LATVIJAS BANKA
EIROSISTĒMA

ISBN 978-9934-578-02-1

DISCUSSION PAPER

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RESULTS OF THE HOUSEHOLD FINANCE AND CONSUMPTION SURVEY IN LATVIA

1 · 2018

CONTENTS

ABBREVIATIONS

ECB – European Central Bank
EU – European Union
EU-SILC – European Survey of Income and Living Conditions
ISCED – International Standard Classification of Education
HFCS – Household Finance and Consumption Survey
HMR – household's main residence
OECD – Organisation for Economic Co-operation and Development
pp – percentage point
PSU – primary sampling unit
UNECE – United Nations Economic Commission for Europe
vs. – versus

ABSTRACT

This paper presents an overview of the main results of the Household Finance and Consumption Survey in Latvia, which was conducted in 2014 and collected responses from 2 814 individuals (1 202 households). Unique data on household wealth, including their assets and liabilities, as well as income and consumption were gathered. The data this survey collects are representative of the population, and the survey is to be carried out regularly to study aggregate and distributional changes in household budgets, wealth components and inequality over time.

The survey results show that households in Latvia, in comparison with those in the euro area, have much higher ownership rates of the most important household asset – the main residence (76% vs. 61% respectively). However, the median value of this asset and of total assets is markedly lower than in the euro area. On the liabilities side, only one third of Latvian households have outstanding debt – one of the lowest readings among euro area countries. Taking all components of a household balance sheet together, the median net wealth of households in Latvia is 14 200 euro, which is more than seven times smaller than that of euro area households. While the largest net wealth holdings in the euro area are owned by the households where the reference person is at a pre-retirement age, it is the young households (especially the group aged 35–44) in Latvia that own the largest amounts of net wealth and earn the highest median income.

Keywords: household finance and consumption survey, Latvia, assets, liabilities, net wealth, financial fragility, income, consumption

JEL codes: D14, D31, E21

We are grateful to all respondents of the Latvian HFCS and interviewers of the Central Statistical Bureau of Latvia who made this survey possible. We are also grateful to Maranda Behmane from the Social Statistics Department of the Central Statistical Bureau of Latvia for her support in data collection. Our special thanks go to our colleagues from Latvijas Banka: Nadežda Siņenko from the Financial Stability Department for her invaluable help with the financial stability indicator analysis and Aleksejs Meļihovs from the Monetary Policy Department for his input during the questionnaire preparation and data collection process. We are extremely grateful to the ECB Household Finance and Comsumption Network members for their support and advice, especially to Juha Honkkila, Sebastien Perez-Duarte and Jiri Slacalek. This report benefited greatly from the comments provided by our colleagues from Latvijas Banka: Mārtiņš Bitāns, Gundars Dāvidsons, Santa Bērziņa and Dace Antuža.

1. INTRODUCTION

This report gives an overview of the main results of the HFCS carried out in Latvia in 2014. The HFCS is performed by all national central banks in euro area countries as well as in Hungary and Poland. So far there have been two HFCS waves, and Latvijas Banka participated in the second wave. For the first wave, harmonised surveys were conducted during 2010–2011 (Eurosystem Household Finance and Consumption Network (2013a, 2013b)), and for the second wave – during 2013–2015 (Household Finance and Consumption Network (2016a, 2016b)).

The HFCS has been developed and implemented to obtain harmonised detailed household-level data on various aspects of household balance sheets, economic and demographic variables for the participating countries. Other EU-level surveys, such as the EU-SILC, focus on income, poverty, social exclusion and living conditions, but they offer very limited data on households' assets and liabilities. The HFCS focuses on household wealth and its components and therefore can provide insights into a number of areas relevant for policy (Eurosystem Household Finance and Consumption Network (2009)):

- wealth effects on consumption;
- housing prices and household indebtedness;
- retirement income, consumption and pension reforms;
- access to credit and credit constraints;
- household financial vulnerability;
- financial innovation, consumption smoothing and portfolio selection;
- wealth inequality.

For Latvia, the HFCS is a unique data source[1], combining very detailed information on assets, liabilities, income and consumption of households. Furthermore, the use of elaborate sampling procedures ensures that the conclusions drawn are representative of the whole population.

This report analyses the first Latvian HFCS data collected in 2014 (reference period: 2013[2]) and compares them with the results of the second wave of HFCS for euro area countries[3]. An ECB-published statistics paper entitled The Household Finance and Consumption Survey: results from the second wave (Household Finance and Consumption Network (2016b)) provides an extensive analysis of the results of the survey for the euro area as a whole, and is referred to throughout the current report in order to compare the Latvian and euro area HFCS results.

The structure of the rest of the paper is as follows: Section 2 briefly describes the survey, the main demographic characteristics and income of households in Latvia; Section 3 looks at one of the key results, i.e. net wealth of households, and considers different indicators of inequality in Latvian society. Sections 4 and 5 cover the components of net wealth – assets and liabilities – of households respectively. Assets and liabilities and their sub-components are usually analysed from three perspectives:

[1] Latvijas Banka conducts the Survey of Household Borrowers (Āriņš et al. (2014)), which also collects information on household balance sheets, income and consumption, however, with a lower degree of detail. The results of this survey cannot be attributed to the whole population. It focuses only on indebted households, making it relevant mostly for financial stability analysis.

[2] The reference period for income was the previous calendar year; however, the assets and liabilities were registered at the time of the interview in 2014.

[3] Excluding Lithuania.

1) the percentage of households having a particular asset or liability (the participation rate); 2) median values of the asset or liability for the households having this component of net wealth; 3) the importance (weight) of a specific subcomponent in total household assets or liabilities. Sub-sections 5.2 and 5.3 deal with perceived credit constraints of households and their financial vulnerability respectively. The data on households' consumption and saving patterns are analysed in Section 6, but Section 7 concludes.

2. SURVEY DESCRIPTION

2.1 Methodological description and sample

The fieldwork for the HFCS in Latvia took place between 15 April and 30 September 2014 with a response rate of 52.9%, which is high in comparison with similar surveys conducted in other countries (Eurosystem Household Finance and Consumption Network (2013a)). Overall, data were collected from 2 814 individuals (1 202 households).

The HFCS covers several aspects of household wealth (assets, liabilities, income and consumption), with the principal aim to collect anonymised information on households' assets and liabilities, which form a household's balance sheet. An overview of the structure of assets and liabilities covered by the HFCS is given in Table 2.1. The sum of all assets comprises household gross wealth. Net wealth is obtained by deducting the total amount of household debt from gross wealth.

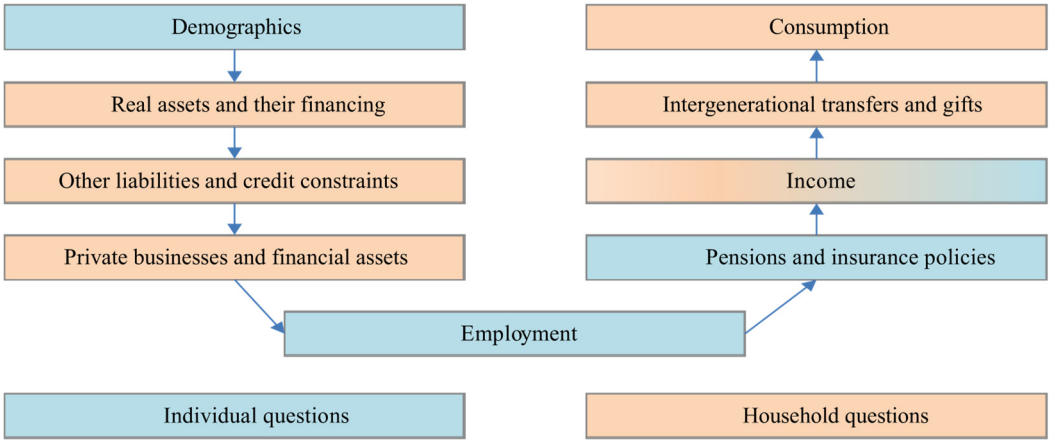
Table 2.1
Household balance sheet

Assets	Liabilities
Real assets	**Collateralised debt**
HMR	Mortgages on HMR
Other real estate property	Mortgages on other real estate property
Ownership of self-employment businesses	
Vehicles	
Valuables	
Financial assets	**Non-collateralised debt**
Sight accounts	Bank overdrafts
Saving accounts	Credit card debt
Life insurance policies	Other non-collateralised loans
Mutual funds	
Bonds	
Publicly traded stocks	
Ownership of non-self-employment businesses	
Money owed to household	
Voluntary pension funds, whole life insurance policies	
Other	

The survey is comprised of household and personal interviews conducted using two different questionnaires: the household questionnaire and the personal questionnaire (see Figure 2.1). Sections on demographics, employment as well as pensions and life

insurance policies cover information collected at the personal level (individually for all persons aged 16 or more). Other family members provide answers for those who are not present. The sections on real assets and their financing, other liabilities and credit constraints, private businesses and financial assets, intergenerational transfers and gifts as well as consumption and saving cover information collected at the household level. The financially most knowledgeable household member usually provides answers to this section of the questionnaire. In the section on income, some income components are collected at the personal level (e.g. employment-related income, pension income, etc.), while others – at the household level (e.g. income from financial investments).

Figure 2.1
Structure of the HFCS questionnaire



The sampling design of HFCS was a two-stage stratified probability sampling. A copy of the Population Register and personal income data of the Tax Register were used for building the sampling frame. Building of the first stage sampling units and their subdivision in strata took place in several steps:

(1) All addresses of private dwellings were subdivided into three groups according to the degree of urbanisation (Riga; eight other big cities; rural areas, including small towns);
(2) Within each urbanisation group, each Population Census enumeration area was further subdivided into three parts serving as PSUs:
    (a) households with total income from the highest 10th decile (of the corresponding urbanisation group),
    (b) households with total income from 7–9 deciles,
    (c) households with total income from 1–6 deciles;
(3) PSUs were subdivided into nine strata by the degree of urbanisation and the income level.

If the number of households in some PSUs was small, this PSU was merged with some neighbouring PSUs from the same territorial unit or administrative territory. The selection of PSUs was made by systematic probability proportional to the size sampling with a random starting point (the number of households of PSU was used as the size measure of PSU). Household addresses were used as second stage sampling units. Within each sampled PSU, five addresses were sampled by simple random sampling (without replacement). Out of 2 400 sampled addresses, five addresses had two households. Interviewers surveyed both households in these addresses.

Oversampling of higher wealth households was made by choosing a bigger sampling fraction in the higher income strata. The sampling fraction is equal to 1.75%, 1.69% and 0.91% for the highest income strata; it is equal to 0.25%, 0.24% and 0.24% for the medium income strata, and 0.15%, 0.14% and 0.14% for the lowest income strata respectively.

Administrative data were used to complement the obtained dataset. Register data on real estate properties (from the State Land Service), credits (Credit Register) and income (Tax Register) were used to increase the accuracy of answers by editing values of corresponding variables.

Estimation weights were calculated to adjust for survey non-response and were calibrated for age, sex, the degree of urbanisation and a person's total income in 2012–2013. Replicate weights were introduced for variance estimation, and bootstrap methods with replacement were used to create 1 000 replication weights.

Multiple imputation was applied to tackle item non-response. The imputation was not applied to the whole survey; only the key variables, such as the components of net wealth, income and consumption, were imputed. Five implicates were created based on the assumption of "missing at random". The methodology for weights and imputation is similar to that used in other euro area countries participating in the HFCS.

Based on the demographic and income information collected in the questionnaire and using international standards of the Canberra Group (UNECE (2011)), a household reference person[4] was assigned to each household.

2.2 Sample demographics

In Table 2.2 different characteristics of households in Latvia are compared with euro area averages. The average household size in Latvia (2.38) is slightly larger than that in the euro area (2.29 – a small reduction from 2.32 in the first wave). 62% of Latvian households and almost 65% of euro area households are comprised of one or two household members only.

Latvian households have much higher home ownership rates than euro area households (Germany and Austria continue to be the countries with the lowest ownership rates). In Latvia, the share of households owning their main residence is 76.0% (61.2% in the euro area). High home ownership rates are also characteristic of other post-Soviet countries. This is likely due to the fact that housing markets did not exist during the Soviet era. Instead, households were commonly allocated living space they could use. Once the communist era was over, the households being able to prove their previous ownership (or that they were the heirs of previous owners) of a particular property nationalised during the 1940s had it restituted. Households also had an opportunity to privatise their state-owned apartments in exchange for privatisation certificates (a symbolic price). This also explains why most Latvian households are outright owners (without a mortgage). The Latvian mortgage market developed comparatively recently, so households with mortgages in Latvia account for a considerably lower percentage than those in the euro area where nearly one in every five households holds a mortgage.

[4] For the definition of the household reference person see Appendix 1.

Table 2.2
Household structure (%)

Demographic characteristics	Latvia	Euro area
Household size		
1	31.7	32.9
2	30.3	31.7
3	18.2	16.1
4	12.3	13.9
5 and more	7.5	5.4
Housing status		
Owner-outright	62.5	41.5
Owner with mortgage	13.5	19.7
Renter or other	24.0	38.8
Age of reference person		
16–34	15.1	14.4
35–44	17.7	17.8
45–54	19.0	20.0
55–64	19.8	18.0
65–74	14.0	14.8
75+	14.4	15.0
Work status of reference person		
Employee	52.2	48.2
Self-employed	6.6	8.7
Retired	31.0	30.9
Other not working	10.2	12.2
Education of reference person		
Primary or no education	18.8	32.0
Secondary	48.8	41.6
Tertiary	32.4	26.4

Source: authors' calculations using HFCS data for Latvia and the results for the euro area available from the Household Finance and Consumption Network (2016b).
Notes. The work status "Other not working" includes households where the reference person is unemployed, a student, permanently disabled, etc. The education level "Primary or no education" corresponds to the ISCED levels 0–2, "Secondary" – to the ISCED levels 3–4, and "Tertiary" – to the ISCED levels 5–6.

The age of household reference person is used as a proxy for household age. The shape of household distribution across age groups of reference persons for the euro area and Latvia is quite similar. Compared to the euro area, Latvia has a slightly higher share of young households and a lower share of old households. This seems to indicate that young adults in Latvia start living separately from their parents earlier than in the euro area and that the elderly tend to live with their children.

On average, educational attainment is higher for Latvian households than for households in the rest of euro area. Less than a fifth of Latvian households have a reference person with a primary education level or lower; whereas about a third of euro area households fall in this category. Furthermore, whilst only a quarter of households in the euro area have a reference person with a tertiary level of education, this figure amounts to nearly one third of households in Latvia.

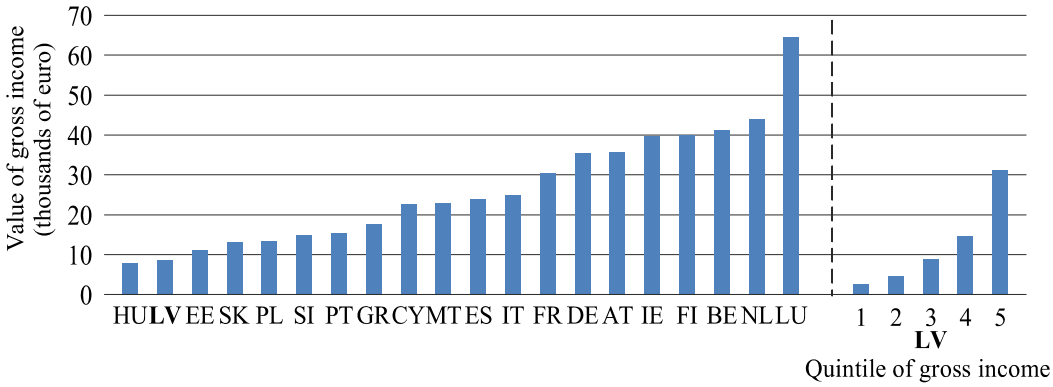
The share of households in which the reference person is employed or self-employed is higher in Latvia than in the euro area. There are fewer households in Latvia than in

the euro area where the reference person is characterised as "other not working", i.e. unemployed, a student, permanently disabled, etc.

2.3 Income distribution

The median gross income of a Latvian household was around 8 719 euro (see Table A12). Compared to the HFCS results of other countries, median income is higher than in Hungary but lower than in other EU countries (see Figure 2.2). The euro area median income was more than three times higher (29 500 euro).

Figure 2.2
Median annual gross income by country and by quintile of gross income for Latvia



Source: authors' calculations using HFCS data for Latvia and other country results from Household Finance and Consumption Network (2017).
Note. Minimum and maximum annual gross income values by gross income quintiles in Latvia in thousands of euro (1) below 3.4; (2) 3.4–6.29; (3) 6.3–11.59; (4) 11.6–20.4; (5) above 20.4.

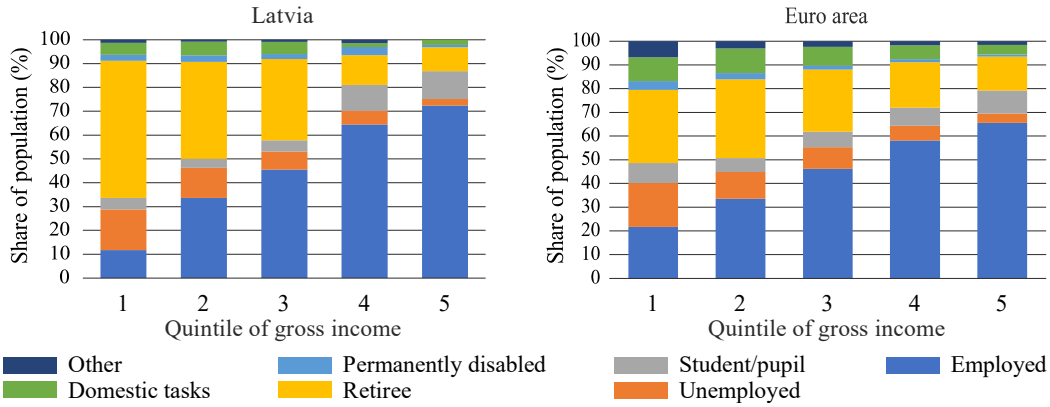
Throughout the paper, we compare variables of interest for households in different income and wealth groups, most often – quintiles. Each group represents an equal number of households, e.g. a quintile corresponds to one fifth of all observations. Lower quintiles are associated with lower levels of income or wealth.

In the highest (5th) income quintile, the median annual gross income of a household was more than 10 times higher than in the lowest (1st) one (Figure 2.2 and Table A12). In Latvia, gross annual income is the highest for young households; in the euro area, on the other hand, this is usually true for older household cohorts aged 45–54. This gap in income level between old and young households in Latvia likely reflects a different skill level and therefore wage level for these cohorts, and can be explained by the drastic and relatively recent change in economic structure after regaining independence in the 1990ies.

This difference in incomes between older and younger households is also reflected in the distribution of households by employment status of the reference person within income quintiles (see Figure 2.3). The lowest gross income quintile is populated mostly by the retirees and unemployed. Only 10% of people in this gross income quintile are employed. In the highest gross income quintile, the share of employed exceeds 70% and the share of retirees is merely 10%. Therefore, comparison of results by gross income quintiles is often tantamount to comparing households by employment status, i.e. mainly pensioners and the unemployed in the first quintile and the employed in the last quintiles. In the euro area, these structural differences between gross income quintiles are present as well but to a much smaller extent. The

largest difference is due to the distribution of retirees between income quintiles, which is markedly more homogenous in the euro area.

Figure 2.3
Distribution of population within income groups by employment status



Source: authors' calculations using HFCS data.
Note. Results were calculated for the whole sample using household weights.

Box 1
POSSIBLE SOURCES OF UNDERVALUATION OF REAL AND FINANCIAL ASSETS

The HFCS covers several aspects of household wealth and aims to collect anonymised information on household balance sheets. The reliability of all survey data depends on respondents giving accurate and thorough answers. However, often due to various reasons like lack of time, interest or knowledge as well as owing to privacy concerns respondents may err in replying to some survey questions.

One way to reduce such errors in self-reported data is cross-checking the survey information with administrative data. For instance, due to the possibility to link Latvian HFCS responses to Credit Register data, the liabilities side of the household balance sheet is very well represented.

However, administrative data are not always available to validate survey responses on the assets side of the household balance sheet. A cross-check with available macro data implies that households might have failed to fully report their holdings of deposits[5] as well as the total deposit worth. It must be noted, though, that underreporting of financial wealth is a problem not only in Latvia but also in the euro area as a whole[6].

Real assets are also likely to suffer from underreporting. For example, there is a very low reported ownership rate of valuables in Latvia. While ownership of valuables could indeed be lower in Latvia than in wealthier European societies, other factors like the lack of

[5] Alternative sources like FKTK (10 June 2015) and the Global Findex (the Global Financial Inclusion Database by the World Bank) suggest that the share of Latvian households holding a bank account in 2014 was higher than reported in the survey.
[6] According to our macro data assessment, only around 30% of total deposit worth is accounted for in the HFCS, which is in line with the HFCS results in other countries. The degree of underreporting of financial assets in HFCS data was estimated to be significantly higher than in the case of real assets (Household Finance and Consumption Network (2016a)). The exception is Estonia, where the administrative data on household deposits (from the largest commercial banks) are available for the HFCS.

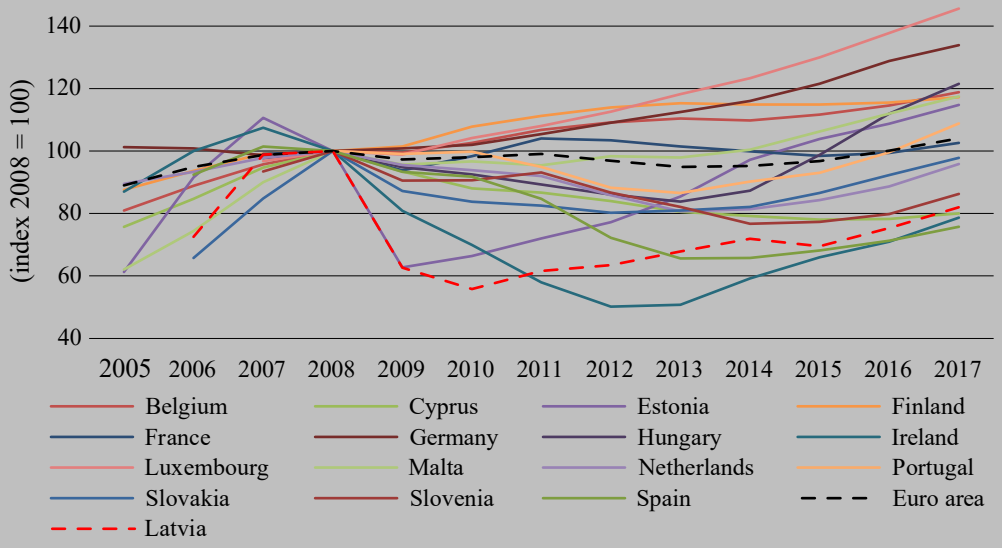
knowledge about the monetary value of valuables kept or unwillingness to disclose information may also have played a role.

Overall, the most important component of household wealth is the real estate it owns. In case respondents reported no value of their real estate, the State Land Service data were used. Even though administrative information was employed in order to complement the self-reported statistics, the data still may have suffered from undervaluation. This is due to the way in which real estate values are recorded in the State Register as well as due to the lengthy recovery of the real estate market in Latvia after the crisis of 2009.

The data of the State Land Service are defined in the National Real Estate Cadastre Law as representing on average 85% of the market value that the real estate had 1.5 years prior to establishing the cadastral value base for a particular year[7]. Therefore, the values of real estate recorded in this HFCS wave are based on market data of 2012, the year when the housing market was still in a deep crisis[8]. Furthermore, values recorded in the State Land Service data depend on the latest transactions in the market. Given that the market was not liquid in 2012, the last available market prices might still on many occasions have been those of the sell-off at the through of crisis.

Most of the difference between asset values of Latvia and wealthier euro area countries is attributable to different real estate market dynamics. The price drop in Latvia was deeper than in many other countries and the recovery – more gradual. Market values in Latvia at the time of the interviews, in 2014, were indeed very low. The real estate market had not yet recovered from the crisis. The housing price level had reached only around 70% of the 2007 level (see Figure 2.4), and the market was not particularly liquid, especially for residents and in the areas located further from Riga[9].

Figure 2.4
House prices in EU countries



Source: Eurostat.

[7] Paragraph 2 of Section 71 of the National Real Estate Cadastre Law (https://likumi.lv/doc.php?id=124247).
[8] In 2012, the house price index for Latvia was 42% lower than at its highest point during the boom years. That is not to say that the market was valued fairly during the boom years; however, the post crisis period is likely to have seen substantial undershooting.
[9] During 2010–2014, there was more activity in the non-resident sector, where, in return for a substantial investment in real estate, residency permits were granted. Non-residents were primarily interested in high-end real estate affordable to few local buyers.

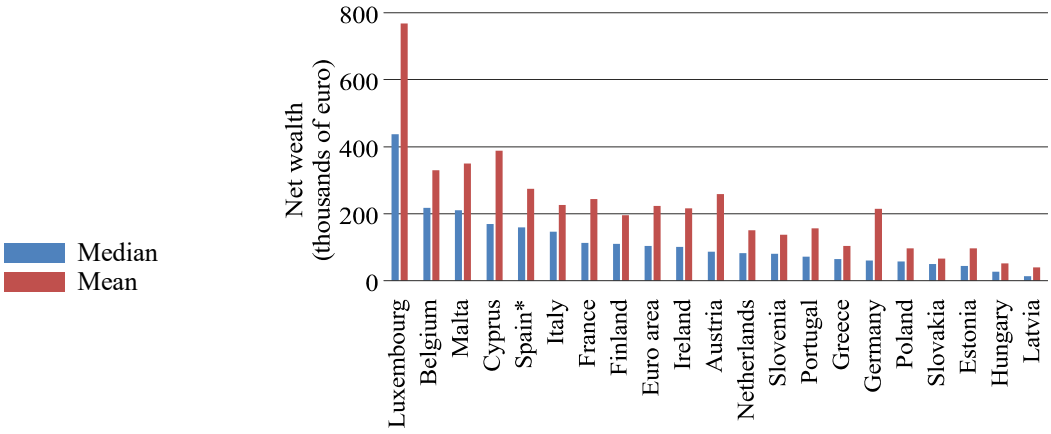
To conclude, it is possible that the value of household assets is somewhat understated in the HFCS results. This problem could be particularly pronounced with regard to financial assets, and is a common issue for almost all countries participating in the survey. Undervaluation might also be observed when it comes to the values of the largest household asset, i.e. household real estate. However, it is important to note that despite possible undervaluation, the overall data collection methodology and the quality of sampling procedure employed by the Central Statistical Bureau of Latvia ensure that the conclusions about the asset-holding patterns across various demographic groups still hold true. Therefore, the cross-country and cross-group comparisons are very informative.

3. NET WEALTH

Macroeconomic data on total real and financial wealth of households fail to give any insight into the structure and distribution of household wealth. In order to carry out such analysis, household level data like the data collected by the HFCS are necessary. This section examines one of the main results of the survey: net wealth of households in Latvia. Net wealth is defined as the total value of all household assets (real and financial) less the total outstanding liabilities. Various inequality indicators and the distribution of net wealth across different demographic groups of households are analysed (see Table A11) and compared to the results obtained in other countries. When it comes to analysing the impact of economic shocks and the transmission of policy measures to households, the composition of net wealth plays an important role. Therefore, a deeper, separate analysis of assets and liabilities is also warranted (see Sections 4 and 5 respectively).

The median[10] net wealth of households in Latvia is 14 200 euro, which is considerably smaller than the 104 100 euro in the euro area and the lowest level out of the surveyed EU countries (see Figure 3.1). 5.6% of the households in Latvia hold negative net wealth (3.4% in Estonia and 5.2% in the euro area; see Box 2 for analysis of negative net wealth households), while about 5.5% hold zero net wealth.

Figure 3.1
Median and mean net wealth in EU economies



Source: Household Finance and Consumption Network (2016b).
Note.* Here and hereinafter the results for Spain are from the HFCS held in 2011.

[10] Medians are preferred over means since net wealth, income, asset and debt distributions are prone to having some extremely high values (outliers), and median values are less sensitive to these values.

Wealth is built up from inter-generational transfers and accumulation of savings from income received over time. Due to the relatively recent transition to democracy from the communist regime where a substantial build-up of private capital was not possible, income is likely the key determinant of net wealth of a household in Latvia. Given the differences in income levels (see Sub-section 2.3), it is hardly surprising to see lower net wealth levels in Latvia as compared to Estonia or the euro area. However, while the median income levels are 3.4 times smaller than those in the euro area, the differences in net wealth are more pronounced (7.3 times).

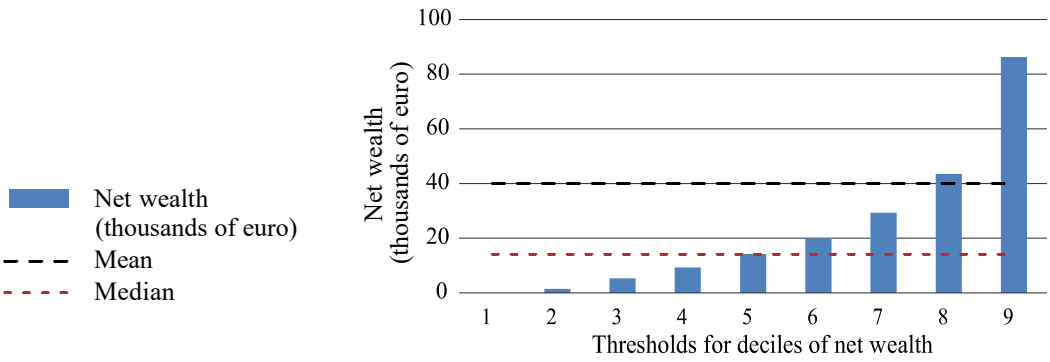
Net wealth registered for households in Latvia is so low partly due to the low reported value of household assets. The value of financial assets and real estate property (the largest component of assets) is potentially underestimated (see Box 1). Concurrently, given the availability of administrative data, household liabilities are well accounted for in the survey. Even though the true overall level of net wealth in Latvia is likely higher than suggested by the HFCS data, inter-demographic group comparisons are still valid due to the high-quality sampling procedures applied.

3.1 Inequality in Latvia

The estimates of mean net wealth in Latvia are notably larger than those of the median: the mean of 40 000 euro exceeds the median almost three times. Figure 3.1 suggests that there are substantial differences between median and mean net wealth across EU countries. This points to an uneven distribution of wealth, i.e. a substantial part of it is concentrated in the hands of a relatively small number of households.

Like in the euro area, households in the lowest net wealth quintile represent a negative share of total net wealth. Their indebtedness decreases the total amount of net wealth in Latvia. The uneven distribution of net wealth across households in Latvia can be illustrated by plotting net wealth by percentiles (see Figure 3.2). The poorest households, i.e. those in the lowest net wealth decile, either have negative or zero net wealth (their assets are smaller than their liabilities or equal to them). Net wealth increases gradually up until the 8th decile threshold, with its value at the top decile threshold jumping to about twice the value of the preceding decile. Furthermore, the large difference between mean and median net wealth is apparent in the chart: while the median coincides with the 5th decile threshold, the mean net wealth figure falls into the 8th decile.

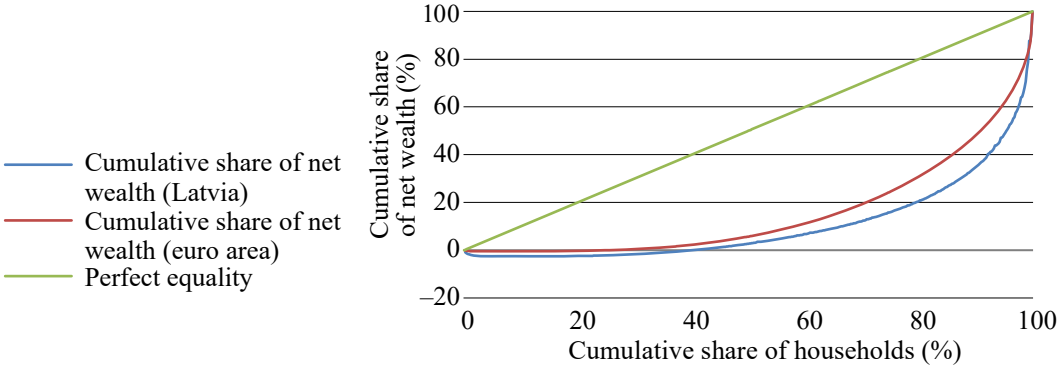
Figure 3.2
Net wealth by decile



Source: authors' calculations using HFCS data.
Note. Calculated using household weights.

Another way to analyse wealth distribution is by plotting the Lorenz curve (see Figure 3.3). The figure shows the proportion of total wealth assumed by a given percentage of households. The cumulative share of households is represented on the x-axis, with the share of net wealth plotted on the y-axis. The 45º line represents a situation where every household has the same amount of net wealth.

Figure 3.3
Fraction of net wealth held by given per cent of households (Lorenz curve)



Source: authors' calculations using HFCS data.
Note. Calculated using household weights.

The Lorenz curve shows that the bottom 40% of all households in Latvia collectively hold zero share of aggregate net wealth, while the upper 20% hold 78% of net wealth. The slope of the curve gets markedly steeper when moving to the right with the top 10% holding 63%, top 5%– 49% and the wealthiest 1% holding 22% of the aggregate wealth of the Latvian economy. The Lorenz curve for the euro area is exhibiting similar patterns but is located closer to the 45º line, reflecting on average lower net wealth inequality.

The Gini coefficient is a popular way of measuring inequality of income, consumption and wealth. It is a numerical measure of inequality that is based on the Lorenz curve. It measures the ratio between the value of area between the perfect equality line (45º line) and the Lorenz curve and the total area under the equality line. The Gini coefficient takes a value between 0 and 1[11]. If every household had the same level of income, consumption or wealth, the Gini coefficient would take the value of 0. The coefficient approaches 1 as the distribution becomes more unequal. It is also important to account for the fact that households differ in size (the number of persons in a household). Larger households need more resources than the smaller ones to achieve the same level of economic well-being. To account for this, equivalised Gini coefficients are also calculated.

Due to easier access to data, Gini coefficients on income and consumption inequality are the most often used metrics. The Gini coefficients obtained from the HFCS data for income are larger than those recorded in other data sources[12]; they signal higher levels of inequality. In line with general knowledge, the household consumption level varies less across income quintiles than household income, resulting in lower

[11] The Gini coefficient is also defined for negative values of net wealth, but in this case the coefficient is not bounded above by 1.
[12] For example, the Gini coefficient of equivalised disposable income, as calculated using EU-SILC data, amounted to 0.35 (Eurostat).

inequality measures (see Table 3.1). The lowest level of consumption inequality is observed in Riga, while income inequality seems to be as low in Riga as in other eight largest cities.

Table 3.1
Gini coefficients of gross income and consumption by degree of urbanisation

	Gross income	Equivalised income	Consumption	Equivalised food consumption
Latvia	0.52	0.45	0.34	0.27
Riga	0.48	0.43	0.30	0.24
Eight largest cities*	0.48	0.42	0.35	0.28
Other municipalities	0.55	0.47	0.36	0.28

Source: authors' calculations using HFCS data.
Notes. * Except Riga. Results for Gini coefficients are calculated for the whole sample.

However, given the increasing wealth-income ratios globally and the fact that in developed economies these ratios appear to be returning to the high values observed in the 18th and 19th centuries (Piketty and Zucman (2014)), it is becoming more and more important to analyse wealth in addition to income. In comparison with inequality of gross income, net wealth inequality in Latvia is higher and more heterogenous across regions (see Table 3.2).

According to HFCS data, the Gini coefficient for net wealth in Latvia is 0.785 (see Table 3.2), i.e. higher than in the euro area and Estonia (0.685 and 0.691 respectively). The coefficient for the euro area edged up from 0.680 as compared to the first wave of HFCS, but this difference is within the bounds of statistical error. The results for the Gini coefficient of equivalised net wealth are not notably different from the unequalised figures. This is in line with previous findings: equivalising wealth affects the levels of net wealth as well as those inequality measures that are sensitive to the top of the distribution but has less impact on inequality measures such as the Gini coefficient (OECD (2013)). Overall, wealth inequality in the euro area is lower than in the US, but it varies considerably across countries (Sierminska and Medgyesi (2013), Carroll et al. (2014)). The figure for Latvia is similar to the results obtained for Germany, Austria and Ireland.

There are large differences in wealth distribution not only across countries but also within Latvia, as evidenced in Table 3.2 that covers net wealth and its components for different degrees of urbanisation. It comes as no surprise that the wealthiest region is the capital city of Riga. Median net wealth for households in Riga is twice as large as the median for eight largest cities and for other municipalities. This stems from the fact that real estate prices in Riga are generally much higher than in other parts of Latvia. The differences between regions in terms of the value of households' real assets are as large as the differences in net wealth. The debt levels differ more: the value of debt held by households in Riga is more than five times as large as that of households located in the other eight largest cities. This is again likely to be due to the higher real estate prices in Riga and the higher resulting mortgage a household needs to take out in order to acquire real estate. The lowest level of inequality in terms of net wealth can be observed in Riga, while the other eight largest cities and other municipalities record Gini coefficients that are markedly higher.

Table 3.2
Gini coefficients and net wealth and its components by degree of urbanisation

	Gini		Median net wealth (1 000 euro)	Mean net wealth (1 000 euro)	Median HMR (1 000 euro)	Median real assets (1 000 euro)	Median financial assets (1 000 euro)	Median debt (1 000 euro)
	Net wealth	Equival-ised net wealth						
Latvia	0.78	0.76	14.2	40.0	15.1	19.9	0.4	7.1
Riga	0.71	0.69	20.6	51.8	23.1	29.6	0.5	15.6
Eight largest cities*	0.79	0.75	10.2	30.8	12.0	14.6	0.2	3.0
Other municipalities	0.82	0.80	10.5	35.4	10.7	15.0	0.3	4.7

Source: authors' calculations using HFCS data.
Notes. * Except Riga. Results for Gini coefficients as well as median and mean net wealth are calculated for the whole sample; results for median values of assets and debt are calculated using only the households that hold the particular asset type or debt.

3.2 Net wealth by demographic groups

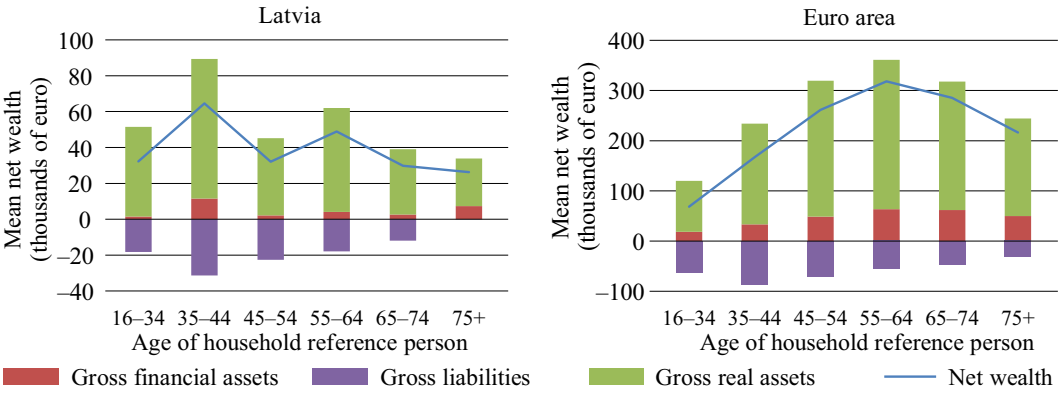
Net wealth holdings vary greatly not only between different regions of Latvia but also across demographic characteristics of households. Median net wealth is substantially smaller than mean net wealth for almost all demographic groups, suggesting that inequality is present also within each demographic group (see Table A11).

Net wealth increases with household size (often meaning the number of earners). In Latvia, three-person households own the largest part of total net wealth (32.0%), despite being only the third most popular household type (see Table 2.2). Naturally, net wealth also increases with income, i.e. the top income quintile earner's median wealth is more than 13 times larger than that of lowest income earners. Almost half of total net wealth belongs to the households included in the top income quintile, while those at the bottom hold less than 5% of total net wealth in Latvia. Contrary to the patterns in the euro area, households with mortgage on their main residence in Latvia are actually better off in terms of net wealth than those that own their homes outright.

Furthermore, when looking at mean net wealth and its components over age (see Figure 3.4), a stark difference from euro area data can be observed, which is in line with the patterns noted in the distribution of assets (see Section 4). In the euro area, the largest net wealth holders are the households with the reference person at a pre-retirement age. Meanwhile, in Latvia, it is actually the young (especially the age group of 35–44 years) that own the largest amounts of net wealth. The above group not only has the largest average assets but also holds the largest share of total net wealth in Latvia (28.6%) greatly exceeding the share these households represent in the total population. The elderly, on the other hand, hold a much lower share of net wealth than their share in total population is. This pattern, however, might correct itself over time as the Latvian economy and its households grow out of the remnants of the era of planned economy.

The households whose main reference person is an employee represent more than half of the total population and own slightly less than half of total net wealth. At the same time, the self-employed households, while representing only 6.6% of population, account for 23% of the net wealth, i.e. their median net wealth is four times larger than that of employees.

Figure 3.4
Net wealth and its components by age group



Source: authors' calculations using HFCS data.
Note. Calculated using household weights.

Finally, the ownership of wealth rises with education. A range of papers (for Latvia see, e.g. Brēķis et al. (2015)) observe the link between income and education: education obtained and the income earned later in life are closely linked. The higher the income of a household, the more net wealth it can accumulate. Furthermore, better educated households can make more informed decisions on their portfolio allocation. Despite representing barely a third of households in Latvia, the ones with a tertiary level of education hold nearly two thirds of total net wealth.

Box 2
WHO ARE HOUSEHOLDS WITH NEGATIVE NET WEALTH?

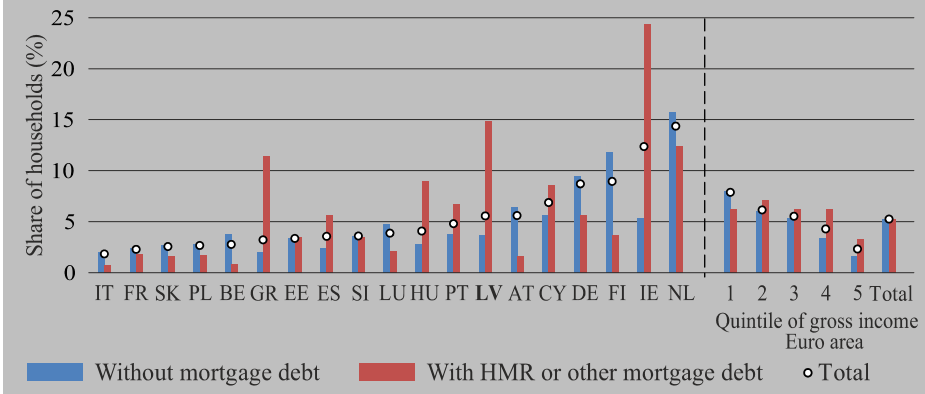
Net wealth is defined as total household assets (both real and financial assets, excluding public and occupational pension wealth) minus total outstanding household liabilities. Household financial sustainability rule of thumb states that the value of your assets should exceed the total value of your liabilities. Therefore, a high share of households with negative net wealth in a country could raise concerns (see Figure 3.5). In Latvia, just like in Ireland, Greece, Hungary, Spain, Portugal and Cyprus, it is amongst the households with mortgage debt that the largest share of negative net wealth households are registered. The share of negative net wealth households without mortgage in Latvia, however, is below the euro area average (see Figure 3.5).

When thinking about characteristics of households with negative net wealth, it makes sense to analyse households with mortgage separately due to the large effect a mortgage has on the household balance sheet. The outstanding value of this type of debt decreases according to the pay-out schedule and is quite stable. At the same time, the present value of the asset changes with the housing price cycle. Therefore, especially if housing is acquired during a housing price bubble, there might be a period when the net wealth of a household is negative. As Figure 2.4 shows, while the euro area as a whole does not seem to have experienced a large housing price cycle, there are a number of countries (Latvia, Estonia, Ireland, Spain, Cyprus) that have seen boom-bust episodes. Figure 3.6 (to the left) shows that in countries with a high incidence of negative net wealth households amongst mortgage-takers (the countries to the right on the x-axis), a comparatively large share of these households acquired housing during the boom years (for most countries above 40%). For example, 46% of negative net wealth households with mortgage in Latvia acquired housing during 2004–2008. Having negative net wealth estimates due to housing market fluctuations does not necessarily mean that a household is financially

irresponsible or liquidity-constrained. With the housing market recovering, the situation will improve and might reverse.

Figure 3.5

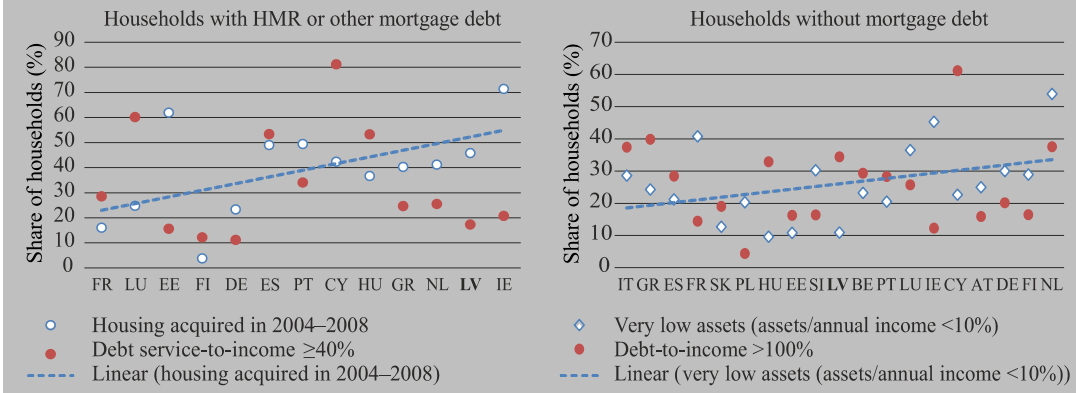
Share of households with negative net wealth (by type of household)



Source: authors' calculations using HFCS data.
Note. Calculated using household weights.

Figure 3.6

Detailed information on households with and without mortgages and renters (conditional on facing negative net wealth)[13]



Source: authors' calculations using HFCS data.
Note. Data for AT, BE, IT, MT, PL, SI and SK are not presented due to very low number of observations.

Negative net wealth of households with mortgage is much more worrisome if it coincides with a high level of financial vulnerability in terms of insufficient income to pay for servicing household liabilities, e.g. a situation when a household's debt payments exceed 40% of its income. This indicator (the so-called "debt service-to-income ratio") can perhaps also be regarded as a proxy for a situation when a household takes out a mortgage based on an overly optimistic view on future household finances. The majority of negative net worth households with a mortgage in Cyprus, Luxembourg, Spain and Hungary face a large burden from their debt payments and could be classified as having been overly optimistic about their future household finances. In Latvia, however, this type of financial vulnerability for negative net wealth households with mortgage is markedly less common. Therefore, negative net wealth households with a mortgage in Latvia are mostly able to make regular payments on their mortgage, and the negative difference between the

[13] The countries are arranged on the x-axis according to the share of negative net wealth households among those that have and have not taken out mortgages, with the countries on the right end of the axis registering the highest incidence of negative net wealth households in the particular group.

housing market price and outstanding mortgage value will likely diminish with housing price recovery.

The second group of negative net wealth households we analyse (and the larger of the two, representing 77% of negative net wealth households) are households without mortgage debt. For this group of households, we focus on the two sides of balance sheet which determine negative net wealth – either a very low value of real assets (characteristic of low income or sometimes young households) or a high level of indebtedness. First we analyse the ratio of real assets to annual gross income and consider this to be "very low" if assets account for less than 10% of a household's annual income[14]. Figure 3.6 (to the right) suggests that in countries with a larger share of negative net wealth households among those without a mortgage (the countries to the right on the x-axis), there is also a higher share of "very low asset" owners among negative net wealth non-mortgaged households. For example, more than half of negative net wealth Dutch households without mortgage debt are those holding assets of very low value (lower than 10% of annual income). In Latvia, however, due to the high share of participation in real assets, the share of this type of households is low (as in Estonia, Hungary or Slovakia).

The second indicator – debt burden (indebtedness) – is measured by the ratio of total debt to annual gross income. Indebtedness of a household is high if it exceeds 100%. The indicator shows that it would take a year for a household to repay its debts if it devoted its entire current income to this matter. This indicator is especially elevated for Cyprus, where more than 60% of negative net wealth households without a mortgage have a debt-to-income ratio above 100%. Whereas in Latvia, 34% of negative net wealth households without a mortgage are highly indebted.

To check the statistical significance of the above factors in explaining probability that a household faces negative net wealth, we perform probit analysis for both groups of households – with and without a mortgage. Additionally, we control for a household's income, the age and marital status of reference person and the country (see Table A16).

$$Prob(Negative\ Net\ Wealth\ |mortgage\ debt) = f(Housing\ boom, DSTI \geq 40\%, Income\ quintile, Age, Country\ dummy)$$

$$Prob(Negative\ Net\ Wealth\ |without\ mortgage\ debt) = f(Low\ assets, DI > 100\%, Income\ quintile, Age, Country\ dummy)$$

For a euro area household with mortgage debt, the probability to face negative net wealth increases by 2 pp (over a mean probability of 5%) if the household acquired housing during the boom period. It also increases by 6 pp if the household seems to have had an overly optimistic view about future income, as proxied by debt service-to-income ratio over 40%. This probability decreases with the age of household reference person (by 0.14 pp per year). The additional effect of income is not significant, which is in line with the fact that the share of negative net wealth households with a mortgage is stable across most income quintiles in the euro area (see Figure 3.5).

For a household without mortgage debt, on the contrary, the probability to face negative net wealth decreases with income. For example, if a household belongs to the second income quintile, the probability to face negative wealth decreases by 8 pp compared to households in the first quintile (over a mean probability of 5%). This is also in line with observations in Figure 3.5, showing that the share of negative net wealth households without mortgage in the euro area is lower among households in higher income quintiles.

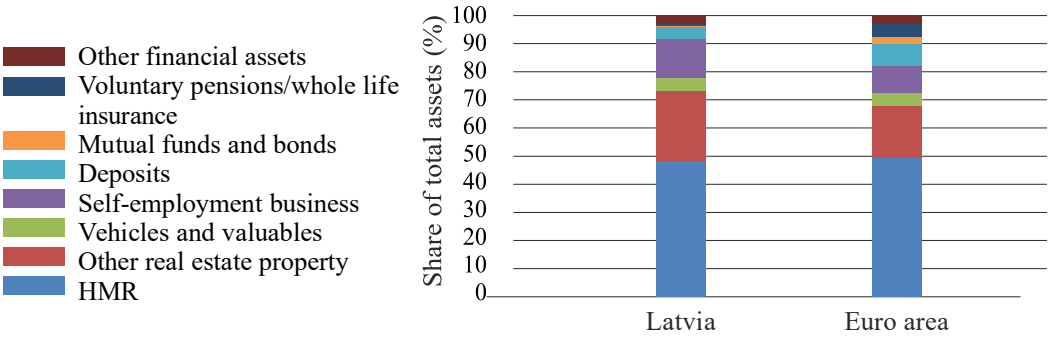
[14] The share of such households in households with non-negative net wealth is 7%, in comparison with 23% of households with negative net wealth.

The probability to face negative net wealth increases strongly for highly indebted households (by 21 pp) and households with a low ratio of assets to income (by 26 pp). As in the case of households with a mortgage, the probability decreases with the age of household reference person (by 0.2 pp per year). The effect of over-optimism (as proxied by the debt-service-to-income ratio) is not significant.

4. ASSETS

This section focuses on the asset side of household balance sheet. Household assets consist of real assets and financial assets (see Table 2.1 for their structure). Both in Latvia and in the euro area, total household assets are mostly composed of real assets, with the value of HMR accounting for around half of total assets (see Figure 4.1). The second most valuable asset in the household portfolio is other real estate property, accounting for a quarter of the total value of the portfolio. It is followed by self-employment business wealth. The last two components of household assets (other real estate and self-employment business wealth) constitute a much more important share of total household assets in Latvia than in the euro area.

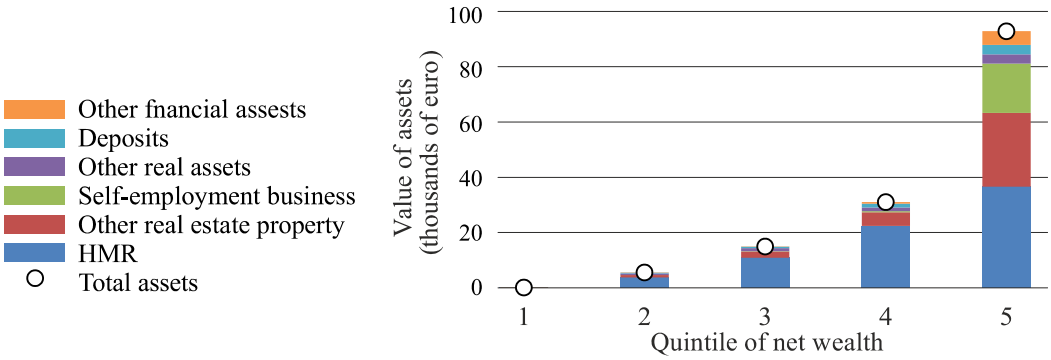
Figure 4.1
Composition of household's total assets



Source: authors' calculations using HFCS data.
Note. The results were calculated using household weights conditional on owning assets.

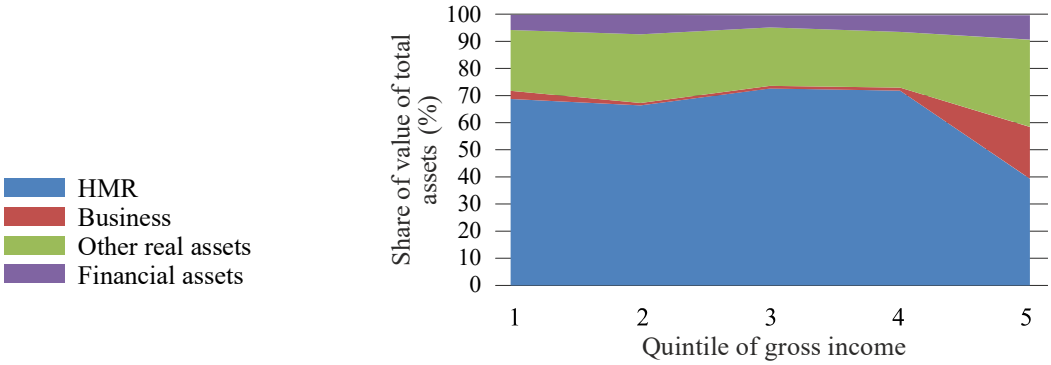
Figure 4.2 presents the main results regarding the size and structure of the median asset portfolio held by a household in each quintile of net wealth. The value of total assets increases steeply with net wealth. The median value of total assets across all net wealth quintiles for Latvian households is significantly lower than the corresponding euro area figures. The value of real assets dominate over financial assets across all quintiles of net wealth and income (see Figures 4.2 and 4.3). Furthermore, notwithstanding the level of net wealth, the HMR is typically the most valuable asset with portfolio shares ranging from 39.5% (5th quintile) to 72.9% (3rd quintile).

Figure 4.2
Median asset portfolio by net wealth



Source: authors' calculations using HFCS data.
Note. The results were calculated using household weights conditional on owning assets.

Figure 4.3
Composition of assets by income



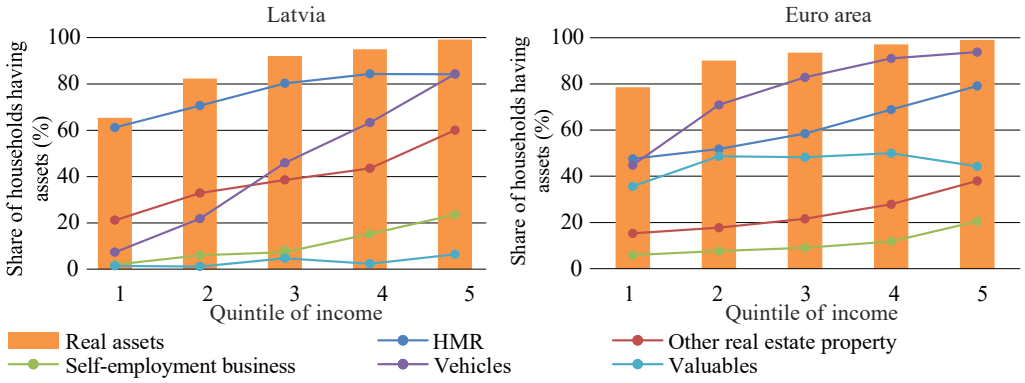
Source: authors' calculations using HFCS data.
Note. The results were calculated using household weights conditional on owning assets.

4.1 Real assets

Five different categories of real assets can be distinguished in HFCS data: the HMR, other real estate property, vehicles[15], valuables[16] and self-employment businesses[17]. Tables A1–A3 in Appendix 2 show participation rates (i.e. the fraction of households owning a particular asset) for real assets, their median values, conditional on participation, and the composition of real assets (shares of a particular asset type in the total value of real assets) respectively. Information is presented across households grouped by household size, housing status, household income, net wealth, etc.[18]

[15] The HFCS only collects information on household possession of cars and other vehicles, such as boats and motorbikes, but not on other durables (such as washing machines, Hi-Fi systems or TV sets). Cars and vehicles generally have active second-hand markets in which these assets can be made liquid, which makes them proper assets for wealth research.
[16] Valuables are defined as valuable jewelry, antiquities or works of art.
[17] A self-employment business is a business in which at least one member of the household works as self-employed or has an active role in running the business. When analysing self-employment indicators, one should be careful since this category includes very varied ways of being self-employed: from a self-employed hairdresser to an owner of a corporation.
[18] Similar statistics for the euro area from the second wave of the HFCS are presented in the appendix of Household Finance and Consumption Network (2016b). The same statistics for Estonia are presented in Meriküll and Rõõm (2016). Both are helpful to put the Latvian data into context and therefore will be referred to in this paper.

Figure 4.4
Participation in real assets by income



Source: authors' calculations using HFCS data for Latvia and euro area data from Household Finance and Consumption Network (2016b).
Note. The results were calculated for the whole sample, using household weights.

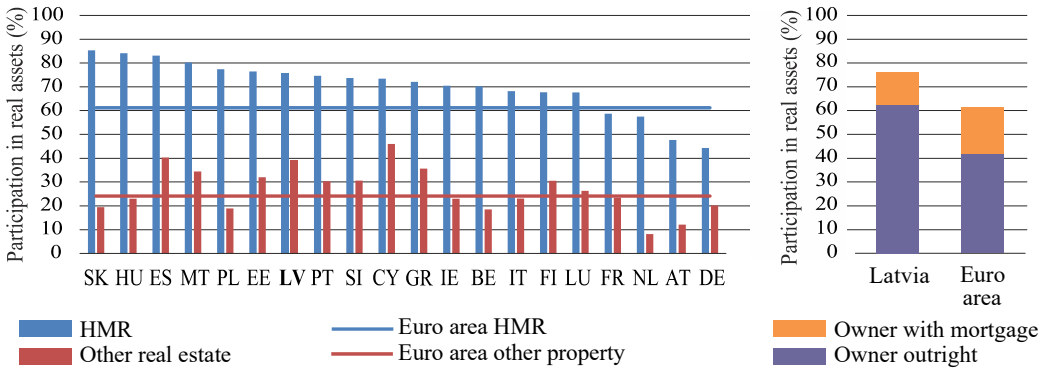
The share of Latvian households owning real assets is 86.7%, which is lower than the euro area average of 91.4% (see Table A1 and Figure 4.4). Households in Latvia most often hold the following assets: the HMR, vehicles and other real-estate property. One of the key differences distinguishing Latvian households from those in the euro area is the low ownership of valuables (see Figure 4.4). In 2014, the median value of total holdings of household real assets in Latvia was 19 900 euro. The median value for neighbouring Estonia was 2.6 times higher (reference year: 2012), while the figure for the euro area was almost seven times higher at 136 600 euro.

4.1.1 Real estate property

The HMR is the most commonly held asset in Latvia as well as in many other post-Soviet and southern EU countries. On average though, euro area households are less likely than households in Latvia to own the HMR (see Figure 4.5). This is even more pronounced for other real estate property, i.e. nearly 40% of households in Latvia vs. less than a quarter of those in the euro area hold other real estate. Most of this "other real estate" is either a house/apartment or land used for recreational or other private purposes.

The survey also gives an opportunity to examine patterns of asset holding by demographic groups, e.g. income, education and net wealth. Real-estate-ownership rates, just like ownership rates of all assets, are positively related to income (see Figure 4.4). Both in Latvia and in the euro area self-employed persons exhibit highest ownership rates for real estate. Furthermore, the higher the level of education of the reference person, the higher the probability to own the HMR or other real estate property. This reflects a positive correlation between education and income levels.

Figure 4.5
Real estate ownership in selected countries



Source: authors' calculations using HFCS data and country results from Household Finance and Consumption Network (2016b).
Note. The results were calculated using household weights.

Despite high ownership rates, the value of real estate assets is comparatively small. In 2014, the median value of HMR in Latvia was 15 100 euro, which is on average 11 times smaller than in the euro area and almost three times smaller than in Estonia. In both Latvia and the euro area real estate of the retired is of a markedly lower value than that of the employed, and especially the self-employed. However, while the value of HMR remains fairly constant across all age groups, median values of other real estate are decreasing with the age of reference person. The exception is the age group of 35–44 years, which recorded the highest median value of HMR in Latvia. This pattern could be explained by the fact that these households have the highest mean income (see Table A12) and are also most likely to have taken out a mortgage, thereby being able to afford more expensive properties (the median value of HMR, given mortgage, is 29 400 euro, i.e. twice the value recorded for the HMR without a mortgage). Furthermore, the young are usually more likely to live in Riga or other cities where real estate prices and thus the estimated value of their real estate are higher.

4.1.2 Self-employment business wealth

Self-employment business wealth is the third most important component of a Latvian household's portfolio. It includes businesses, in which at least one household member has an active function (including agricultural businesses)[19]. A tenth of Latvian households had their own self-employment business wealth. This participation rate is very close to the average level in the euro area, but the share of self-employment business wealth in the asset portfolio in the euro area is smaller than in Latvia (see Figure 4.1).

The median value of self-employment business (i.e. the market value of all business assets, including intangibles, minus liabilities) is 3 300 euro in Latvia (see Table A2), which is nine times lower than in the euro area. The low median value of businesses in Latvia might partly be linked to the widespread use of the micro-enterprise tax regime. The regime was introduced during the crisis years to promote the creation of small private businesses, but it was often used by existing companies to reduce the tax and administrative burden (Stinka and Bonda (2014)). Namely, in order to optimise

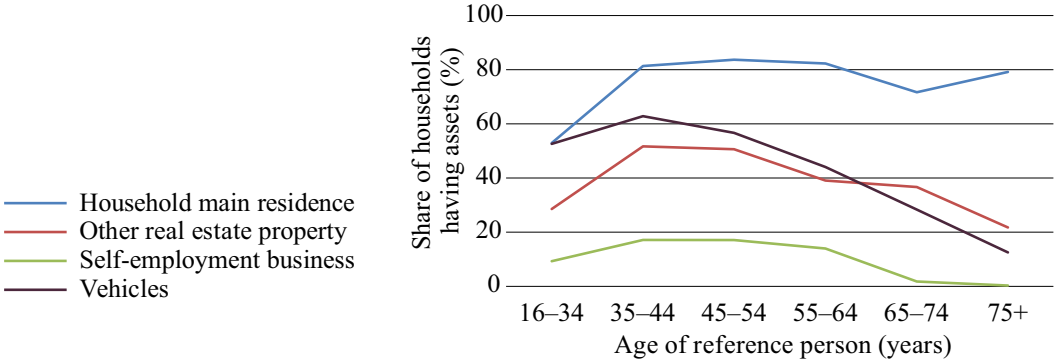
[19] Businesses, where no household member has an active function, are classified as financial assets.

tax liabilities, larger companies replaced employment with outsourcing of services rendered by micro enterprises. Such self-employment businesses are of low value and are likely to be dragging the overall median value of businesses down.

4.1.3 Other real assets

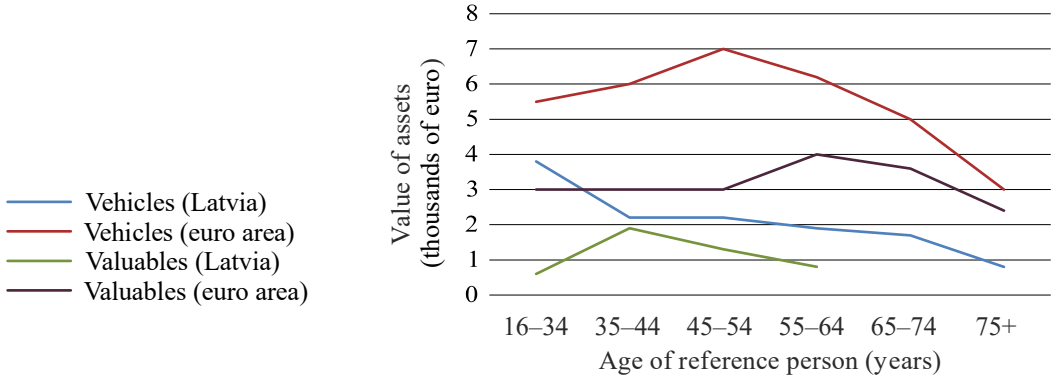
Vehicles are the second most prevalent real asset type held by households in Latvia. However, vehicle ownership[20] in Latvia is much less widespread than in the euro area (see Figure 4.4). This is in line with macro data on the number of passenger cars per 1 000 inhabitants; Latvia records one of the lowest figures among EU countries[21]. The median value of Latvian household vehicles is 2 200 euro (see Table A2), while the corresponding value for the euro area is almost three times higher.

Figure 4.6
Participation in real assets by age group



Source: authors' calculations using HFCS data for Latvia and euro area results from Household Finance and Consumption Network (2016b).
Note. The results were calculated for the whole sample, using household weights.

Figure 4.7
Median value of vehicles by age group



Source: authors' calculations using HFCS data for Latvia and euro area results from Household Finance and Consumption Network (2016b).
Note. The results were calculated for the whole sample, using household weights.

Interestingly, the value of vehicles is negatively associated with household age in Latvia since the most valuable vehicles by far are owned by the young (16–34) (see Figure 4.7). The median value of vehicles held in this age group is 1.7 times the value

[20] Vehicles used for business activities are only included if they are fully or partially owned directly by the household. Vehicles owned by the business are not included. Neither are leased cars.
[21] Eurostat data.

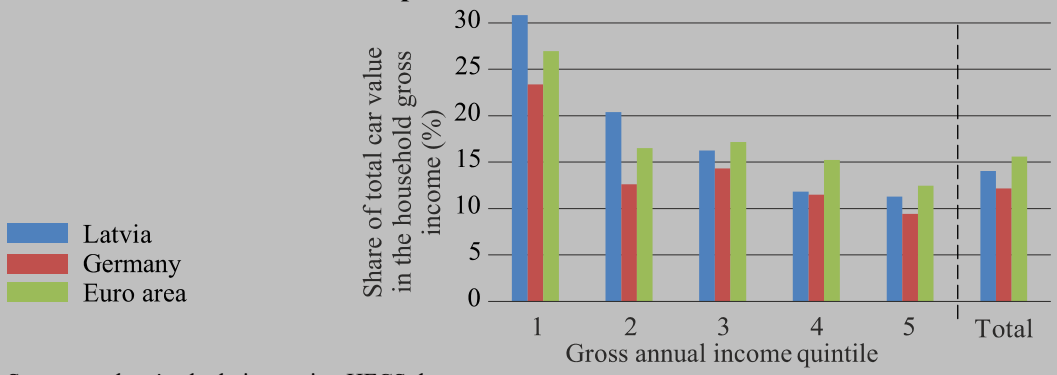
of those held by households in the following two age groups (35–44 and 45–54). In the euro area, the more valuable vehicles are owned by the middle-aged households (45–54).

According to the results of the HFCS, only 3.2% of Latvian households responded that they owned valuables (jewellery, antiquities, works of art, etc.). In the euro area, this proportion is considerably (more than 14 times) higher – 45.4%. The median value of all valuables Latvian households have, conditional on participation, is 900 euro compared to 3 000 euro in the euro area (and 2 000 euro in neighbouring Estonia). Consequently, valuables account for a minuscule 0.2% of Latvian households' real assets (2.3% in the euro area).

Box 3
SPENDING ON CARS

Despite the fact that the median value of vehicles in Latvia is much lower than on average in the euro area, one can think that Latvian households show signs of higher consumerism when looking closer at the value of vehicles relative to the gross income of household (see Figures 4.8 and 4.9). The median ratio of total vehicle value to annual gross income is higher in Latvia than in Germany. Furthermore, when comparing the relative spending on vehicles by income quintiles, it can be observed that households in lower gross income quintiles in Latvia seem to be spending a lot more of their income on cars than lower-income German and euro area households.

Figure 4.8
Median share of total car value in annual gross income by income group, conditional on vehicle ownership

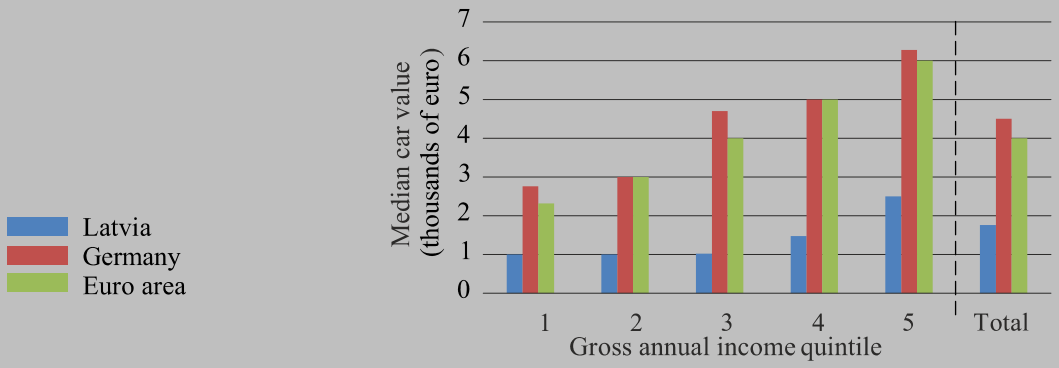


Source: authors' calculations using HFCS data.
Note. The results were calculated using household weights.

To better understand this phenomenon, we suggest comparing households at similar income levels. To do so, we estimate household gross income adjusted for a country-specific comparative price index[22], and then we use it to combine households into groups according to Latvian gross income quintile cut-off points. To distinguish these constructed income groups at a similar price level from the classical income quintiles, we use the abbreviation "LV" in the names of groups (see Figure 4.10).

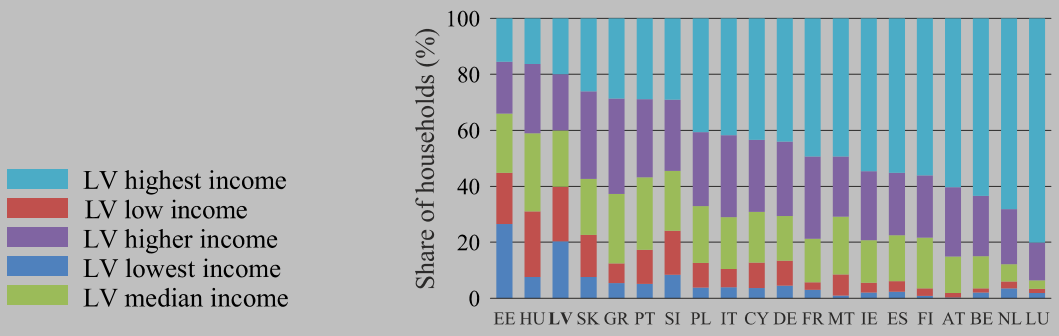
[22] We use Eurostat index "Comparative price levels of final consumption by private households including indirect taxes".

Figure 4.9
Median car value by income group, conditional on vehicle ownership



Source: authors' calculations using HFCS data.
Note. The results were calculated using household weights.

Figure 4.10
Distribution of households by similar comparative price adjusted income level



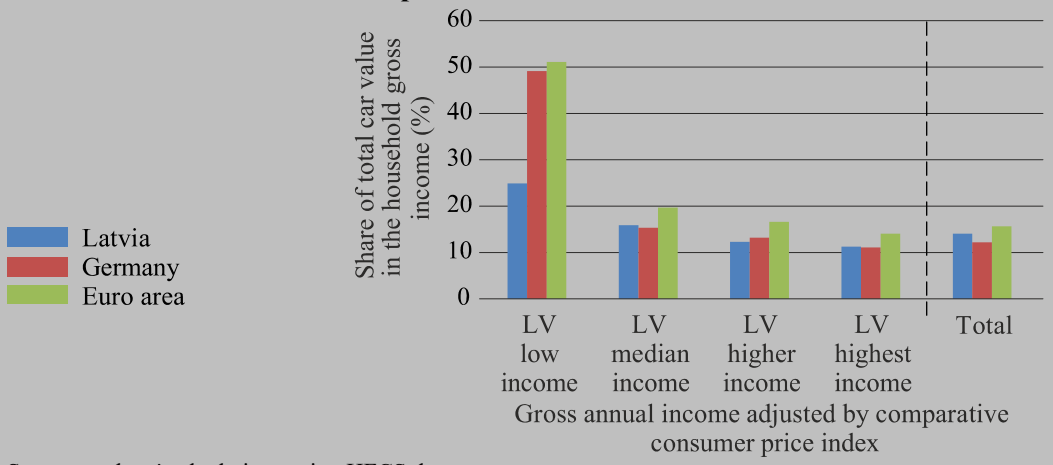
Source: authors' calculations using HFCS data.
Note. The results were calculated using household weights.

The first group "LV lowest income" corresponds to the first income quintile in Latvia with the consumer price index adjusted annual household gross income below 4 731 euro. The other groups correspond to the other four Latvian gross income quintiles. As a result, the share of households in each constructed-quintile group varies across countries (of course, except Latvia where the traditional quintile definition applies). In this way, as shown in Figure 4.10, 80% of households in Luxembourg and 44% in Germany can be assigned to the "LV highest income" group, which includes households with the consumer price index adjusted annual household gross income above 28 914 euro.

Next, we compare the median car value and median ratio of car value to annual gross income for the newly defined groups of households (see Figures 4.11 and 4.12). The two lowest income groups are combined due to a very low share of households in the corresponding groups in euro area countries.

Figure 4.11

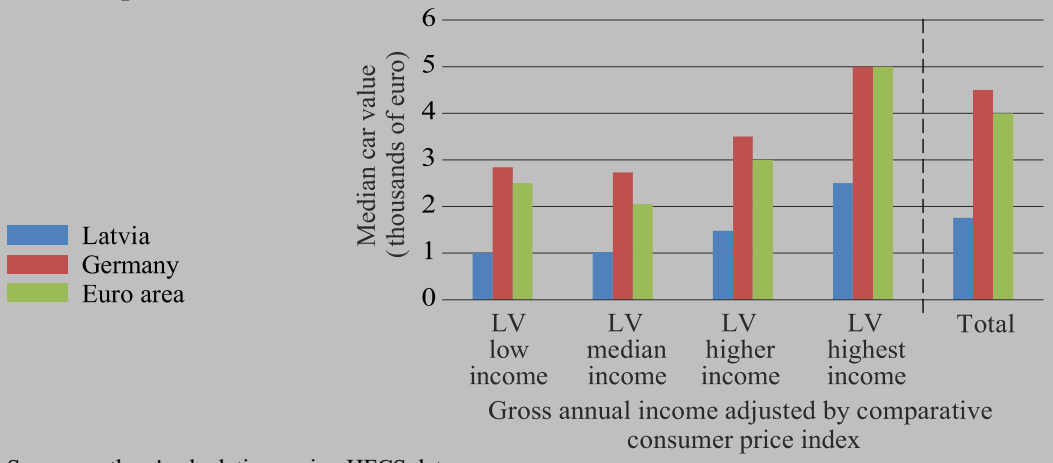
Median share of total car value in annual gross income at similar income level, conditional on vehicle ownership



Source: authors' calculations using HFCS data.
Notes. The two lowest income groups are combined into the "LV low income" due to a very low share of households in the corresponding groups in euro area countries. The results were calculated using household weights.

Figure 4.12

Median car value by income group at similar income level, conditional on vehicle ownership



Source: authors' calculations using HFCS data.
Notes. The two lowest income groups are combined into the "LV low income" due to a very low share of households in the corresponding groups in euro area countries. The results were calculated using household weights.

The difference in median value of cars in Latvia and Germany or the euro area is smaller at a similar household income level (see Figures 4.9 and 4.12); however, still significant. Furthermore, counter-intuitively the households in the low income group in Germany and the euro area actually seem to have slightly more expensive vehicles than those in the median income group.

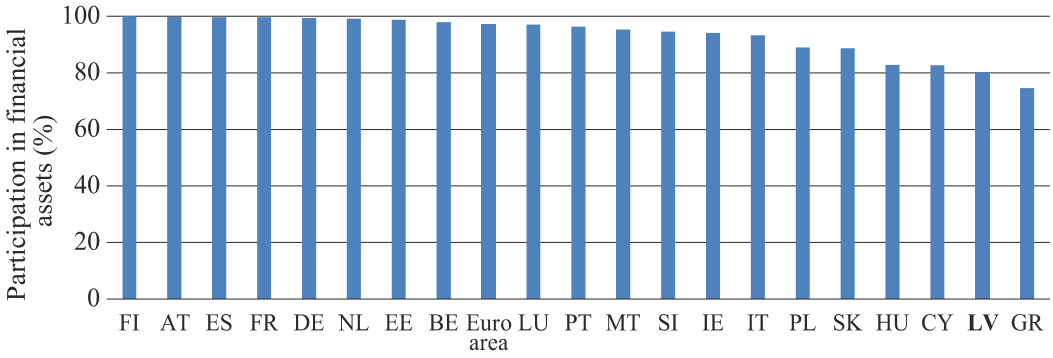
Save for the low income group, the ratios of the total car value to household annual gross income in Latvia and Germany are very similar and smaller than on average in the euro area. Therefore, the price-level adjustment tells another story to the one presented in Figure 4.8. In fact, if similar income households are compared, low income households in Latvia spend a notably lower share of their income on vehicles than in Germany or the euro area as a whole.

4.2 Financial assets

In general, financial asset ownership and portfolio allocation reflect a household's income, its risk and time preferences as well as financial literacy. Nine different categories of financial assets[23] are covered in the HFCS: sight and saving deposits, mutual funds, bonds, shares (publicly traded), money owed to a household[24], voluntary private pensions, whole life insurance and other financial assets. Since the financial market in Latvia is underdeveloped, some of the above financial assets were further grouped and analysed in broader groups: deposits (sight and saving deposits), money owed to a household, voluntary private pension funds/whole life insurance and other financial assets (mutual funds, securities, non-listed shares, financial derivatives, etc.)[25]. No questions are asked regarding the amount of cash held[26].

Only 80.2% of Latvian households hold at least one type of financial assets, which is markedly lower than in the euro area and Estonia and the second lowest result among the surveyed countries (see Figure 4.13). The lowest participation rates in financial assets are for one-person households, the ones with low income or net wealth level, with a low level of education, and the elderly (the reference person aged 75+ or retired).

Figure 4.13
Financial asset ownership



Source: Household Finance and Consumption Network (2016b).

Conditional on ownership, the median value of total financial assets of Latvian households is a modest 400 euro, i.e. considerably lower than the median value of real assets and 30 times lower than the euro area median (10 600 euro). The median value

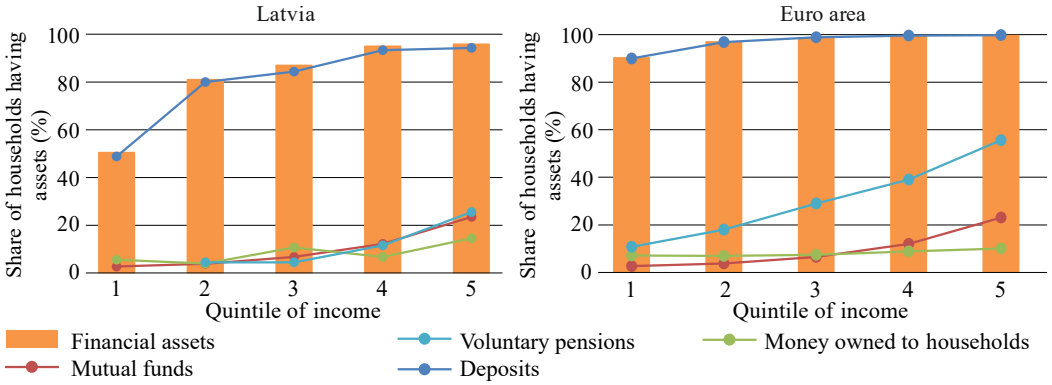
[23] See Appendix 1 for a complete definition of financial assets.
[24] Loans granted by a household to friends, relatives, etc., rent deposits and any other loan expected to be repaid to the household at some point in future.
[25] Table A4 of Appendix 2 shows household participation rates for various financial assets and their breakdowns by household type. Table A5 presents the median values of the listed asset types, conditional on households' participation. Table A6 displays the composition of financial assets: shares of various asset types in the total value of financial assets.
[26] In Latvia, where the size of the shadow economy is estimated to be considerable, the lack of data about a household's savings in cash might result in some underestimation of household wealth. The shadow economy is characterised by the following elements: underreporting of business income, employees and salaries (envelope wages), and is likely to be linked to lower amounts of funds flowing through banks and larger amounts of cash being held. At the time of the survey, in 2014, the shadow economy accounted for almost one quarter of Latvia's GDP (Putniņš and Sauka (2017)). In Estonia, for example, this figure was substantially lower (13%). With the prevalence of shadow economy decreasing, it is likely that a larger share of household financial assets will be accounted for in future surveys.

in Estonia[27] is considerably higher than in Latvia (2 100 euro), but still represents only a fifth of the euro area value. It is not unlikely that households in Latvia hold less financial assets than those in the euro area or Estonia; however, the gap is far larger than one might reasonably expect. Reasons for low financial asset ownership in Latvia could involve lower income, lack of traditions, poor financial education, the size of the shadow economy, (lack of) trust in the banking system or simply underreporting (for some explanations of these low values see Box 1).

4.2.1 Deposits

Deposits[28] (held by 78.5% of households) are the most common type of financial assets not only in Latvia but also in every euro area country. Deposits account for almost half of the financial asset portfolio of households in Latvia and for 3.9% of the total assets (see Figure 4.1). The ownership of deposits among households in the euro area does not vary significantly between different groups of households (either by age of reference person, or net wealth, or income, etc.), while there is substantial variation observed for households in Latvia (see Table A4 and Figure 4.14).

Figure 4.14
Participation in financial assets by income



Source: authors' calculations using HFCS data for Latvia and euro area results from Household Finance and Consumption Network (2016b).
Note. The results were calculated for the whole sample, using household weights.

The median value of Latvian household deposits is 20 times lower than in the euro area. The relationship between the median value of deposits and household age in Latvia has a hump-shaped pattern with the highest value for households with the reference person aged 55–64 (see Table A5). In the euro area, though, these variables are positively correlated, i.e. median deposits increase with age, except the 75+ age group where median deposits slightly decline (see Figure 4.16). Latvian households with a self-employed reference person have the highest median value of deposits, twice as much as the runner-up – households with an employed reference person. In the euro area (8 600 euro) and in Estonia (2 900 euro), it is the retired who hold the largest deposits, while in Latvia the sample size for this exact statistic is too small to make it possible to draw any conclusions.

[27] In Estonia, in addition to self-reported values, data on the amount of deposits (the largest component of financial assets) were gathered from the largest commercial banks. Therefore, Estonian data are less likely to suffer from underreporting.
[28] Here and hereinafter, "deposits" are defined as the sum of sight and saving accounts.

4.2.2 Voluntary private pensions/whole life insurance

Deposits aside, all the other types of financial assets are owned by less than a tenth of households (see Figure 4.14). The second most commonly held financial asset is voluntary pensions and whole life insurance (held by 8.9% of households in Latvia as opposed to almost a third of households in the euro area)[29]. Households in Latvia have not only one of the lowest participation rates in voluntary private pension plans and/or whole life insurance contracts, but also the lowest median value of their savings for retirement (900 euro vs. 13 100 euro in the euro area).

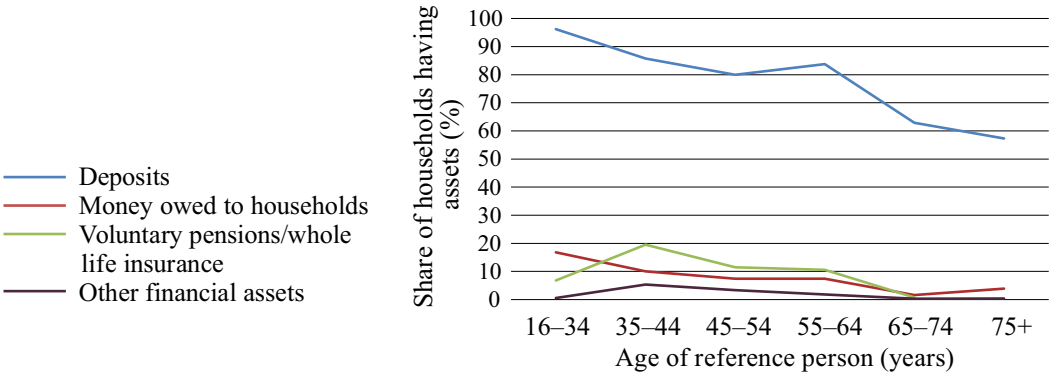
When analysing voluntary pensions, it is important to remember that the institutional arrangements behind the pension system and the welfare provision differ across countries. The state plays a key role in some countries (e.g. Pay-As-You-Go schemes for pensions, generous unemployment and sick leave benefits), while in others saving to provide for oneself at retirement, in the case of sickness or unemployment is left for the most part to individuals. Therefore, direct comparisons in terms of voluntary pensions/whole life insurance between countries are hard to make.

Like in the euro area, participation rate in voluntary pensions increases with income, net wealth and the education level of the reference person (see Table A4). The link between the education level and saving for retirement has been explored in various papers (Atkinson et al. (2015)), providing ample evidence of financial knowledge and skills being positively related to long-term savings.

Participation rate in voluntary pensions or whole life insurance as well as the median value of this asset displays a hump-shape pattern when analysed across age groups, with the maximum participation rate (19.5%) and maximum median value (1 700 euro) observed for the age group 35–44 (see Figures 4.15 and 4.16). This observation seems to be at odds with economic theory, which suggests that this type of wealth is generally accumulated for consumption smoothing and insurance purposes allowing people to continue consumption after they have stopped working, and to be sure that they do not outlive their savings. One would expect to see gradual accumulation of savings (wealth in the form of voluntary pensions) until the retirement age and a gradual decline afterwards (as can be observed in the euro area; see Figure 4.16). The different pattern in Latvian HFCS data could partly be explained by the transition period in the 1990s from a centrally planned economy, which was characterised by wealth destruction. Even if households had accumulated any savings prior to the collapse of the Soviet Union, they were most likely run down in the 1990s due to the monetary reform and hyperinflation. Furthermore, voluntary pensions (third pillar pensions) were introduced only in 1998 (comparatively recently), resulting in fewer participants than in the euro area as well as considerably less wealth accumulated in older age groups.

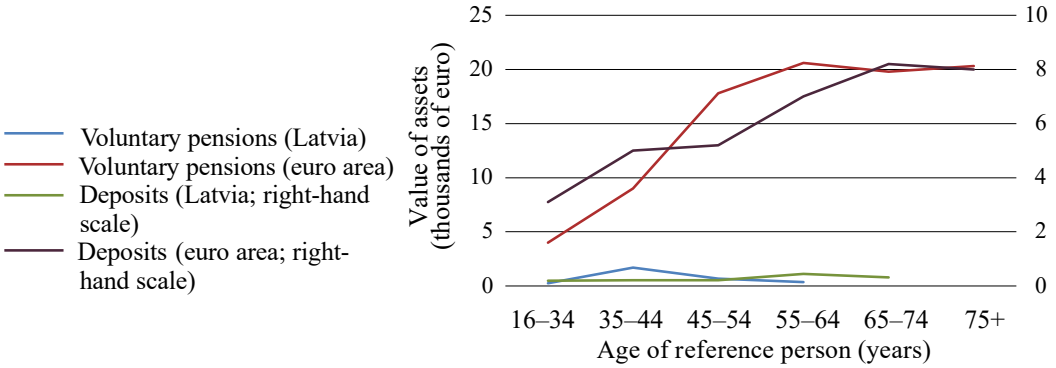
[29] Public pension plans, known as first pillar pensions, are not considered in this paper to keep the estimated results comparable with the euro area averages and because it is difficult to evaluate the net present value of public pensions and occupational pension plans for households. Neither do we consider the savings in public pension funds with individual accounts, known as second pillar pensions. This is also done to be consistent with the euro area averages since such funds are not included in the coverage of financial assets for euro area households. Only voluntary pension plans/whole life insurance, which are individually purchased and are not linked to an employment relationship, are discussed here.

Figure 4.15
Participation in financial assets by age group



Source: authors' calculations using HFCS data for Latvia and euro area results from Household Finance and Consumption Network (2016b).
Notes. The results for Figure 4.15 were calculated for the whole sample. Results for Figure 4.16 were calculated for households with voluntary pension and/or whole life insurance wealth.

Figure 4.16
Median value of voluntary pensions and deposits by age group, conditional on participation



Source: authors' calculations using HFCS data for Latvia and euro area results from Household Finance and Consumption Network (2016b).
Notes. The results for Figure 4.15 were calculated for the whole sample. Results for Figure 4.16 were calculated for households with voluntary pension and/or whole life insurance wealth.

5. DEBT

The HFCS collects detailed information on household liabilities, thus allowing for the analysis of household indebtedness level in Latvia. This section examines the liabilities side of household balance sheets, i.e. mortgage (collateralised by the HMR or other property) and non-mortgage debt (credit lines, overdraft, credit card debt and other non-mortgage debt)[30]. Household credit constraints are analysed in Sub-section 5.2. Finally, the key indicators of financial pressure are summarised, taking into account the information on households' assets, debt and income to identify the most financially vulnerable households (see Sub-section 5.30). It should be pointed out that

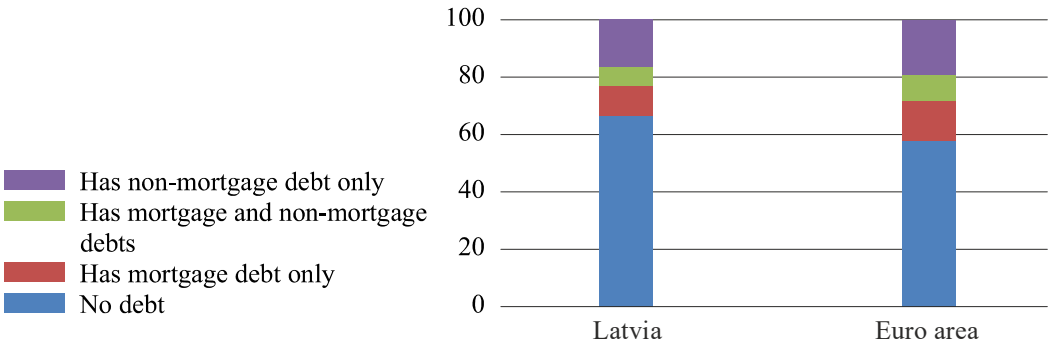
[30] Participation rates in different types of debt (Table A7), the median values of debt, conditional on participation (Table A8) as well as the composition of total debt (Table A9) of households in Latvia across demographic groups are reported in Appendix 2.

data from the Credit Register[31] were used to complement the self-reported results from the HFCS, thereby increasing the accuracy of data on household liabilities.

5.1 Total debt

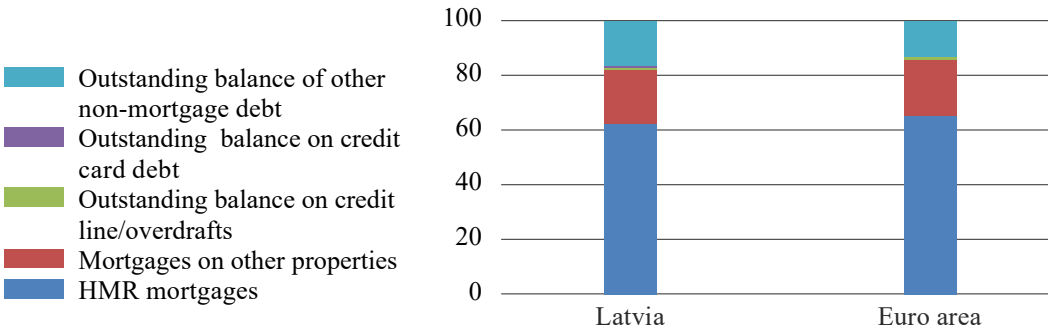
Households in Latvia are less likely to be holding debt than those in the euro area, and this is true for all types of debt. One third of Latvian households have outstanding debt (see Figure 5.1), which is lower than the euro area figure and is one of the lowest readings among EU countries (Italy and Greece post lower rates: 21.2% and 27.1% respectively). The most widespread type of debt both in Latvia and in the euro area is non-mortgage debt (see Figure 5.1).

Figure 5.1
Debt participation as % of all households



Source: authors' calculations using HFCS data.
Note. The results were calculated for the whole sample using household weights.

Figure 5.2
The structure of household debt as % of the aggregated total debt



Source: authors' calculations using HFCS data.
Note. The results were calculated for the whole sample using household weights.

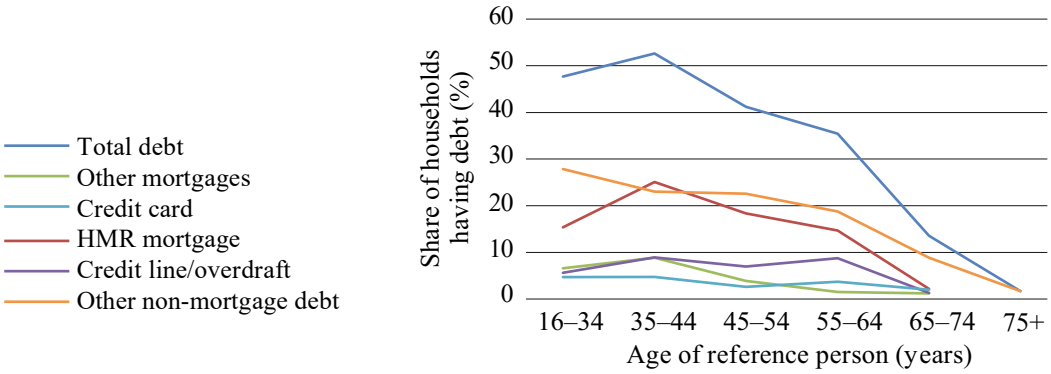
In line with euro area results, when it comes to the total value of the stock of debt, its largest component is mortgage debt, and in particular, the type, where the HMR is used as collateral (see Figure 5.2). While "other non-mortgage debt" is the most widely held type of debt amongst households, it is only the third largest component of debt portfolio in terms of its weight.

[31] The Credit Register is a national information system managed by Latvijas Banka where information on the liabilities and performance of the Credit Register participants' customers is accumulated and stored. Participants of the Credit Register include economic agents that provide financial services in Latvia associated with credit risk.

The median value of debt held by households in Latvia amounts to 7 100 euro, which is larger than Estonia's 6 300 euro, but almost four times smaller than the euro area median of 28 200 euro. Median values of debt for mortgage debt holders are substantially higher than those of non-mortgage debt holders (see Figure 5.6). This suggests that high levels of debt are usually incurred due to investment in real estate property.

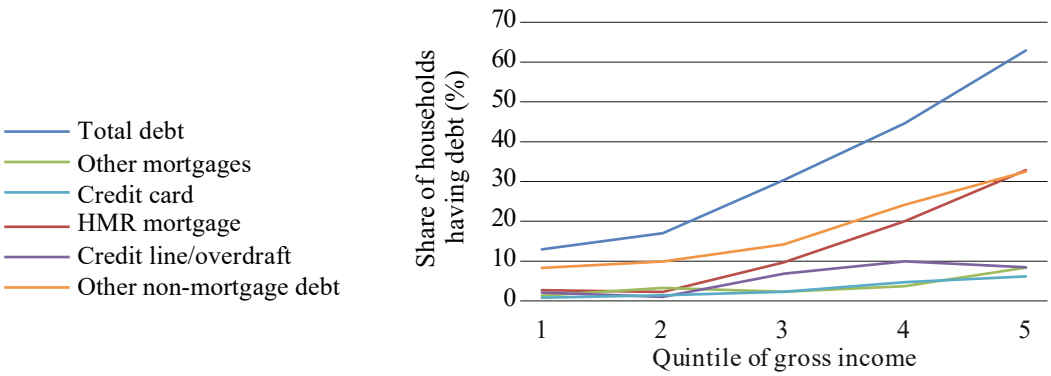
Overall, similarly to the patterns observed in the euro area, a small household is less likely to hold debt and its level of debt is lower if the reference person has a lower level of education, he/she is aged over 65 and is retired. Debt participation patterns and median values of debt are hump-shaped when arranged by age of the household reference person (peaking at 35–44; see Figure 5.3) and largely monotonic with regard to household income (higher income households hold more debt; see Figure 5.4). The results for households split by income contrast with observations when net wealth is considered: the two groups with the largest debt participation within this split are the households with the highest and the lowest net wealth (see Figure 5.5), with those in the middle of the net wealth distribution considerably less likely to be holding debt. This is largely due to high participation rates in non-mortgage debt for households in the lowest net wealth quintile and high participation in mortgage debt for the wealthiest.

Figure 5.3
Debt participation by age group



Source: authors' calculations using HFCS data.
Note. The results were calculated for the whole sample using household weights.

Figure 5.4
Debt participation by income



Source: authors' calculations using HFCS data.
Note. The results were calculated for the whole sample using household weights.

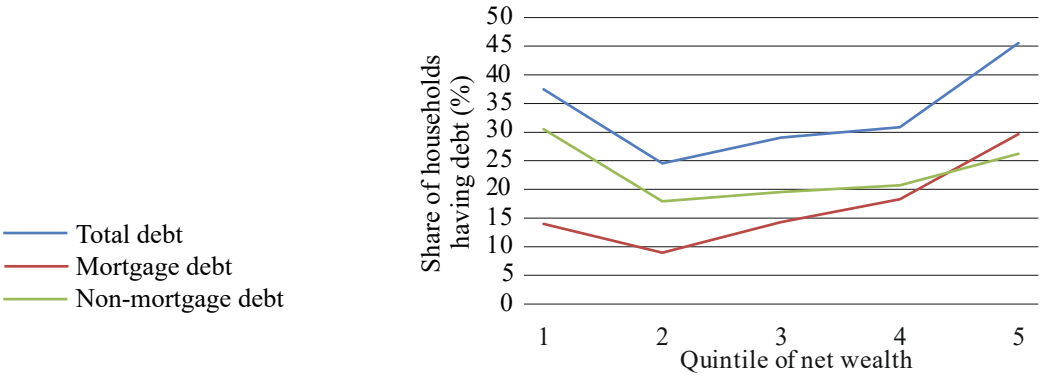
5.1.1 Mortgage debt

The holding patterns of mortgage debt, by far the largest component of a households' debt portfolio in Latvia, are roughly the same as for total debt described above. The hump-shaped pattern observed for total debt in Latvia and the euro area when households are grouped by age, is driven by patterns in mortgage debt (see Figure 5.3). This is in line with consumption smoothing habits as suggested in literature (e.g. the life-cycle model, first articulated in Modigliani and Brumberg (1954)). Country-specific factors might also be at play. For instance, credit market developed fairly recently in Latvia (early 2000s). Therefore, the households currently falling in older age brackets had very limited information on and access to long-term mortgage loans when they were younger. Finally, given the fact that a substantial part of real estate held by households was acquired in early 1990s as part of the privatisation programme, older households in Latvia have not had to take out a mortgage to be able to obtain real estate property and therefore are not indebted now.

In Latvia, net wealth and the likelihood that a household has a mortgage are in general positively correlated,[32] with the wealthiest households posting the highest participa-tion rate in mortgage debt (see Figure 5.5). However, this is not the case in the euro area, where this relationship is nearly hump-shaped: the households in the middle of net wealth distribution record the highest participation rate in mortgages (driven by patterns in HMR mortgages).

To recall, net wealth is defined as the difference between the value of a household's assets and liabilities; Therefore, it should be noted that a household's position in the net wealth distribution is endogenous to the amount of mortgage debt it holds. Debt (especially mortgage debt since it is considerably larger than other forms of debt) reduces net wealth of a household. As a result, the largest median holdings of mortgage debt (given a household has mortgage debt) are for households in the lowest net wealth quintile – true for both the euro area and Latvia (see Figure 5.6).

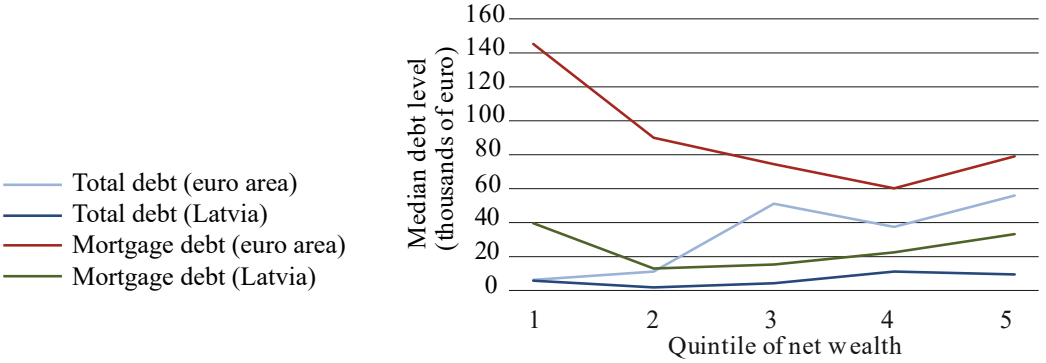
Figure 5.5
Debt participation by net wealth



Source: authors' calculations using HFCS data for Latvia and euro area results from Household Finance and Consumption Network (2017).
Note. The results were calculated for the whole sample using household weights.

[32] The lowest net wealth quintile has virtually the same participation rate in mortgage debt as the middle net wealth quintile. It might have to do with the fact that when a mortgage is taken out to purchase real estate, a household records assets on its balance sheet and corresponding liabilities that can potentially nearly cancel out, causing the household to find itself in the lowest net wealth quintile, despite having substantial assets.

Figure 5.6
Median debt levels by net wealth in euro area and Latvia



Source: authors' calculations using HFCS data for Latvia and euro area results from Household Finance and Consumption Network (2017).
Note. The results were calculated for the whole sample using household weights.

5.1.2 Non-collateralised debt

In Latvia, almost a quarter of households report to be holding non-collateralised debt (slightly less than in the euro area) amounting to around 18% of the total household debt portfolio (see Figure 5.2). This debt consists of credit lines or overdraft debt, credit card debt and its largest component – other non-mortgage debt. Other non-mortgage debt includes loans from relatives or friends (the household is expected to repay) and any non-collateralised loans that households have (consumer loans, student loans, car loans, loans taken to finance business as well as short-term loans[33]).

The median outstanding balance of non-mortgage debt per household in Latvia, conditional on holding this type of debt, is 1 000 euro. This is significantly smaller than the balance registered for mortgage debt as well as the balance observed in the euro area (5 000 euro), but slightly larger than the median outstanding amount recorded in Estonia (700 euro)[34].

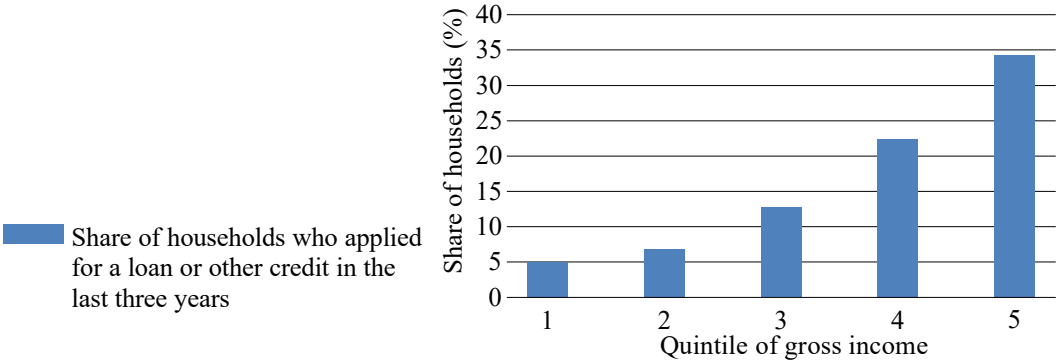
Debt holding patterns of non-collateralised debt differ from those observed for mortgage debt. The probability to hold non-collateralised debt decreases with age rather than exhibiting the same hump-shaped pattern as mortgage debt (see Figure 5.3). Furthermore, the difference in participation rates in other non-mortgage and mortgage debts is the most pronounced for the low-income (see Figure 5.4) and less educated households rather than for the top-income and educated ones, i.e. mortgage debt ownership rates catch up with non-mortgage debt participation only at top income levels. In terms of netwealth, other non-collateralised debt holdings are very widespread for households with low net wealth (see Figure 5.5) and amongst the households where the reference person is classified as "other not working"[35].

[33] No separate questions were asked regarding payday loans; they are included in "other non-collateralised debt".
[34] HFCS data on debt in Estonia were complemented by data from the largest commercial banks (Household Finance and Consumption Network (2016a)), which improves data vs. only self-reporting, but less so than in the case of Latvia, where the Credit Register (with broad coverage) was used. As a result, there might be some underreporting of liabilities in Estonia.
[35] The participation rate of this group in other non-collateralised debt is almost as high as that of the employed and self-employed, despite the fact that their median income is four times smaller.

5.2 Credit constraints

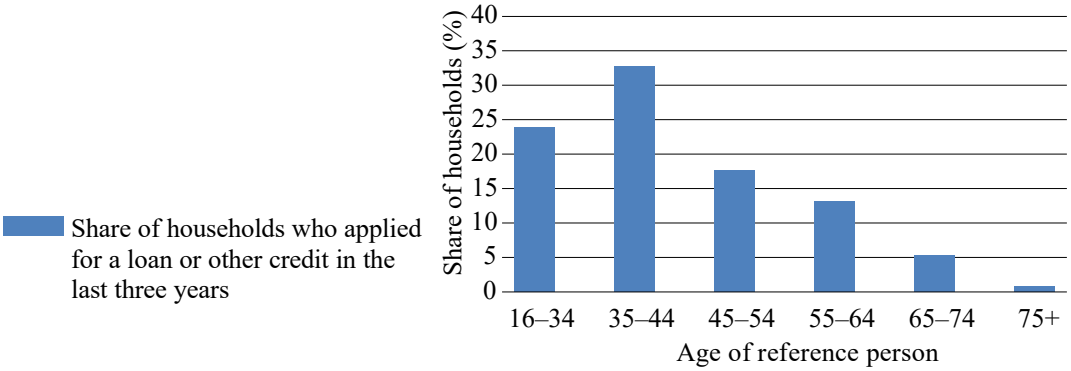
This sub-section presents responses of households with respect to application for credit and difficulties in obtaining it (both credit refusals by credit institutions and non-application due to perceived credit constraints). It should be noted that the question is generic, it does not discriminate between types of credit (it can include mortgages, payday loans, credit card loans, etc.) and credit institutions (both banks and non-banks).

Figure 5.7
Application for credit by income quintile



Source: authors' calculations using HFCS data.
Note. Results were calculated for all household using household weights.

Figure 5.8
Application for credit by age of a reference person



Source: authors' calculations using HFCS data.
Note. Results were calculated for all household using household weights.

Overall, 16.2% of all households had applied for a loan or other credit during 2010–2014 (see Table A15) which is similar to the aggregate number for the euro area (18.6%). More than one third of Latvian households holding debt at the time of interviews (in 2014) reported that they had applied for credit during the previous three years. Comparing households by income level (see Figure 5.7), we observe a strong positive correlation between gross income of a household and loan application, which is in line with overall debt holding patterns. Similarly, households with a younger reference person (aged 16–34 and 35–44) who also have, on average, the highest income, are more likely to apply for a loan or other credit (see Figure 5.8).

On average, 26% of household loan applications were turned down by credit institutions, which is twice as much as in the euro area (13.3%). Almost one fifth of Latvian households could obtain the amount requested by reapplying to the same or

other credit institution after the initial loan request was rejected. Households with better net wealth situation were more likely to receive a loan after repeated application.

8.1% of households responded that they did not apply for credit during 2011–2014 due to perceived credit constraints (see Table A15). The above figure is close to the euro area average of 6.4%. Households that were worse off in terms of net income (the first net income quintile) were more likely to self-assess their credit prospects negatively and therefore chose not to apply for credit.

Box 4

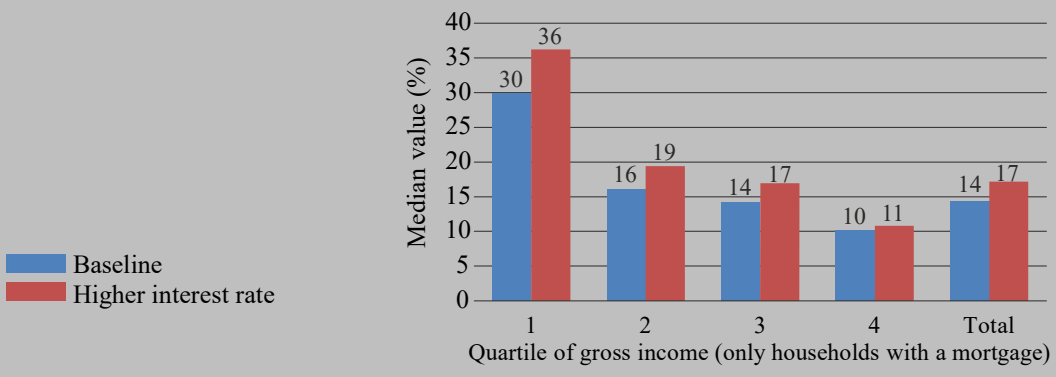
MORTGAGE INTEREST RATE SHOCK ANALYSIS

Since 2008, in response to the global financial crisis and the subsequent sovereign debt crisis the Governing Council of the ECB has substantially decreased the monetary policy rate, which resulted in mortgage rate reduction in many euro area countries. The positive effect of mortgage rate reduction was particularly strong for households with flexible rate mortgage contracts. In Latvia, the share of such contracts is the second highest in the euro area (over 80%), which, ceteris paribus, would imply a faster interest rate pass-through compared to euro area countries (similar to Portugal but slower than in Cyprus[36]). With the economy growing and inflation returning, gradual monetary policy normalisation is expected in the coming years, implying a mortgage rate increase for households.

Following Ehrmann and Ziegelmeyer (2014) and Household Finance and Consumption Network (2016b), we calculated the first-round effect from a change in mortgage payment interest rate on debt service-to-income ratio of households in Latvia, keeping other elements of household budget, such as income, savings and basic expenditures, unchanged. The effect is estimated for a 378 basis point increase in mortgage rate, which corresponds to the magnitude of the observed historical drop from a peak of 6.3% in October 2008 to 2.5% in December 2014. This is not to say that interest rates are expected to reach the levels of 2008 in the near future; rather we allow for this very strong increase in interest rate from historically low levels to examine the maximum first-round effect. Thus, keeping all other household characteristics of 2014 unchanged, we estimate the potential increase in debt service-to-income ratio in case the mortgage rate increases by 3.78 pp.

Figure 5.9

Debt service-to-income by gross income quartile (only households with mortgage)



Source: authors' calculations using HFCS data.
Note. The median values were calculated for households with mortgage using household weights.

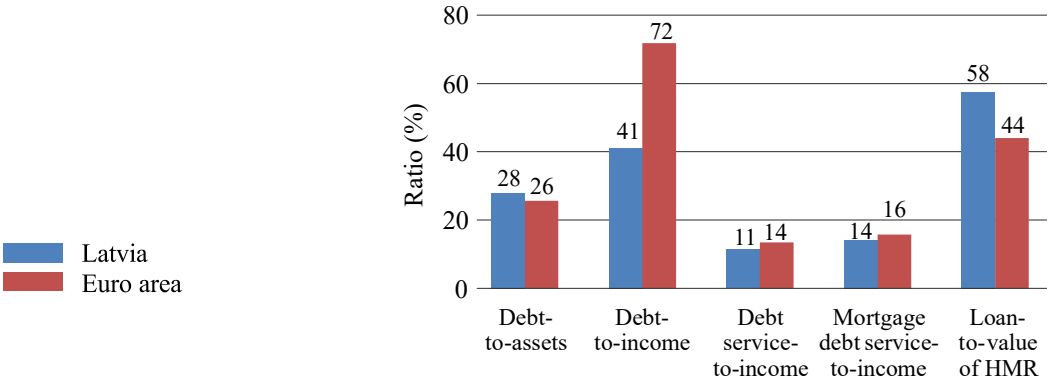
[36] See Household Finance and Consumption Network (2016b), Chart 3.10.C.

Figure 5.9 shows changes in the median debt service-to-income ratio across income quartiles. The graph depicts the unequal distributional effect from the mortgage rate increase, which is more pronounced for the lowest income households. For the highest income quartile households, a 3.78 pp increase in mortgage rate results, on average, in a 1 pp increase in the debt service-to-income ratio. For the lowest income households, however, it accounts for a 6 pp increase in the debt service-to-income ratio. Even though an increase in interest rates is likely to put relatively more strain on lower income households, the potential overall effect even of a very strong increase in mortgage rates is rather moderate (3 pp). Furthermore, since households are likely to have benefitted from the economic recovery in terms of higher income, and since banks have been markedly more prudent in lending in the post-crisis years, household resistance to interest rate shocks is likely markedly higher than this calculation suggests.

5.3 Debt burden and household vulnerability

Households take up loans in order to smooth consumption or finance larger investments, but excessive accumulation of debt can lead to a decrease in well-being of a household and an increase in its vulnerability to poverty and social exclusion. There are two broad ways to determine vulnerability and overindebtedness: via self-assessment or via more objective measures, i.e. by calculating indicators based on a household's flow of funds and its balance sheet. The HFCS can be used to analyse financial fragility of households from these two angles. This sub-section presents various commonly used indicators of household financial vulnerability. The indicators considered include the debt-to-asset ratio, debt-to-income ratio, debt service-to-income ratio, mortgage debt service-to-income as well as loan-to-value ratio. They are all presented in Figure 5.10 (see Table A10 for these ratios across demographic groups)[37]. Box 5 at the end of sub-section focuses on the comparison between self-assessed and "objective" measures of financial vulnerability.

Figure 5.10
Indicators of debt burden and financial fragility in Latvia and euro area (medians)



Source: authors' calculations using HFCS data for Latvia and euro area results from Household Finance and Consumption Network (2016b).
Notes. Results were calculated for all household using household weights. All the figures, except for the ratio of net liquid assets-to-income, show median values of the indicator, conditional on households having debt.

The presented measures do not seem to indicate strictly higher or strictly lower financial vulnerability levels in Latvia than in the euro area. For example, the median value of debt-to-income in the euro area is considerably higher than in Latvia

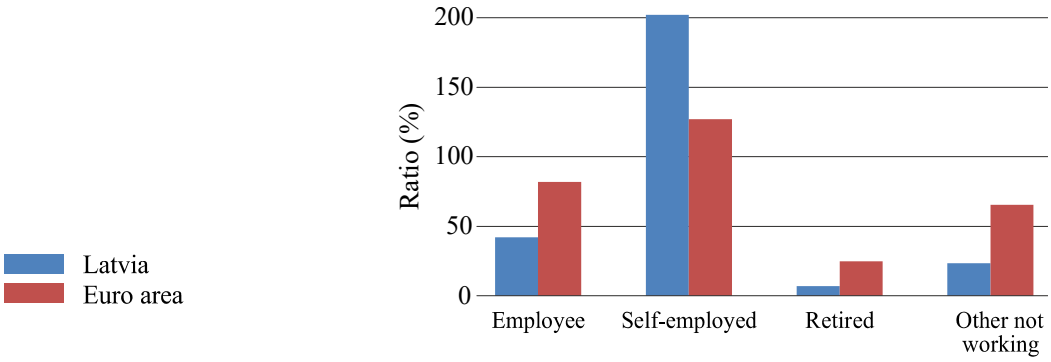
[37] A description of how these indicators have been calculated is included in Appendix 1.

suggesting that, on average, Latvian households are less indebted than euro area households. On the other hand, the median loan-to-value of HMR points to higher vulnerabilities in Latvia. Other measures are fairly similar for the euro area and Latvia.

The *debt-to-income ratio* juxtaposes the level of debt with the annual income of households, pointing to a households' capacity to repay its debts by generating income. The indicator shows how long it would take for a household to repay its debts if it devoted its entire current income to this matter. It would take around five months for a median household in Latvia and more than eight and a half months for a median euro area household to repay their debts if all income was used for this purpose only. This, in part, is likely due to a lower participation in debt by households that are in the lower income quintiles as well as a lower share of mortgages in total debt in Latvia (see Figures 5.1 and 5.2). Macroeconomic data also identify a markedly lower debt-to-income ratio for Latvia than for the euro area (Eurostat (2018)). According to these data, during the boom years of the mid-2000s, the debt-to-income ratio for Latvia was increasing rapidly and "catching up" with euro area levels; however, following the crisis, this ratio has decreased markedly likely due to the creditless recovery observed in Latvia (a rise in income combined with continued deleveraging).

The debt-to-income ratio varies considerably between different demographic groups of households but is lower in Latvia than in the euro area for almost all these groups. The hump-shaped relationship between age and the debt-to-income ratio peaks at 35–44 years of age[38] (see Table A10). There are important differences in debt-to-income ratios among households split by work status (see Figure 5.11). The highest median ratio in both Latvia and the euro area can be observed for households where the reference person is self-employed, but the figures for Latvia are substantially higher than for the euro area. This result points to potential vulnerabilities with respect to debt sustainability of these households in the medium to long run. The households in Latvia where the reference person is employed are notably less vulnerable in terms of this indicator than their euro area counterparts.

Figure 5.11
Debt-to-income ratio by work status



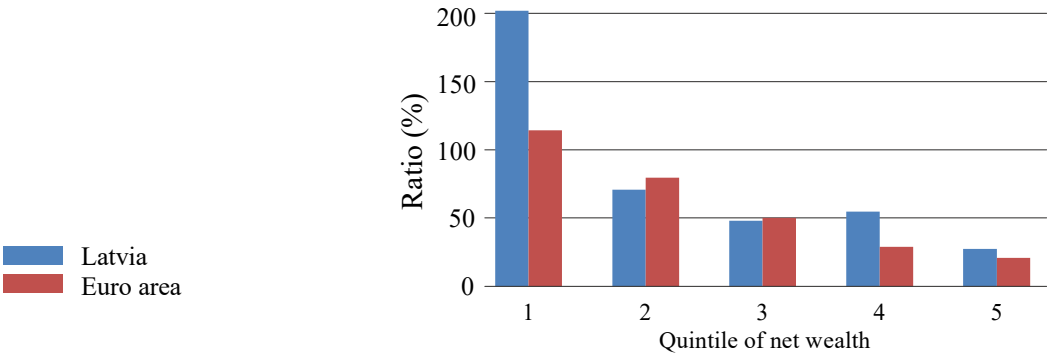
Source: authors' calculations using HFCS data for Latvia and euro area results from Household Finance and Consumption Network (2017).
Note. Results were calculated for all household using household weights.

The *loan-to-value ratio* is estimated by dividing the outstanding amount of mortgage by the value of HMR. The resulting median ratio in Latvia is higher than the euro area median, and is amongst the highest when compared to other euro area countries. When

[38] This pattern is consistent with earlier observations for debt holdings.

looking at groups of net wealth, it is evident that the result is driven by large (nearly two-fold) differences in the loan-to-value ratio in the lowest net wealth quintile – the most vulnerable group (see Figure 5.12).

Figure 5.12
Loan-to-value ratio for mortgage owners by net wealth



Source: authors' calculations using HFCS data for Latvia and euro area results from Household Finance and Consumption Network (2017).
Note. Results were calculated for all household using household weights.

The marked difference with the euro area might stem from a combination of the previously mentioned facts: the mortgage market in Latvia started to develop around the turn of the millennium, and the major part of collateralised loans was issued during the boom period (2005–2008). Households in older member states of the euro area have had access to the credit market for a much longer time. Therefore, the outstanding amount of loans (with respect to HMR value) could be lower in the older member states simply because, on average, more time has passed since loan origination and more of the debt has been repaid. Furthermore, during the boom years, real estate prices in Latvia were often over-valued and the loan-to-value ratios on issuance were very high (sometimes above 100%). House prices dropped considerably (by around 50%) during the crisis and were still one-third lower at the time the HFCS was conducted (2014). This problem is exacerbated in the cases when State Land Service data were used to impute value of housing, which, as explained above (see Box 1), are based on the market values of 2012 (when house prices were 42% lower than at the highest point reached during the boom years). Therefore, the recorded value of HMR is likely to be low compared to the value at which the real estate was purchased, increasing the loan-to-value ratio. However, with the real estate market recovering and the value of real estate increasing, this ratio is likely to improve.

The rest of the calculated ratios for Latvia are very much in line with the results in the euro area.

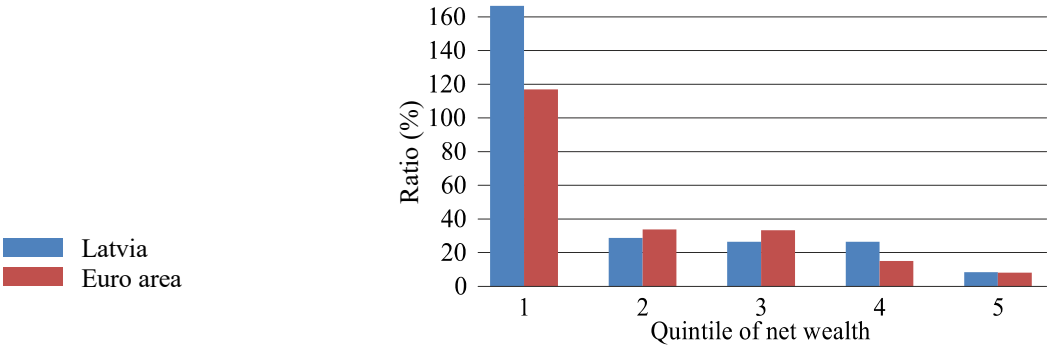
The *debt-to-asset ratio* can be interpreted as a household's capacity to repay its debts from the stock of resources it has. Values that are above 75% indicate a high risk of insolvency. The ratio of 28% suggests that a median household that owns debt has assets to cover its outstanding debts 3.5 times.

Debt-to-asset ratios for households in Latvia and the euro area suggest that low-income and young households are the more vulnerable. The ratio in Latvia posts an especially high level for the households with primary education (66.3%). The variations of debt-to-asset ratio by net wealth (see Figure 5.13) are considerable and mirror the loan-to-HMR value ratios: the households in the lowest net wealth quintile

have extremely high median debt-to-assets ratios. In line with the euro area, this ratio drops substantially for households in the second quintile and slowly decreases thereafter with increased net wealth.

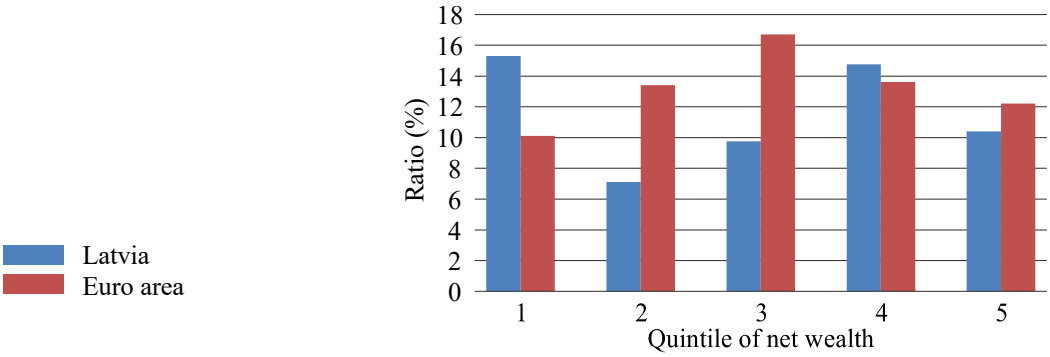
Although households in the lowest net wealth quintile have very high debt-to-assets ratios (see Figure 5.13), their *debt service-to-income ratios* are much closer to the sample median (see Figure 5.14). Therefore, even though the debt burden for these households appears large, the debt service-to-income ratio suggests that servicing these debts does not put excessive strain on household finances.

Figure 5.13
Debt-to-asset ratio by net wealth



Source: authors' calculations using HFCS data for Latvia and euro area results from Household Finance and Consumption Network (2017).
Note. Results were calculated for all household using household weights.

Figure 5.14
Debt service-to-income ratio by net wealth



Source: authors' calculations using HFCS data for Latvia and euro area results from Household Finance and Consumption Network (2017).
Note. Results were calculated for all household using household weights.

The median debt service-to-income ratio characterises the extent to which debt payments drain the current monthly income of a household and describes the short-term solvency of indebted households. A median household in Latvia needs 11.4% of its monthly income for debt servicing – slightly less than the euro area median (see Figure 5.10). If only mortgage debt is considered, the ratios are slightly higher, and the difference between Latvian and euro area households – even smaller. The difference between the debt service-to-income and the debt-to-income ratios (see Figure 5.10) stems from the fact that the debt service-to-income ratio also reflects loan maturities and interest rate levels that the household incurs. Longer maturities and lower rates result in lower debt service-to-income ratio, whilst these do not influence

the debt-to-income ratio, ceteris paribus. Furthermore, the debt-service-to-income ratio calculated here only takes into account the households that report making debt payments. The fact that the median mortgage debt service-to-income ratio for the euro area and Latvia is not as different as the debt-to-income ratio, seems to indicate that mortgage loans in Latvia have, on average, higher interest rates and/or lower maturities than loans in the euro area.

Box 5

HOUSEHOLD FINANCIAL VULNERABILITY

In addition to the standard measures of vulnerability, such as the debt service-to-income or debt-to-assets ratios, which are conditional on a household holding debt, we can use other vulnerability measures, which are recorded in the HFCS. One of them is a household's self-assessed distress (households answer whether during the last 12 months its regular expenses exceeded income; see Section 6), the other is the financial margin of a household estimated using information about its assets, liabilities, income and expenditures (see Albacete and Lindner (2013) and Albacete and Fessler (2010)).

We define financial margin FM_i of household i as $FM_i = DI_i + HS_i - BE_i - LP_i$, where DI_i is disposable income of i-th household; HS_i is savings of i-th household; BE_i is basic living expenditure of i-th household (food, consumer goods and utilities) and LP_i is total loan payments of i-th household. The share of negative financial margin by construction could be slightly lower than the households' self-assessment measure (regular expenses exceed income) since it also includes savings, which can be used to cushion temporary income problems.

In this section, we use four different measures of vulnerability estimated for households with debt. First, we call a household distressed (vulnerable) if its financial margin is negative; second, we call a household vulnerable if its debt service-to-income ratio exceeds 40%; and third, we assume a household to be vulnerable if its debt-to-asset ratio exceeds 75%. We also compare the obtained indicators with the household's self-assessment of vulnerability.

The fraction of financially vulnerable households in total number of households with debt is 15% as estimated from households' self-assessment, 11% as measured by the debt service-to-income ratio, 24% as estimated from households' financial margins and 23% as measured by the debt-to-assets ratio (detailed analysis of the debt service-to-income and debt-to-assets ratios see in Sub-section 5.3).

The distribution of vulnerable households by income quintile for all four measures is similar, i.e. the fraction of financially vulnerable households decreases with gross income of a household (see Figure 5.15). Interestingly, the share of vulnerable households, as estimated from household financial margins, is on average much higher compared to the self-reported evaluation of households, which can be explained by possible underreporting of financial assets by households (see Box 1).

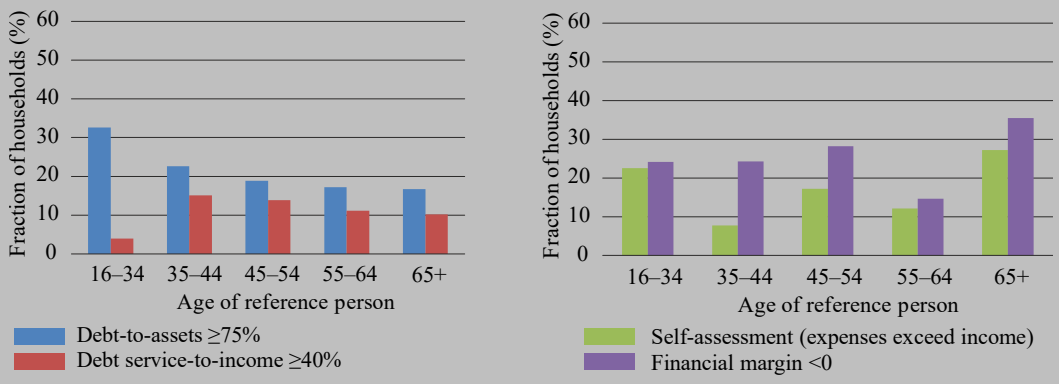
Figure 5.15
Financially vulnerable households by income quintile (households with debt)

Source: authors' calculations using HFCS data.
Note. The median values were calculated for households with debt using household weights (all sizes of debt payment).

Another important aspect is difference in vulnerability measures by age of household reference person (see Figure 5.16). Interestingly, that the vulnerability estimates within age groups differ significantly.

In the youngest household group (16–34), the share of households with the debt service-to-income ratio higher than 40% is low (4%). This can be explained by a high share of non-mortgage debt and therefore relatively low value of total debt combined with high income for this type of households (see Tables A7 and A12). At the same time, the share of households with the debt-to-asset ratio above 75% is relatively high (33%) in this group, which can be explained by a low value of total assets for the young. The combination of the two measures shows that despite the low stock of assets available for debt repayment, on average, debt payments relative to the monthly income do not put an excessive burden on the youngest households. The self-assessment and financial margin estimates confirm this conclusion since according to these measures the share of financially vulnerable households is in between the two estimates presented above and is around 23%.

Figure 5.16
Financially vulnerable households by age of reference person (households with debt)



Source: authors' calculations using HFCS data.
Note. The median values were calculated for households with debt using household weights (all sizes of debt payment).

Self-assessment for middle-age households (35–44) points to a much lower share of households (8%) being financially vulnerable than revealed by the other three measures. This might suggest a failure to fully disclose the level of income or assets and therefore a possible involvement in the shadow economy.

For households with an older reference person (65+), self-assessment and financial margin measures point to a higher share of vulnerable households (27% and 35%) than the debt-to-assets and debt service-to-income measures. This can be explained by low median levels of debt and a higher share of basic expenditures in total income for older households (see Figure 6.2).

Overall, based on all four indicators, a higher share of financial vulnerability in Latvia is associated with a lower income level. The results by age category are more mixed reflecting differences in debt participation and income distribution.

6. CONSUMPTION AND SAVINGS

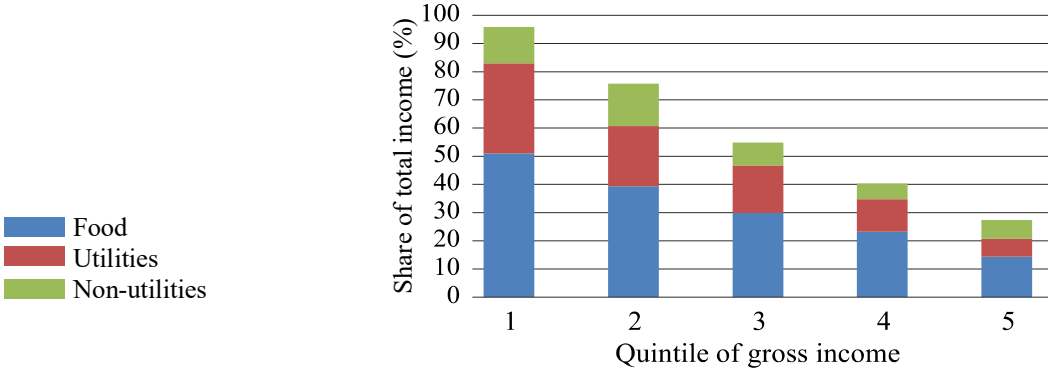
The consumption part of the HFCS questionnaire focuses on typical household expenditures on consumer goods and services. The main components considered are food consumption at home and outside home, utilities (electricity, water, gas, telephone, heating, the internet, etc.), excluding rent payments[39], and non-utilities (health, education, entertainment, etc.).[40, 41]

This section focuses on financial well-being of households by looking at income and consumption sides of a household budget as well as household self-assessment regarding the expenditure-income balance. The latter allows us to assess a household's ability to save and thus provide an important fundamental for understanding differences in saving practices of households in Latvia and the euro area.

The share of consumption in total gross income shows vulnerability of a household. If a household needs to spend most of its income, it is more likely to face negative budget constraints in the case of adverse economic or employment shocks. In the lowest income quintile in Latvia, households spend nearly the entirety of their income on food, utilities and non-utilities (see Figure 6.1 and Table A14). In the middle-income quintile, these expenses account for more than 50% of gross household income, while in the highest income quintile – only 25% of gross income. Older reference person households are usually the most vulnerable ones, with the highest spending share used to cover expenses on food, utilities and non-utilities (see Figure 6.2). For younger and middle-age households, the spending share in the total gross income is rather similar and is around 40%, with food accounting for 22% of gross income (see Table A13).

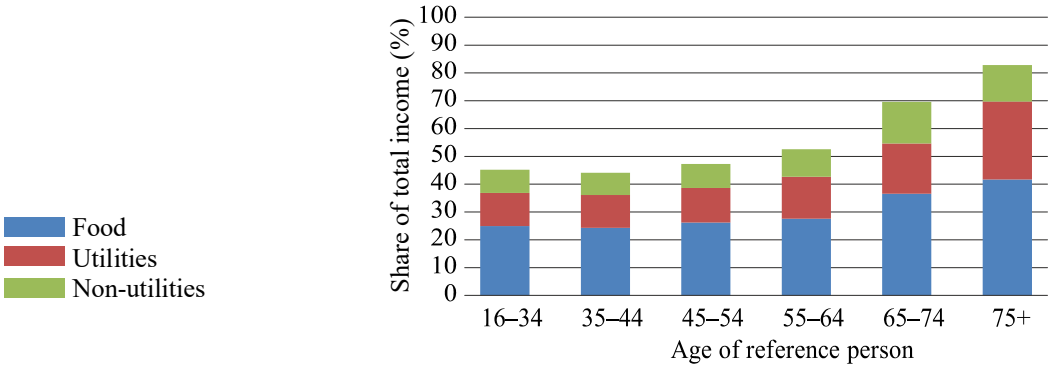
[39] Excluding rent, loan repayments, insurance policies, renovations, consumer durables (cars, household appliances, etc.).
[40] Non-utilities are estimated as difference between total spending on consumer goods and services (non-durables) and the amount spent on food and utilities.
[41] Tables A1 and A14 in Appendix 2 provide detailed information about consumption by household demographics.

Figure 6.1
Share of food, utilities and non-utilities in total gross income by income quintile



Source: authors' calculations using HFCS data.
Note. Results were calculated for the whole sample using household weights.

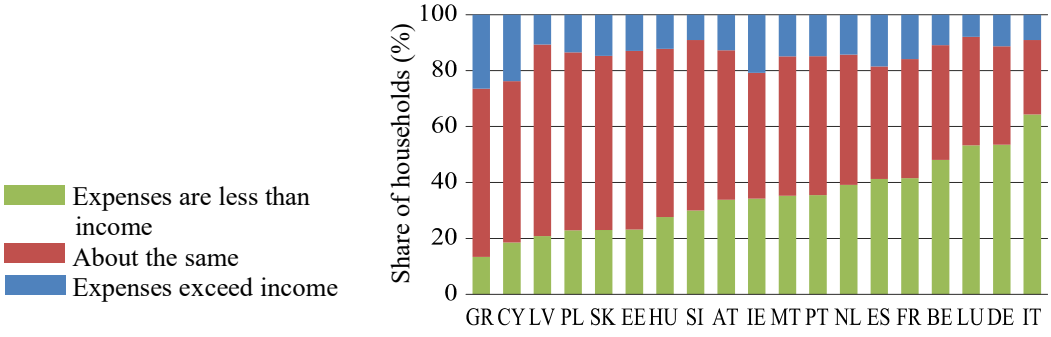
Figure 6.2
Share of food, utilities and non-utilities in total gross income by age of reference person



Source: authors' calculations using HFCS data.
Note. Results were calculated for the whole sample using household weights.

To understand the financial well-being of households, we need to look at income and consumption sides simultaneously. The self-assessment of household expenditure-income balance shows that 69% of households in Latvia report that their income and expenses are balanced (over the previous year). Expenses exceed income for 12% of households, and the opposite was true (income was higher than expenses) for 18% of households (see Figure 6.3).

Figure 6.3
The self-assessment of household's last 12 month expenses and income

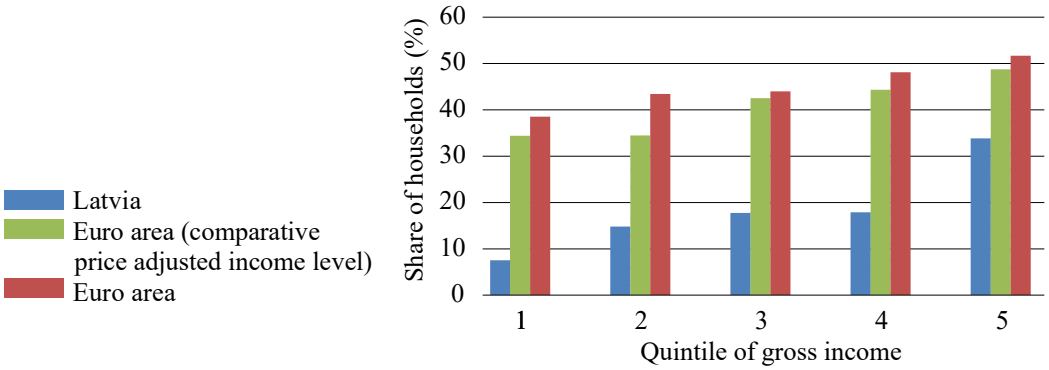


Source: authors' calculations using HFCS data.
Note. Results were calculated for the whole sample using household weights.

The ability to save should correlate strongly with the self-assessment of household financial well-being. We assume that a household is *able to save* if over the last 12 months its income exceeded expenses. Figure 6.3 shows that in 2014 the share of households reporting a positive household budget and therefore the ability to save in the euro area was on average 40%, which is twice as high as in Latvia.

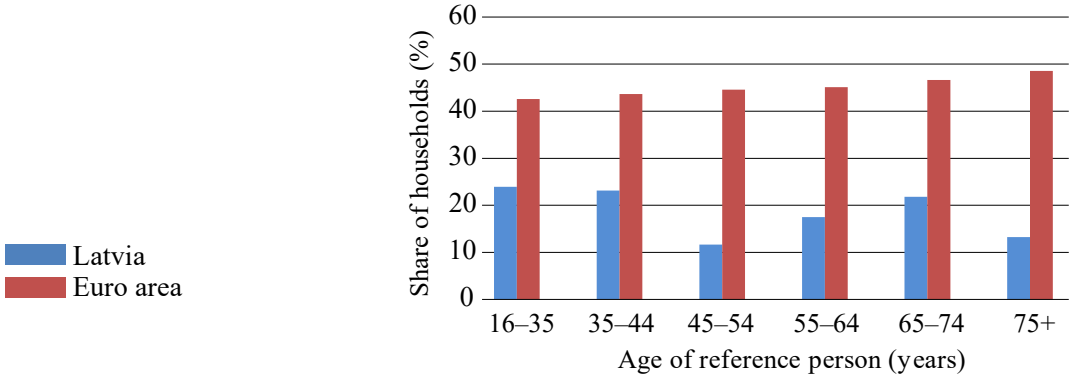
The most pronounced difference can be observed for households in the lowest income group (see Figure 6.4), i.e. while more than one third of euro area households (39%) report a positive ability to save, it is only 7% in Latvia. Importantly, in the highest income group, the respective shares in the euro area and Latvia are much closer (34% and 52%), which points to more unequal income distribution in Latvia. The difference remains if we compare the ability to save in Latvia and the euro area at similar income levels (see Box 3 for details on comparative price adjusted income groups). In the euro area, the ability to save increases with age (see Figure 6.5). In Latvia, however, a positive ability to save is reported more frequently by younger households, which is in line with on average higher income level for the young and low pension income for people in the age category 75+.

Figure 6.4
Ability to save (expenses less than income) by income quintile



Source: authors' calculations using HFCS data.
Note. Results were calculated for the whole sample using household weights.

Figure 6.5
Ability to save (expenses less than income) by age of a reference person



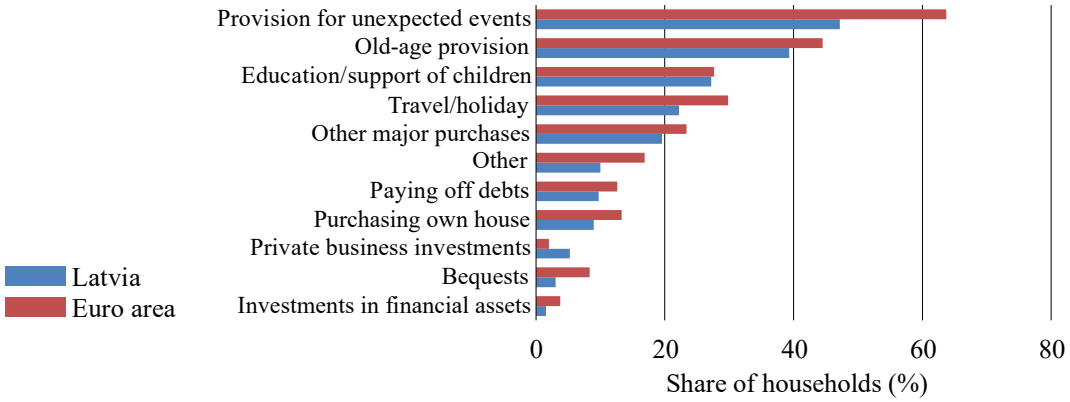
Source: authors' calculations using HFCS data.
Note. Results were calculated for the whole sample using household weights.

Among other things, the HFCS questionnaire explored household attitudes towards saving. The question was formulated as follows: "What are your (household's) most important reasons for saving (even though you do not save regularly)?". Figure 6.6

shows that 47% of Latvian households have mentioned savings for unexpected events as one of the most important reasons to save. The second most popular type of savings is old-age provisions, which is followed by savings for education or support of children and savings for travel or holiday expenses. The euro area results are similar; however, the overall level is higher, especially regarding the provision for unexpected events and travel or holiday expenses. These results can be explained by differences in household ability to save in Latvia and the euro area, e.g. the income remaining after covering regular expenses.

Figure 6.6

Reasons to save (% of households who have mentioned the particular reasons as one of the most important)

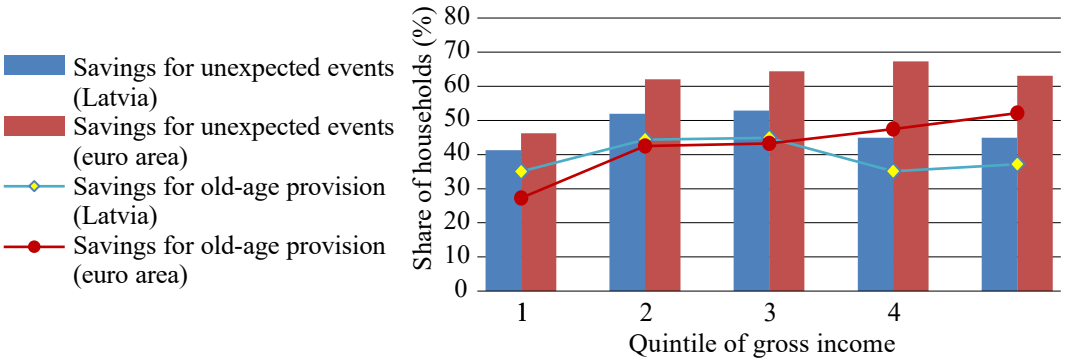


Source: authors' calculations using HFCS data.
Note. The results were calculated for the whole sample, using household weights.

The importance of different types of savings changes with income level and age. In the euro area, *saving for unexpected events* is equally important in almost all income and age groups (except the lowest income and youngest households; see Figures 6.7 and 6.8). In Latvia, it was households in the middle income group and retirement-age households that mentioned unexpected events as a reason for saving more often. Interestingly, in the euro area, *saving for old-age provision* is more important for higher-income households (see Figure 6.7). In Latvia, on the other hand, saving for old age is viewed as more important for middle-income households.

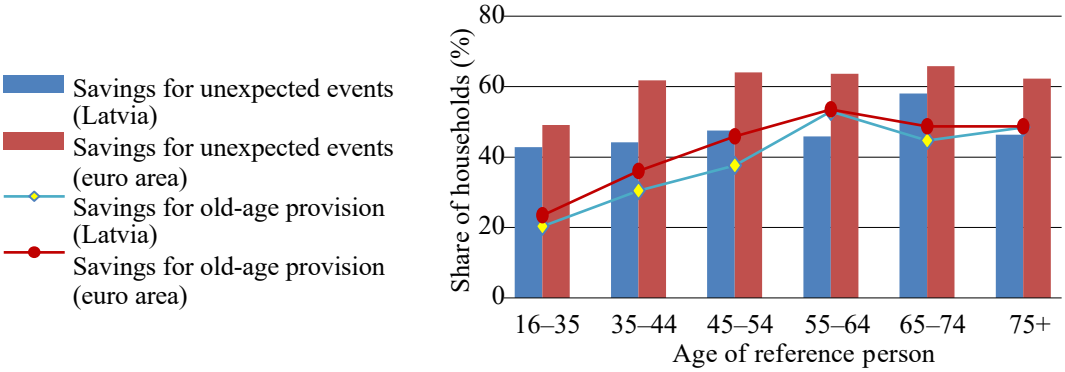
Figure 6.7

Share of households, who have mentioned provision for unexpected events and old age provision among the most important reasons to save, by income



Source: authors' calculations using HFCS data.
Note. The results were calculated for the whole sample, using household weights.

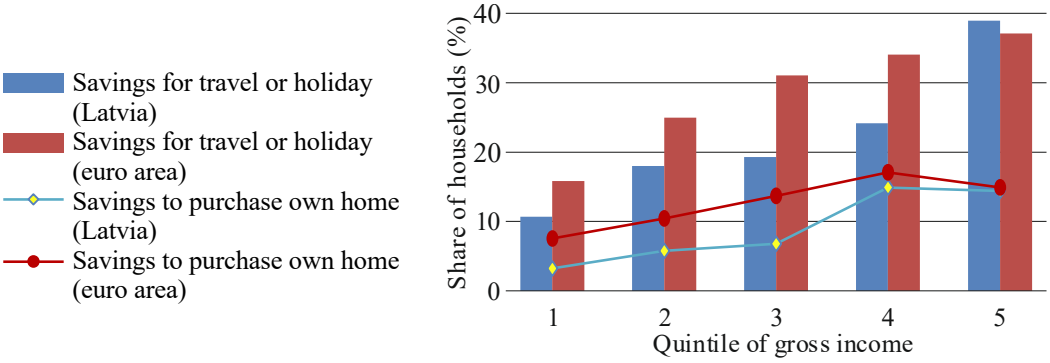
Figure 6.8
Share of households, who have mentioned provision for unexpected events and old age provision among the most important reasons to save, by age group



Source: authors' calculations using HFCS data.
Note. The results were calculated for the whole sample, using household weights.

The relevance of *savings to purchase own home* or *to travel* increases strongly with income and declines with age of a household both in Latvia and the euro area (see Figures 6.9 and 6.10). In the highest income groups, the share of households referring to these types of savings in the euro area and Latvia is almost the same (around 30% for traveling and 15% for purchasing housing). When it comes to the two lowest income groups, saving for house purchase or holiday is far lower in the list of priorities of Latvian households than in that of euro area households. In the middle income group, the differences are lower at comparable income level.

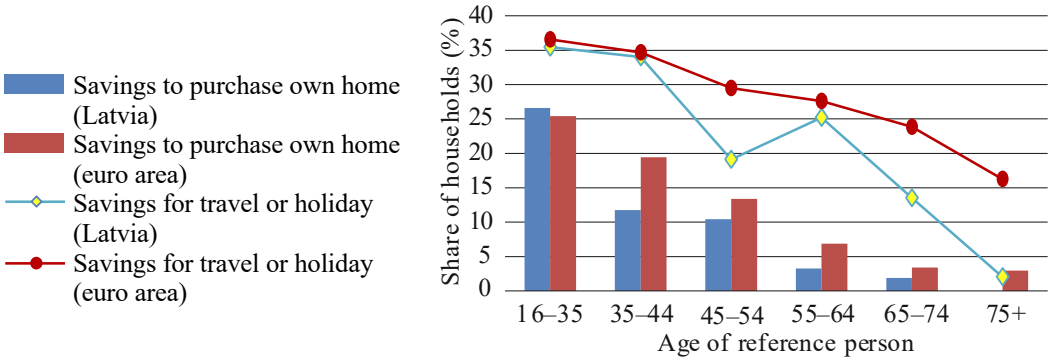
Figure 6.9
Share of households, who have mentioned saving to purchase own home or save for travel or holiday among the most important reasons to save, by income



Source: authors' calculations using HFCS data.
Note. The results were calculated for the whole sample, using household weights.

In the age group 16–35, over a quarter of households both in Latvia and the euro area save to purchase own home. For the other age groups, the difference between preferences for this type of savings is more pronounced, which can be explained by the fact that younger households in Latvia earn, on average, more and therefore are able to save for more diverse purposes. Similarly, the share of households saving to cover travel or holiday expenses is equal across the younger age (16–44) and higher income households both in the euro area and Latvia (above 35%).

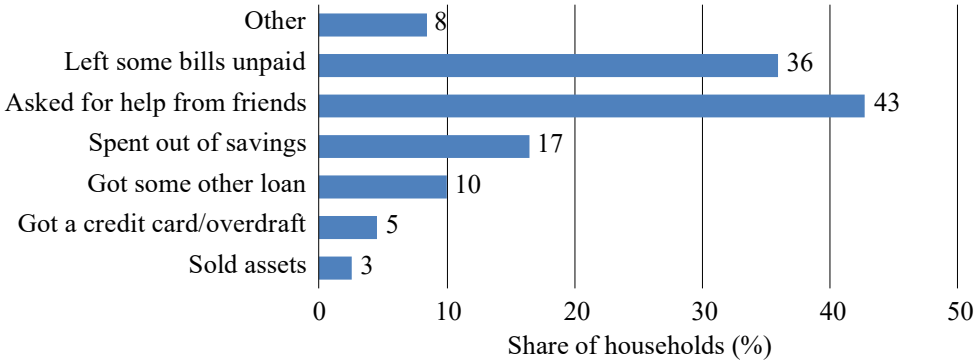
Figure 6.10
Share of households, who have mentioned saving to purchase own home or save for travel or holiday among the most important reasons to save, by age group



Source: authors' calculations using HFCS data.
Note. The results were calculated for the whole sample, using household weights.

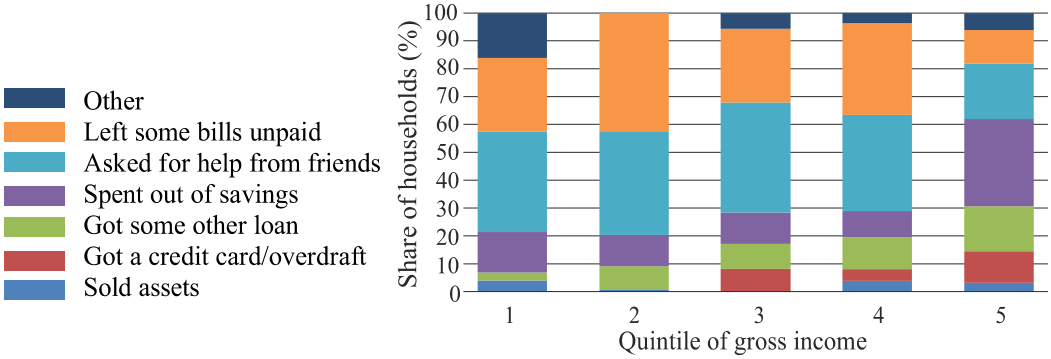
In case a household reported a negative net balance (expenses exceeded income), it was asked about the means used to meet these expenses (see Figure 6.11). In Latvia, most households (43%) responded that they asked for help from relatives or friends. The next most popular answers were: left some bills unpaid (36%) or spent out of savings (17%). Interestingly, the ways to get financial assistance differ significantly by household income level (see Figure 6.12). While lower and middle income households tend to ask relatives or friends for help and leave some bills unpaid more often, higher income households prefer to use loans, savings and credit card options to meet expenses.

Figure 6.11
Fraction of households using the corresponding option



Source: authors' calculations using HFCS data.
Note. Results calculated for households whose expenditures exceeded income over last 12 months, using household weights.

Figure 6.12
Distribution of households using the corresponding option by income quintile



Source: authors' calculations using HFCS data.
Note. Results calculated for households whose expenditures exceeded income over last 12 months, using household weights.

7. CONCLUSIONS

This report presents an overview of the main results obtained from the Household Finance and Consumption Survey in Latvia, which was conducted in 2014 and collected responses from 2 814 individuals (1 202 households). The survey focuses on wealth by collecting data on household assets, liabilities, income and consumption.

The obtained data are unique for Latvia both in their scope and quality. The comprehensive two-stage sampling procedure ensures that the results are representative of the whole household population. Administrative data are used to complement and increase the accuracy of information on households' credit, real estate prices and income. However, for a number of wealth components (especially, financial assets) no alternative data sources other than self-reporting were available leading to potential underreporting. Nevertheless, the high-quality sampling procedure ensures that underreporting is likely to be homogenous across demographic groups. Thereby, even if the value of assets is potentially underestimated, data patterns are still representative across different groups of households.

One of the key results of the survey is net wealth (defined as the difference between household assets and liabilities) estimates for households in Latvia. The median net wealth of households in Latvia is 14 200 euro, which is more than seven times smaller than that of a euro area household. The patterns observed for net wealth and its components over the age of a reference person in Latvia differ from the results in the euro area. While the largest net wealth holdings in the euro area are owned by the households where the reference person is at a pre-retirement age, it is the young households (especially the group aged 35–44) that own the largest amounts of net wealth in Latvia. The latter group not only has the largest average assets but it also holds the largest share of total net wealth in Latvia (28.6%) and earns the highest median gross income (in the euro area, this is usually true for older cohort of households aged 45–54).

As opposed to other data sources, the HFCS also gives an opportunity to analyse net wealth inequality in addition to income or consumption inequality. Net wealth inequality is a more comprehensive measure than, e.g. income inequality since it takes into account the entirety of household assets and liabilities. Wealth inequality in

general is larger than income inequality, and the indicator for Latvia is high in comparison to other EU countries.

The median value of household real assets in Latvia is seven times smaller than that in the euro area, despite much higher ownership rates of the most important asset – the household main residence. The recorded financial asset median value is also much lower than the euro area median. On the liabilities side, one third of Latvian households have outstanding debt, which is lower than the euro area average and one of the lowest readings among euro area countries. Debt participation patterns are largely monotonic with regard to household income and hump-shaped across the distribution of the age of reference person. The analysis of household financial vulnerability shows that households in Latvia, on average, show a relatively low level of indebtedness, but some demographic groups like the lower income households are highly vulnerable.

The HFCS is a unique database, providing harmonised information on household wealth and its components for EU countries. It enables research on the macro-economic implications of household behaviour and provides insights into a number of areas relevant for policy. Fieldwork for the second survey, which will be part of the third wave of the euro area HFCS, was finished at the end of 2017 in Latvia. The results of the third wave will become available in 2019. These new data will give an opportunity to study changes in household well-being over time.

APPENDICES

Appendix 1
DEFINITIONS OF KEY VARIABLES[42]

HOUSEHOLD REFERENCE PERSON

The household reference person is chosen according to the international standards of the Canberra Group (UNECE (2011)), which uses the following sequential steps to determine a unique reference person in the household:
- household type [determined by (a) one of the partners in a registered or de facto marriage, with dependent children, (b) one of the partners in a registered or de facto marriage, without dependent children, and (c) a lone parent with dependent children];
- the person with the highest income;
- the eldest person.

NET WEALTH

Net wealth is defined as the difference between **total (gross) assets** and **total liabilities**. **Total (gross) assets** consist of real assets and financial assets (current value of public and occupational pension plans is not included).

Real assets include:
- value of the household main residence (for owners);
- value of other real estate property;
- value of vehicles (cars and other vehicles, such as boats, planes or motorbikes);
- value of valuables;
- value of self-employment businesses of household members.

Financial assets consist of:
- deposits (sight accounts, saving accounts);
- investments in mutual funds;
- bonds;
- investments held in non-self-employment private businesses;
- publicly traded shares;
- managed investment accounts;
- money owed to households as private loans;
- other financial assets: options, futures, index certificates, precious metals, oil and gas leases, future proceeds from a lawsuit or estate that is being settled, royalties or any other;
- private pension plans and whole life insurance policies.

Total liabilities (debt) consist of:
- outstanding amount of household main residence mortgages and other real estate property mortgages;
- outstanding amount of debt on credit cards and credit lines/bank overdrafts;
- outstanding amounts of other, non-collateralised, loans (including loans from commercial providers and private loans).

[42] The sources of the definitions are: Eurosystem Household Finance and Consumption Network (2013a) and Household Finance and Consumption Network (2016a).

HOUSEHOLD INCOME

Household income is measured as gross income and is defined as the sum of labour and non-labour income for all household members. Labour income is collected for all household members aged 16 and older; other income sources are collected at the household level. If gross income is not well known by respondents, it is computed from the net income given by the respondent.

Specifically, the measure for gross income includes the following components: employee income, self-employment income, income from pensions, regular social transfers, regular private transfers, income from real estate property (income received from renting a property or land after deducting costs such as mortgage interest repayments, minor repairs, maintenance, insurance and other charges), income from financial investments (interest and dividends received from publicly traded companies and the amount of interest from assets such as bank accounts, certificates of deposit, bonds, publicly traded shares, etc. received during the income reference period, less expenses incurred), income from private business and partnerships and other non-specified sources of income.

INDICATORS OF DEBT BURDEN, FINANCIAL FRAGILITY AND CREDIT CONSTRAINTS

Debt-asset ratio: ratio of total liabilities to total gross assets. Defined for indebted households.

Debt-income ratio: ratio of total liabilities and total gross household income. Defined for indebted households.

Debt service-income ratio: ratio of total monthly debt payments to household gross monthly income. Defined for indebted households, but excluding households that only hold credit lines/overdraft debt or credit card debt, as for these debt types no debt service information is collected; only the households with debt payments are taken into account.

Payments for a household's total debt are the monthly payments (or the monthly equivalent of other time frequency payments) of the household to the lender to repay the loan. They include interest and repayment but exclude any required payments for taxes, insurance and other fees. The household's total payments include the payments for mortgages and the payments for other loans, such as car loans, consumer and instalment loans and loans from relatives, friends, employers, etc. Payments for leasing are not included in the debt payments.

Loan-value ratio of HMR: ratio of outstanding amount of HMR mortgage to current value of the HMR. Defined for households with HMR mortgage debt.

Net liquid assets to income: ratio of net liquid assets to household gross annual income. Net liquid assets are calculated as the sum of value of deposits, mutual funds, bonds, non-self-employment business wealth, (publicly traded) shares and managed accounts, net of credit, line/overdraft debt, credit card debt and other non-mortgage debt. Defined for all households.

Credit-constrained household: household that applied for credit and was turned down and did not report successful later reapplication, or those that applied for credit but were not given as much as they applied for, or those that did not apply for credit due to a perceived credit constraint.

INDICATORS OF CONSUMPTION

Consumption-income ratio: ratio of household consumption and total gross household income. There are three different indicators of household consumption: (a) total household expenditure on food in and out of the house, (b) total household expenditure on consumer goods and services, and (c) total household expenditure on utilities.

Appendix 2
KEY TABLES FOR LATVIA

Table A1
Participation in real assets (%)

Demographic characteristics	Real assets					
	(Any) real assets	Household main residence	Other real estate property	Vehicles	Valuables	Self-employment business wealth
All households	86.7	76.0	39.1	44.4	3.2	10.8
S.E.	*1.4*	*1.8*	*1.9*	*1.8*	*0.7*	*1.3*
Household size						
1	73.1	66.4	25.5	12.1	2.8	2.6
2	91.5	77.8	39.5	45.8	3.1	7.8
3	95.0	81.6	46.2	62.6	3.2	16.8
4	93.1	84.4	57.3	74.2	4.4	15.1
5 and more	93.5	82.4	48.0	81.4	3.2	35.5
Housing status						
Owner-outright	100.0	100.0	43.3	44.7	2.6	8.7
Owner with mortgage	100.0	100.0	48.5	69.2	7.0	29.7
Renter or other	44.4	N/A	22.8	29.6	2.6	5.6
Percentile of income						
Less than 20	65.4	61.2	21.1	7.3	1.4	1.9
20−39	82.3	70.6	32.8	21.7	1.1	6.0
40−59	92.0	80.2	38.5	45.9	4.7	7.3
60−79	94.9	84.3	43.5	63.2	2.4	15.2
80−100	99.1	84.2	60.0	84.3	6.4	23.5
Percentile of net wealth						
Less than 20	35.5	21.7	8.0	16.7	1.7	5.4
20−39	98.0	73.1	30.5	36.1	1.8	2.1
40−59	99.9	94.7	37.2	44.3	4.0	6.2
60−79	100.0	96.4	44.5	45.8	2.3	9.0
80−100	100.0	94.4	75.5	78.9	6.2	31.2
Age of reference person						
16–34	79.1	52.9	28.6	52.7	2.5	9.3
35–44	91.3	81.4	51.7	62.8	5.1	17.1
45–54	92.4	83.7	50.7	56.7	2.2	17.1
55–64	89.3	82.3	39.1	44.1	4.0	13.9
65–74	81.7	71.6	36.7	28.4	3.1	1.8
75+	82.4	79.2	21.7	12.5	1.9	0.3
Work status of reference person						
Employee	92.3	78.3	42.9	60.0	3.5	9.3
Self-employed	100.0	94.5	73.8	77.4	6.1	77.7
Retired	80.6	74.7	27.0	17.4	2.2	0.4
Other not working	67.5	56.5	34.1	25.3	2.7	6.4
Education of reference person						
Primary or no education	79.0	71.5	24.5	23.1	0.8	2.3
Secondary	85.5	74.1	36.0	42.6	2.9	9.0
Tertiary	92.9	81.5	52.3	59.3	5.1	18.4

Notes. The table reports the share of households owning a given type of asset. N stands for not calculated since fewer than 5 observations are available; N/A means not applicable; N/P stands for not published due to a large sampling error; "." stands for a missing value; *S.E.* stands for standard error, which was calculated with the Rao–Wu rescaled bootstrap method using replicate weights (1 000 replicates): see Chapter 7 of the Household Finance and Consumption Network (2016a) for details. Work status "Other not working" covers households where the reference person is unemployed, a student, permanently disabled, or similar. The fourth

and fifth panels distinguish households by income and net wealth, where percentiles (quintiles) of income and net wealth are constructed using all households in the sample. The breakdowns for age, work status and education of the reference person were calculated for a single person for each household (see Annex I for the definition of the reference person). The corresponding data for the euro area from the second wave are found in Table A1.A (Household Finance and Consumption Network (2016b)).

Table A2

Median value of real assets conditional on participation (thousands of euro)

Demographic characteristics	Real assets					
	(Any) real assets	Household main residence	Other real estate property	Vehicles	Valuables	Self-employment business wealth
All households	19.9	15.1	10.0	2.2	0.9	3.3
S.E.	*0.9*	*1.3*	*1.2*	*0.3*	*0.3*	*2.6*
Household size						
1	14.6	13.0	5.9	1.2	0.8	N/P
2	18.9	15.0	7.8	2.0	0.9	4.9
3	21.6	15.0	16.4	2.5	0.8	17.9
4	35.5	20.2	15.1	2.5	0.9	0.8
5 and more	47.7	29.9	11.8	3.6	N	2.5
Housing status						
Owner-outright	19.8	14.5	10.0	2.3	1.0	6.8
Owner with mortgage	45.4	29.4	17.5	3.2	1.8	2.4
Renter or other	4.3	N/A	7.3	1.9	0.1	N/P
Percentile of income						
Less than 20	9.7	7.7	5.0	0.9	N	N
20–39	12.4	11.8	6.3	1.0	N	N/P
40–59	19.9	17.4	6.1	1.8	0.9	N/P
60–79	20.6	17.8	10.2	1.9	1.6	1.9
80–100	48.8	29.5	20.2	4.8	1.0	8.5
Percentile of net wealth						
Less than 20	1.4	10.8	7.3	0.8	N	0.9
20–39	5.0	4.4	2.9	1.3	0.2	N/P
40–59	14.6	12.0	6.1	1.8	1.0	N/P
60–79	29.8	21.8	11.8	2.0	0.6	1.3
80–100	87.1	44.4	35.1	4.8	1.9	25.5
Age of reference person						
16–34	16.2	15.5	17.3	3.8	0.6	41.4
35–44	24.9	18.6	14.0	2.2	1.9	N/P
45–54	20.4	14.9	10.3	2.2	1.3	1.1
55–64	20.4	15.4	9.9	1.9	0.8	N/P
65–74	17.3	14.6	7.0	1.7	N/P	30.7
75+	14.5	14.1	4.8	0.8	N	N
Work status of reference person						
Employee	21.3	18.3	11.8	2.1	1.1	1.9
Self-employed	72.0	24.5	24.2	4.6	2.6	7.5
Retired	14.9	14.0	5.6	1.4	0.3	N
Other not working	14.0	10.0	8.1	3.2	N	N
Education of reference person						
Primary or no education	9.4	9.0	5.3	0.9	N	3.7
Secondary	16.8	14.9	7.1	2.1	0.9	2.0
Tertiary	36.0	22.4	19.0	2.9	1.1	5.7

Notes. The table reports median values of holdings of real assets by households and distinguishes five different categories. This is conditional on households holding the relevant type of real asset. The corresponding data for the euro area from the second wave are found in Table A2.A (Household Finance and Consumption Network (2016b)). See notes for Table A1.

Table A3
The composition of real assets (%)

Demographic characteristics	(Any) real assets	Real assets				
		Household main residence	Other real estate property	Vehicles	Valuables	Self-employment business wealth
All households	100.0	52.7	27.2	4.5	0.2	15.4
S.E.		*4.9*	*3.8*	*0.5*	*0.1*	*4.1*
Household size						
1	100.0	65.5	25.7	1.9	0.2	6.8
2	100.0	51.5	24.1	4.6	0.2	19.5
3	100.0	37.2	34.3	4.7	0.1	23.7
4	100.0	58.9	28.0	5.9	0.2	7.0
5 and more	100.0	69.5	18.4	5.0	N	7.0
Housing status						
Owner-outright	100.0	55.2	25.2	4.3	0.2	15.2
Owner with mortgage	100.0	68.9	18.3	5.2	0.2	7.4
Renter or other	100.0	N/A	60.1	4.7	<0.05	35.1
Percentile of income						
Less than 20	100.0	70.3	18.8	1.4	N	N
20−39	100.0	64.0	28.1	1.5	N	6.4
40−59	100.0	59.6	26.1	5.8	0.2	8.3
60−79	100.0	50.4	18.8	5.2	0.3	25.3
80−100	100.0	47.5	31.3	5.0	0.1	16.1
Percentile of net wealth						
Less than 20	100.0	73.1	16.5	7.2	N	3.1
20−39	100.0	71.8	16.1	11.0	0.2	0.9
40−59	100.0	76.4	15.0	7.3	0.3	1.0
60−79	100.0	76.8	17.2	4.7	0.1	1.3
80−100	100.0	43.4	31.5	3.9	0.2	21.0
Age of reference person						
16–34	100.0	39.6	21.7	8.8	0.1	29.8
35–44	100.0	47.0	36.8	4.2	0.2	11.8
45–54	100.0	56.6	26.7	5.5	0.1	11.0
55–64	100.0	54.3	19.3	3.1	0.1	23.3
65–74	100.0	57.3	33.1	3.5	0.5	5.7
75+	100.0	79.6	18.4	1.8	N	N
Work status of reference person						
Employee	100.0	58.4	25.1	6.2	0.3	10.0
Self-employed	100.0	40.0	22.2	3.1	0.1	34.7
Retired	100.0	73.1	23.3	2.7	0.1	N
Other not working	100.0	21.1	58.6	2.5	N	N
Education of reference person						
Primary or no education	100.0	69.5	26.1	3.5	N	0.9
Secondary	100.0	60.7	17.9	6.0	0.1	15.3
Tertiary	100.0	47.0	32.1	3.9	0.2	16.7

Notes. The table reports shares of five real asset types in the value of total real assets by households. Shares are calculated by adding total real assets across households in each real asset type and dividing it by the value of total real assets. The corresponding data for the euro area from the second wave are found in Table A3.A (Household Finance and Consumption Network (2016b)). See notes for Table A1.

Table A4
PARTICIPATION IN FINANCIAL ASSETS (%)

Demographic characteristics	Financial assets	Financial assets			
		Deposits	Money owed to households	Voluntary pensions/ whole life insurance	Other financial assets
All households	80.2	78.5	8.0	8.9	2.1
S.E.	*1.5*	*1.6*	*1.1*	*1.2*	*0.6*
Household size					
1	66.7	65.6	5.6	4.1	1.1
2	82.5	80.2	10.0	6.6	2.0
3	90.5	88.7	8.6	11.8	3.9
4	90.3	88.6	6.6	19.1	2.0
5 and more	85.7	85.3	11.0	14.7	3.1
Housing status					
Owner-outright	79.0	76.9	5.2	7.1	2.2
Owner with mortgage	95.1	93.5	14.0	22.2	2.2
Renter or other	74.7	74.3	11.8	6.0	1.9
Percentile of income					
Less than 20	49.4	47.8	5.3	<0.05	0.9
20−39	79.4	78.5	3.7	4.2	1.5
40−59	85.3	82.8	10.3	4.2	1.2
60−79	93.2	91.6	6.4	11.2	1.8
80−100	94.0	92.5	14.1	24.9	5.4
Percentile of net wealth					
Less than 20	66.6	66.5	4.3	3.6	0.3
20−39	72.1	70.4	12.4	4.5	0.3
40−59	83.1	79.3	5.5	8.3	2.0
60−79	86.7	86.4	5.3	8.6	1.1
80−100	92.3	90.2	12.3	19.5	7.0
Age of reference person					
16–34	96.3	96.2	16.8	6.8	0.6
35–44	87.3	85.7	10.0	19.5	5.4
45–54	83.4	80.0	7.4	11.5	3.3
55–64	84.5	83.8	7.4	10.6	1.8
65–74	64.3	62.9	1.6	0.8	0.3
75+	59.6	57.3	3.9	N	0.4
Work status of reference person					
Employee	90.9	89.0	9.1	12.8	2.3
Self-employed	87.5	87.0	17.4	22.2	3.7
Retired	61.6	60.4	2.7	N	0.3
Other not working	77.0	74.7	12.3	7.1	6.1
Education of reference person					
Primary or no education	55.8	53.5	6.4	1.4	<0.05
Secondary	81.8	80.1	8.8	5.9	1.6
Tertiary	91.8	90.7	7.8	17.6	4.2

Notes. The corresponding data for the euro area from the second wave are found in Table A4.A (Household Finance and Consumption Network (2016b)). See notes for Table A1.

Table A5

Median value of financial assets conditional on participation (thousands of euro)

Demographic characteristics	Financial assets	Financial assets			
		Deposits	Money owed to households	Voluntary pensions/ whole life insurance	Other financial assets
All Households	0.4	0.3	0.7	0.9	N/P
S.E.	*0.1*	*<0.05*	*0.4*	*0.2*	*N/P*
Household size					
1	0.2	0.2	0.1	1.0	N/P
2	0.4	0.3	1.1	0.5	N/P
3	0.4	0.3	1.9	1.3	48.6
4	0.7	0.4	N/P	1.1	1.6
5 and More	0.4	0.4	N/P	0.2	N
Housing status					
Owner-outright	0.4	0.3	0.6	1.0	0.5
Owner with mortgage	0.6	0.4	N/P	0.5	2.1
Renter or other	0.2	0.1	N/P	N/P	N
Percentile of income					
Less than 20	0.1	0.1	0.1	N	N
20−39	0.2	0.1	0.2	1.2	N
40−59	0.3	0.2	0.5	0.5	N
60−79	0.3	0.3	N/P	0.7	0.9
80−100	1.5	0.9	1.4	0.9	N/P
Percentile of net wealth					
Less than 20	0.1	0.1	<0.05	0.3	N
20−39	0.2	0.2	0.5	0.3	N
40−59	0.2	0.2	0.3	1.0	N
60−79	0.4	0.4	2.8	0.5	0.5
80−100	1.7	1.1	2.9	1.3	N/P
Age of reference person					
16–34	0.2	0.2	1.2	0.3	N
35–44	0.4	0.2	N/P	1.7	N/P
45–54	0.3	0.2	0.5	0.7	0.8
55–64	0.5	0.4	1.5	0.3	N/P
65–74	0.3	0.3	N	N/P	N
75+	0.3	N	N/P	N	N
Work status of reference person					
Employee	0.4	0.3	1.1	0.7	1.0
Self-employed	1.6	0.7	N/P	1.6	N
Retired	0.2	N	0.1	N	N
Other not working	0.1	0.1	N/P	0.9	N
Education of reference person					
Primary or no education	0.1	0.1	N/P	0.4	N
Secondary	0.2	0.2	0.5	0.3	0.4
Tertiary	1.0	0.6	2.0	1.2	N/P

Notes. The corresponding data for the euro area from the second wave are found in Table A5.A (Household Finance and Consumption Network (2016b)). See notes for Tables A1 and A2.

Table A6
The composition of financial assets (%)

Demographic characteristics	Financial assets	Financial assets			
		Deposits	Money owed to households	Voluntary pensions/ whole life insurance	Other financial assets
All households	100.0	48.5	23.1	7.3	21.0
S.E.		*11.4*	*16.0*	*2.8*	*9.8*
Household size					
1	100.0	83.6	1.9	8.8	5.6
2	100.0	53.9	9.9	6.4	29.8
3	100.0	45.6	9.5	8.7	36.2
4	100.0	36.1	55.8	7.1	1.0
5 and more	100.0	48.5	24.2	4.3	N
Housing status					
Owner-outright	100.0	67.6	3.4	8.1	20.9
Owner with mortgage	100.0	21.9	68.1	6.6	3.4
Renter or other	100.0	43.0	9.7	7.3	N
Percentile of income					
Less than 20	100.0	86.4	6.3	N	N
20−39	100.0	80.8	5.3	13.2	N
40−59	100.0	82.0	9.3	2.3	N
60−79	100.0	33.5	60.7	4.6	1.2
80−100	100.0	48.1	10.4	8.9	32.6
Percentile of net wealth					
Less than 20	100.0	88.8	2.2	7.4	N
20−39	100.0	72.7	22.2	4.5	N
40−59	100.0	81.7	4.6	12.6	N
60−79	100.0	72.0	14.9	11.8	1.4
80−100	100.0	42.0	25.5	6.5	26.0
Age of reference person					
16–34	100.0	72.0	22.8	4.6	N
35–44	100.0	31.2	33.6	9.3	25.8
45–54	100.0	50.5	36.7	9.1	3.6
55–64	100.0	71.3	12.8	11.6	4.4
65–74	100.0	89.4	N	1.9	N
75+	100.0	50.5	1.1	N	N
Work status of reference person					
Employee	100.0	47.3	38.7	9.7	4.4
Self-employed	100.0	73.8	5.0	14.9	N
Retired	100.0	57.9	0.9	N	N
Other not working	100.0	34.0	14.1	6.0	N
Education of reference person					
Primary or No Education	100.0	80.8	16.4	2.9	N
Secondary	100.0	39.2	55.8	2.4	2.6
Tertiary	100.0	52.7	9.4	9.4	28.6

Notes. The corresponding data for the euro area from the second wave are found in Table A6.A (Household Finance and Consumption Network (2016b)). See notes for Tables A1 and A3.

Table A7
Participation in debt (%)

Demographic characteristics	Total debt							
		Mortgage debt			Non-mortgage debt			
	Total debt	Mortgage debt	HMR mortgage	Other property mortgage	Non-mortgage debt	Credit line/overdraft debt	Credit card debt	Other non-mortgage debt
All households	33.5	17.0	13.5	3.8	23.0	5.7	3.1	17.8
S.E.	*1.6*	*1.5*	*1.4*	*0.7*	*1.5*	*0.9*	*0.7*	*1.4*
Household size								
1	14.4	5.4	4.4	1.0	9.9	3.4	0.6	6.6
2	30.3	14.9	13.0	2.2	22.0	4.0	2.8	16.8
3	45.0	17.9	12.5	5.6	31.4	8.2	3.8	25.6
4	56.3	38.8	29.3	10.4	31.4	8.8	4.3	24.5
5 and more	61.8	36.7	30.3	6.4	48.5	10.7	10.9	39.1
Housing status								
Owner-outright	21.0	4.1	.	4.1	17.8	4.3	1.9	14.5
Owner with mortgage	100.0	100.0	100.0	1.6	43.4	16.9	8.7	28.0
Renter or other	28.8	4.2	N/A	4.2	25.1	2.9	3.0	20.6
Percentile of income								
Less than 20	12.9	4.0	2.7	1.3	11.2	2.1	0.8	8.3
20−39	17.0	5.5	2.2	3.3	11.5	1.0	1.4	9.9
40−59	30.3	12.0	9.7	2.3	20.8	6.9	2.3	14.2
60−79	44.6	23.6	20.0	3.7	31.9	9.9	4.7	24.2
80−100	62.9	40.3	32.9	8.3	39.7	8.5	6.2	32.5
Percentile of net wealth								
Less than 20	37.5	14.0	12.8	1.6	30.5	6.9	4.9	22.5
20−39	24.5	9.0	7.9	1.1	17.9	2.3	1.7	15.8
40−59	29.1	14.3	10.7	3.7	19.5	4.8	1.4	15.5
60−79	30.9	18.3	16.9	1.3	20.7	6.7	2.6	15.2
80−100	45.6	29.7	19.1	11.1	26.2	7.7	4.8	19.9
Age of reference person								
16–34	47.7	21.2	15.4	6.6	32.1	5.6	4.7	27.9
35–44	52.6	33.7	25.1	8.9	32.3	8.9	4.8	23.0
45–54	41.2	22.0	18.4	3.9	28.1	7.0	2.6	22.6
55–64	35.4	16.1	14.7	1.5	27.2	8.8	3.8	18.8
65–74	13.6	3.4	2.2	1.2	10.4	1.3	2.0	8.8
75+	1.7	<0.05	<0.05	<0.05	1.7	<0.05	<0.05	1.7
Work status of reference person								
Employee	46.0	24.0	19.9	4.4	31.6	8.8	4.1	24.0
Self-employed	53.5	41.7	29.7	13.1	30.5	7.4	3.8	24.9
Retired	8.5	1.9	1.4	0.5	6.6	0.8	0.9	5.9
Other not working	33.1	11.7	7.1	4.5	24.0	3.3	4.1	17.6
Education of reference person								
Primary or no education	13.3	6.1	3.7	2.4	9.5	0.8	1.2	8.0
Secondary	29.9	12.9	12.1	0.8	22.7	4.5	2.0	18.5
Tertiary	50.6	29.6	21.2	9.0	31.2	10.2	5.7	22.3

Notes. The table reports the percentage of households holding various types of debt. Total debt is divided into mortgage debt and non-mortgage debt. The former consists of mortgages for the HMR and mortgages for other real estate properties. Non-mortgage debt includes credit lines or accounts with an overdraft facility, credit card debt and other non-mortgage debt. Other non-mortgage debt includes car loans, consumer loans, instalment loans, private loans from relatives, friends, employers, etc., and other loans. The corresponding data for the euro area from the second wave are found in Table A7.A (Household Finance and Consumption Network (2016b)). See notes for Table A1.

Table A8

Median values of debt conditional on participation (thousands of euro)

Demographic characteristics	Total debt							
		Mortgage debt			Non-mortgage debt			
	Total debt	Mortgage debt	HMR mortgage	Other property mortgage	Non-mortgage debt	Credit line/overdraft debt	Credit card debt	Other non-mortgage debt
All households	7.1	25.7	20.5	31.4	1.0	0.5	0.3	1.2
S.E.	*1.8*	*4.0*	*3.7*	*8.1*	*0.2*	*0.1*	*0.2*	*0.3*
Household size								
1	1.5	13.5	10.1	N	0.4	0.4	N	0.7
2	6.4	16.1	16.1	30.5	0.9	0.6	0.3	0.8
3	4.0	25.5	22.6	36.6	0.7	0.4	0.3	0.8
4	19.9	31.2	29.1	27.9	1.7	0.2	0.2	2.5
5 and more	9.0	35.3	35.1	52.9	3.6	1.5	2.1	2.7
Housing status								
Owner-outright	2.1	27.4	.	27.4	1.2	0.5	0.3	1.4
Owner with mortgage	22.7	21.0	20.5	34.0	1.3	0.5	0.5	1.5
Renter or other	0.7	49.7	N/A	49.7	0.6	0.4	0.1	0.7
Percentile of income								
Less than 20	1.5	17.8	5.8	N	0.7	N	N	0.7
20−39	N/P	21.3	9.8	N	N/P	N	N	N/P
40−59	1.8	11.9	12.9	N	0.6	0.3	0.1	0.7
60−79	7.0	17.6	16.0	24.0	1.0	0.6	0.4	1.0
80−100	15.4	35.4	34.6	52.0	1.9	0.8	0.6	2.0
Percentile of net wealth								
Less than 20	5.8	39.6	38.5	44.3	0.6	0.4	0.1	0.7
20−39	1.8	13.0	12.5	N	1.4	0.7	N	1.3
40−59	4.2	15.3	14.1	13.2	0.6	0.5	N	1.1
60−79	11.2	22.4	25.6	N	1.1	0.4	0.1	1.2
80−100	9.5	33.3	25.6	35.4	1.8	0.6	1.2	1.6
Age of reference person								
16–34	2.4	25.9	26.0	7.8	1.2	0.4	0.3	1.4
35–44	15.5	30.8	18.1	58.8	1.0	0.5	N/P	2.1
45–54	7.2	19.4	13.3	20.4	0.9	0.5	0.2	1.9
55–64	3.8	22.6	25.8	N	1.3	0.6	1.0	1.2
65–74	0.6	45.9	59.2	N	0.5	N	N	0.4
75+	N	.	.	.	N	.	.	N
Work status of reference person								
Employee	7.3	21.6	19.8	30.3	1.2	0.5	0.3	1.5
Self-employed	32.2	33.1	32.7	28.6	4.5	1.3	N	N/P
Retired	0.6	N/P	N/P	N	0.4	0.2	N	0.3
Other not working	N/P	34.6	N/P	N	0.6	N	N	0.5
Education of reference person								
Primary or no education	2.2	28.1	10.1	N	0.7	N	N	0.4
Secondary	3.1	18.1	18.2	6.7	1.0	0.9	0.1	1.0
Tertiary	11.3	32.8	27.6	33.4	1.3	0.4	0.5	2.1

Notes. The table reports median outstanding balances of various types of debts held by households conditional on holding the relevant type of debt. The corresponding data for the euro area from the second wave are found in Table A8.A (Household Finance and Consumption Network (2016b)). See notes for Tables A1 and A7.

Table A9
The composition of debt (%)

Demographic characteristics	Total debt							
		Mortgage debt			Non-mortgage debt			
	Total debt	Mortgage debt	HMR mortgage	Other property mortgage	Non-mortgage debt	Credit line/overdraft debt	Credit card debt	Other non-mortgage debt
All households	100.0	82.1	62.4	19.7	17.9	1.0	0.5	16.4
S.E.		*4.9*	*5.6*	*4.4*	*4.9*	*0.3*	*0.3*	*5.0*
Household size								
1	100.0	73.8	55.9	N	26.2	1.7	N	24.3
2	100.0	85.7	73.5	12.2	14.3	1.5	0.4	12.4
3	100.0	70.8	45.3	25.4	29.2	0.5	0.2	28.6
4	100.0	87.2	65.6	21.7	12.8	0.3	0.1	12.4
5 and more	100.0	87.0	69.7	17.3	13.0	2.0	1.8	9.2
Housing status								
Owner-outright	100.0	61.1	N	61.1	38.9	1.6	0.7	36.5
Owner with mortgage	100.0	94.5	92.9	1.6	5.5	0.9	0.5	4.0
Renter or other	100.0	51.2	N/A	51.2	48.8	0.4	0.2	48.2
Percentile of income								
Less than 20	100.0	79.2	37.8	N	20.8	N	N	18.6
20−39	100.0	41.4	14.7	N	58.6	N	N	58.3
40−59	100.0	73.5	64.5	N	26.5	2.5	0.3	23.7
60−79	100.0	84.2	66.8	17.4	15.8	1.2	0.3	14.3
80−100	100.0	88.9	69.4	19.5	11.1	0.8	0.7	9.6
Percentile of net wealth								
Less than 20	100.0	68.1	60.4	7.7	31.9	0.4	0.2	31.3
20−39	100.0	75.0	61.9	N	25.0	0.9	N	23.4
40−59	100.0	79.4	60.7	18.8	20.6	0.7	N	19.8
60−79	100.0	88.9	84.0	N	11.1	1.7	0.1	9.3
80−100	100.0	90.8	55.5	35.3	9.2	1.2	1.0	6.9
Age of reference person								
16–34	100.0	80.8	64.8	16.0	19.2	0.5	0.3	18.4
35–44	100.0	91.8	58.5	33.3	8.2	1.0	0.8	6.4
45–54	100.0	70.6	59.0	11.7	29.4	0.5	0.1	28.8
55–64	100.0	77.0	71.1	N	23.0	2.3	0.9	19.8
65–74	100.0	83.2	78.3	N	16.8	N	N	16.3
75+	100.0	N	N	N	N	N	N	N
Work status of reference person								
Employee	100.0	85.3	67.0	18.3	14.7	1.0	0.3	13.4
Self-employed	100.0	71.7	56.6	15.1	28.3	1.2	N	26.0
Retired	100.0	76.9	71.9	N	23.1	0.4	N	22.5
Other not working	100.0	93.3	34.7	N	6.7	N	N	5.4
Education of reference person								
Primary or no education	100.0	92.5	44.4	N	7.5	N	N	6.3
Secondary	100.0	68.7	64.0	4.7	31.3	1.3	0.1	29.9
Tertiary	100.0	88.1	62.7	25.4	11.9	0.9	0.7	10.3

Notes. The table reports the share that each type of debt represents over the total debt held by households. Shares are calculated by adding the total debt across households in each debt category and dividing it by the total overall debt held by households. The corresponding data for the euro area from the second wave are found in Table A9.A (Household Finance and Consumption Network (2016b)). See notes for Tables A1 and A7.

Table A10
Households' financial fragility indicators (medians; %)

Demographic characteristics	Debt-aset ratio	Debt-income ratio	Debt service-income ratio	Mortgage debt service-income ratio	Loan-value ratio of HMR	Net liquid assets-income ratio
All households	28.0	41.3	11.4	14.1	57.6	0.4
S.E.	*3.3*	*8.7*	*1.2*	*0.9*	*6.8*	*0.2*
Household size						
1	18.1	24.1	15.1	15.9	61.2	0.1
2	39.7	47.7	9.8	14.5	51.9	0.6
3	15.6	32.5	10.8	13.3	77.3	0.5
4	33.2	74.4	13.1	14.8	59.8	1.0
5 and more	25.3	40.5	10.0	10.6	42.4	<0.05
Housing status						
Owner-outright	6.3	14.6	6.7	27.8	.	0.8
Owner with mortgage	48.8	107.1	14.7	14.1	57.6	0.3
Renter or other	48.0	5.8	6.5	10.1	N/A	<0.05
Percentile of income						
Less than 20	47.2	69.3	73.5	N/P	120.0	<0.05
20−39	N/P	N/P	34.1	46.9	70.4	0.9
40−59	25.3	19.1	13.8	16.5	48.0	0.5
60−79	32.2	47.5	12.0	14.4	66.7	0.8
80−100	25.6	42.0	9.1	10.3	57.4	1.0
Percentile of net wealth						
Less than 20	166.6	77.4	15.3	17.6	201.8	<0.05
20−39	28.7	13.4	7.1	15.0	70.6	<0.05
40−59	26.4	36.1	9.7	13.4	48.1	0.4
60−79	26.5	69.8	14.8	15.6	54.6	1.4
80−100	8.3	42.6	10.4	12.4	27.5	4.0
Age of reference person						
16–34	33.3	28.4	8.5	12.6	76.7	0.3
35–44	32.5	71.4	12.6	13.6	59.1	0.5
45–54	26.6	45.5	13.0	15.0	46.0	0.5
55–64	22.1	25.5	13.7	15.3	42.9	1.2
65–74	4.7	8.4	4.7	10.3	81.8	N/P
75+	N	N	N	.	.	<0.05
Work status of reference person						
Employee	28.2	42.1	10.6	13.8	61.5	0.6
Self-employed	31.3	202.0	30.1	23.1	54.2	2.0
Retired	13.7	7.0	4.6	15.1	22.5	<0.05
Other not working	28.2	23.4	13.7	19.3	28.1	<0.05
Education of reference person						
Primary or no education	66.3	19.7	13.4	44.9	43.2	<0.05
Secondary	29.0	23.7	10.8	16.6	69.5	0.4
Tertiary	25.7	57.3	11.2	13.4	54.8	1.9

Notes. The table reports different measures of financial burden. The various indicators are calculated for varying groups of households: 1, 2: The debt-asset ratio and debt-income ratio are calculated for all indebted households. 3: Debt service-income ratio defined for indebted households, but excluding households that only hold credit lines/overdraft debt or credit card debt, as for these debt types no debt service information is collected; as well as excluding those with zero debt payments. 4: The mortgage debt service-income ratio is calculated for households that report having mortgage debt. 5: The loan-value ratio is calculated for households that report having HMR mortgage debt.6: The net liquid assets-income ratio is calculated for all households. The corresponding data for the euro area from the second wave are found in Table A10.A (Household Finance and Consumption Network (2016b)). See notes for Table A1 as well as the definitions in Appendix 1.

Table A11
Net wealth

Demographic characteristics	Median (1 000 euro)	Mean (1 000 euro)	Share of total net wealth (%)	Share of households (%)
All households	14.2	40.0	100	100
S.E.	*0.9*	*5.0*		
Household size				
1	8.0	17.6	13.9	31.7
2	14.9	36.0	27.3	30.3
3	17.9	70.4	32.0	18.2
4	19.3	46.1	14.2	12.3
5 and more	24.1	67.8	12.6	7.5
Housing status				
Owner-outright	19.8	46.0	71.9	62.6
Owner with mortgage	24.0	49.9	16.8	13.5
Renter or other	0.1	18.9	11.3	24.0
Percentile of income				
Less than 20	3.0	9.3	4.7	20.3
20−39	9.2	23.1	11.4	19.8
40−59	15.8	29.1	14.7	20.2
60−79	17.5	40.5	20.0	19.8
80−100	40.1	98.8	49.2	19.9
Percentile of net wealth				
Less than 20	0.0	-5.1	–2.5	20.0
20−39	5.1	5.0	2.5	20.1
40−59	14.2	14.3	7.1	20.0
60−79	29.2	29.2	14.5	19.9
80−100	82.2	157.2	78.4	20.0
Age of reference person				
16–34	7.0	32.2	12.1	15.1
35–44	17.0	64.6	28.6	17.7
45–54	15.9	32.2	15.3	19.0
55–64	17.5	48.8	24.1	19.8
65–74	9.5	29.8	10.4	14.0
75+	12.7	26.3	9.5	14.4
Work status of reference person				
Employee	16.1	36.7	47.8	52.2
Self-employed	64.6	139.8	22.9	6.6
Retired	10.6	23.5	18.2	31.1
Other not working	5.6	43.4	11.0	10.2
Education of reference person				
Primary or no education	5.3	12.3	5.8	18.8
Secondary	12.5	25.9	31.6	48.8
Tertiary	29.7	77.4	62.6	32.4

Notes. The table reports statistics for household net wealth and its main components. Statistics are calculated only for households with non-missing net wealth. The share in total net wealth is calculated by adding total net wealth across households (in each classification variable) and dividing it by the value of total net wealth. The corresponding data for the euro area from the second wave are found in Table A11.A (Household Finance and Consumption Network (2016b)). See notes for Table A1 as well as the definitions in Appendix 1.

Table A12
Household income

Demographic characteristics	Median (1 000 euro)	Mean (1 000 euro)	Share of total income (%)	Share of households (%)
All households	8.7	14.2	100	100
S.E.	*0.5*	*0.9*		
Household size				
1	3.3	5.5	12.1	31.7
2	8.9	12.8	27.3	30.3
3	12.8	17.6	22.5	18.2
4	16.7	22.3	19.4	12.3
5 and more	19.6	35.7	18.7	7.5
Housing status				
Owner-outright	8.1	12.1	53.3	62.6
Owner with mortgage	19.0	30.3	28.7	13.5
Renter or other	5.5	10.7	18.0	24.0
Percentile of income				
Less than 20	2.8	2.5	3.5	20.3
20−39	4.6	4.7	6.6	19.8
40−59	8.8	8.8	12.5	20.2
60−79	14.6	15.3	21.3	19.8
80−100	31.1	40.0	56.1	19.9
Percentile of net wealth				
Less than 20	4.1	8.2	11.6	20.0
20−39	6.2	9.6	13.5	20.1
40−59	8.5	10.7	15.0	20.0
60−79	9.9	13.6	19.0	19.9
80−100	19.1	29.1	40.9	20.0
Age of reference person				
16–34	13.4	16.3	17.2	15.1
35–44	12.1	22.9	28.6	17.7
45–54	12.8	15.6	20.8	19.0
55–64	10.0	14.0	19.5	19.8
65–74	5.1	8.4	8.3	14.0
75+	3.2	5.6	5.6	14.4
Work status of reference person				
Employee	13.9	17.7	65.0	52.2
Self-employed	14.3	34.2	15.8	6.6
Retired	3.7	6.2	13.5	31.1
Other not working	3.5	8.0	5.7	10.2
Education of reference person				
Primary or no education	3.3	6.3	8.3	18.8
Secondary	7.9	11.3	38.8	48.8
Tertiary	15.8	23.2	52.9	32.4

Notes. The table reports statistics on household gross income. The share in total income is calculated by adding total income across households (in each classification variable) and dividing it by the value of total income. The corresponding data for the euro area from the second wave are found in Table A12.A (Household Finance and Consumption Network (2016b)). See notes for Table A1.

Table A13
Food and utilities consumption

Demographic characteristics	Food consumption			Consumption of utilities		
	Median (1 000 euro)	Mean (1 000 euro)	Median value of share of total income (%)	Median (1 000 euro)	Mean (1 000 euro)	Median value of share of total income (%)
All households	2.5	3.1	29.2	1.4	1.6	14.5
S.E.	*0.1*	*0.1*	*0.8*	*0.1*	*<0.05*	*0.5*
Household size						
1	1.4	1.7	37.5	1.0	1.1	22.2
2	2.5	2.9	28.2	1.4	1.6	14.4
3	3.5	3.9	27.3	1.8	1.8	12.8
4	3.9	4.5	23.2	1.8	2.1	9.7
5 and more	5.1	5.2	22.6	1.8	2.1	9.0
Housing status						
Owner-outright	2.4	2.9	30.0	1.3	1.5	14.8
Owner with mortgage	4.1	4.6	20.4	1.8	2.2	9.9
Renter or other	2.1	2.5	33.2	1.2	1.4	16.6
Percentile of income						
Less than 20	1.1	1.4	45.7	0.7	0.9	30.1
20–39	1.9	2.1	41.9	1.1	1.1	22.7
40–59	2.5	2.7	28.9	1.4	1.5	16.7
60–79	3.5	3.8	22.9	1.8	1.9	12.3
80–100	4.9	5.3	15.0	2.2	2.4	6.6
Percentile of net wealth						
Less than 20	1.9	2.3	37.0	0.9	1.1	16.3
20–39	2.1	2.5	32.3	1.2	1.4	15.9
40–59	2.4	2.9	30.8	1.4	1.5	16.8
60–79	2.6	3.1	28.0	1.4	1.6	14.6
80–100	4.1	4.5	20.8	1.9	2.2	9.1
Age of reference person						
16–34	3.1	3.6	26.7	1.7	1.7	10.5
35–44	3.3	4.1	25.8	1.8	2.0	12.6
45–54	2.7	3.2	25.6	1.4	1.5	12.4
55–64	2.4	2.9	26.8	1.4	1.6	14.0
65–74	2.0	2.5	36.1	1.1	1.2	18.1
75+	1.2	1.7	37.4	1.1	1.2	26.9
Work status of reference person						
Employee	3.3	3.8	24.5	1.7	1.8	11.6
Self-employed	3.6	4.2	21.9	1.7	2.0	8.8
Retired	1.6	2.0	38.0	1.1	1.1	23.1
Other not working	1.7	2.1	35.0	0.9	1.1	16.7
Education of reference person						
Primary or no education	1.4	2.0	37.2	0.9	1.1	18.5
Secondary	2.4	2.9	30.9	1.3	1.4	14.8
Tertiary	3.6	3.9	21.7	1.8	2.0	12.1

Notes. The table reports statistics on household consumption. There are two different indicators of household consumption: (a) total household expenditure on food in and out of home, (b) total household expenditure on utilities. The first two columns report the median and the mean food expenditure at home/outside home in euro. The third column represents food expenditure as a share of income. The corresponding data for the euro area from the second wave are found in Table A14.A (Household Finance and Consumption Network (2016b)). See notes for Table A1.

Table A14
Total consumption of non-durables

Demographic characteristics	Median (1 000 euro)	Mean (1 000 euro)	Share of total income (%)
All households	4.7	5.7	55.6
S.E.	*0.2*	*0.2*	*1.4*
Household size			
1	2.9	3.3	73.5
2	4.8	5.5	54.0
3	6.0	6.9	48.7
4	7.2	8.0	38.2
5 and more	8.1	9.5	34.9
Housing status			
Owner-outright	4.5	5.3	57.0
Owner with mortgage	7.3	9.1	38.3
Renter or other	3.5	4.6	63.1
Percentile of income			
Less than 20	2.5	2.6	95.9
20−39	3.3	4.0	75.7
40−59	4.7	5.0	54.9
60−79	6.1	6.6	40.4
80−100	8.4	10.1	27.4
Percentile of net wealth			
Less than 20	3.0	4.1	66.5
20−39	3.6	4.4	58.9
40−59	4.3	5.4	57.4
60−79	4.8	5.7	56.8
80−100	7.2	8.7	37.2
Age of reference person			
16–34	5.9	6.5	45.2
35–44	6.0	7.4	44.1
45–54	4.8	5.8	47.3
55–64	4.7	5.6	52.5
65–74	3.5	4.7	69.5
75+	2.9	3.5	82.8
Work status of reference person			
Employee	5.9	6.8	43.3
Self-employed	6.9	8.4	37.4
Retired	3.0	3.8	76.6
Other not working	3.2	4.0	63.0
Education of reference person			
Primary or no education	2.9	3.7	70.6
Secondary	4.3	5.2	56.9
Tertiary	6.5	7.4	42.4

Notes. The table reports statistics on total household expenditure on consumer goods and services. The first two columns report the median and the mean expenditure in euro. The third column represents expenditure on no-durables as a share of income. The corresponding data for the euro area from the second wave are found in Table A14.A (Household Finance and Consumption Network (2016b)). See notes for Table A1.

Table A15
Credit constraints

Demographic characteristics	Applied for credit within last 3 years	Not applying for credit due to perceived credit constraint	Refused or only reduced credit (among those applying in last 3 years)	Credit-constrained household
All households	16.2	8.1	24.3	9.1
S.E.	*1.5*	*1.2*	*4.6*	*1.2*
Household size				
1	5.5	2.0	23.7	2.5
2	11.5	7.2	24.8	7.9
3	23.4	12.9	21.6	14.6
4	25.4	9.2	18.9	10.2
5 and more	48.0	24.1	32.1	26.5
Housing status				
Owner-outright	11.3	4.6	15.5	5.0
Owner with mortgage	39.7	15.8	26.0	18.0
Renter or other	15.8	12.9	38.3	14.6
Percentile of income				
Less than 20	5.0	3.7	11.9	3.7
20−39	6.9	7.1	17.2	7.1
40−59	12.7	7.6	43.7	8.9
60−79	22.4	7.7	24.5	9.1
80−100	34.2	14.6	20.2	16.8
Percentile of net wealth				
Less than 20	15.7	11.9	40.9	14.4
20−39	12.1	7.2	18.7	7.8
40−59	16.7	7.0	22.4	7.6
60−79	13.3	2.5	14.0	2.7
80−100	23.3	11.9	23.7	12.9
Age of reference person				
16–34	23.8	11.9	14.1	13.8
35–44	32.7	15.7	35.7	17.2
45–54	17.6	10.4	29.8	11.4
55–64	13.2	5.4	13.2	6.6
65–74	5.4	2.4	1.9	2.5
75+	0.8	0.9	N	0.9
Work status of reference person				
Employee	23.1	9.5	23.7	11.2
Self-employed	21.9	17.6	43.6	17.6
Retired	3.9	1.2	6.8	1.5
Other not working	14.7	16.0	24.8	16.0
Education of reference person				
Primary or no education	9.1	5.4	32.4	5.5
Secondary	15.3	9.5	28.3	10.3
Tertiary	21.7	7.6	18.1	9.4

Notes. The table reports households' credit constraints. The first column shows the percentage of households who applied for credit in the last three years. The second column shows those not applying for credit due to a perceived credit constraint. The third column shows those who were denied credit or were offered a smaller amount than they applied for among those applying in the last year. The last column shows the percentage of credit-constrained households. A credit-constrained household is defined as a household to which one or more of the following situations apply: (1) applied for credit within the last three years and was turned down, and did not report successful later reapplication, (2) applied for credit but were not given as much as they applied for, or (3) did not apply for credit due to a perceived credit constraint. Households with missing information on applying for credit or on not applying for credit due to a perceived credit constraint are not included. The corresponding data for the euro area from the second wave are found in Table A15.A (Household Finance and Consumption Network (2016b)). See notes for Table A1.

Table A16
Probability to face negative net wealth (marginal effects)

Variables	Household with mortgage			Variables	Household without mortgage debt		
Housing acquired during 2004–2008	0.023*** [0.002]		0.023*** [0.001]	Assets account for less than 10% of a household's annual income	0.262*** [0.000]	0.246*** [0.000]	
Debt service to income ratio ≥40%	0.060*** [0.000]	0.064*** [0.000]		Debt service to income ratio ≥40%	–0.015 [0.678]		
				Debt-to-income ratio above 100%	0.211*** [0.000]		0.177*** [0.000]
Income quintile (base – the 1st (lowest) income quintile)				Income quintile (base – the 1st (lowest) income quintile)			
2nd income quintile	0.015 [0.422]	0.016 [0.398]	–0.003 [0.821]	2nd income quintile	–0.084*** [0.000]	–0.094*** [0.000]	–0.073*** [0.000]
3rd income quintile	0.009 [0.581]	0.012 [0.491]	–0.014 [0.191]	3rd income quintile	–0.118*** [0.000]	–0.130*** [0.000]	–0.113*** [0.000]
4th income quintile	0.017 [0.332]	0.020 [0.268]	–0.012 [0.266]	4th income quintile	–0.161*** [0.000]	–0.171*** [0.000]	–0.156*** [0.000]
5th income quintile	–0.004 [0.793]	–0.002 [0.900]	–0.030*** [0.004]	5th income quintile	–0.191*** [0.000]	–0.196*** [0.000]	–0.189*** [0.000]
Age of reference person (5 year bracket)	–0.001*** [0.000]	–0.001*** [0.000]	–0.001*** [0.000]	Age of reference person (5 year bracket)	–0.002*** [0.000]	–0.002*** [0.000]	–0.003*** [0.000]
				Young and single household	0.000 [0.989]	–0.004 [0.884]	–0.023 [0.425]
Country dummy	YES	YES	YES	Country dummy	YES	YES	YES
Observations	22 138	21 138	23 097	Observations	14 208	14 516	14 516

Source: authors' calculations using HFCS data.
Notes. Significance level *** p<0.01, ** p<0.05, * p<0.1, standard error in brackets. Dependent variable 1 if household's negative net wealth is negative, zero otherwise.

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