There is a large literature on the relationship between increasing house prices, homeownership and private consumption growth, see for example Campbell and Cocco (2007); Attanasio, Leicester and Wakefield (2011).



Notes: For Ireland and Slovenia, 2000 datapoints refer to 2001.
Data source: OECD.Stat

The impact of rising house prices fuelling growth in consumption and consumer credit is also reflected in trends in consumer credit-to-income ratios, with a number of countries experiencing large increases in the lead up to the 2007/08 financial crisis (Figure 2). This upward trend is particularly marked in Spain, Hungary, Estonia and Greece. In a number of other countries this ratio remained fairly flat. The financial crisis and the Great Recession could have led to a range of different effects. The credit crunch following the financial crisis, led to falls in access to consumer credit in some countries and to some types of household and this could have resulted in a fall in the ratio of consumer credit to income. Overall, we observe a downward trend in consumer credit-to-income ratios since the crisis suggesting that falls in credit dominated any falls in income. However, there are a few notable cases. In Spain credit-to-income ratios fell from 26 in 2007 to 15 in 2016 while the ratio in Greece rose from 24 in 2007 to 29 in 2013, before falling back a bit to 27 in 2015. The ratio in Hungary increased dramatically reaching a peak of 38 in 2010 before falling steeply to 19.5 in 2015.

Figure 2: Trends in consumer credit-to-income ratios within a selection of European countries between 1999 and 2016

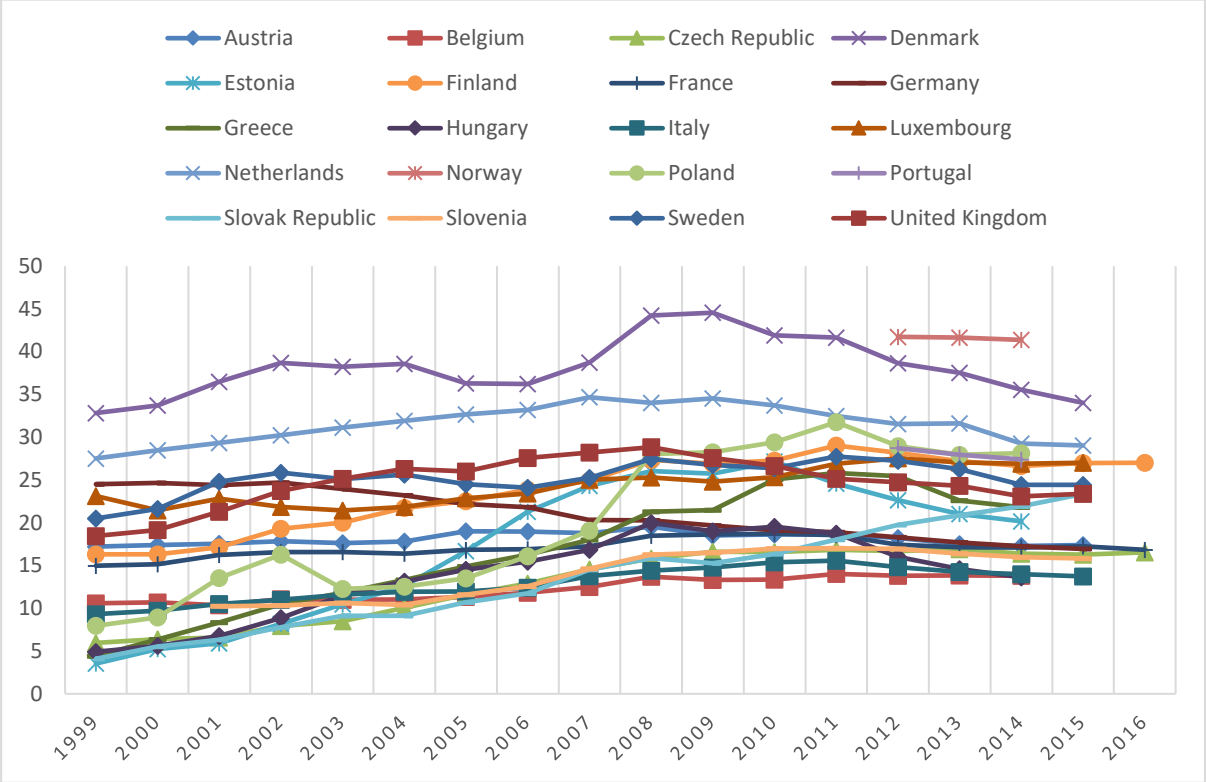


Data source: OECD.Stat

Another indicator of financial resilience examined in this section is the ratio of household debt to assets (debt-to-asset ratio). Typically the two largest privately held assets are housing and pensions. Holdings of these assets vary across counties and are affected by differences in the mix of private and public pension provision and their generosity, wealth taxes, tax relief, mortgage loans (typical size of down payment, fixed versus flexible interest rates, access to credit etc.). For example, in the Netherlands mortgage interest tax relief creates an incentive to hold higher housing debts and it is possible to borrow up to 101% of the purchase price of a house. This increases the incentive for households in the Netherlands to hold housing debt. Another factor shaping the cross country differences is the size of student debt which unlike housing debt is not offset by an asset whose value can be estimated (investment in human capital is valued in terms of a future income stream as well as non-pecuniary benefits). The extent to which higher education is subsidised by the state or paid for by students through education loans varies across countries.

In the decade leading up to the financial crisis, we observe a general increase in debt-to-asset ratios across European countries which is a sign that households' financial resilience fell over this period, but trends differ between countries (Figure 3). Since the crisis, in many countries debt-to-asset ratios remained fairly stable (for example, Italy, Luxembourg, Belgium and France), in a number of countries these ratios fell quite substantially (Denmark, Estonia, the Netherlands) and in a small number of countries debt-to-asset ratios increased (Slovak republic, Slovenia, Finland and Poland).

Figure 3: Trends in household debt-to-assets ratio – selection of European countries



Data source: OECD.Stat

Increasing saving rates can be seen as a sign of improving financial resilience as saving rates provide an indication of the extent to which households are setting aside financial reserves which can be drawn on to cope with financial shocks. Country level rates are typically computed using information derived from national accounts with the saving rate defined as total gross household saving (income less consumption) divided by total gross household disposable income. However, aggregate rates can mask considerable variation between households and do not allow an assessment of the share of households undertaking saving or variation in saving rates across household types.

A study comparing household saving rates across the EU in 2013 found considerable variation between countries; with rates ranging from –10% of household income in Romania to +16% in Germany (Rocher and Stierle, 2015). While these differences are large, the authors argue that caution is needed when comparing household saving rates between countries due to institutional differences and variation in data quality. In examining the determinants of household saving behaviour, they find that traditional explanatory variables like income levels, age dependency and uncertainty can explain more than half of the cross country variation in saving rates, but after controlling for these

variables, large unobserved country fixed effects remain. They suggest that this could be due to institutional differences between countries and/or measurement error.

Eurostat data series on saving rates are shown in Figure 4 for a selection of western European/Nordic countries and Figure 5 for a selection of Central and Eastern European and Baltic countries, over the period 1999 to 2016. Three things to note from the aggregate series are:

1) Aggregate saving rates averaged over EU member countries (28 countries) are lower than the Euro area (19 countries) average, reflecting higher average levels of income in these countries;

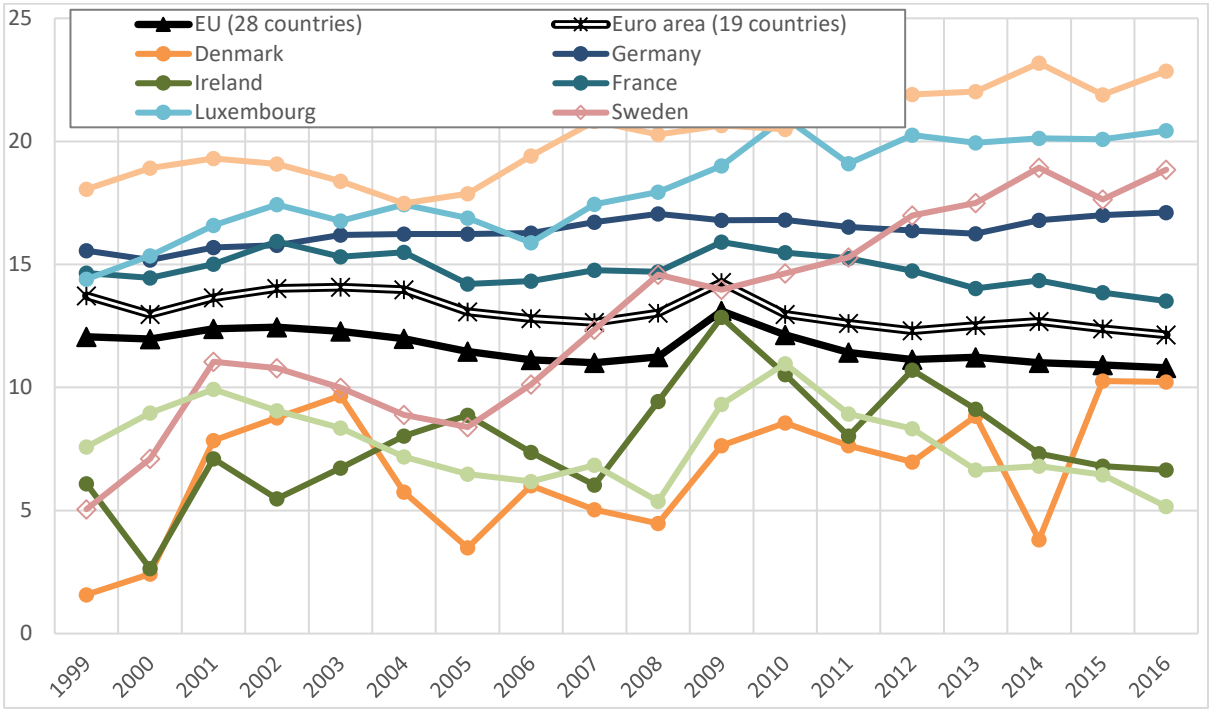
2) Saving rates have trended downwards over this period – this is consistent with both a squeeze on incomes (income growth not keeping up with inflation, and falling incomes) and lower interest rates reducing the incentive to save in some saving vehicles[9] ;

3) The financial crisis was followed by a peak in saving rates in 2009. An explanation for this peak is that household income fell more quickly than gross household saving. This could be due to the value of fixed regular saving being slow to change, or reflect lower borrowing, or households deciding to reduce consumption and increase saving with an uncertain future ahead.

When we look beyond average rates across blocks of countries to individual countries we can see that the post crisis spike in the saving rate occurred in a selection of countries and in some cases was very pronounced. For example, in Latvia the saving rate increased from 0.27% in 2007 to 13.6% in 2009 before falling to 4.65% in 2011, a similar increase was observed in Estonia but saving rates did not plummet after 2009 and have remained at around 10%. Some countries have fairly stable saving rates over this period (for example, France, Germany and Slovenia) and these tend to be countries with relatively high saving rates. Other countries have very volatile saving rates (for example, Ireland, Bulgaria, Lithuania and Denmark). In addition, for a selection of countries there is a marked increase in saving rates (Sweden, Switzerland and Luxembourg) over this period. These aggregate country level rates are computed from national accounts and provide a useful indicator of national level trends but it is not possible to identify the underlying causes for these trends or the distribution of saving rates between households.

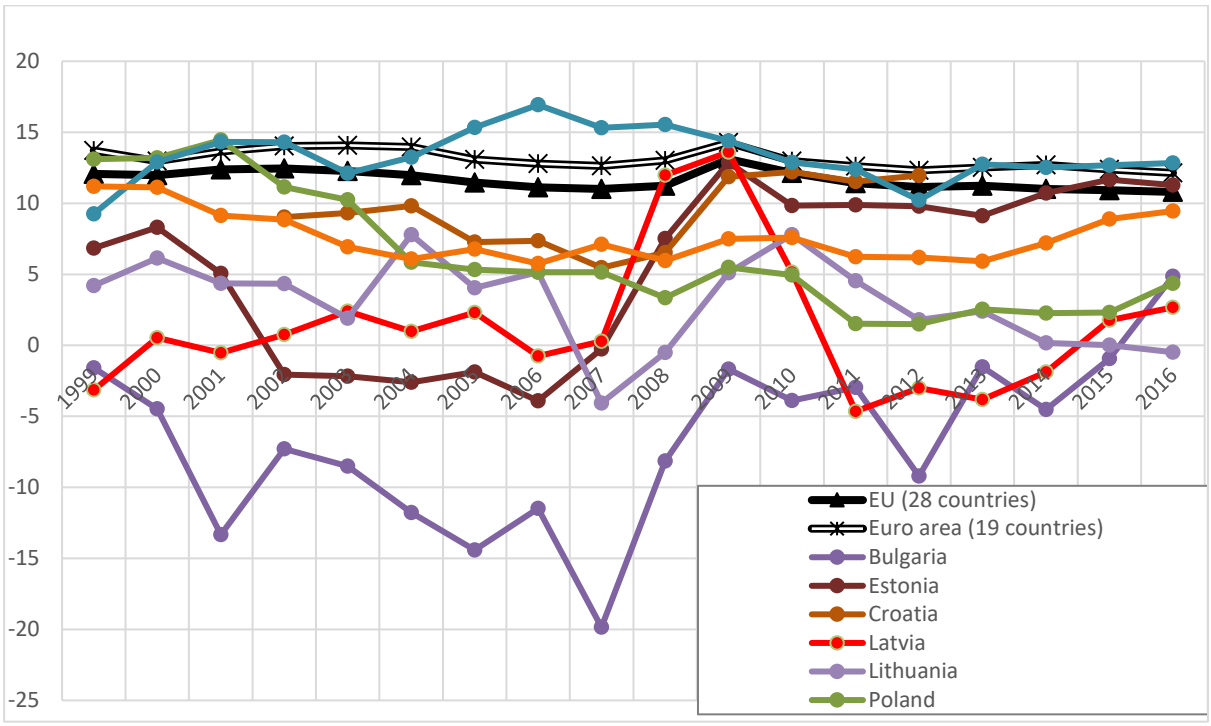
[9] Lower mortgage interest rates increase the incentive to invest in housing assets and may partly explain the house price inflation observed in a number of countries, and increasing returns from the stock market increase the incentive to invest in shares.

Figure 4: Trends in aggregate saving rates – selection of western European and Nordic countries



Data source: Eurostat

Figure 5: Trends in aggregate saving rates – selection of central and eastern European countries



Data source: Eurostat

These aggregate series have shown considerable variation across European countries in indicators that can be used to assess financial resilience at the country level. They also show distinct cross-country variation in trends before and after the financial crisis but an overall downward trend in saving rates across EU-28 after the crisis despite an initial increase. The credit crunch following the crisis led to a reduction in consumer credit to income ratios in many countries, prior to which there had been a boom in many countries that had been fuelled by house price booms and easy access to credit. We also observe considerable variation in debt-to-income ratios which could be due to institutional differences (for example, design of mortgage loans) and tax regimes (whether tax relief is available on mortgage interest payments). Looking at trends over time we observe large increases in debt-to-income ratios in a number of countries, particularly those that experienced house price inflation which led to increases in the size of mortgage loans and fuelled increases in consumption and consumer credit. In the period following the crisis 2007-2015 there was a fairly even split between countries in which debt-to-income ratios fell and countries where debt-to-income ratios increased.

5. New Evidence on the Extent and Distribution of Financial Resilience Across Households

In this section we provide new evidence on European and North American households' financial resilience using micro data from two harmonised sources of information on household income, assets and debts: the Household Finance and Consumption Survey and the Luxembourg Wealth Study. Through analysing the micro-data in these two sources we

are able to explore how indicators of financial resilience vary by household characteristics within and between countries.

The Household Finance and Consumption Survey (HFCS) collects data on households' finances and consumption through a survey managed by national central banks. The HFCS covers all countries in the Euro-area (except for Lithuania), plus Poland and Hungary. We have access to micro data for the following countries : Austria (AT); Belgium (BE); Cyprus (CY); Estonia (EE); Finland (FI); France (FR); (Germany, access denied10); Greece (GR); Hungary (HU); Ireland (IE); Italy (IT); Latvia (LV); Luxembourg (LU); Malta (MT); the Netherlands (NL); Poland (PL); Portugal (PT); Slovakia (SK); Slovenia (SL) and Spain (ES). For simplicity we refer to this set as HFCS-19 European countries. There are now two waves of the HFCS and here we focus on the second wave for which the fieldwork took place in most countries between 2013 and the first half of 2015 (HFCN, 2016). To expand the range of countries, we supplement the HFCS with data from the Luxembourg Wealth Study (LWS), which is a database containing harmonised household level information on income, wealth and debt. From this source, we include three Anglo-Saxon countries: Canada (2012), the United Kingdom (2011) and the United States (2013). This means that we are able to provide estimates on household financial resilience for 22 countries. The variables we use in the two sources are reasonably comparable with the exception of household income which in the HFCS the only measure available is gross income (net of compulsory pension contributions), while in the LWS we are able to use our preferred measure of disposable household income. We discuss how this affects the estimates below.

We concentrate on four indicators of financial resilience which are defined in the box below. In all estimates the unit of analysis is the household and for both data sources we use the appropriate household weights and statistical techniques appropriate for the survey design. In particular our estimates account for multiple imputations. We provide overall country level estimates, by gender of household head, by education level of household head, by age of household head, by housing tenure, by employment status of household head and by household income quintile.

Financially insecure	We define financially insecure households as those with net financial assets (financial assets minus non-housing liabilities) worth less than the value of three months' household income

[10] We were not able to secure access to the German HFCS data as the Bundesbank (the depositors) has a policy to refuse application whenever the results could be used for purely internal reports/purposes. As DG EMPL held the right not to publish the results of this analysis we could not meet the Bundesbank's requirement.

Financially secure	We define financially secure households as those with net financial assets (financial assets minus non-housing liabilities) worth at least the value of six months' household income
Over-indebted	We define over-indebted households as those with financial debts to the value of at least three months' household income
Severely over-indebted	We define severely over-indebted households as those with financial debts to the value of at least six months' household income

We start by examining the estimates from the HFCS, looking first at the measure of financial insecurity which assesses whether or not households have sufficient financial assets to cover three months' income. While it can be argued that the need to hold financial assets varies across countries due to differences in coverage and generosity of welfare states, access to credit and cultural differences in family support, we regard this as a minimum level of financial assets that all households need for them to be financially resilient. Only around one-half of households in HFCS-19 European countries have sufficient financial assets to cover at least three months' income and less than two-thirds of households in all countries apart from Malta (74%) (Figure 6). In some countries less than one-third of households have sufficient financial assets to cover three months' income: Slovenia (29%); Poland (26%); Greece (24%); Latvia (12%). There doesn't appear to be much difference between male and female headed households according to this measure of financial insecurity. Although in Hungary, Ireland, Malta and the Netherland, male headed-households are more likely to meet this threshold than female headed-households. In Estonia, and very marginally in Slovenia and Slovakia, female headed-households are more likely to have sufficient financial assets to meet this low threshold.

Figure 7 shows the estimates according to the education level of the household head. In general we find a higher proportion of households with higher educated household heads with net financial assets sufficient to cover three months' gross income. In most of the HFCS-19 European countries there is a positive gradient between low, middle and high education levels. In some cases the difference between households with low educated heads and those with high educated heads is quite large. For example, in Slovakia only 17% of households with a low educated head have sufficient financial assets to cover three months' gross income, while 54% of households with a high educated head meet this threshold. Steep education gradients in this measure of financial insecurity are found in a number of countries including Poland, Hungary, Luxembourg and Slovakia. Households in Finland, Greece and Ireland are unusual in that those with lower educated household heads are less likely to be financial insecure according to this measure, than households with mid-educated heads. This may be due to differences in the age profile of low educated household heads in these countries.

Households with older household heads tend to be more likely to have sufficient net financial assets to meet this income threshold, consistent with the lifecycle pattern of wealth accumulation (Figure 8). We observe clear age-gradients in Austria, Belgium, Estonia, Finland, Italy, Latvia, Portugal and Slovenia. However, there are some notable exceptions. Households in Cyprus with household heads in the oldest age category (80+ years) are the least likely to have sufficient net financial assets to cover three months' gross income, and in Hungary and Poland households with heads in the two oldest age groups (60-79 years and 80+ years) have lower proportions than the mid age group (40-60 years).

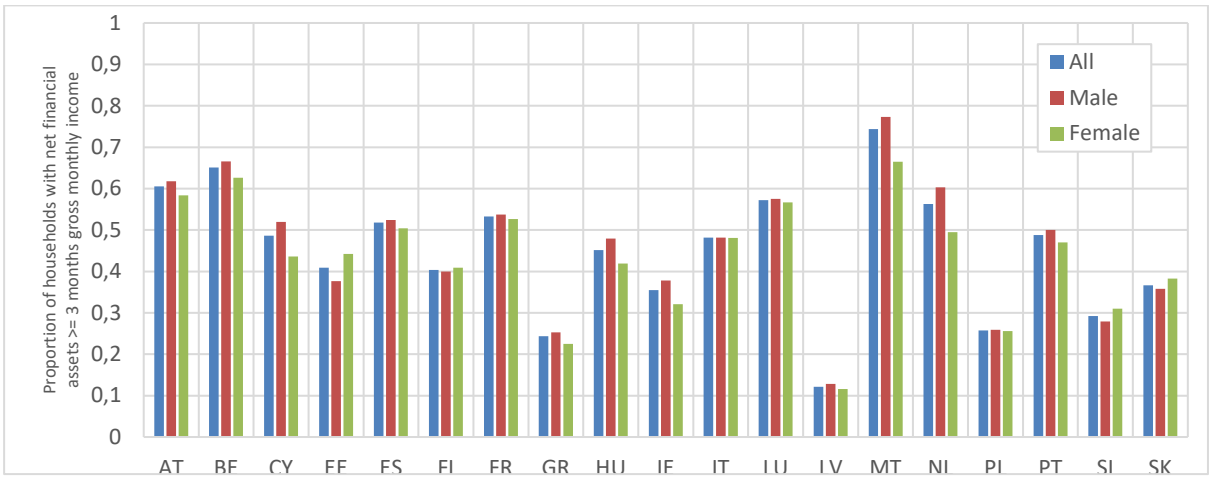
Outright homeowners are the most likely to have sufficient net financial assets to meet this income threshold with the exception of households in Poland where outright homeowners and households who own their home with a mortgage are only marginally different (Figure 9). In contrast, households who rent their homes are much more likely to be financially insecure according to this measure, with the gap between outright owners and renters very large in many HFCS-19 countries.

We observe considerable variation between HFCS-19 countries in the proportion of households with sufficient net financial assets to meet this income threshold by the labour market status of household heads (Figure 10). On the whole, households with retired household heads are more likely have sufficient net financial assets which is consistent with the lifecycle pattern of wealth accumulation. Households with unemployed household heads do particularly badly relative to other households according to this measure in some countries, including Austria, Belgium, Estonia, Italy, Portugal and Slovakia. We also find that households with a self-employed household head do relatively well in contrast to

households where the head is an employee. This could be due to higher financial assets related to their businesses.

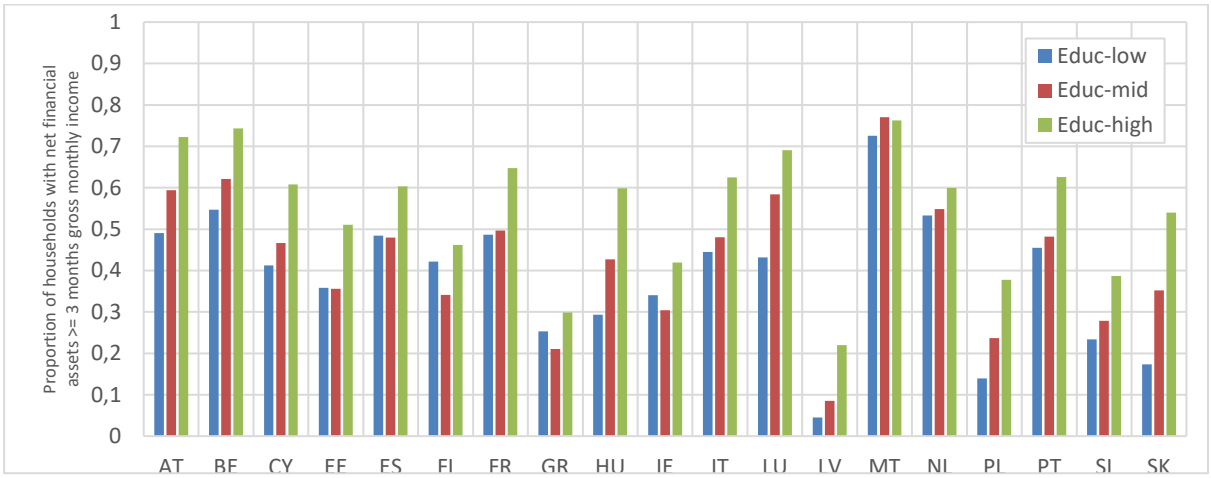
In general, we find clear income gradients whereby higher income households are much more likely to have sufficient net financial assets to cover three months' income than lower income households in Austria, Belgium, Cyprus, France, Hungary, Italy, Luxembourg, Poland (to some extent) and Portugal (Figure 11). In a number of other countries income position is less important (for example, Greece, Latvia, Slovenia and Slovakia) and in Estonia lower income households are more likely to meet this threshold than higher income households.

Figure 6: Household financial insecurity, all households and by gender of household head



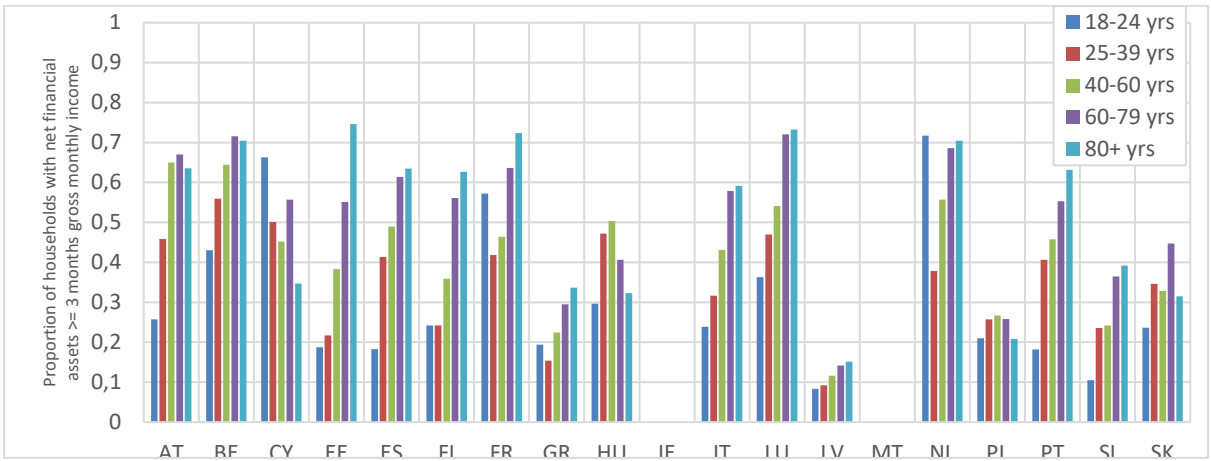
Source: Authors' analysis of HFCS 2.1

Figure 7: Household financial insecurity by education level of household head



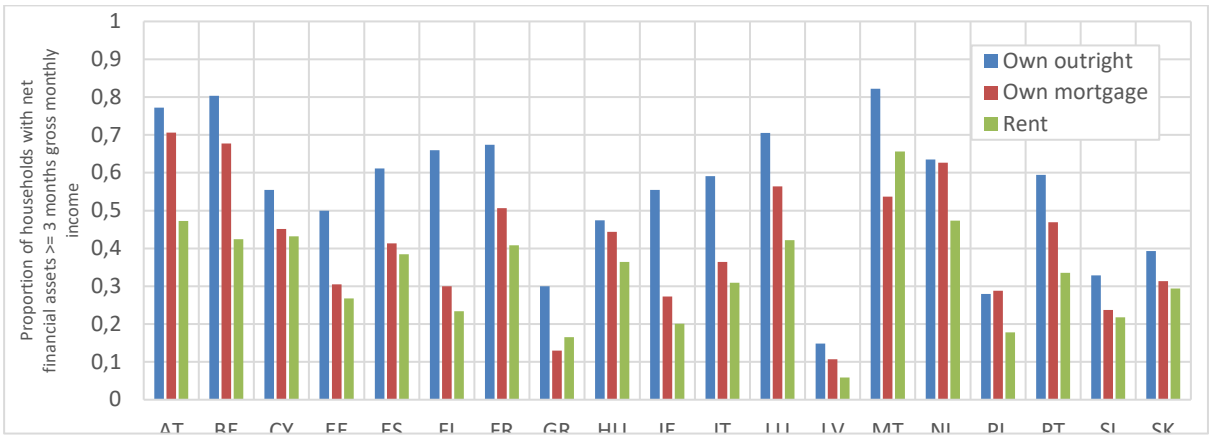
Source: Authors' analysis of HFCS 2.1

Figure 8: Household financial insecurity by age of household head



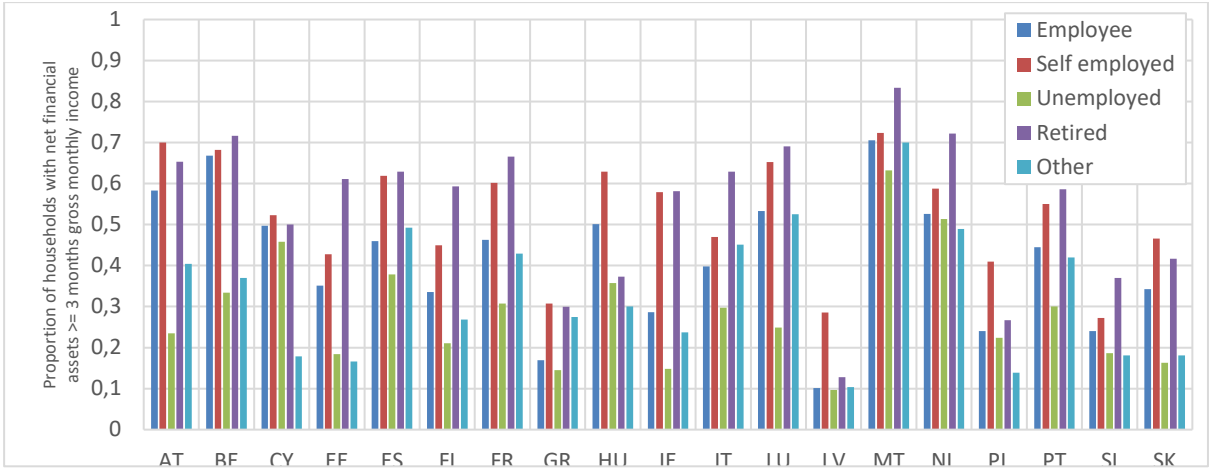
Source: Authors' analysis of HFCS 2.1

Figure 9: Household financial insecurity by housing tenure



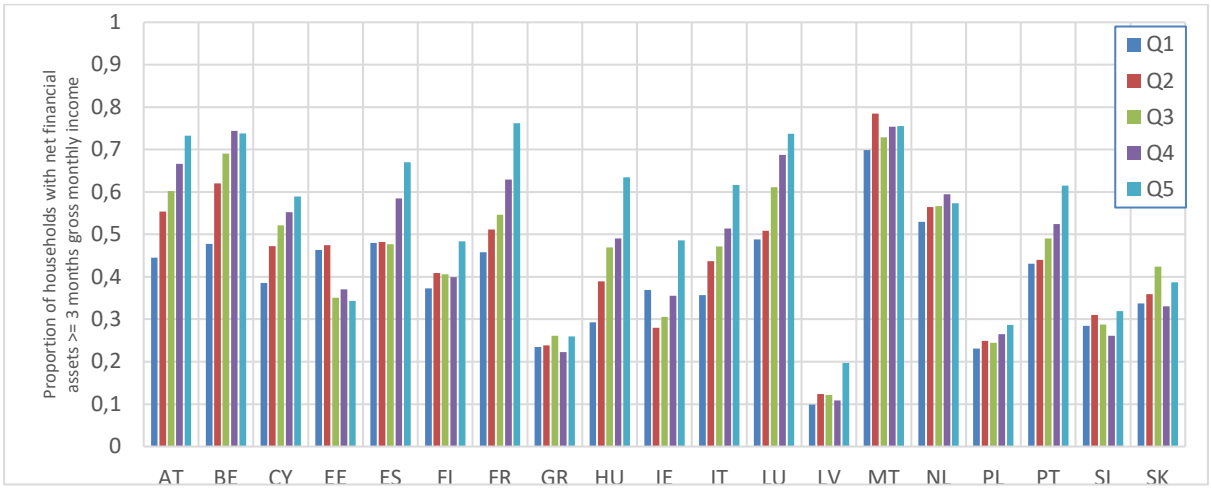
Source: Authors' analysis of HFCS 2.1

Figure 10: Household financial insecurity by labour market status of household head



Source: Authors' analysis of HFCS 2.1

Figure 11: Household financial insecurity by household gross income quintile



Source: Authors' analysis of HFCS 2.1

In the next set of charts we show the proportion of households with net financial assets sufficient to cover at least six months' gross income. Households meeting this threshold

can be considered financially secure and should be in a position to cope with most financial shocks. In countries with generous and well-functioning welfare states (for example, in the Nordic countries) it may be less important for households to hold this level of financial assets.

We find variation across the HFCS-19 European countries with the lowest share of households financially secure according to this definition in Latvia (7.4%), Greece (14.7%), and Poland (14%) highlighting the vulnerability of households in these countries in the face of any financial shocks (Figure 12). Only in Belgium (52%) and Malta (63%) are more than half of households financially secure according to this definition. In most countries male headed households are more likely to be financially secure, although this is not the case in Estonia, Latvia, Poland, Slovenia and Slovakia, but the differences tend to be small with the exception of Malta and the Netherlands.

In general, households with higher educated heads are more likely to have sufficient net financial assets sufficient to cover six months' income than households with lower educated heads (Figure 13). For example, in Belgium 62% of households with high educated heads have sufficient net financial assets to meet this threshold of financial security, while only 40% of households with low educated heads are in the same position.

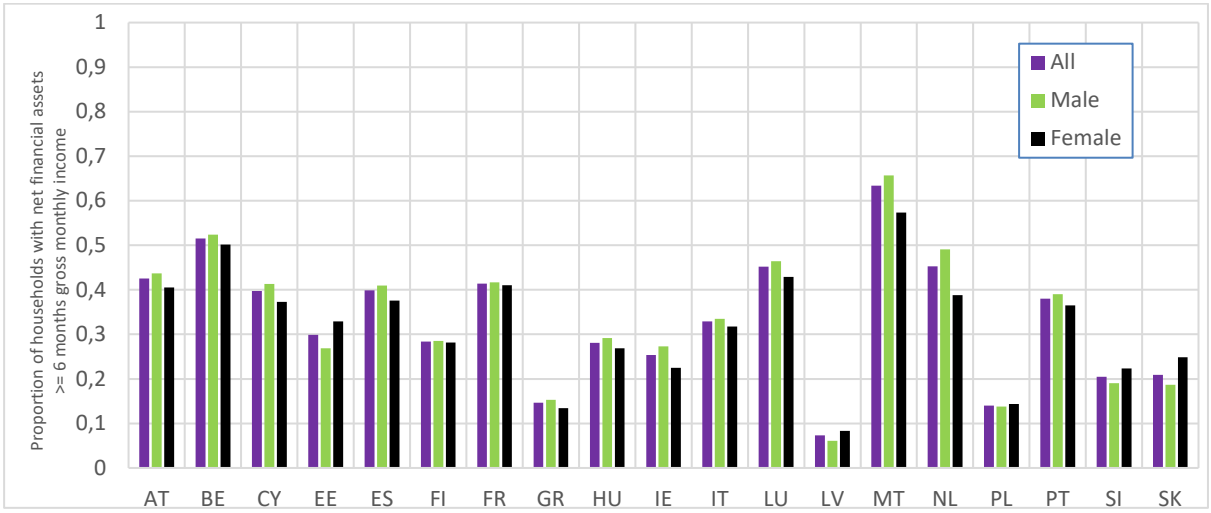
Households with older household heads are more likely to be financially secure according to this definition (Figure 14)[11]. In some countries we observe clear age gradients, such as in Spain, Estonia, Italy and Portugal. In some other countries differences between age groups is much less marked and doesn't follow a clear pattern.

Outright home owning households are the most likely to be financially secure in all countries and around 50% or more of these households are financially secure according to this definition (Figure 15). We do observe big differences between outright home owning households and financial security across HFCS-19 countries, with the greatest difference between Malta (74%) and Latvia (9%). We find quite similar proportions of households owning with a mortgage and renters meeting this threshold of financial security in many countries (Cyprus, Estonia, Spain, Finland, Greece, Italy, Slovenia and Slovakia). Households where the head is self-employed or retired are most likely to be financially secure according to this definition in most countries, with generally much lower rates of financial security among households where the head is unemployed (Figure 16).

We find similar relationships between income positions and financial security as we observed for the measure of financial insecurity, with income position mattering more in some countries than in others (Figure 17).

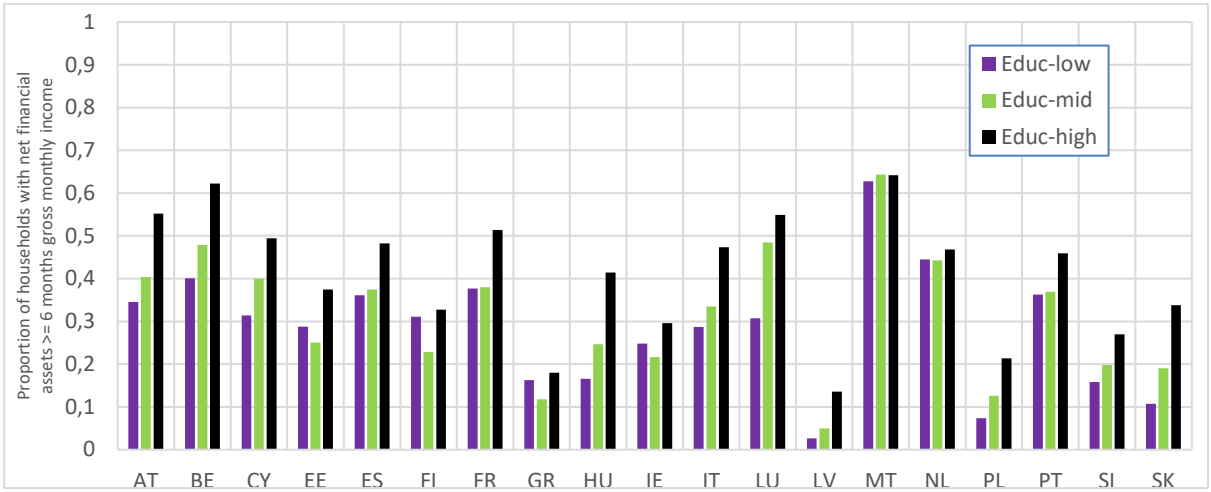
[11] The derived variable for age of household head is missing in the datasets for Ireland and Malta.

Figure 12: Household financial security, all households and by gender of household head



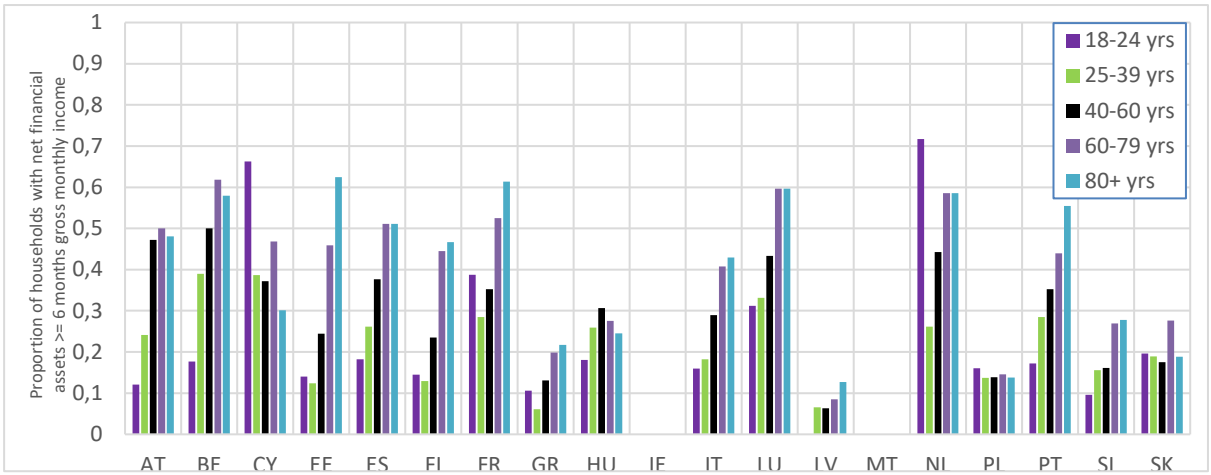
Source: Authors' analysis of HFCS 2.1

Figure 13: Household financial security by education level of household head



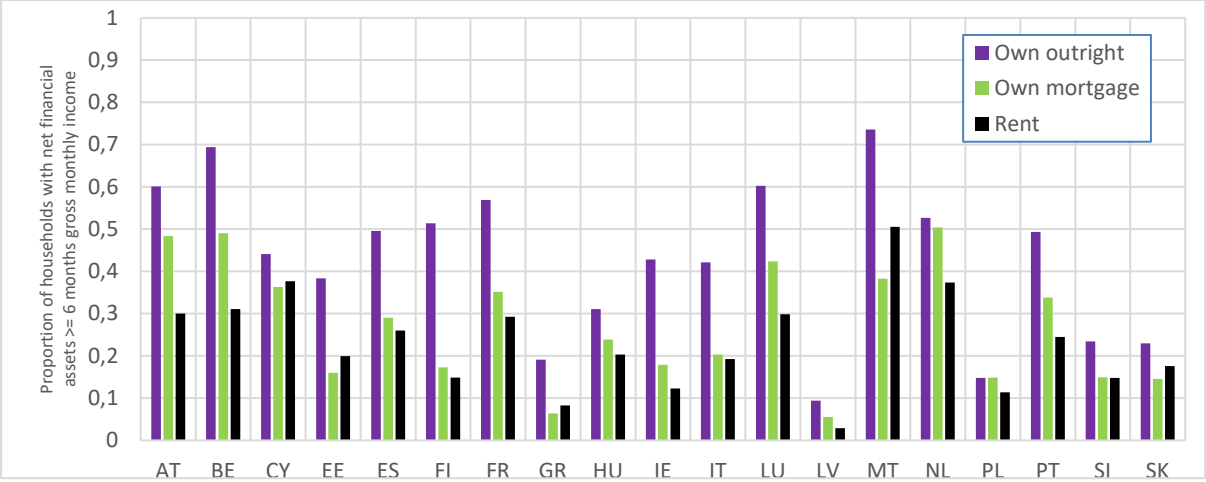
Source: Authors' analysis of HFCS 2.1

Figure 14: Household financial security by age of household head



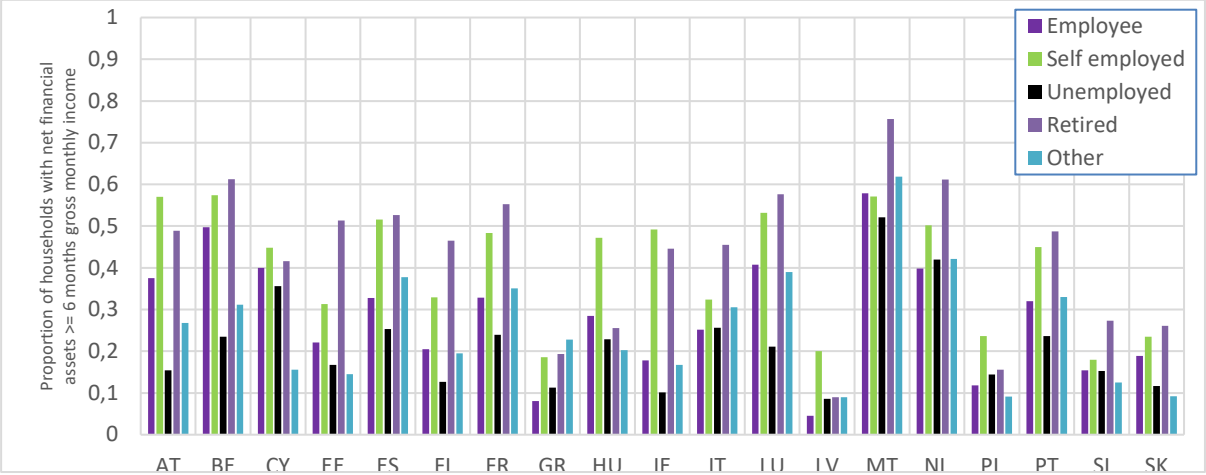
Source: Authors' analysis of HFCS 2.1

Figure 15: Household financial security by housing tenure



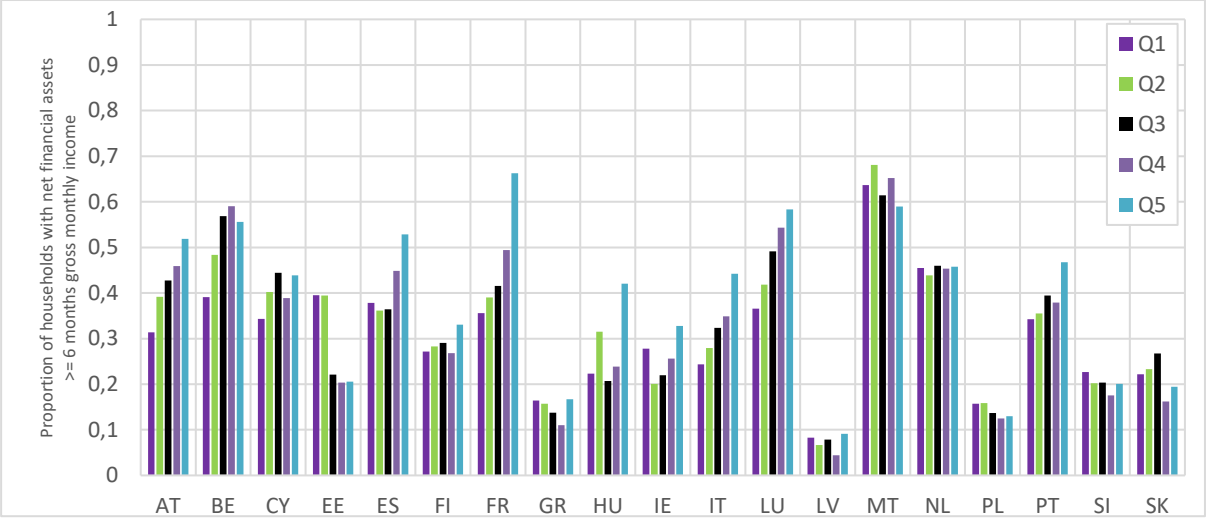
Source: Authors' analysis of HFCS 2.1

Figure 16: Household financial security by labour market status of household head



Source: Authors' analysis of HFCS 2.1

Figure 17: Household financial security by household gross income quintile



Source: Authors' analysis of HFCS 2.1

The final two measures assess household indebtedness. The first identifies whether households are over-indebted according to whether they hold financial debts at least as great as the value of three months' gross household income. We observe considerable variation in rates of household over-indebtedness across HFCS-19 European countries (Figure 18). According to this measure more than 1 in 10 households are over-indebted in Spain (12%), France (12%), Slovenia (12%), Luxembourg (11%) and Hungary (10%), and over 15% of households are over-indebted in the Netherlands (22%), Cyprus (21%) and Finland (17%). However, there are very low proportions of over-indebted household in Estonia (3%) and Poland (4%), which might be a signal that households have limited opportunities to borrow in these countries. There appears to be little differences in over-indebtedness between male and female headed households in most countries. In some countries higher proportions of female headed households are over-indebted relative to male headed households (Cyprus, Estonia, Ireland, Latvia and Slovenia), but in Spain, France, Luxembourg, the Netherlands and Slovakia male headed households are more likely to be over-indebted than female headed households.

There is variation between HFCS-19 countries in the relationship between education level of household head and the proportion of households which are over-indebted (Figure 19). Austria and Belgium are the only countries where the greatest proportion of households classified as over-indebted are found among lowest educated household heads. In the majority of countries households with mid-educated household heads are the most likely to be over-indebted. Only in Finland, Hungary and the Netherlands are households with high educated household heads the most likely to be over-indebted.

Younger headed households are more likely to be over-indebted than older ones, although, with the exception of the Netherlands, there is not a linear relationship between age and the proportion of households who are classified as over-indebted (Figure 20). In most countries households with heads 18-24 and 25-39 years are the most likely to be over-indebted and the lowest proportions for heads 80+ years.

The relationship between housing tenure and over-indebtedness varies across countries (Figure 21). Households who own their homes outright are the least likely to be over-indebted in all countries with the exception of France (where renters are the least likely to be over-indebted), this is likely to reflect the lower housing costs for these households. In some countries renters are the most likely to be over-indebted (for example, Austria, Estonia, Spain, Luxembourg and Slovakia).

Figure 22 shows that in most HFCS-19 countries households headed by an employee are less likely to be over-indebted than households headed by someone who is self-employed; the exceptions are Luxembourg, Slovenia, Slovakia and Hungary (marginally). In a

number of countries households headed by an unemployed person are the most likely to be over-indebted (Austria, Cyprus, Greece, Italy and Slovakia) and households with a retired household head are the least likely in most countries.

There isn't a consistent relationship between households' position in the income distribution and the likelihood of being over-indebted across countries (Figure 23). In some countries, households in the lowest income quintiles are the most likely to be over-indebted (for example, Austria, Belgium, Ireland, Italy and Luxembourg) but in Finland it is higher income households who are more likely to be over-indebted.

The second measure of household indebtedness estimates severe over-indebtedness. Households with financial debts at least as great as the value of six months' gross income are classified as severely over-indebted. We find that households in Cyprus and the Netherlands are the most likely to be severely over-indebted (over 15% of households), and over 5% of households in Spain, Finland, Hungary, Luxembourg, Portugal and Slovenia (Figure 24). The ranking of countries by the proportion of households severely over-indebted is very similar to the ranking using the lower debt threshold. Female headed households in Cyprus, Latvia, Malta, the Netherlands, Slovenia and Slovakia are more likely to be severely over-indebted relative to male headed households. In contrast, male headed households are more likely to be severely over-indebted in Belgium, Spain, Finland and Hungary. There is little difference in other countries.

The proportion of households classified as severely over-indebted by level of education and age of the household head is similar to that seen for the over-indebted measure (Figure 25 and Figure 26). There are some exceptions, for example households with young household heads (18-24 years) in Portugal are the least likely to be severely over-indebted despite the fact that this group had one of the highest rates of over-indebtedness. This suggests that these households are not holding as high levels of financial debt as some of the older age groups. In contrast, in Hungary households headed by 18-24 year olds are the most likely to be severely over-indebted while households headed by 25-39 year olds were the most likely to be over-indebted.

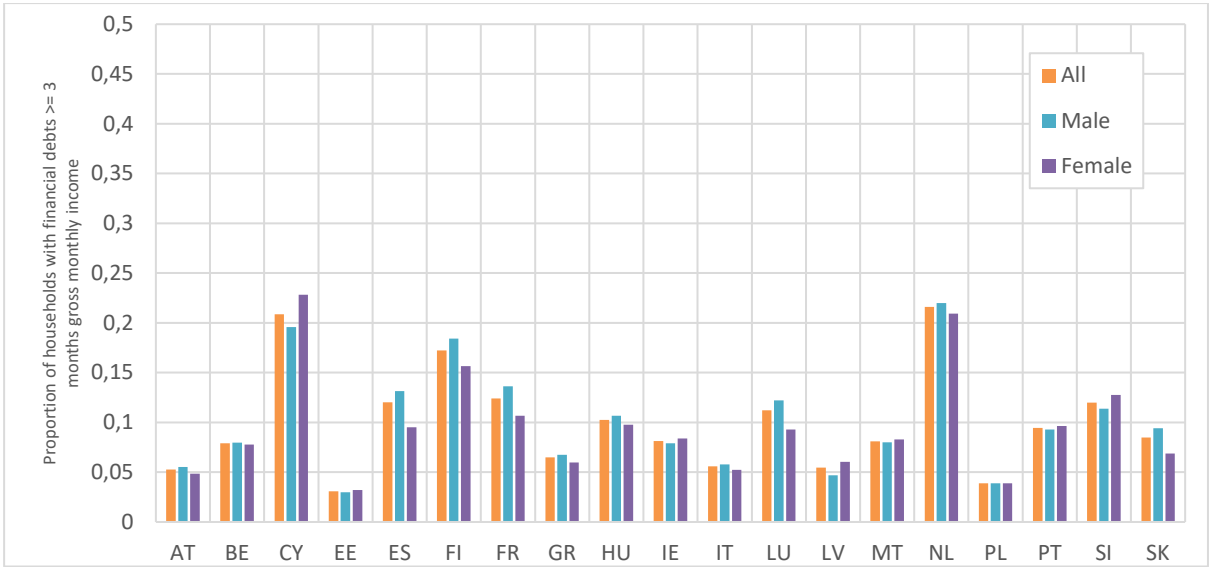
There is a fairly even split between countries where households who are most likely to be severely over-indebted are renters (9) or owners with a mortgage (7) (Figure 27). Without estimating statistical models it is difficult to identify the reason for this variation. In some countries, where homeownership rates are high it may be that the most disadvantaged are more likely to be living in rented accommodation while in other countries it maybe that households are allowed to borrow more, have high mortgage repayments and are at greater risk of becoming indebted. Households renting in Cyprus are the most likely to be severely over-indebted (19%), in contrast to mortgagors who were the most likely to be

over-indebted, indicating that renters are holding much higher levels of financial debt relative to their income in this country. Renters also overtake owners with mortgages in Italy and Slovenia when we contrast the proportion who are severely over-indebted with those who are over-indebted; suggesting that renters have higher levels of debt relative to their income in these countries.

Although the proportion of households who are severely over-indebted is lower than the over-indebted proportion for labour market status groups, the gap between the measures is small for some groups (Figure 28). For example, one-third of unemployed headed households are over-indebted in Cyprus, and nearly one-quarter are severely over-indebted, indicating high levels of financial debt relative to income held by households with unemployed household heads. The highest rates of severe over-indebtedness by labour market status across HFCS countries are: households headed by the self-employed in Finland (26%); households with unemployed household heads in Cyprus (25%); households headed by the self-employed in the Netherlands (23%); households headed by 'other labour market status' (which includes long term disabled) in Cyprus (31%) and households with unemployed household heads in Italy (23%).

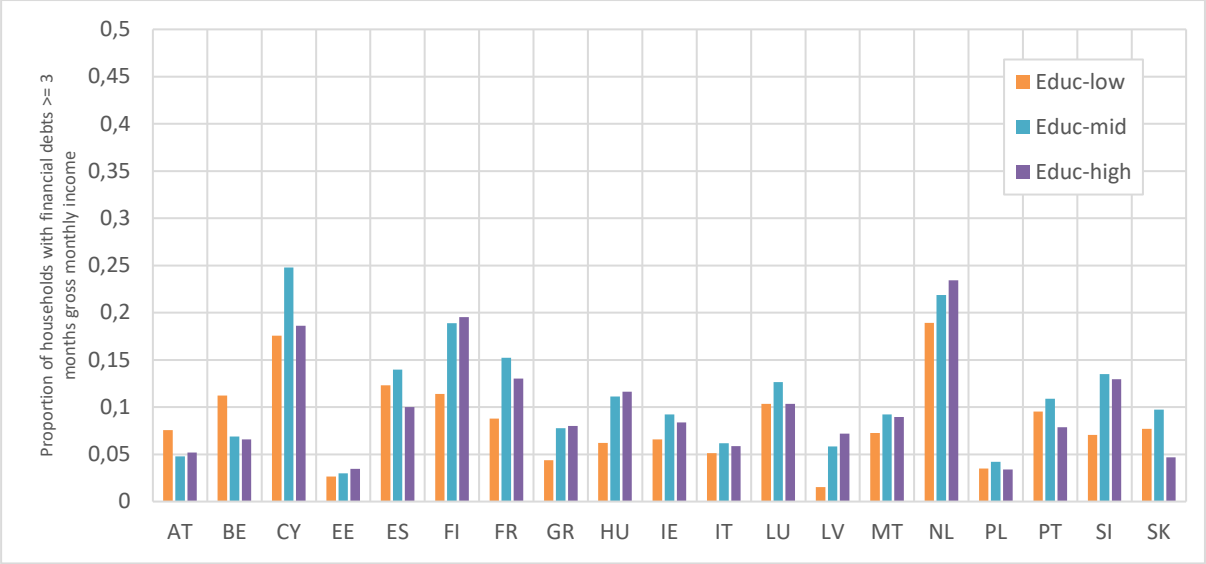
Severe over-indebtedness appears more concentrated in lower income households than over-indebtedness across many countries, although in Malta and Finland severe over-indebtedness is more concentrated in higher income households (Figure 29).

Figure 18: Household over-indebtedness, all and by gender of household head



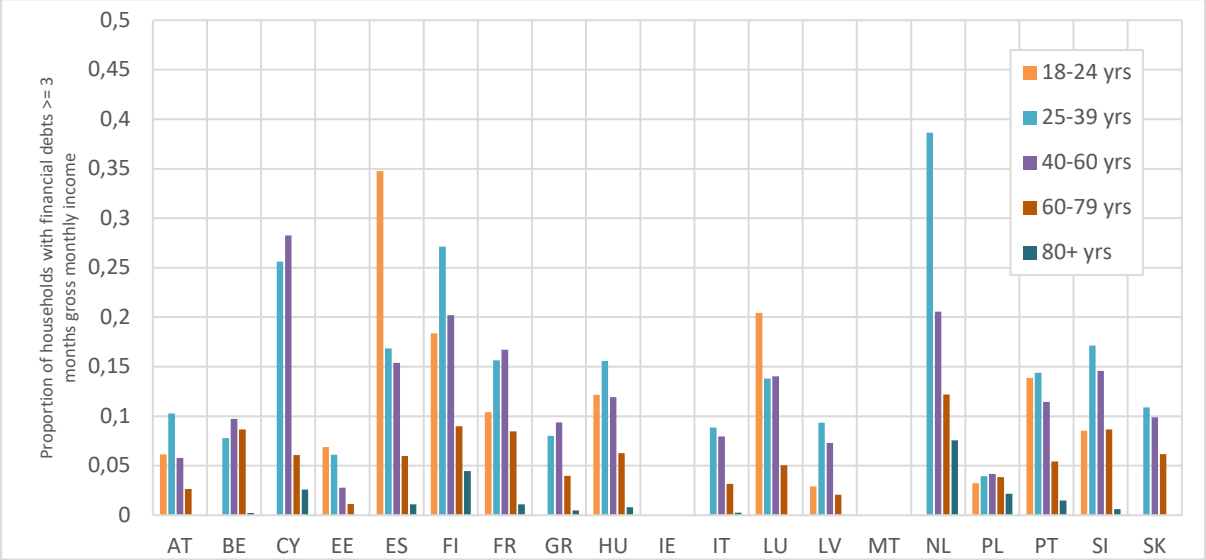
Source: Authors' analysis of HFCS 2.1

Figure 19: Household over-indebtedness by education level of household head



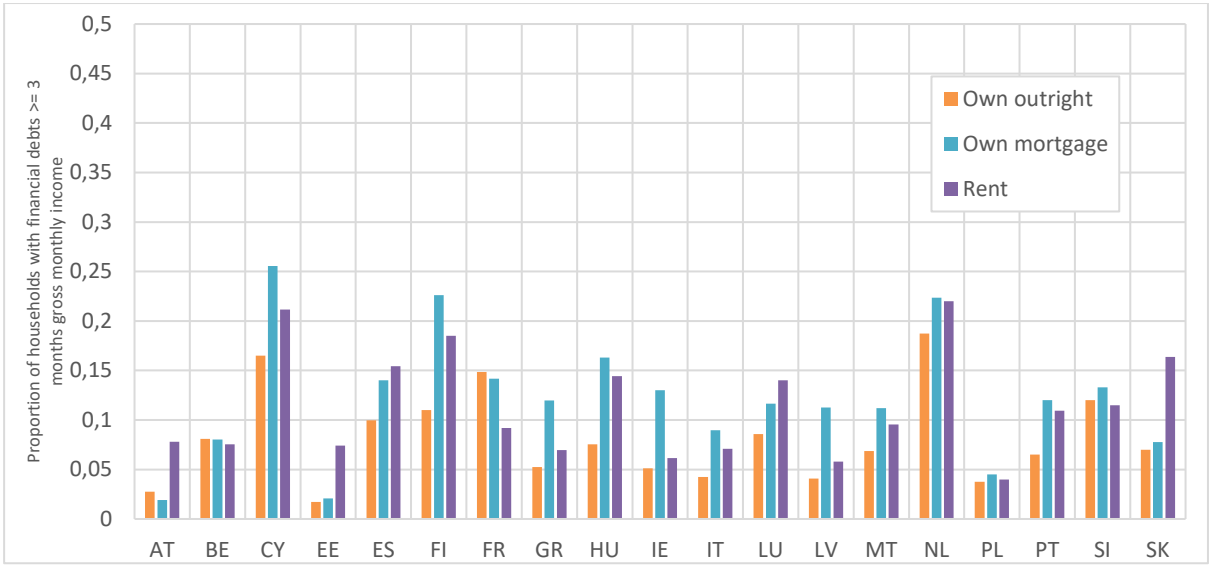
Source: Authors' analysis of HFCS 2.1

Figure 20: Household over-indebtedness by age of household head



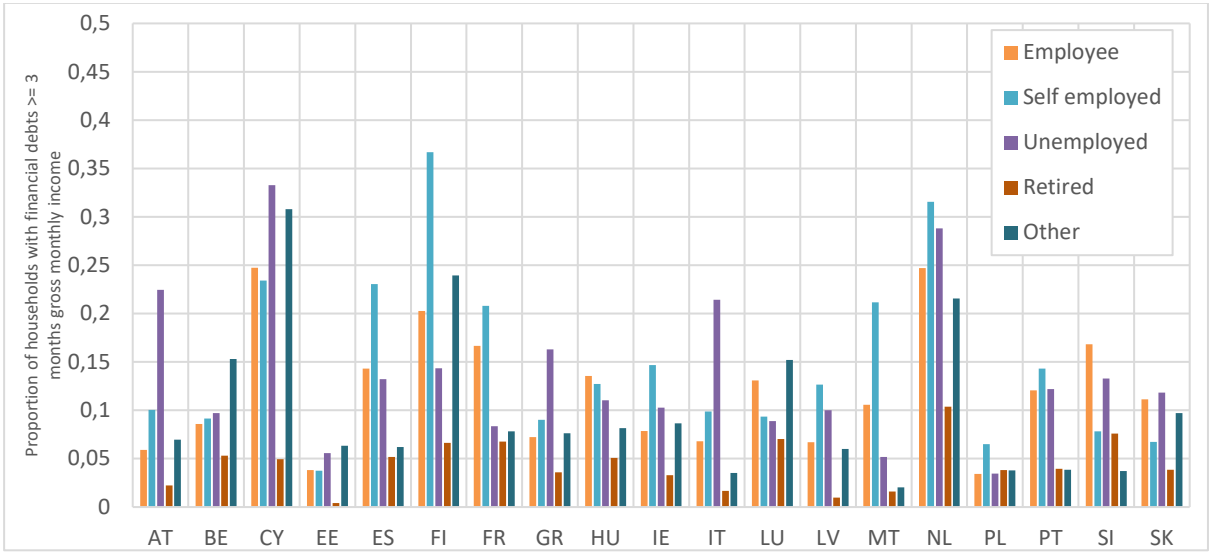
Source: Authors' analysis of HFCS 2.1

Figure 21: Households over-indebtedness by housing tenure



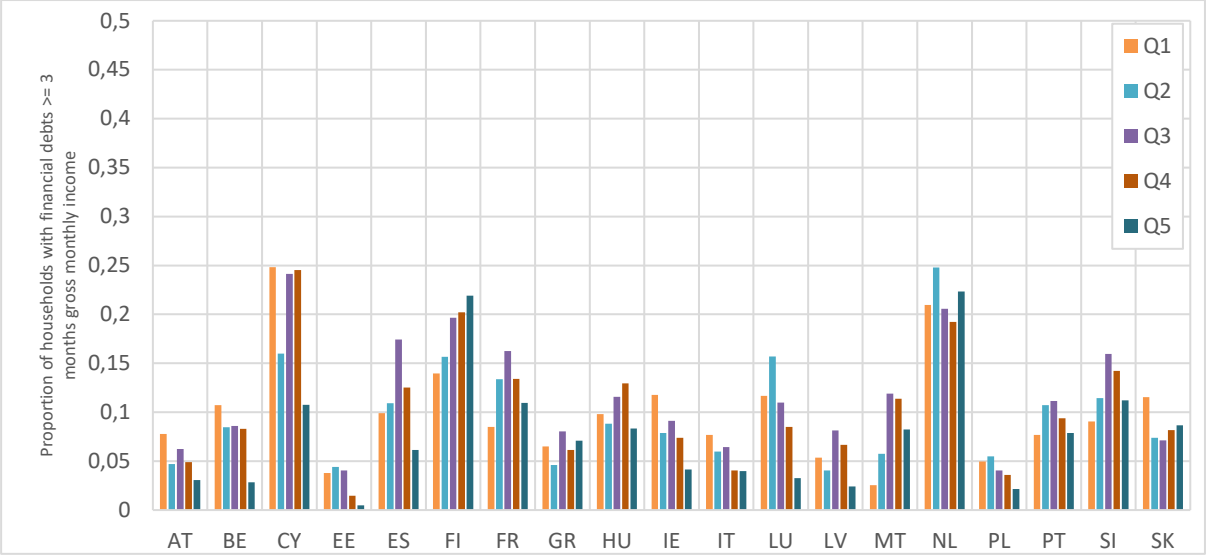
Source: Authors' analysis of HFCS 2.1

Figure 22: Households over-indebtedness by labour market status of household head



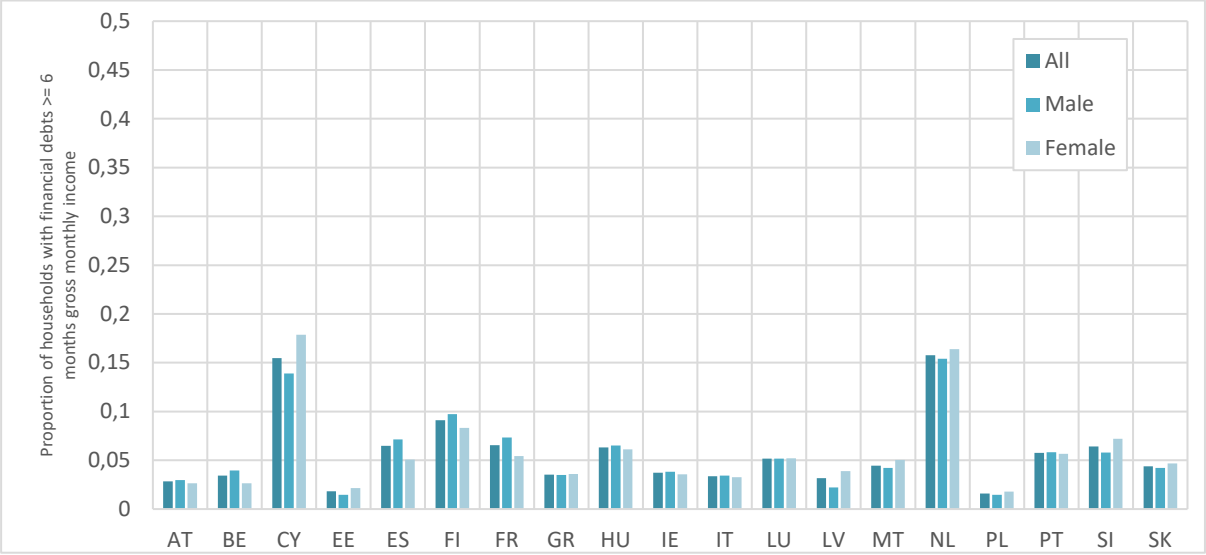
Source: Authors' analysis of HFCS 2.1

Figure 23: Households over-indebtedness by household gross income quintile



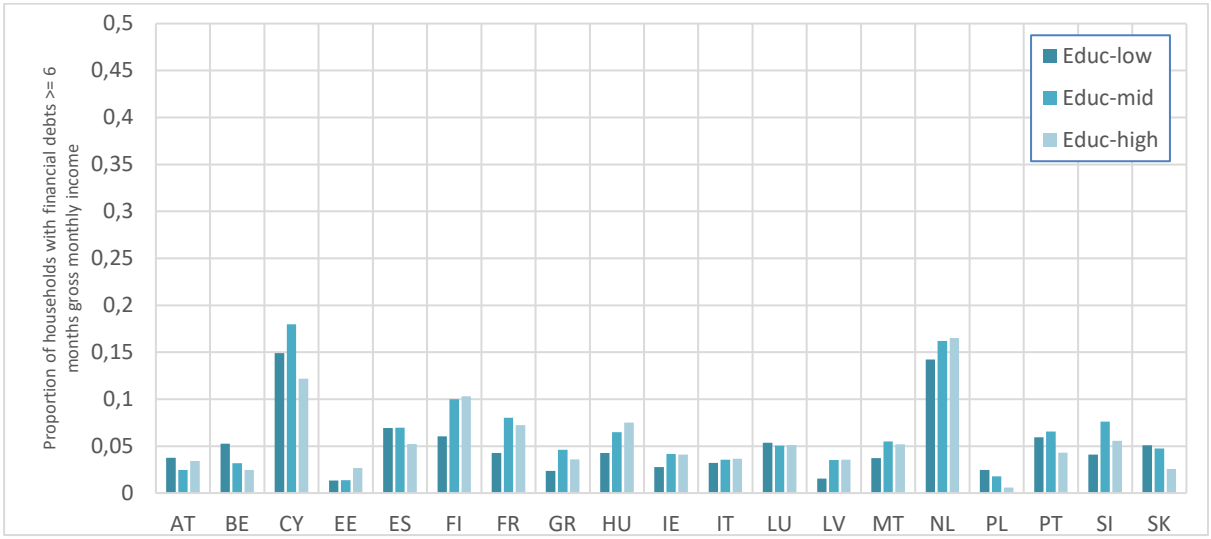
Source: Authors' analysis of HFCS 2.1

Figure 24: Households severe over-indebtedness, all and by gender of household head



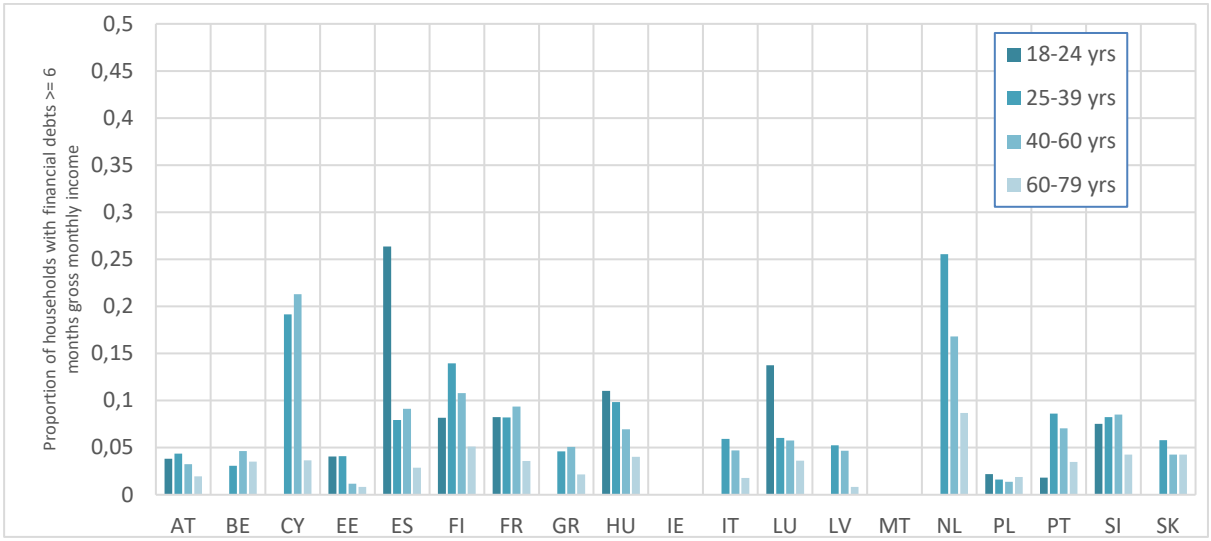
Source: Authors' analysis of HFCS 2.1

Figure 25: Households severe over-indebtedness by education level of household head



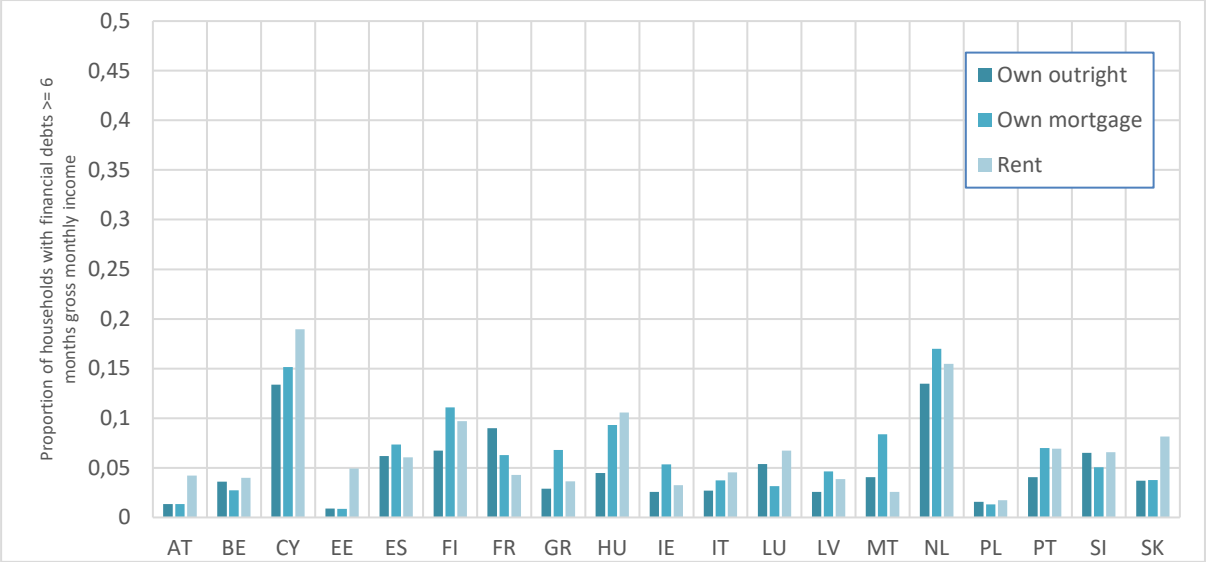
Source: Authors' analysis of HFCS 2.1

Figure 26: Households severe over-indebtedness by age of household head



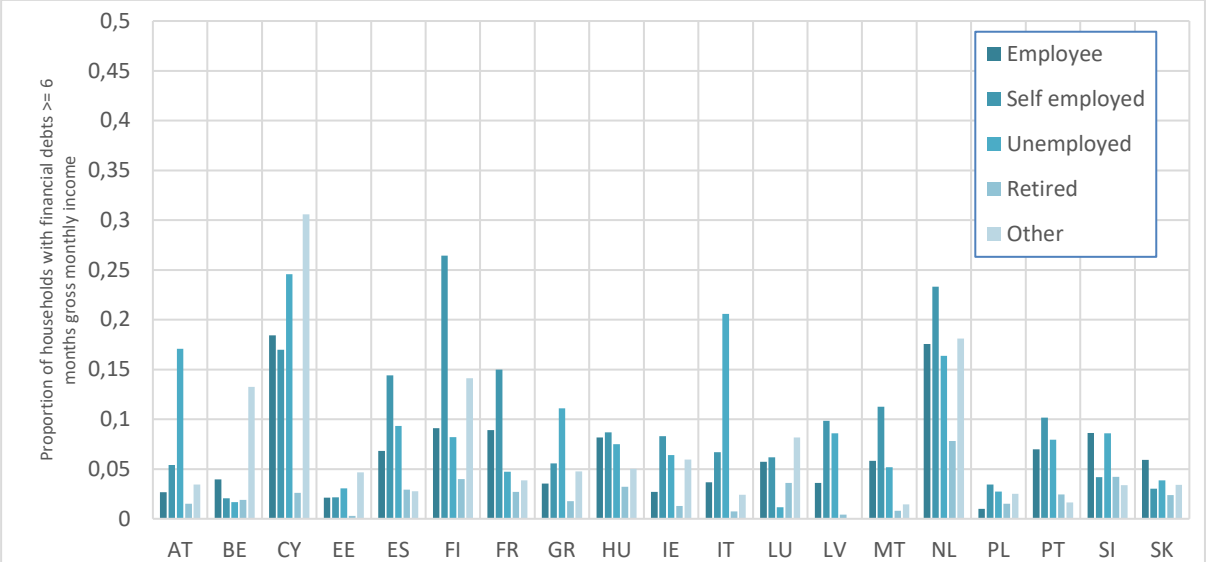
Source: Authors' analysis of HFCS 2.1

Figure 27: Households severe over-indebtedness by housing tenure



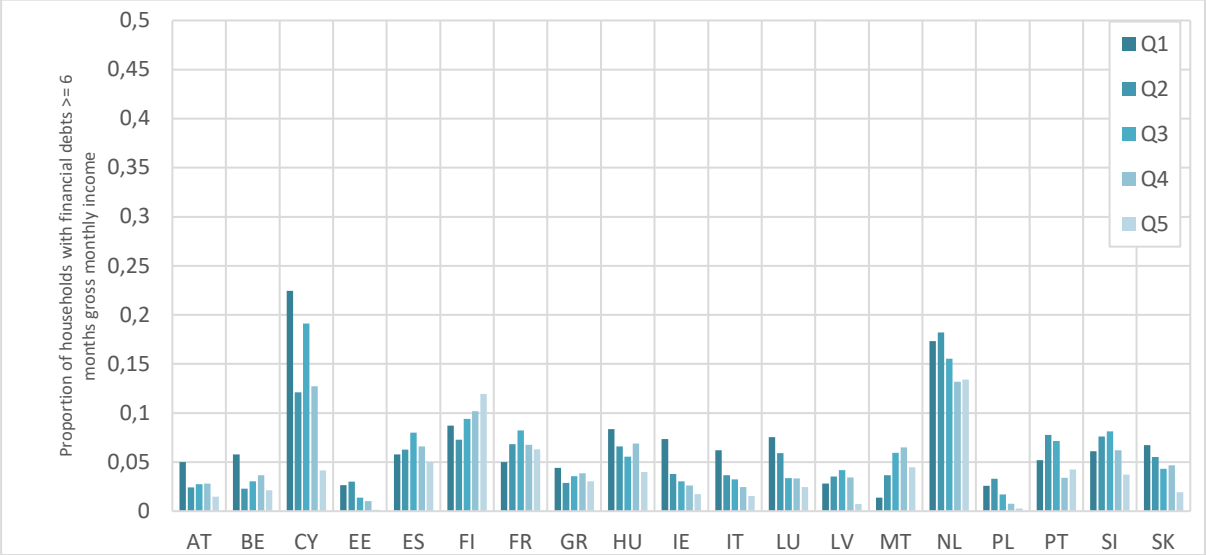
Source: Authors' analysis of HFCS 2.1

Figure 28: Households severe over-indebtedness by labour market status of household head



Source: Authors' analysis of HFCS 2.1

Figure 29: Households severe over-indebtedness by household gross income quintile



Source: Authors' analysis of HFCS 2.1

Next we turn to the evidence from the Luxembourg Wealth Study which was used to estimate indicators of financial resilience for households in Canada, the United Kingdom and the United States. As noted earlier the main differences is that in the LWS our measure of household income is disposable income rather than gross income. Disposable income is a more suitable measure of income to use to assess whether households have enough financial assets to replace X number of months' income as it is disposable income that households will be looking to replace, or to assess debt in relation to income, as it is disposable income that is available to repay debts. Gross income measures will under-estimate the proportion of households with sufficient financial assets to replace 3 or 6 months of disposable income, and the number of households with financial debts greater or equal to 3 or 6 months of income. This difference means that we cannot make direct comparisons between the two series in terms of levels but we will highlight key differences between groups where they appear.

A higher proportion of households in the UK (49%) have sufficient net financial assets to cover the value of at least 3 months' income compared to households in Canada (33%) or the US (31%) (Figure 30). Female headed households are more likely to be financially insecure according to this definition than male headed households in the UK and the US, with very little difference between male and female headed households in Canada. We observe a clear positive gradient between education level of household head and the proportion of households with sufficient net financial assets to cover at least 3 months' disposable income. In the UK and Canada, households with high educated heads have the highest proportions meeting this threshold but there is very little difference between

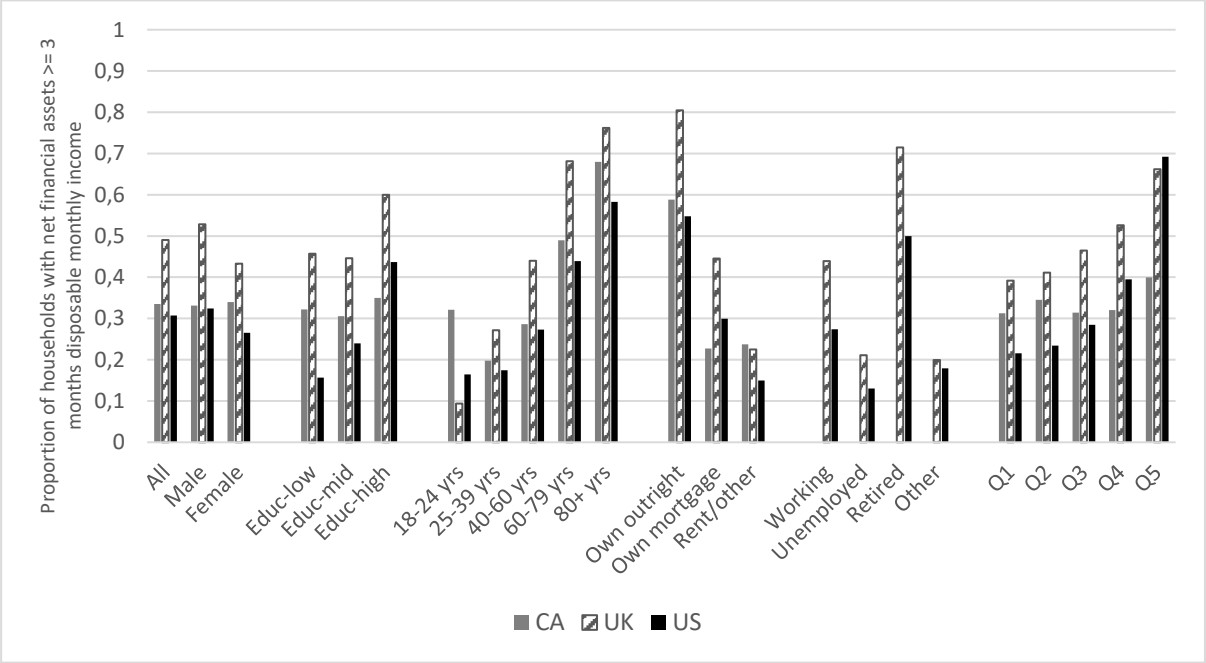
households with low- and mid-educated household heads. Households with older household heads have higher proportions with sufficient net financial assets to meet this income threshold with clear gradients in the UK and the US. Households who own their homes outright are the most likely to be able to meet this financial asset threshold with a clear gradient between outright owners, owners with a mortgage and renters in the UK and the US. However, in Canada a similar proportion of households who own with a mortgage and who rent their homes have sufficient net financial assets to cover at least three months' disposable income. This suggests that owners with mortgages in Canada either have lower relative net financial assets or higher relative disposable income than their counterparts in the US or the UK, or that renters in Canada are a less disadvantaged group than in the US or the UK. Similar differences between renters and owners with a mortgage was found between HFCS-19 countries. To understand why these differences exist requires statistical analysis.

According to the labour market status of household head (note that this variable is not available for Canada), households with a retired household head are the least likely to be financially insecure according to this definition and households with an unemployed household head are the most likely to be financially insecure. This was also the case in most HFCS-19 countries, the exceptions being some countries where the self-employed were the least likely to be financially insecure (for example, Austria, Cyprus, Hungary, Latvia) which may be due to a greater need for the self-employed in these countries to hold financial assets to cope with fluctuating income.

In the UK and the US there is a clear income gradient with higher income households more likely to have sufficient financial assets to cover at least three months' income than lower income households. In Canada, although the highest income households are the most likely to meet this threshold, the relationship between the other positions in the income distribution is not monotonic. Similar income profiles were also observed in a number of HFCS-19 countries, including Greece, Slovenia and Slovakia.

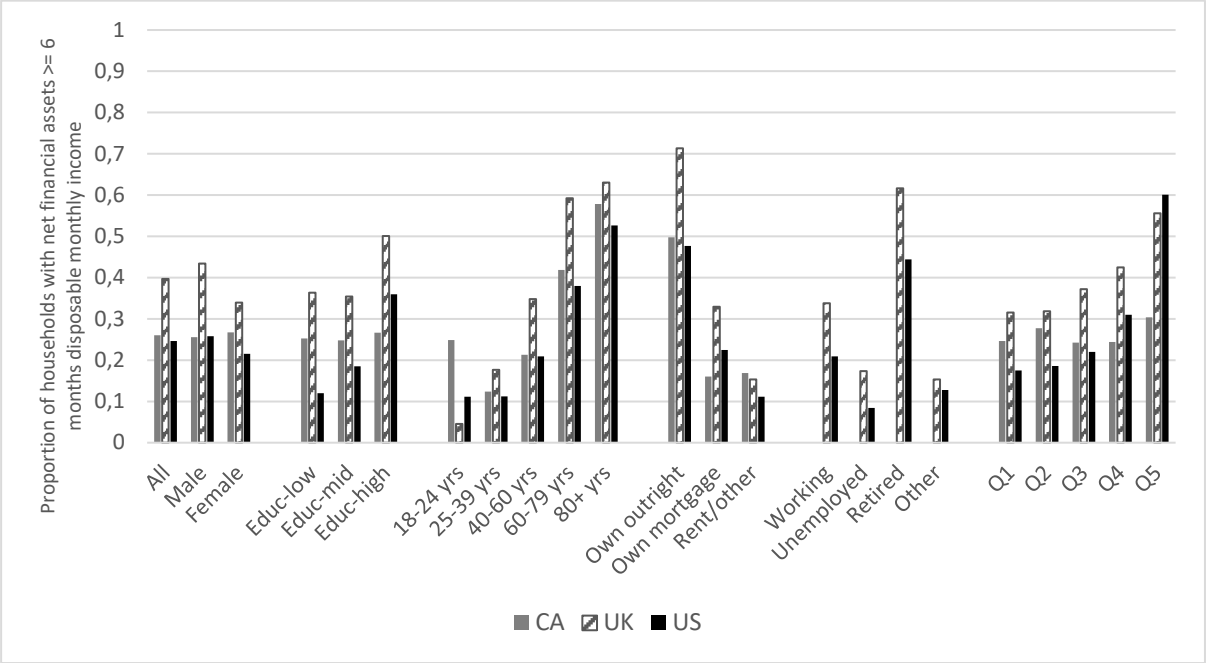
Overall, 40% of households in the UK, 27% of households in the US and 26% of households in Canada have sufficient net financial assets to cover six months' disposable income (Figure 31). Although the proportions are lower than for the three month threshold, we see a similar pattern across household characteristics as we observe with the lower threshold.

Figure 30: Financial insecurity by household characteristics



Source: Authors' analysis of LWS

Figure 31: Financial security by household characteristics



Source: Authors' analysis of LWS

We now turn to our final set of measures which estimate levels of indebtedness across households. We find similar overall proportions of households in the US (37%) and Canada (36) classified as over-indebted, on the basis that they have financial debts greater than or equal to the value of 3 months' disposable household income (Figure 32). The proportion in the UK is much lower (16%). In the US and Canada, households with a male head are more likely to be over-indebted than female headed households while the rates

are very similar between male and female headed households in the UK. In the US, Canada and the UK, households with a low educated household head are the least likely to be over-indebted while much higher proportions of households with mid- and high-educated household heads are over-indebted. This could be related to access to credit or the size of education loans as graduate tuition fees are high in each of these countries. In all three countries we find a negative age gradient with households with older aged household heads less likely to hold financial debts greater or equal to 3 months' disposable income. Although the difference observed between the two youngest age groups (18-24 years and 25-39 years) is small.

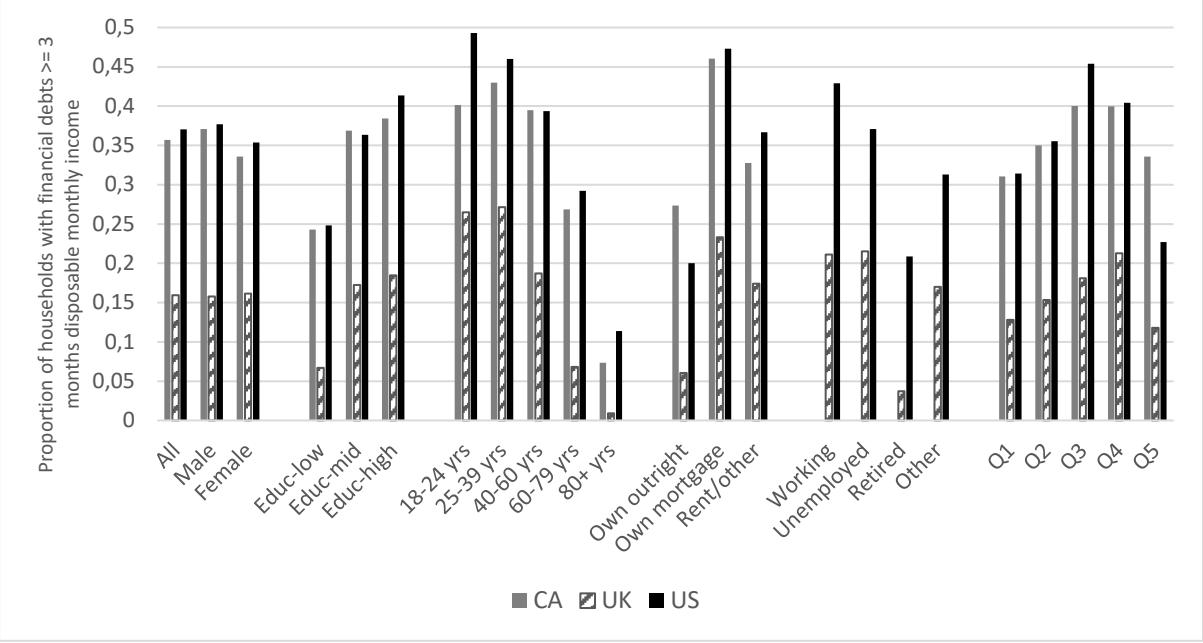
Households who own their home with a mortgage have the highest rates of over-indebtedness relative to households who own their home outright (the lowest rates) and renters. Consistent with the finding in relation to age, households with a retired household head are the least likely to be over-indebted (this information is not currently available for Canada). In the UK households with a working household head and an unemployed household head have very similar rates of over-indebtedness, at around 21%, while US households with a working household head are more likely to be over-indebted (43%) relative to households with an unemployed household head (37%). Across the income distribution we observe that the proportion of households classified as over-indebted increases between the first (Q1), second (Q2), third (Q3) and fourth (Q4) income quintiles in the UK but with the lowest proportion of over-indebtedness in the highest income quintile (Q5). A similar pattern is seen in the US, although the peak is in the third income quintile. In Canada the proportion increases between the first, second and third income quintiles, similar rates in the third and fourth income quintiles and lower proportions in the highest income quintile; although the lowest proportion overall is found among households in the lowest income quintile. As noted earlier, higher rates of over-indebtedness among higher income families may be due to greater access to credit and higher education debts.

Finally we look at the evidence on severe over-indebtedness across household characteristics in the UK, Canada and the US, where households are classified as severely over-indebted if they hold financial debts which are at least the value of 6 months' disposable income. Not surprising the overall proportion of households severely over-indebted is lower than the proportion over-indebted but the proportions remain high in Canada (22%) and the US (24%). This finding that over 1 in 5 households are severely over-indebted in Canada and 1 in 4 households in the US are severely over-indebted, can be seen as an indication of low levels of financial resilience in these countries. In the UK the proportion of households severely over-indebted is much lower (8%) but high by European standards with only the Netherlands, Cyprus and Finland recording higher rates of severe over-indebtedness (Figure 24); but note that due to the different income measure

estimated rates for the UK will be higher. In these three Anglo-Saxon countries we find a clear positive relationship between education level of the household head and the likelihood of being severely over-indebted, and a clear negative relationship between age of household head and severe over-indebtedness. Although the rates are lower, we observe similar patterns for housing tenure and labour market status of household head with the over-indebted measure. One exception is that in the UK households with an unemployed household head are more likely to be severely over-indebted relative to households with a working household head. This suggested that UK households with an unemployed household head hold larger financial debts relative to their disposable income than households with a working household head.

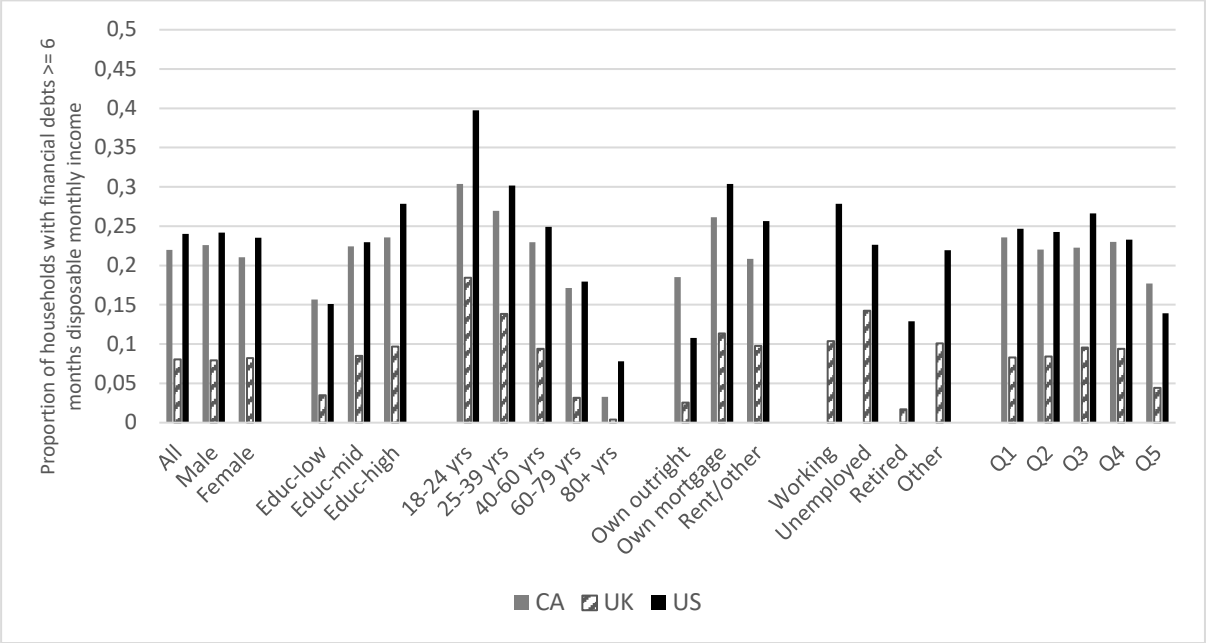
In terms of households' position in the income distribution, for the severely over-indebted measure we find that in all three countries, households in the highest income quintile (Q5) are the least likely to be severely over-indebted (18% in Canada, 14% in the US and 4% in the UK). However, very little difference is found between households in the first (Q1), second (Q2), third (Q3) and fourth (Q4) income quintiles – around 24% in the US, around 23% in Canada and around 9% in the UK.

Figure 32: Households over-indebtedness by household characteristics



Source: Authors' analysis of LWS

Figure 33: Households severe over-indebtedness by household characteristics



Source: Authors' analysis of LWS

6. Improving Financial Resilience: Review of Existing Policies

In this section we briefly review some existing policies which have the potential to improve financial resilience. These are: 1) Strategies for improving financial capability and financial literacy; 2) Asset based welfare policies; and, 3) Debt relief and advice services. We mainly concentrate on asset-based welfare policies.

6.1 Strategies for Improving Financial Capability

One approach to improving financial resilience is through initiatives to increase financial literacy and financial capability. Equipping people with these skills reduces the likelihood of experiencing shocks and puts them in a better position to cope with any financial shocks. This may be through better budgeting and financial management of household financial affairs and increased savings for emergencies. Financial capability can also reduce the likelihood of accumulating large financial debts, better management of any debts (repayment plans, seeking the best interest rates and not getting into arrears), managed access to credit and seeking timely appropriate help and advice when required.

Financial literacy and financial capability programmes can be delivered through schools and further education establishments, as part of ABWPs, within Active Labour Market Policies and as part of debt counselling services. In some countries governments have set-up agencies with a specific goal to improve financial capability within the population and particularly among low income households. For example, in The Financial Capability

Strategy for the UK and the Money Advice Service[12] have a long term goal to improve financial capability in the UK.

The OECD and its International Network on Financial Education (INFE) have developed a Policy Handbook on National Strategies for Financial Education (OECD/INFE, 2016)[13], which has led to the vast majority of G20 countries developing a national strategy to improve financial education and financial capability.

We reviewed some of the evidence on financial capability and financial resilience in Section 2.

6.2 Asset-Based Welfare Policy

Asset-based welfare policy is an emerging policy area which could play a key role in improving financial resilience, particularly among low income households. Since the early 1990s there has been a growth in interest in these policies. This was, in part, motivated by research findings that the accumulation of savings or liquid financial assets is important not just because it allows households to weather financial shocks but also because financial asset holdings – even fairly small amounts – were found to be associated with a range of better outcomes (see, for example, Bynner and Despotidou, 2000; Bynner and Paxton, 2001; Sherraden, 2003; McKnight, 2011). The pecuniary and non-pecuniary benefits associated with holding financial assets have become known as 'asset-effects'.

Traditional forms of welfare policy have mainly been income-based such as cash transfer programmes or service provision and delivery; although there has been some shift in recent years to thinking about a social investment model of welfare14 (Kuitto, 2016; Morel, Palier and Palme, 2012). Some ABWPs have been designed specifically to increase household savings; partly because savings are required to fund investments at various times throughout the life cycle, to help redistribute income over the lifecycle, and to help accumulate precautionary savings to cope with financial shocks.

Lerman and McKernan (2008) conducted a review of the literature on the theoretical and empirical effects of asset-holding and asset accumulation on the economic and social well-being of individuals and families, with a particular focus on the way assets affect low income families. This review of existing evidence, mainly covering US research, led the authors to conclude that asset-holding was positively associated with:

- Income and employment outcomes;

[12] https://www.fincap.org.uk/
[13] http://www.oecd.org/daf/fin/financial-education/nationalstrategiesforfinancialeducation.htm
[14] Social Investment model includes policies designed to strengthen people's skills and capacities and support them to participate fully in employment and social life (areas include education, quality childcare, healthcare, training, job-search assistance and rehabilitation).

- Consumption and protection from material hardship;
- Accumulation of further assets;
- Self-sufficiency/personal efficacy;
- Social well-being and civic engagement (although results varied);
- Health and psychological well-being.

Research using longitudinal data and a number of statistical techniques to explicitly take account of endogeneity in asset holding, conducted by McKnight (2011), found positive effects of asset holding on later wages, employment prospects, general health and psychological well-being.

Older forms of ABWPs which use tax breaks to incentivise savers, only have an impact on those with a higher income. Recently, some targeted saving schemes have been designed to assist low income individuals and households. Most of these schemes are means-tested in some way and involve governments making a contribution to participants saving accounts. The contribution is usually proportionate to the value the individuals save themselves; often called matched savings. Many of the schemes also provide, sometimes compulsory, financial advice and training, and many have restrictions as to what accumulated savings can be used for; typically towards the cost of educational programmes, investment in housing or small businesses. Here we review a selection of these schemes and evidence of their impact on improving low income households' financial resilience.

Critics of this approach see it as a more cynical shift of the burden of risk from the State to individuals and their families. Asset-based welfare, or credit-based welfare, is seen to represent a shift from the State bearing various risks and undertaking investments, onto individuals who are encouraged to accumulate assets such as housing to act as a store of wealth which can be drawn down to finance retirement, social care and to weather financial shocks. In many cases individuals are encouraged to borrow in order to accumulate these assets (hence the reference to credit-based welfare). Investment in higher education is another area where in a number of countries there has been a shift in the cost of investment from the State to the individual with facilitated borrowing so that the individual can finance there higher education investment through loans.

6.2.1 Learn$ave in Canada

[L]earn$ave, a research and demonstration project based in Canada, showed that low-income individuals, even those participating in income assistance programmes, can accumulate savings (Leckie, et al., 2010). [L]earn$ave was a comprehensive programme

that combined a matched savings account, case management services, and financial management instruction. The programme explored two different ways of delivering matched savings: 1) a more traditional approach of coupling a financial savings incentive with other services, such as financial literacy training; and 2) a streamlined approach to financial savings incentives that mirrored other account-based policy measures, such as an education related savings scheme (Registered Education Savings Accounts (RESPs)) and a pension related savings scheme (Registered Retirement Savings Plans (RRSPs)) (Leckie et al., 2010). Participating low-income Canadians made use of the accounts and accumulated some savings, with average deposits of around $1,100 over three years, which were strengthened through matching credits (Leckie et al., 2010).

The learn$ave programme evaluation found that match savings programmes can be effective in developing a regular savings behaviour and improving financial literacy among low-income populations. This included success in encouraging low-income people to budget and set financial goals and to alter their household spending and other expenditure patterns in a way that did not incur undue financial hardship (Leckie et al., 2010: p.104). In addition, the evaluation found that saving parameters can play a role in influencing saving behaviour of participants. For example, raising the savings match rate increased savings regularity and the amount saved, although this occurred at a declining rate past a 3 to 1 matching rate (Leckie et al., 2010: p.104). Additionally, reducing the period during which savings qualified to be matched positively impacted on the regularity of savings, but not on the level of savings.

At the beginning of the project, participants did increase their financial assets, but by the end of the three year pilot period there was no significant increase (Leckie et al., 2010). This, perhaps, is due to the fact that many participants took full advantage of the matched savings programme to quickly *earn* and then *use* all of their credits.

6.2.2 Individual Development Accounts - USA

Individual Development Accounts (IDAs) are a popular form of matched savings scheme across the US that are offered to assist low-to-moderate-income individuals accumulate savings, increase financial literacy, invest in long term assets (homes, businesses, education, etc.), and to increase household financial stability (Bogardus Drew, 2011; Sherraden, 2000; Silva, 2002). There are a variety of different IDA programmes across US states, which have been supported at various times by federal grants. Here we review evidence from an evaluation of an IDA programme in Massachusetts.

The IDA programme in Massachusetts was designed so that participants, also termed “investors,” would join for a period of 1-2 years and agree to save a minimum amount per

month for the duration of the programme (Bogardus Drew, 2011). The programme also provided simultaneous financial education and asset-investment training for home-buying, small business start-ups, and access to higher education. Participant funds were matched by a non-profit organisation (The Midas Collaborative) with a matching rate usually between $1 and $3 for every $1 saved (Bogardus Drew, 2011). The 2011 evaluation found evidence that low-income and low-wealth participants were motivated to build assets through the programme. Ninety-five percent of participants reported that they were attempting to save money and motivated to do so and evaluation evidence found that low-income participants increased their saving rates. Participants were observed to have saved 10 per cent of their total monthly income, with a fraction of participants saving at least 20 per cent of their income each month (higher than the national savings rate). The evaluation also found that with support, incentives, and access, programme participants were able to invest wisely. The training, coaching, and skill-building of the programme was found to be critical to the success of programme participants. In addition, programme participants were found to alter their long-term patterns of behaviour with an increase of 15 percent of participants reporting that they were undertaking budgetary planning and setting financial goals.

6.2.3 Child Trust Fund in the United Kingdom

An ABWP, called the Child Trust Fund (CTF), designed to ensure that all young adults had a modest financial asset at age 18 was introduced in the UK in 2002. The CTF provided every child born from September 2002 with an initial endowment at birth of £250, and £500 for children in the poorest third of families. At age 7 the government made a further contribution to the fund for children in low income families. Additional contributions could be made by family and non-family members, up to an annual limit of £1,200. In contrast with most other schemes of this type, there were no restrictions on the use of the asset, but only the child could access the fund at age 18 (H.M. Treasury 2003; Mendelson, 2007). The intention was that children would be taught financial literacy in schools, to prepare them to make informed decisions when they gained access to their fund.

An early qualitative evaluation of the CTF showed that it had broad public support (Prabhakar, 2009). However, some questioned whether the CTF was the best way to help support young adults (Emmerson and Wakefield, 2001) and in the wake of austerity measures following the 2007/08 financial crisis, the CTF was abolished by the Conservative-Liberal Democrat coalition government and phased-out from August 2010. A new tax-exempt, but not endowed, Junior Individuals Savings Account (ISA) was launched in November 2011. These Junior ISAs are available to children living in the UK under the age of 18 who do not have a CTF but since 2015 parents have been able to transfer funds accumulated in a CTF to a Junior ISA. Like the CTF, money invested in the

Junior ISA is locked in and only available to the child when they reach the age of 18. As the first cohorts of young people gain access to their CTFs from September 2020 data will start to become available on what impact CTFs have on the financial well-being and financial resilience of recipients.

6.2.4 Savings Gateway in the United Kingdom

Alongside the development of the CTF, the Labour government developed an ABWP saving programme. The Savings Gateway was aimed at providing incentives for lower-income earners to save and engage with mainstream financial services by offering to match savings. Two pilot programmes, SG1 and SG2, offered matched individual savings plans with some similarities to Canada's learn$save and the US IDA's (Mendelson, 2007).

In August 2002, the SG1 pilot began in five regions of England. The accounts lasted for 18 months and, within certain limits, a 1:1 matching rate. SG1 participants were able to save a maximum of £25 per month up to an overall account limit of £375: totalling a maximum of £750. Tailored financial information and education was provided alongside to help participants make informed savings decisions. The official evaluation of the SG1 pilot found that over half (56%) of those who built up funds in their SG1 account, had previously not had any formal savings, and that the scheme encouraged people to save more regularly (Harvey et al., 2007).

In late 2004, a second pilot (SG2) was launched that incorporated lessons learnt from SG1. SG2 was a much larger pilot across the UK with nearly 22,000 accounts, compared to 1,500 accounts in SG1 (Harvey et al., 2007). Eligibility criteria were broadened and the structure of SG2 accounts varied across a number of pilot areas to test for the effectiveness of different design features. Qualitative evidence found a positive response from participants, particularly those new to saving, about the incentive for regular saving that the accounts created. They reported that the accounts had encouraged them to get into the 'habit' of thinking more carefully about their finances, and in the assessment of what they could afford to save. A target to work towards, both in the short-term to meet monthly deposit targets and to meet the goal of maximum matched funding in the longer-term, was felt to offer a strong incentive, in particular to those who did not previously feel that they were capable of saving (Harvey et al., 2007, p.5).

However, the overall effects on net wealth were disappointing as participants had similar levels of financial wealth at the end of the pilot as non-participants in five out of the six areas were the pilots took place. On broader measures of formal net wealth there was no consistent, statistically significant evidence of a positive SG2 effect. In addition, there was evidence that savings increases came at the expense of other kinds of investments among

higher income participants, indicated that they diverted funds to take advantage of the higher rate of return (Harvey et al., 2007).

The results from the evaluation of the pilot schemes were then used to design the national Savings Gateway scheme which was due to be rolled out in July 2010, but was scrapped by the Coalition Government as part of their programme of austerity cuts.

6.3 Improving Financial Resilience: Debt Relief and Advice

As we have seen, some households cope with financial shocks by borrowing and taking out loans or using credit. Some are able to pay back these debts without too much difficulty but some become over-burdened by debt, either as a result of the sheer size of the loan relative to their income, through accumulation of a number of loans and credit (some of which may have been taken to pay back the initial loan), financial mismanagement, or income not recovering following a financial shock. Some governments fund debt advice services to support households overburdened by debt. These services are often run by third sector organisations.

The need for debt advice services increased in the latter half of the twentieth century as access to credit increased, along with an increase in the number of over-indebted individuals and families (ECDN, 2017). Governments and non-governmental organisations responded by investing in the debt advice services (ECDN, 2017).

Effective debt advice services have been found to have a direct, beneficial impact on mental health and social well-being, achieved through improving quality of life and reducing healthcare expenditures on treatment (Europe Economics, 2018).

7. Conclusion

In this research note we have explored the concept of household financial resilience. It is a dynamic concept – identifying where households are able to recover quickly from financial shocks. This makes it difficult to operationalise empirically and means that we often have to turn to indicators of financial resilience rather than direct measures.

Households cope with financial shocks by drawing on savings, borrowing from financial institutions, family or friends. Some cope by going into arrears on debt repayments, utility or other household bills. Understanding why some households are more resilient to financial shocks than are others could help to develop policies to improve financial resilience.

We have presented trends in indicators of financial resilience from published data sources which identify considerable variation between European countries and different responses to the financial crisis.

The main contribution of this research note is the original analysis of micro-data sources which has allowed us to look beyond country level aggregate statistics to estimate how indicators of financial resilience vary across households within countries. While recognising that the need to hold financial assets varies across countries and is shaped by welfare state policy, we define and measure four indicators of financial resilience. We identify financially insecure households as those who do not have financial assets sufficient to cover the value of at least three months' income which we believe is the minimum required irrespective of different welfare regimes. Financially secure households are those that have financial assets sufficient to cover at least six months' income. We include two indebtedness measures. The first estimates over-indebtedness – household financial debt greater than or equal to three months' income, and the second estimates severe over-indebtedness which uses a six months' income threshold. For each of the 22 countries we study we estimate the proportion of households financially insecure, financially secure, over-indebted and severely over-indebted, and breakdowns for each of these indicators by household characteristics (gender, age, education level and labour market status of household head, housing tenure, household income quintile).

The results show that there is observe considerable variation across countries and across households within countries. Some of this variation is likely to be due to differences in financial institutions, welfare states and cultural norms. However, we have been able to identify some household groups, within countries, who are particularly at risk of financial insecurity and indebtedness. The main findings are summarised below.

Female headed households are more likely to be financially insecure in most of the 22 countries included in this study (exceptions are Estonia, Slovenia and Slovakia). Households with higher educated heads are more likely to be financially secure and, on the whole, households with older household heads are less likely to be financially insecure and more likely to be financially secure. However, in a number of countries the age relationship does not hold (for example, Cyprus, Hungary and Poland).

In relation to housing tenure, outright owners are unsurprisingly the least likely to be financially insecure and the most likely to be financially secure (except in Poland where owners with mortgages are marginally less likely to be financial insecure than outright owners). With the exception of Canada, Greece and Malta, homeowners with a mortgage are less likely to be financially insecure than renters and more likely to be financially secure. These differences by housing tenure need further investigation to see whether the

differences are due to the types of households across tenure types, or whether it is due to features of the housing market.

In relation to labour market status, households least likely to be financially insecure and most likely to be financially secure are headed by a self-employed or retired heads. In general, higher income households tend to be less likely to be financially insecure and more likely to be financially secure, but a linear relationship does not exist in all countries (for example, Estonia, Finland, Canada, Greece, Latvia, Poland, Slovakia and Slovenia).

The second set of indicators focus on households' debt position: whether they are classified as been over-indebted or severely over-indebted. We find similar levels between female and male headed households and on the whole greater rates among male headed households in most countries (except, Cyprus, Slovenia and Portugal). There is not a clear pattern across education groups. In some countries the highest education group is most likely to be over-indebted and severely over-indebted (for example, Canada, the Netherlands, Finland, Hungary, the UK and the US – mainly countries with high higher education costs), while in others it is the lowest education group with the highest rates (for example, Austria, Belgium and Slovakia).

Across countries it tends to be the older headed households who are the least likely to be over-indebted and severely over-indebted. Some countries have a clear gradient between the other age groups (for example, Spain, Luxembourg and the Netherlands) but in general there is no clear pattern.

There is a fairly even split between countries where households who are most likely to be severely over-indebted are renters or owners with a mortgage, and without estimating statistical models it is difficult to identify the factors behind this variation. In some countries, where homeownership rates are high it may be that the most disadvantaged are more likely to be living in rented accommodation while in other countries it may be that households are allowed to borrow more, have high mortgage repayments and are at greater risk of becoming indebted.

Households with a self-employed or unemployed head are, in general, the most likely to be over-indebted or severely over-indebted. It is worth noting that within countries we find that households with self-employed heads are often found to be both more likely to be financially secure and over-indebted. From these estimates we don't know if it is the same households who are holding both high levels of debt and financial assets (relative to their income) or it is different households within this population of self-employed. It may reflect the fact that the self-employed are the most likely to suffer financial shocks (or at least greater volatility in their income) and are conscious of the need to hold sufficient

financial assets to smooth their income and pay their bills. Further research is warranted to explore this point more.

Finally we reviewed evidence on policy options to improve financial resilience, particularly among less advantaged households. Policies designed to incentivise saving and the accumulation of assets have traditionally benefited the already well-off as they are typically in the form of tax breaks and tax reductions. From the 1990s some countries have been piloting and introducing asset-based welfare schemes designed to help lower income households. The evaluation evidence from these are mixed and some are critical that they don't address the fundamental problem that low income households live financially precarious lives. However, evidence of 'asset-effects' suggest that encouraging the accumulation of financial assets not only improves resilience but has a range of additional benefits.

Governments could do more to help improve the financial resilience of lower income households through, for example, access to emergency grants, revising asset rules in cash transfer entitlement, address the cost of housing, invest in financial capability education or providing debt relief services. It is perhaps best to view asset-based welfare policies as complements to strong welfare states and not an alternative to crucial welfare state support.

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