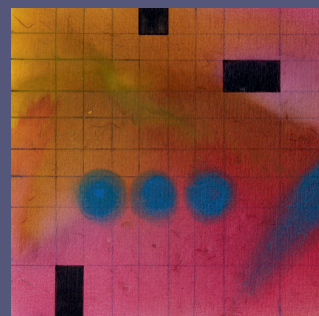


DISCUSSION PAPER

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HOUSEHOLD FINANCE AND
CONSUMPTION SURVEY 2017 IN
LATVIA



1 • 2020

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ABBREVIATIONS

CSB – Central Statistical Bureau of Latvia
ECB – European Central Bank
EU – European Union
EUROSTAT – Statistical Office of the European Union
EU-SILC – EU Survey of Income and Living Conditions
HBS – Household Budget Survey
HFCNS – Household Finance and Consumption Survey
HFCN – Household Finance and Consumption Network
HMR – household's main residence
SE – standard error
vs. – versus

ABSTRACT

This paper presents Latvia's results from the third wave of the Eurosystem's Household Finance and Consumption Survey (HFCS) conducted in 2017. The paper focuses on the wealth components of the household balance sheet – real and financial assets, liabilities, as well as income and consumption. The HFCS questionnaire includes an extensive list of quantitative and qualitative questions; therefore, our paper presents changes in the household balance sheet taking into account both numeric and self-assessment aspects. The results are compared to the HFCS 2014 results in Latvia and the HFCS 2014 and the HFCS 2017 results in the euro area.

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

JEL codes: D14, D31, E21

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1. INTRODUCTION

This paper presents an overview of the main results of the HFCS carried out in Latvia in 2017. The HFCS is performed by all national central banks in the euro area countries as well as in Hungary, Poland, Croatia and Albania. So far there have been three HFCS waves, and Latvijas Banka participated in the second and third wave. For the first wave, harmonised surveys were conducted during 2010–2011 (HFCN 2013a, HFCN 2013b), for the second wave – during 2013–2015 (HFCN 2016a, HFCN 2016b), and for the third wave – during 2016–2018 (HFCN 2020a, HFCN 2020b).

The HFCS has been developed and implemented to obtain harmonised household-level data on various aspects of household balance sheet of the participating countries. Other EU-level surveys, such as the EU-SILC, focus on income, poverty, social exclusion and living conditions, but offer very limited data on household 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 decisions (HFCN 2009):

- housing prices and household indebtedness;
- retirement income and consumption;
- access to credit and credit constraints;
- household financial vulnerability;
- income and wealth inequality.

For Latvia, the HFCS is a unique data source¹, combining very detailed information on assets, liabilities, income and consumption of households from the HFCS questionnaire and administrative data sources. Furthermore, the use of elaborate sampling procedures ensures that the conclusions drawn are representative of the whole population.

This paper analyses the Latvian HFCS data collected in 2017 and compares them with the results of 2014. The Household Finance and Consumption Survey: results from the 2017 wave (HFCN 2020b), published in the ECB's Statistics Paper Series, 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 key findings from the HFCS 2017 and HFCS 2014 wave comparison in Latvia:

- Strong growth in median net wealth. The median level, however, still remained one of the lowest among euro area countries.
- Pronounced growth in net wealth for the bottom and middle part of net wealth distribution. Net wealth inequality improved significantly.
- Median annual gross income growth in Latvia was among the highest in the euro area, but median income level remained relatively low. Income inequality declined.
- Household self-assessment of their income improved. Consumption grew across all types of households, slightly reducing their savings ratios.
- The value of real estate increased, improving the value of real assets on the household balance sheet.

¹ Latvijas Banka conducts the Survey of Household Borrowers (Āriņš et al. (2014), (2018)), 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.

- More households owned vehicles. The median value of vehicles and valuables increased.
- Participation rates for financial assets increased, particularly for deposits, private pension schemes and life insurance.
- More households became indebted, while the outstanding balance of debt declined.
- The value of mortgage debt outstanding and participation rates declined. Participation rates for non-mortgage debt increased, however, the values were lower.
- With growing income, the household self-assessment of indebtedness improved and households applied for credit more often.
- Non-mortgage credit was mostly taken to cover living expenses or other purchases.
- Debt repayment, lower participation rates for mortgage debt and higher real estate prices reduced the debt-to-income, debt-to-asset and loan-to-value ratios. At the same time, debt service costs relative to income increased.

To sum up, in 2017, changes on both sides of household balance sheet resulted in an improvement of the net wealth medians and reduction of net wealth inequality. Rising real estate prices, higher participation rates for deposits, voluntary pension schemes and life-insurance, as well as participation rates and value of vehicles increased the asset side of household balance sheet. At the same time, higher non-mortgage debt participation, a decline in the outstanding mortgage debt reduced the liability side of the balance sheet. The combination of those two effects resulted in the growth of net wealth. The rise in real estate and net wealth value as well as in income was stronger for the middle part of household distribution, which is reflected in a reduction of the net wealth and income inequality measures. Growing income is reflected in higher consumption and non-mortgage debt participation. As a result, although household income grew considerably and long-term financial vulnerability overall improved, the debt service-to-income ratio increased.

The structure of the rest of the paper is as follows. Section 2 briefly describes the survey questionnaire, sampling, weights and use of administrative data. It also provides important information on comparability issues between the two waves. Section 3 looks at one of the key results, i.e. net wealth of households and its distribution. Sections 4 and 5 cover the components of net wealth, i.e. assets and liabilities of households. Section 4 also provides information on household income, consumption and savings. The financial vulnerability of households discussed in Section 5.2. Section 6 provides conclusions.

2. SURVEY DESCRIPTION

2.1 Questionnaire

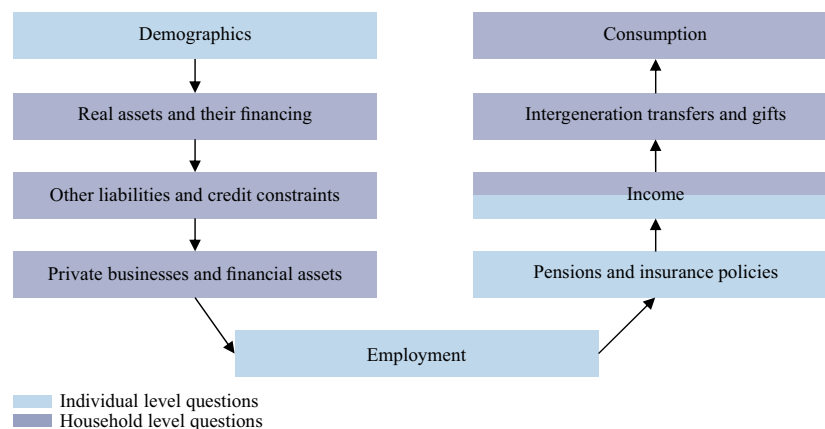
The HFCS covers several aspects of household wealth (assets, liabilities, income and consumption), with the principal aim to collect anonymised information on households' assets and liabilities which form a household's balance sheet. An overview of the structure of assets and liabilities covered by the HFCS is given in Table 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 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-employed businesses	
Vehicles	
Valuables	
Financial assets	Non-collateralised debt
Sight accounts	Bank overdrafts
Savings accounts	Credit card debt
Life insurance policies	Other non-collateralised loans
Mutual funds	
Bonds	
Publicly traded stocks	
Ownership of non-self-employed businesses	
Money owed to the household	
Voluntary pension funds, whole life insurance policies	
Other	

The survey is comprised of household and personal interviews conducted using two different questionnaires²: the household questionnaire and the personal questionnaire (see Figure 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. 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 savings cover information collected at the household level. Answers to this part of the questionnaire are usually provided by the person who is most knowledgeable on the financial matters of the particular household. In the section on income, some income components are collected at the personal level (e.g. employment-related income, pension income, etc.) and some at the household level (e.g. income from financial investments).

Figure 1
Structure of the HFCS questionnaire



² See core variables of the HFCS questionnaire here: https://www.ecb.europa.eu/home/pdf/research/hfcn/HFCS_2017_Wave_Core_and_Derived_Variables.pdf.

2.2 Sample, panel component and weights

The fieldwork for the HFCS in Latvia took place between September and November 2017 with a response rate of 45.3% (see HFCN 2020a). Data were collected from 2894 individuals (1249 households), which is similar to the sample size in 2014 (2814 individuals; 1202 households). In the 2017 wave, twelve countries had a panel component. Estonia, France, Latvia, Poland, Slovakia and Finland added the panel component in the third wave. The panel design introduced in Latvia is a rotating design, similar to that in France and Finland (see HFCS 2020a).

The sample design was developed, estimation of weights and field work was conducted by the Central Statistical Bureau of Latvia (CSB). The survey sample for 2017 was based on the household samples prepared for the HFCS 2014 wave. The initial sample in 2014 involved 4000 households, of which only 2400 households were used in HFCS 2014 survey. All of the 2400 households were re-contacted in 2017 to form the panel component. The remaining 1600 households were used to extend the sample. The resulting share of panel households in 2017 HFCS dataset is 53.5% (668 households).

Households were stratified in nine groups according to two criteria: degree of urbanisation (Riga; eight other big cities; rural areas, including small towns) and household income (households with total income from the highest 10th decile, households with total income from 7–9 deciles, households with total income from 1–6 deciles).

2.3 Administrative data and comparability issues between the two waves

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 (State Revenue Service) were used to increase the accuracy of answers by editing the values of corresponding variables.

In 2014, for 9.2% of respondents register data could not be used due lack of personal identification. In 2017, personal identification was available for all respondents. Register data were used to edit wage, self-employed and pension data at the personal level, including the cases when the respondent was unable to provide neither gross nor net amount. Questions about the first and the second pillar pension schemes (mandatory state unfunded and state funded pension schemes) were not included into the questionnaire, and the information was filled in using the administrative data. Questions about participation in the third pillar pension schemes (voluntary private pension plans or whole life insurance contracts) were asked in both survey waves. Unfortunately, administrative data on stocks and flows from the State Revenue Service to check and edit the collected information about the third-pillar pension scheme was available only in 2017.

Register data were also used to identify missing answers and to edit the values of corresponding variables on real estate properties, mortgage/loans/leasing contracts at the personal level. Despite having the same sources for the administrative data in both waves, there are three important moments to take into consideration when comparing the HFCS microdata collected during the second and third waves of the HFCS in Latvia.

First, the sharp decline in the *value of the self-employed business* in 2017 (HFCS wave 3), as compared to 2014 (HFCS wave 2) in Latvia, can be explained by

classification and data availability issues. Unfortunately, in 2017 no information on employment income of persons working in/owning a micro enterprise was available from the State Revenue Service. Thus, only people registered as self-employed are accounted for in the 2017 survey. Self-employed traditionally own a large share of real assets: in 2014, self-employment business wealth constituted 11.9% and 15.4% of the total real assets in the euro area and Latvia respectively. The above limitations in identification of self-employed in the Latvian HFCS 2017 survey resulted in a drop in the percentage of households having self-employment business wealth (4.9%), while the same variable in the euro area as a whole remained largely unchanged (10.6%). Therefore, when comparing the results of both Latvian HFCS waves, we excluded self-employment business wealth from real assets and provided estimates of net wealth and real assets net of self-employment business wealth for 2014 and 2017.³

Second, the *estimates of real estate value* in both waves are not directly comparable despite using the same administrative data source, i.e. the State Land Service. Part of the increase in real estate values is due to a change in the evaluation approach used. The value of real estate in the HFCS 2014 wave was based on cadastral value, on average representing 85% of the market value that the real estate had 1.5 years prior to establishing the cadastral value base for a particular year (see Fadejeva et al. (2018), p.12). The estimates of real estate value in the HFCS 2017 wave, however, are based on real estate transaction values available in 2017 about 2016, on average representing 100% of the market value in 2016. Therefore, the estimates available for the HFCS 2017 wave represent the actual real estate prices better. To adjust for the undervaluation in 2014, we increased the prices reported in the 2014 HFCS wave by 1/0.85 to represent 100% of the market value in 2012. Hence, the observed increase in real estate values between the waves represents the change between 2012 and 2016.

Third, in 2017, the sample prepared for the HFCS 2014 wave was used to form *the panel component*. Weights were adjusted to account for changes in addresses, demographics and income structure of population in 2017. Unfortunately, despite the weight adjustments, the use of the 2014 sample resulted in a potential underrepresentation of households holding a mortgage on housing built in 2015–2017 (the address did not exist in 2014). This most likely affected the sample of younger households and households with kids.

2.4 Sample demographics

The distribution of households depending on household size and age groups of reference persons for the euro area and Latvia is quite similar. The main difference between households in Latvia and the euro area is the share of outright homeowners (see Table 2).

³ Tables including self-employment business wealth for Latvia in 2017 are provided in the Eurosystem's HFCN, 2020c or <https://www.bank.lv/en/statistics/stat-data/hfcs>.

Table 2

Household structure by demographic characteristics in Latvia and euro area

	Latvia (2017)		Latvia (2014)		Euro area (2017)
	% of households	SE	% of households	SE	% of households
All households	100.0		100.0		100.0
Household size					
1	34.3	1.1	31.7	1.4	34.6
2	30.6	1.6	30.3	1.6	31.6
3	15.5	1.3	18.2	1.4	15.4
4	12.7	1.0	12.3	1.1	12.9
5 and more	6.9	0.7	7.5	0.9	5.5
Housing status					
Owner-outright	61.2	2.0	62.6	2.1	39.8
Owner with mortgage	11.7	1.2	13.5	1.4	20.5
Renter or other	27.1	1.8	24.0	1.8	39.7
Age of reference person					
16–34	13.8	1.2	15.1	1.4	14.1
35–44	18.3	1.2	17.7	1.3	16.9
45–54	16.9	1.2	19.0	1.2	20.3
55–64	20.6	1.2	19.8	1.3	18.3
65–74	13.5	1.0	14.0	1.1	14.8
75+	16.8	1.1	14.4	1.1	15.5
Work status of reference person					
Employee	57.2	1.4	52.2	1.8	50.1
Self-employed	6.6	0.9	6.6	0.9	8.6
Retired	30.0	1.0	31.1	1.1	30.1
Other not working	6.3	0.8	10.2	1.3	11.2
Education of reference person					
Primary or no education	15.4	1.4	18.8	1.5	30.4
Secondary	52.7	1.8	48.8	1.9	40.66
Tertiary	31.9	1.6	32.4	1.9	28.9
Location					
Riga	35.8	<0.05	33.8	<0.05	
Eight cities	19.8	<0.05	19.8	<0.05	
Other municipalities	44.4	<0.05	46.4	<0.05	

Sources: HFCS Latvia 2014, HFCS Latvia 2017, HFCS ECB 2017.

In Latvia, the share of home ownership is much higher. The share of households owning their main residence outright is 61.2% (39.8% in the euro area⁴). At the same time, the share of owners with mortgage in Latvia is smaller (11.7%) comparing to the share of households with mortgage in the euro area (20.5%), which correlates with on average smaller share of households with debt (both mortgage or non-mortgage) in Latvia (see Section 5.1). The share of households in which the reference person has primary or no education in Latvia is much smaller (15.4%) comparing to the euro area (30.4%). Also, the share of households in which the reference person's work status is different from employment or retirement (i.e. unemployed, student, permanently disabled, etc.) is only 6.3% in Latvia comparing to 11.2% in the euro area.

⁴ See data provided by the Eurosystem's Household Finance and Consumption Network (2020c). Available from https://www.ecb.europa.eu/home/pdf/research/hfcn/HFCS_Statistical_Tables_Wave2.pdf?656f4e10de45c91c3c882840e9174eac.

3. NET WEALTH

The focus of the HFCS survey is net wealth of households, where net wealth is defined as the total value of all household assets (real and financial) less the total outstanding liabilities. Understanding changes in household net wealth is crucial when evaluating the impact of economic shocks and the transmission of policy measures to households. This section examines the net wealth of Latvian households in 2014 and 2017.

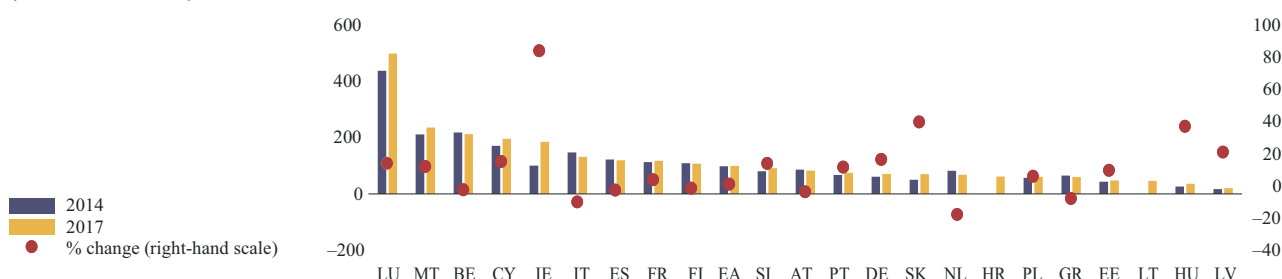
There are two important issues to keep in mind when analysing the changes in the net wealth value between the two HFCS waves in Latvia. First, the value of real estate in 2014 and 2017 is not directly comparable due to the differences in estimates used (see Section 2.3). To adjust for undervaluation in 2014, we increased the prices reported in the 2014 HFCS wave by 1/0.85 to represent 100% of the market value in 2012. Second, the value of self-employment business wealth is underrepresented in 2017 due to the changes in self-employment reporting in the administrative data (see Section 2.3). Therefore, in this paper, when comparing the results from both waves, we adjusted the real estate value in 2014 and excluded self-employment business wealth from the estimates of net wealth and real assets in 2014 and 2017.⁵

3.1. Net wealth and main aggregates

In 2017, the median net wealth in Latvia was 20 517 euro, which is considerably lower than the median value in the euro area (99 400 euro). Despite the low overall value, from 2014 to 2017 the value of median net wealth in Latvia increased by 21%, which is the fourth largest increase in the euro area (see Figure 2). There are three main factors explaining this development. First, a considerable increase in income, which coincides with growth in participation rates for financial assets (particularly, private pension funds and life insurance as well as deposits; see Section 4.3). Second, higher real estate prices increased the value of the asset side of the household balance sheet. Third, a lower participation rate and outstanding balance of mortgage debt (see Section 5) reduced the liability side. These effects resulted in a considerable improvement in both median net wealth and inequality.

Figure 2

Median net wealth (thousands of euro)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, HFCS ECB 2014, HFCS ECB 2017, authors' estimates.

Note: For 2014, the value of housing in Latvia is adjusted to be representative of the market price value (instead of the cadastral value). The 2014 estimates for the euro area exclude Lithuania.

The mean values of net wealth are more than two times larger than the medians (see Figure 3), which points to the strong skewness in the distribution of net wealth (see

⁵ Tables including self-employment business wealth for Latvia in 2017 are provided by the Eurosystem's Household Finance and Consumption Network (2020c) or <https://www.bank.lv/en/statistics/stat-data/hfcs>.

Section 3.2). If not adjusting for the underestimation of self-employment business wealth in Latvia in 2017 (see Section 2.3), mean net wealth declines by 6% (see Figure 4). Excluding self-employment business wealth from real assets in both waves results in a 4% increase in mean net wealth.

Figure 3
Mean and median net wealth in Latvia and euro area

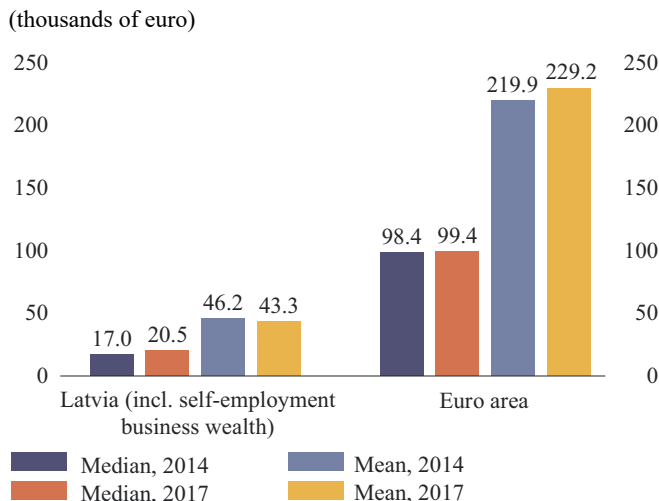
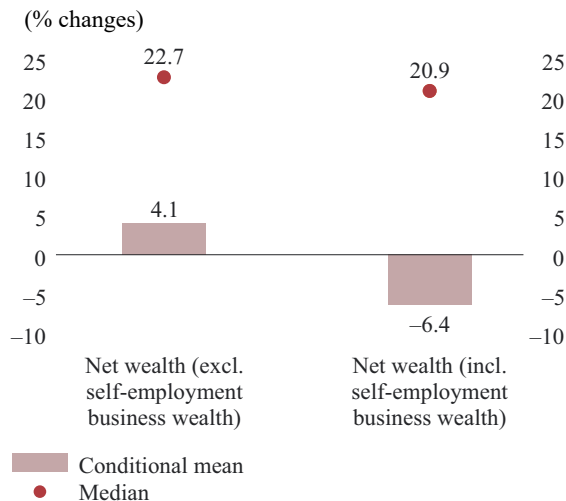


Figure 4
Mean and median net wealth in Latvia between 2017 and 2014

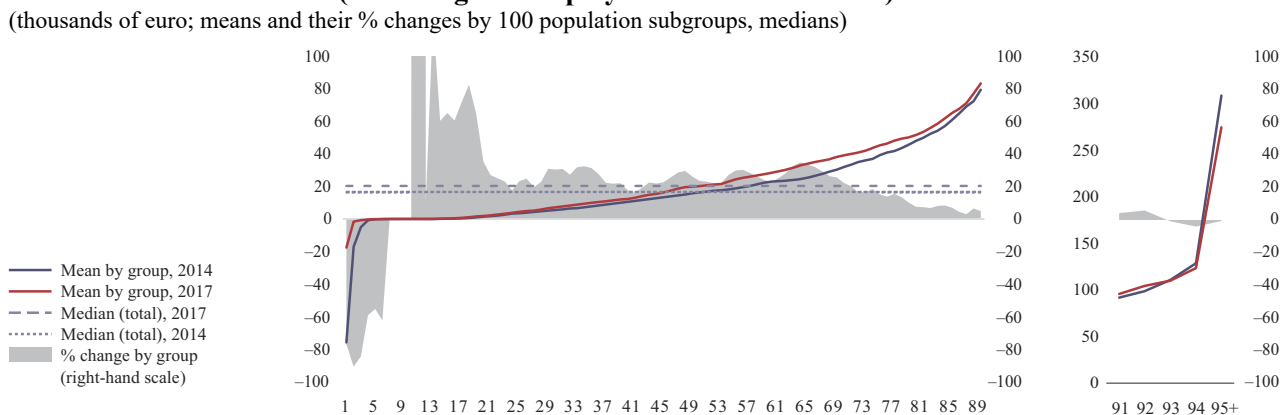


Sources: HFCS Latvia 2014, HFCS Latvia 2017, HFCS ECB 2014, HFCS ECB 2017, authors' estimates.

Note: For 2014, the value of housing in Latvia is adjusted to be representative of the market price value (instead of the cadastral value). Self-employment business wealth is excluded from estimation of real assets.

One of the main positive developments between the two waves of the HFCS survey is the considerable improvement in the mean net wealth of households with negative net wealth: from -18 000 euro in 2014 to -3800 euro in 2017 (see Figure 5). In line with a gradual rise in real estate prices and wages (and therefore the ability to pay off debts), the share of households with a mortgage holding negative net wealth declined. Among 20% of households with the lowest net wealth, the share of households with mortgage debt declined from 13% in 2014 to 5% in 2017 (see Figure 6).

Figure 5
Distribution of net wealth (excluding self-employment business wealth) in 2014 and 2017



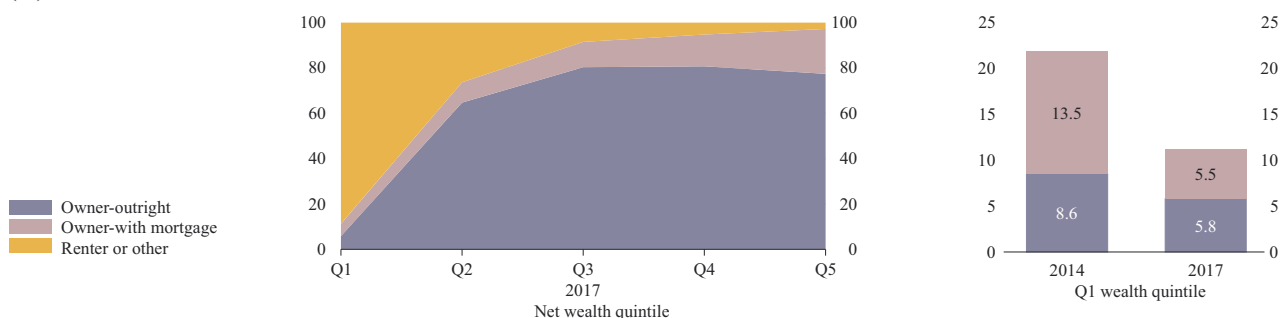
Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Note: For 2014, the value of housing is adjusted to be representative of the market price value (instead of the cadastral value). Self-employment business wealth is excluded from estimation of real assets.

How to read this graph: All households are ranked by the size of their net wealth. Solid lines – each point represents the mean value of net wealth for 1/100 of the household population ranked by the size of their net wealth. Dotted lines – median values of net wealth in 2014 and 2017. Area – % change in mean net wealth value between 2014 and 2017 in each of the 100 percentiles of the household population.

Figure 6

Structure of housing status by net wealth quintile (excluding self-employment business wealth)
(%)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Note: For 2014, the value of housing is adjusted to be representative of the market price value (instead of the cadastral value).

Self-employment business wealth is excluded from estimation of real assets.

Another crucial element of the overall development observed between the second and third HFCS waves in Latvia is the pronounced increase in the average net wealth for households in the bottom and middle part of the net wealth distribution (see e.g. Figure 5). Net wealth grew by around 20–40% for households in the low median net wealth groups, which is much higher than for the top 30 percentiles of households.

Net wealth is a composite variable driven by changes in participation rates and values in both asset and liability sides of the household balance sheet. To get a better understanding of the developments in net wealth, each element should be looked at separately. A change in the participation rate and the conditional mean of a variable determines a change in the overall mean (unconditional mean). A change in the distribution of variable values determines a change in the median.

The results of the HFCS 2014 and 2017 waves in Latvia show strong increases in the median values across all types of real assets (see Figure 7). The increases in the conditional means are lower due to slower growth of real asset values for households in the top and bottom part of the distribution (see Figure 9). Growth in the overall value of real assets (the unconditional mean) is restricted by a decline in the participation rates. The only category of real assets where the participation rate and value have increased strongly is vehicles (see Figure 7 and Section 4.2 for more details).

Figure 7
Decomposition of participation and value effects: real assets

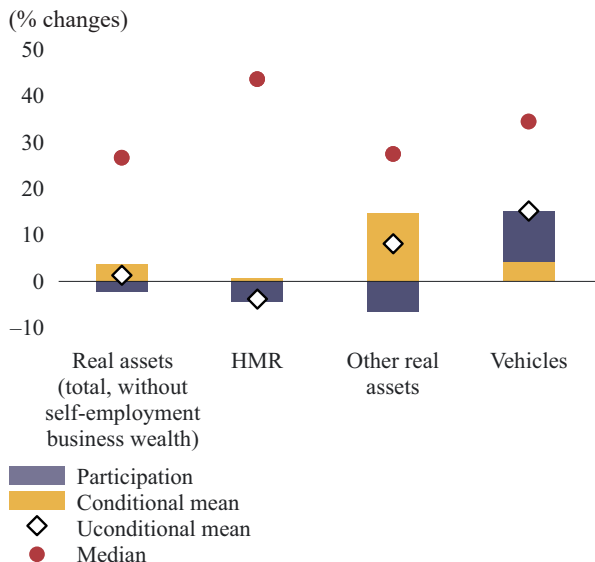
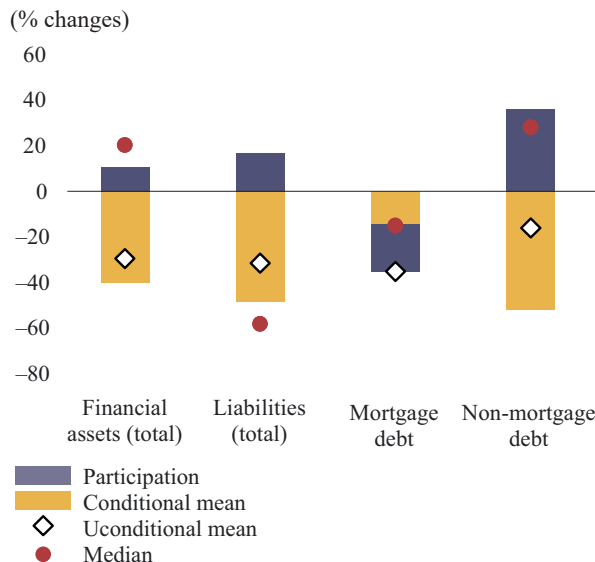


Figure 8
Decomposition of participation and value effects: financial assets and liabilities



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

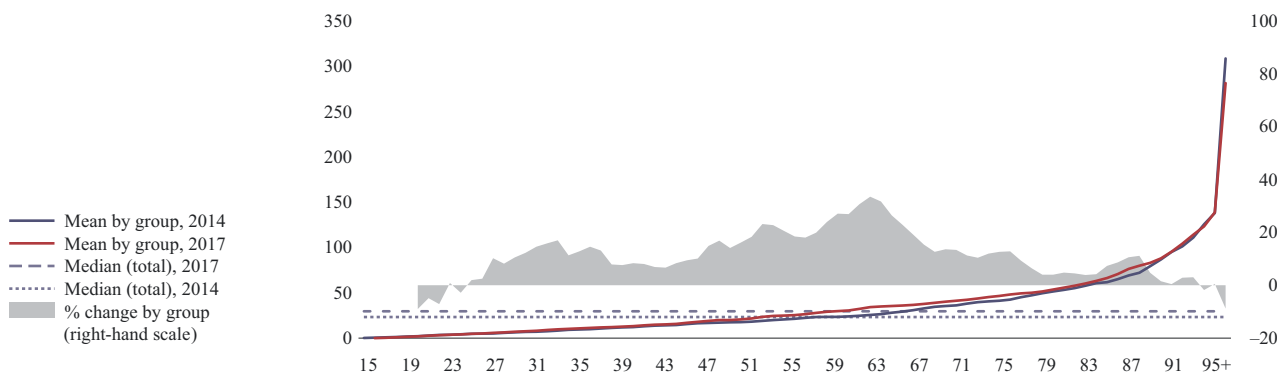
Note: For 2014, the value of housing is adjusted to be representative of the market price value (instead of the cadastral value).

Self-employment business wealth is excluded from estimation of real assets.

In 2017, participation rates for financial assets increased (see Figure 8) and almost 90% of households reported to have at least some financial assets. At the same time, due to lower self-reporting of financial assets (particularly, bond and stock holdings) in the top part of the distribution, the conditional mean declined (see Section 4.3 for more detail). Higher participation rates and larger financial asset values in the middle part of the distribution shifted the median to the right (see Figure 10). The median value of financial assets increased by 20%, up to 429 euro per household.

Figure 9
Distribution of real assets (excluding self-employment business wealth) in 2014 and 2017

(thousands of euro; means and their % changes by 100 population subgroups; medians)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Note: For 2014, the value of housing is adjusted to be representative of the market price value (instead of the cadastral value).

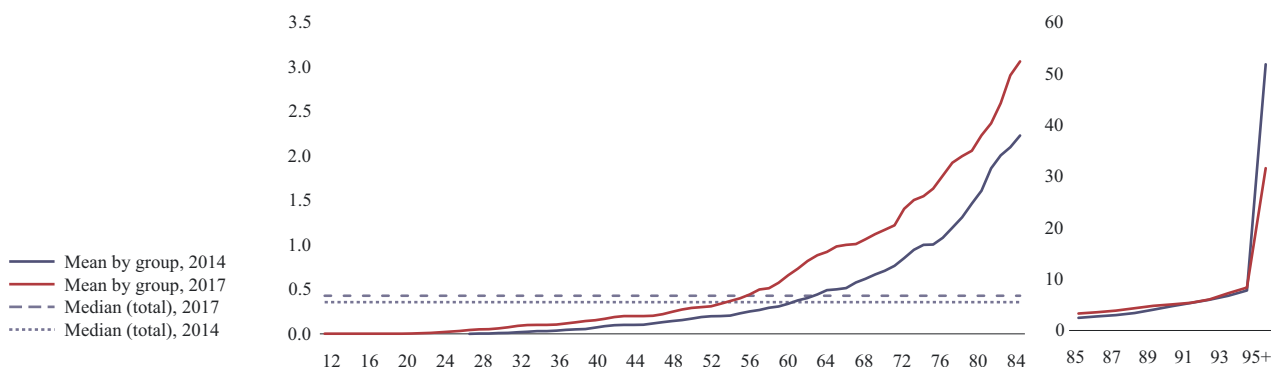
Self-employment business wealth is excluded from estimation of real assets.

How to read this graph: All households are ranked by the size of their real assets (excluding self-employment business wealth). Solid lines – each point represents the mean value of real assets for 1/100 of household population ranked by the size of real assets. Dotted lines – median values of real assets in 2014 and 2017. Area – % change in mean value of real assets between 2014 and 2017 in each of the 100 percentiles of the household population.

Figure 10

Distribution of financial assets in 2014 and 2017

(thousands of euro; means by 100 population subgroups; medians)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

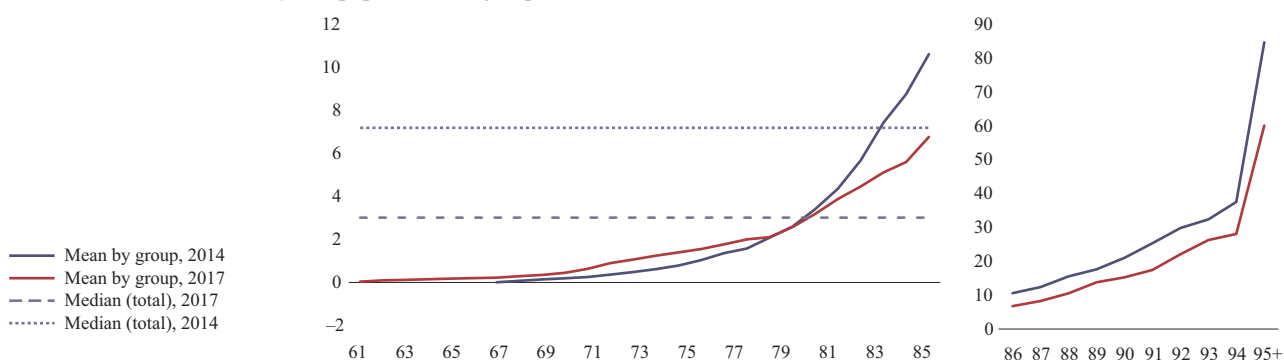
How to read this graph: All households are ranked by the size of their financial assets. Solid lines – each point represents the mean value of financial assets for 1/100 of the household population ranked by size of financial assets. Dotted lines – median value financial assets in 2014 and 2017.

The most pronounced change in the structure of net wealth can be observed on the liability side of household balance sheet (see Figure 8). While the participation rates and the median of mortgage debt declined, the participation rates and the median of non-mortgage debt increased (see Section 5.1 for more detail). A decline in the mean value of mortgage debt outstanding is seen across the whole mortgage debt distribution (see Figure 33). At the same time, the increase in the value of mean non-mortgage debt is more pronounced for the bottom and middle part of the non-mortgage debt distribution (see Figure 52 in Section 5.1). Looking at the subset of panel households, around 20% of households paid off their HMR debt, and less than 5% have taken on new HMR debt. At the same time, 20% of panel households, who did not have any non-mortgage loans in 2014, took up a non-mortgage loan in 2017. As a result of those two opposite developments, the mean liability value of households with a high debt value overall declined, and the mean value of liabilities in the lower tail of the distribution increased (see Figure 11).

Figure 11

Distribution of total liabilities outstanding in 2014 and 2017

(thousands of euro; means by 100 population subgroups; medians)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

How to read this graph: All households are ranked by the size of their total liabilities outstanding. Solid lines – each point represents the mean value of total outstanding liabilities for 1/100 of the household population ranked by the size of their outstanding liabilities. Dotted lines – median values of outstanding liabilities in 2014 and 2017.

3.2 Net wealth inequality

Between 2014 and 2017, the share of households with negative net wealth in Latvia contracted significantly, the mean net wealth of households in the middle of the net wealth distribution increased, whereas the mean net wealth of households in the top net wealth percentiles remained roughly unchanged (see Figure 5). This raised the median net wealth by around 23% and resulted in a strong decline in the net wealth inequality (see Table 3). At the same time, in the euro area as a whole, net wealth declined for the lowest 20% of the income distribution and tended to increase for middle-income households (HFCS 2020b). The net wealth of households in the lower-middle and middle categories (20–80 percentiles) increased moderately, while for the top 20% it increased relatively strongly (HFCS 2020b). This net wealth dynamics led to a reduction in inequality in the lower half of the distribution in the euro area, while inequality in the upper half of the net wealth distribution remained roughly unchanged.

There are several ways to measure inequality. One of the simplest indicators is a share of net wealth held by households with the highest net wealth (see Table 3). In 2017, the top 10% of households held 52.1% of the total net wealth in Latvia (51.9% in the euro area), and the households in the middle-top net wealth percentiles (50–90 percentiles) held another 40.7% of the net wealth in Latvia (42.8% in the euro area).

Table 3
Net wealth inequality indicators

	Latvia (including self-employed business wealth)		Latvia (excluding self-employed business wealth)		Euro area	
	2014	2017	2014	2017	2014	2017
Gini coefficient	0.766	0.679	0.746	0.667	0.694	0.695
P80/P20	30.5	26.4	30.3	26.3	43.3	42.4
P90/P50	5.7	4.6	5.3	4.6	4.9	5.3
50–90% share	34.5	40.7	38.2	42.0	42.4	42.8
Top 10% share	61.8	52.1	57.7	50.5	52.1	51.9

Sources: HFCS Latvia 2014, HFCS Latvia 2017, HFCS ECB 2014, HFCS ECB 2017, authors' estimates.

Note: For 2014, the value of housing in Latvia is adjusted to be representative of the market price value (instead of the cadastral value).

The **Gini coefficient** corresponds to the normalised area between the Lorenz curve of the distribution and the 45 line. The Lorenz curve shows the proportion of total wealth belonging to the bottom x% of the population. In the case of non-negative values, the Gini coefficient takes values between 1 and 0 (0 represents perfect equality and 1 represents perfect inequality).

The **share indicator** (50–90%, top 10%) is defined as the share of the total net wealth owned by specific groups of households, i.e. the households between the 50th and 90th percentile. A higher value of the top share indicator indicates higher concentration of wealth.

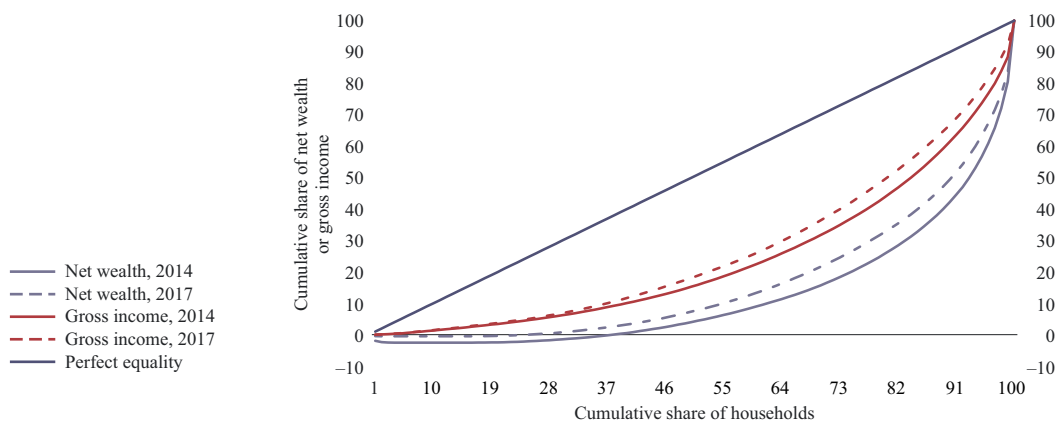
The **quantile ratio** indicators (P80/P20, P90/P50) are defined simply as the ratio of the corresponding percentiles of the distribution of net wealth. Higher values of the quantile ratios indicate a wider gap in the net wealth household quantiles.

The Gini coefficient is a popular way of measuring inequality of income, consumption and wealth based on the Lorenz curve. The Lorenz curve plots the cumulative share of households on the x-axis and the share of net wealth on the y-axis (see Figure 12). The 45° line represents a situation where every household has the same amount of net wealth. The Gini coefficient measures the ratio between the value of area between the perfect equality line (45° line) and the Lorenz curve⁶. Like in other European countries, net wealth in Latvia is distributed less equally than income (see Figure 12).

⁶ The coefficient takes values between 0 and 1. 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.

Since 2014, both net wealth and income inequality in Latvia have improved, which is depicted by the upward shift of the Lorenz curve and therefore lower Gini coefficients.

Figure 12
Lorenz curve for net wealth and gross income
 (%)

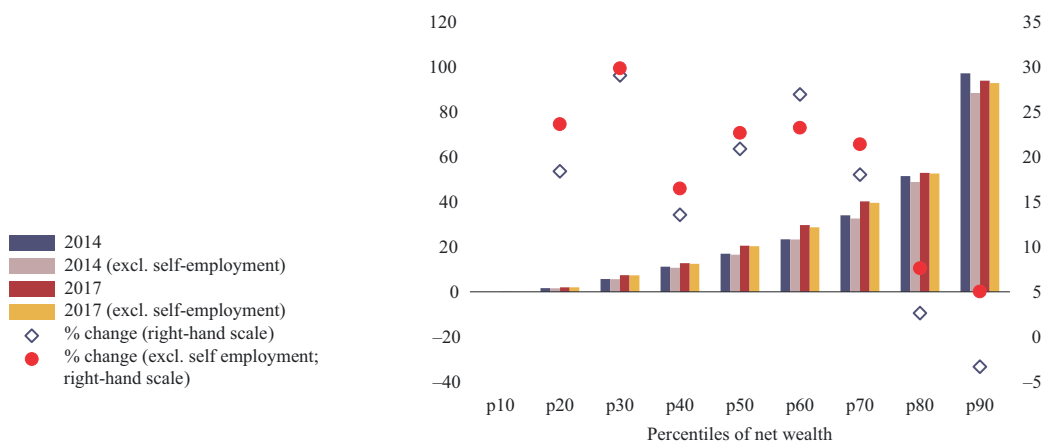


Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Note: For 2014, the value of housing in Latvia is adjusted to be representative of the market price value (instead of the cadastral value).

How to read this graph: The Lorenz curve shows the proportion of total wealth belonging to the bottom x% of the population. The cumulative share of households is represented on the x-axis, with the share of net wealth plotted on the y-axis. The 45 line represents a situation where every household has the same amount of net wealth.

Figure 13
Percentiles of net wealth (cut-off point between net wealth deciles)
 (thousands of euro)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, HFCS ECB 2014, HFCS ECB 2017, authors' estimates.

Note: For 2014, the value of housing in Latvia is adjusted to be representative of the market price value (instead of the cadastral value).

Inequality can also be measured by the quantile ratio (P80/P20, P90/P50). It is defined as the ratio of the corresponding percentiles of the distribution, i.e. the cut-off points between deciles. Lower ratios indicate a smaller gap between household net wealth deciles and therefore lower net wealth inequality. In 2017, the HFCS results reveal a compression of the net wealth distribution in Latvia (see Figure 13), i.e. a much stronger increase in the lower-middle percentiles than in the top ones and therefore a lower quantile ratio.

Net wealth medians have improved for the majority of household groups in Latvia (see Appendix 1). There is no significant difference in the increase of net wealth medians by region or housing status. The increase for households in which the reference person has a secondary or primary education tends to be stronger than in the case of a tertiary education, which correlates with stronger income growth in these groups of households. Growth in median net wealth is observed in both low and high income quintiles or net wealth groups of households, and the increase is stronger for the former groups.

4. INCOME, REAL AND FINANCIAL ASSETS

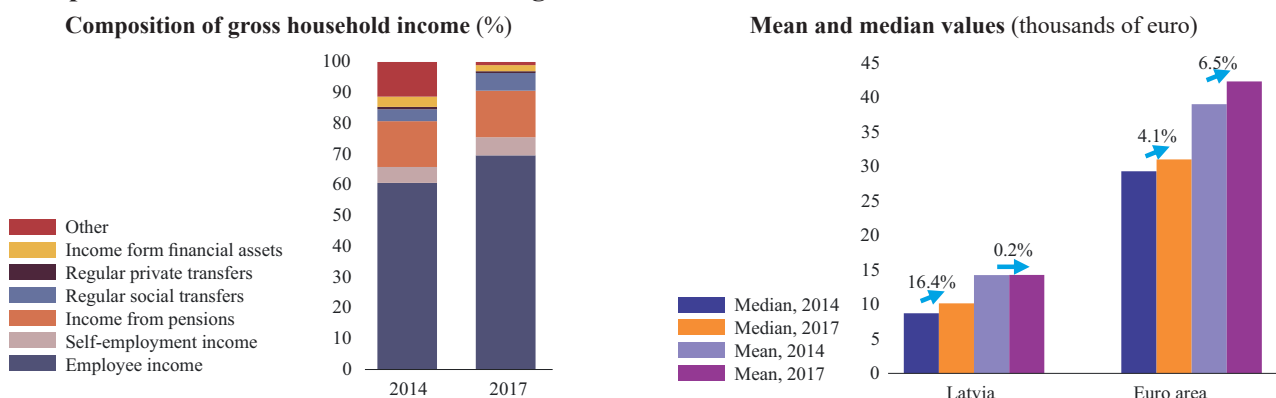
4.1 Income and consumption

The income section of the HFCS is primarily used to compare variables of interest for households in different income quintiles throughout the paper. Although income is not the primary focus of the HFCS, it is important in assessing changes in the distribution of various indicators and financial stability ratios. This section outlines the main observations regarding income trends when comparing the results of the HFCS waves in 2014 and 2017.

According to the HFCS, the bulk of household income in Latvia was comprised of employee income in 2017, and this share has increased since 2014 (see Figure 14). This can be attributed to both median income growth and higher employment in the respective period. The median annual gross income of a Latvian household increased by 16.4% between 2014 and 2017 and was around 10 151 euro in 2017. Although this is still three times lower than the euro area average of 31 000 euro, the median income growth in Latvia was stronger during this period. Despite the notable median income increase, the mean value of the gross annual income of households grew only marginally (by 0.2%).

Figure 14

Composition, mean and median values of gross household income



Sources: HFCS Latvia 2014, HFCS Latvia 2017, HFCS ECB 2014, HFCS ECB 2017, authors' estimates.

Compared to the HFCS results of other countries, the median household income in Latvia is higher than in Lithuania and Croatia but lower than in other European countries (see Figure 15). At the same time, the median income growth was the fifth highest among the euro area countries.

Figure 15

Median annual gross income of households in euro area countries
(thousands of euro)



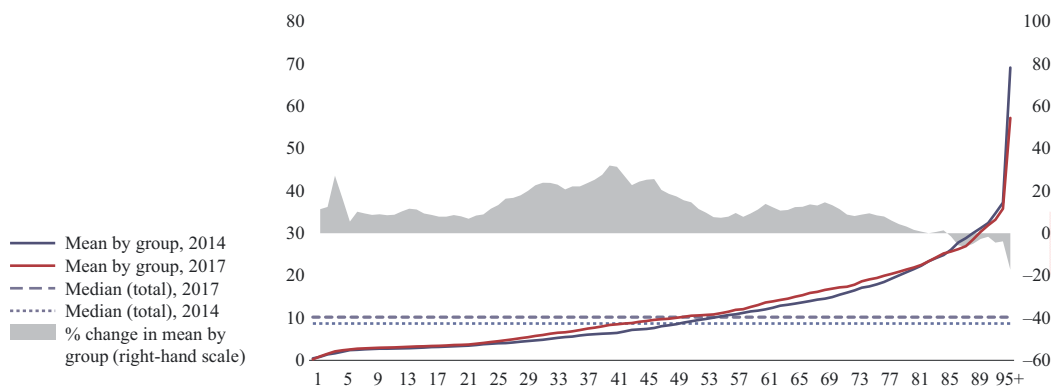
Sources: HFCS Latvia 2014, HFCS Latvia 2017, HFCS ECB 2014, HFCS ECB 2017, authors' estimates.

Taking a closer look at the HFCS results, it can be seen that the mean of the annual gross household income rose primarily for the middle part of the income distribution, where the increase was as high as 31.9% in the 41st income group (see Figure 16). The growth was slower in the lower income groups, whereas in the top part of the income distribution, mean income decreased. Meanwhile, when dividing the households into five net wealth quintiles, the median income growth can be observed for all household groups.

Figure 16

Distribution of gross household income in 2014 and 2017

(thousands of euro; means and their % changes by 100 population subgroups and deciles; medians)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

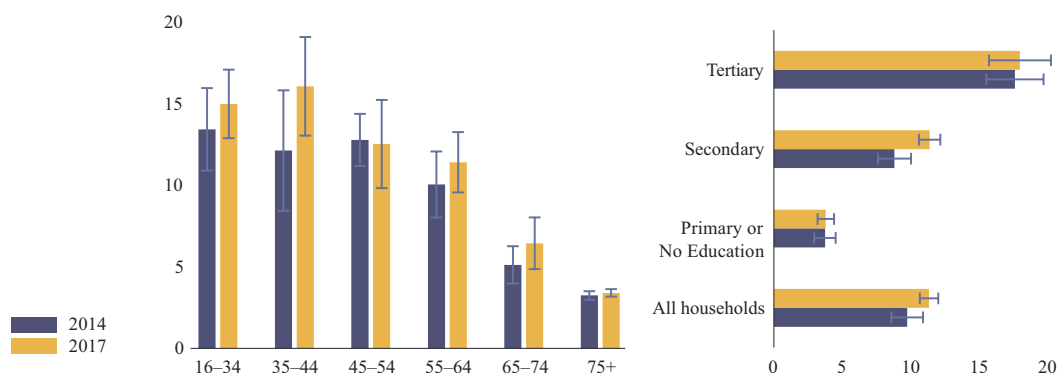
How to read this graph: All households are ranked by their gross income. Solid lines – each point represents the mean value of annual gross income for 1/100 of the household population ranked by the size of their gross income. Dotted lines – median values of gross household income in 2014 and 2017. Area – % changes in the mean value of gross household income between 2014 and 2017 in each of the 100 percentiles of the household population.

According to the results of the HFCS 2017 in Latvia, while median gross income rose overall, the increase was more rapid for households where the reference person was younger and for households in which the reference person had secondary education (see Figure 17). Macro level data show that the steepest rise in wages during this period was observed in lower-remunerated sectors, e.g. accommodation and hospitality. These industries are commonly employing people with lower education. This could, to some extent, explain the notable median income increase in households in which the reference person had secondary education.

Figure 17

Median gross household income by age and education level of the reference person

(thousands of euro)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Note: Whiskers show 95% confidence band.

The consumption part of the HFCS questionnaire focuses on typical household expenditures on non-durables. This includes food consumption, utilities (electricity, water, gas, telephone, heating, the internet, etc.), excluding rent payments and non-utilities (health, education, entertainment, etc.). 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. Combining the data on household income, consumption and the household's self-assessment of these components, one can assess its financial well-being.

Examining the results of the HFCS 2017, it can be observed that households in the lowest income quintile spend almost all their income on non-durables (see Figure 18). For households in the middle-income quintiles these expenses account for more than 60% of gross household income, while in the highest income quintile for only 31% of gross income. Comparing to 2014, households in all gross income quintiles spend a larger share of their income on non-durables, which might suggest less opportunities to save. Moreover, a larger share of households feel that despite the improved income situation, they are consuming less than in a "normal" year (see Figure 19). Despite this, the results of the HFCS show that household consumption growth exceeded income growth, with consumption mean increasing by 22.9%. The HBS results⁷ confirm consumption increase and in one-person households even indicate a similar consumption level growth. At the same time, the household self-assessment shows that households feel more optimistic about their income (see Figure 19), with less households indicating that their income is lower comparing to a "normal" year.

⁷ Household Budget Survey of the Central Statistical Bureau of Latvia, available at http://data1.csb.gov.lv/pxweb/en/sociala/sociala__mb__izdevumi/MBG020.px/table/tableViewLayout1/.

Figure 18
Median share of total non-durables consumption in gross income (%)

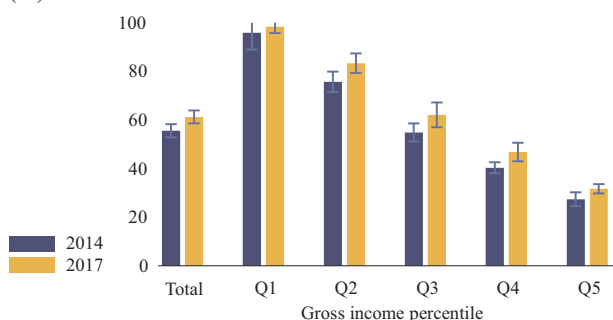
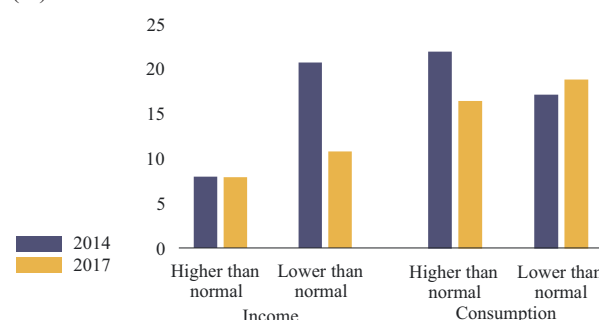


Figure 19
HH self-assessment of income and consumption in comparison to a "normal" year (%)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.
 Note: Whiskers show 95% confidence band.

With gross income median increasing in the middle income quintile and declining for the top income quintile (see Figure 21), income inequality in Latvia has declined. The Gini coefficient of equivalised gross income has declined by 4 percentage points in comparison with 2014 and the decline can be observed in all regions of Latvia (see Figure 20). Despite the noticeable consumption growth across all gross income quintiles, consumption inequality has not changed substantially, with the exception of Riga where consumption inequality has increased (see Figure 22). The HFCS results regarding income inequality measures are in line with the EU-SILC results⁸ indicating an inequality decline by 1 percentage point in the respective period.

Figure 20
Gini coefficient of equivalised gross income

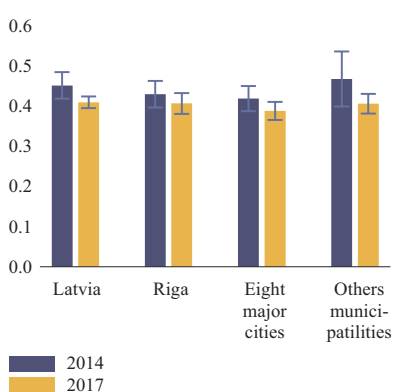


Figure 21
Median share of consumption in income (%)

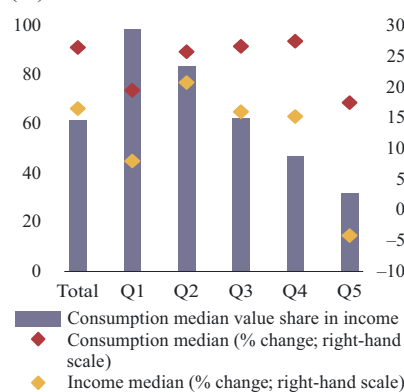
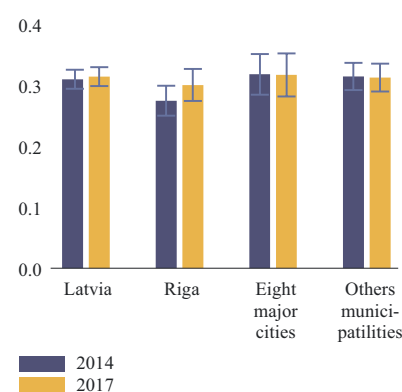


Figure 22
Gini coefficient of equivalised consumption



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.
 Note: Whiskers show 95% confidence band.

In order to assess how income and consumption developments have impacted on household ability to save, it is important to look at both income and consumption. For this purpose, the households' self-assessment of income and consumption over the last calendar year is used. Overall, the households' self-assessment of the balance between income and consumption has improved, with less households claiming that their

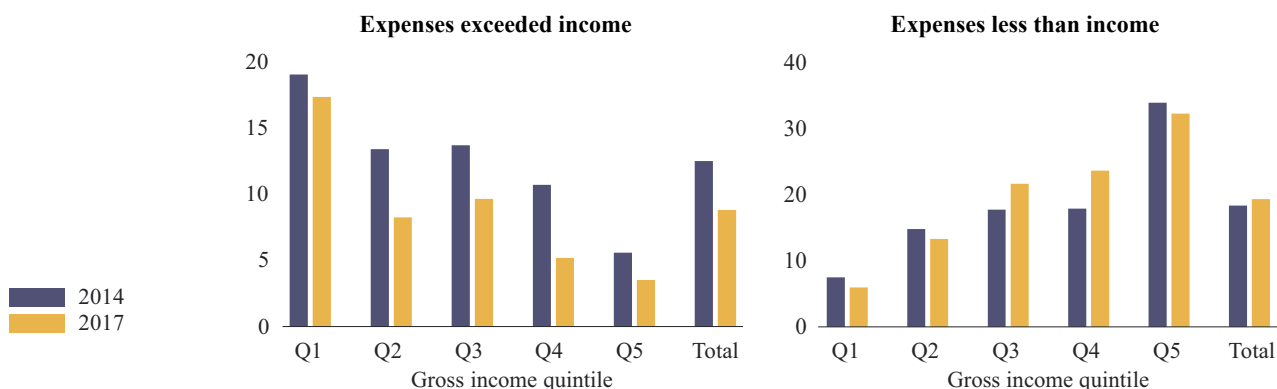
⁸ EUROSTAT, EU-SILC survey, <https://ec.europa.eu/eurostat/databrowser/view/tessi190/default/table?lang=en>.

expenses exceed income and more households claiming that their expenses are less than income (see Figure 23). A major improvement can be observed for the middle gross income quintiles, corresponding with a larger income increase in these groups.

Figure 23

Self-assessment of income and consumption over the last calendar year

(%)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Note: Question HI0600 – Aside from any purchase of assets, over the last calendar year would you say that your (household's) regular expenses were higher, just about the same or less than your income?

Reasons for saving have also changed for households in Latvia, with a larger share of income being saved as provisions for unexpected events as well as for travel (see Figure 24). Meanwhile, less is put aside for making large purchases like real estate, vehicles, furniture etc. as well as paying off debts. Thus, more is saved for financial protection as well as non-necessities like travel.

Figure 24

Structure of household savings by purpose

(%)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Another option to assess the balance between income and consumption is to calculate savings ratios at the household level. The gross savings rate can be obtained by subtracting the household's basic expenditures, debt payments and rent from its gross income and then dividing the resulting value by the gross income, i.e. obtaining the before-tax savings rate.

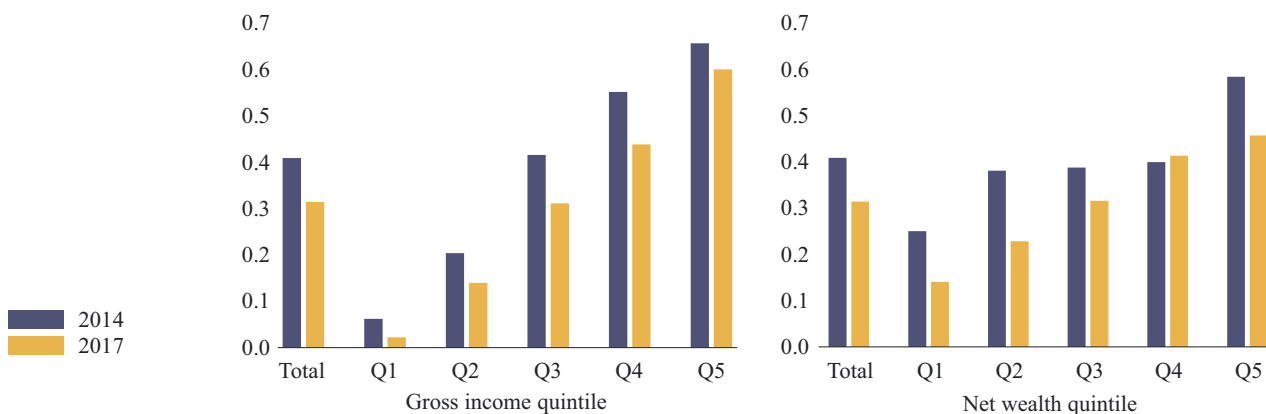
$$\text{Gross saving ratio}_{\text{HFCS}} = \frac{\text{Gross income} - \text{Basic expenditures (food, utilities)} - \text{Debt payments} - \text{Rent}}{\text{Gross income}}$$

The obtained gross savings ratios show that the median savings rate has declined (see Figure 25) from 0.41 in 2014 to 0.31 in 2017. The main reason for this decline is a stronger increase in consumption as compared to income and a larger non-mortgage debt, which indicates higher preference for consumption today (see Figure 21).

Figure 25

Median gross savings ratio by net wealth and gross income quintiles

(ratio)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

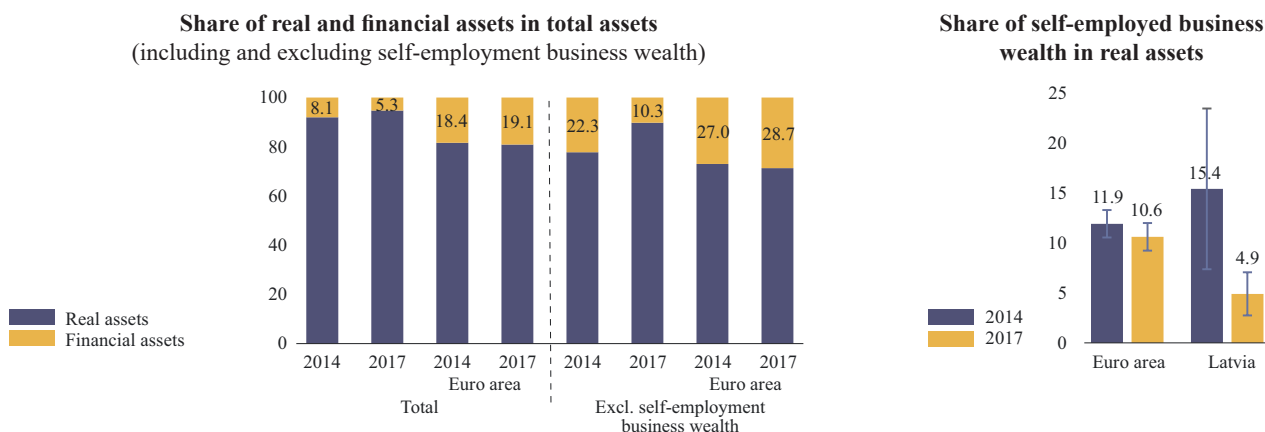
Note: The ratios below -2 are excluded from the estimates.

4.2 Real assets

Household assets consist of real assets and financial assets. Both in Latvia and in the euro area, total household assets are mostly composed of real assets (see Figure 26). Financial assets represent on average 19% of total assets in the euro area and less than 10% in Latvia (see Section 4.3 for details on financial assets). The most important component of real assets is real estate, which constituted 88.7% and 83.6% of total assets in 2017 in Latvia and in the euro area respectively. The second most important component of real assets is self-employment business wealth: in 2014, 15.4% and 11.9% in Latvia and the euro area respectively (see Figure 26). Due to methodological issues with the representation of self-employment business wealth in the Latvian HFCS 2017 survey (see Section 2.3 for details), we provide extra estimates of the total value and composition for real assets and net wealth excluding the self-employment business wealth.

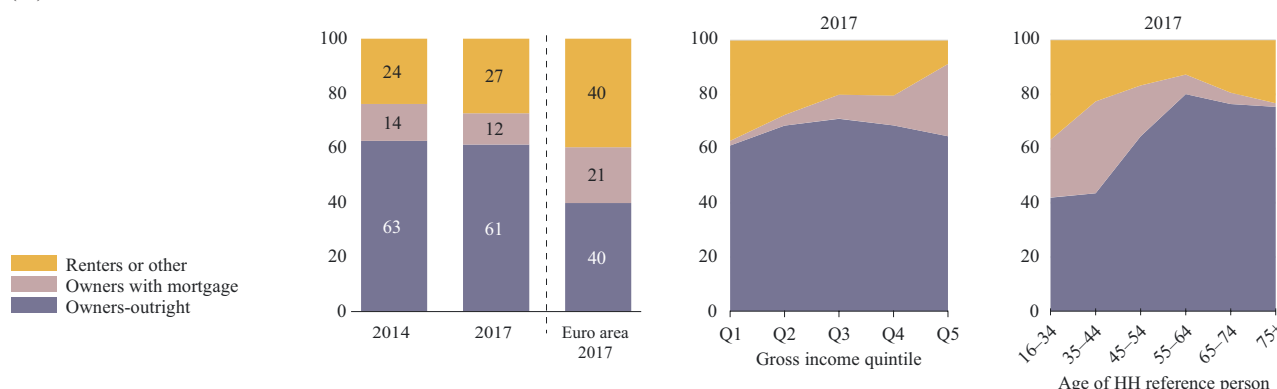
The importance of real estate in real assets of households is determined by structure of real estate ownership (see Figure 27). On average, euro area households are less likely to own real estate than households in Latvia. Around 40% of households in the euro area rent their real estate. At the same time, the share of households with a mortgage in the euro area is higher than in Latvia: 21% and 12% in 2017 respectively. Since 2014, the real estate ownership composition of Latvian households has changed only slightly, mostly due to a somewhat lower participation rate of middle-aged and middle-income households (see Appendix 2). In Latvia, households with a mortgage are mostly households with higher income and a relatively young reference person (see Figure 27). Around 40% of households with the reference person aged below 44 are outright homeowners in Latvia, which can be explained by the overall higher real estate ownership rate. In the euro area as a whole, the share of outright homeowners below 44 years of age is 23%.

Figure 26
Structure of total and real assets
 (%)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, HFCS ECB 2014, HFCS ECB 2017, authors' estimates.
 Notes: For 2014, the value of housing in Latvia is adjusted to be representative of the market price value (instead of the cadastral value). Whiskers show 95% confidence band.

Figure 27
Real estate ownership composition of households
 (%)



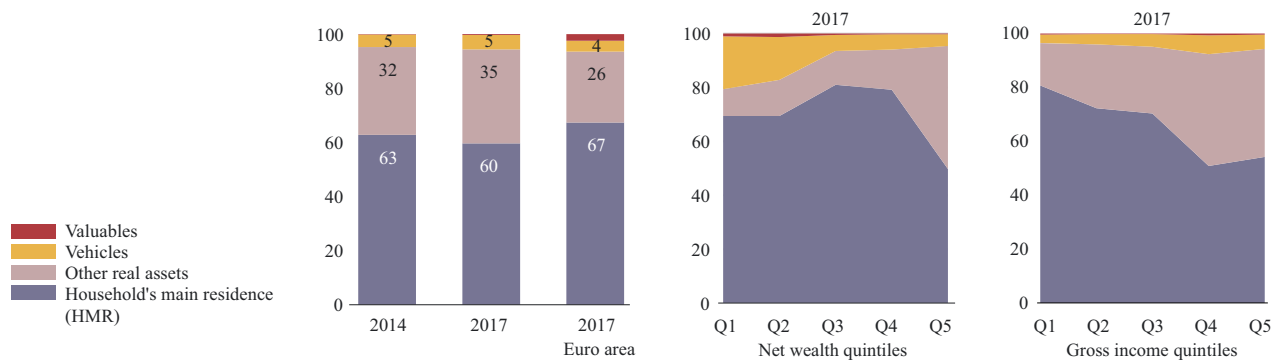
Sources: HFCS Latvia 2014, HFCS Latvia 2017, HFCS ECB 2017, authors' estimates

The share of HMR in real assets (excluding self-employment business wealth) is around 60% in Latvia and 67% in the euro area (see Figure 28). Other real estate constitutes another 35% and 26% respectively. The difference in the shares of real assets between Latvia and the euro area is determined by the participation rate. More than 1/3 of households in Latvia hold other real estate as opposed to 1/4 of households in the euro area (see Figure 28). Most of this "other real estate" is either a house/apartment or land used for recreational or other private purposes. Ownership of other real assets is associated with higher household income and net wealth. Despite a high share of households with other real estate ownership (see Figure 28), the share of households with rental income in Latvia is quite low. In 2017, only 4% of households in Latvia reported having rental income (9% in the euro area).

Figure 28

Structure of total real asset (excluding self-employment business wealth)

(%)

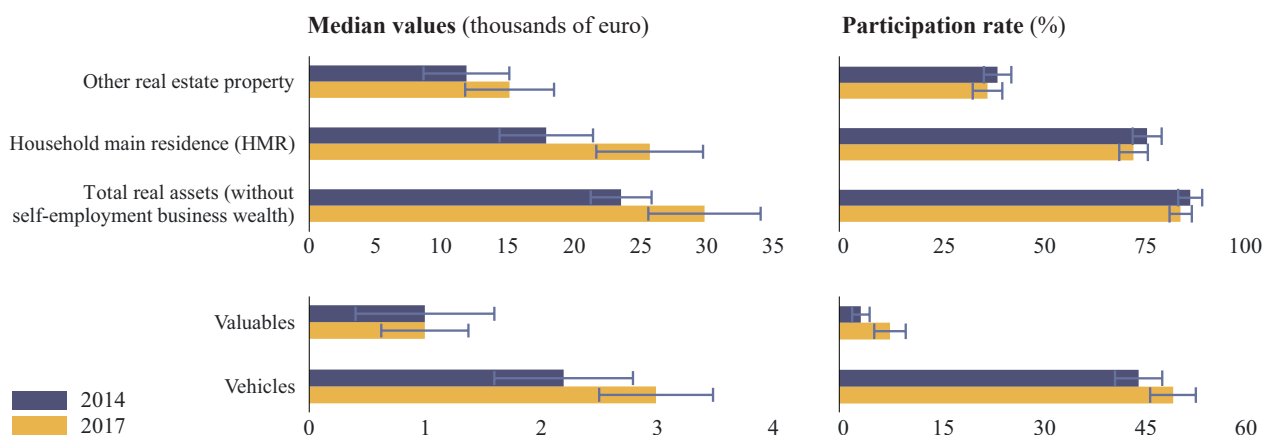


Sources: HFCS Latvia 2014, HFCS Latvia 2017, HFCS ECB 2017, authors' estimates.

Note: For 2014, the value of housing in Latvia is adjusted to be representative of the market price value (instead of the cadastral value). Self-employment business wealth is excluded from estimation of real assets.

In 2017, the average median value of household real assets in Latvia was 29 900 euro (29 600 euro without self-employment business wealth), with the median HMR value of 25 500 and other real estate value of 15 000 euro (see Figure 29). The median HMR value in Riga was 39 600 and 20 000 in other eight big cities. Despite a 29%⁹ increase in the housing price index during 2012–2016, the median value of household real estate in Latvia in 2017 was still one of the lowest in the euro area (Figure 30).

Figure 29

Median values and participation rates for real assets

Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Notes: For 2014, the value of housing in Latvia is adjusted to be representative of the market price value (instead of the cadastral value). Self-employment business wealth is excluded from estimation of real assets. Whiskers show 95% confidence band.

⁹ Central Statistical Bureau, PC070c. House price index and changes https://data.csb.gov.lv/pxweb/lv/ekfin/ekfin_PCI_isterm/PC070c.px

Figure 30

Median value of household real assets in euro area countries

(thousands of euro)



Sources: HFCS ECB 2014, HFCS ECB 2017, authors' estimates.

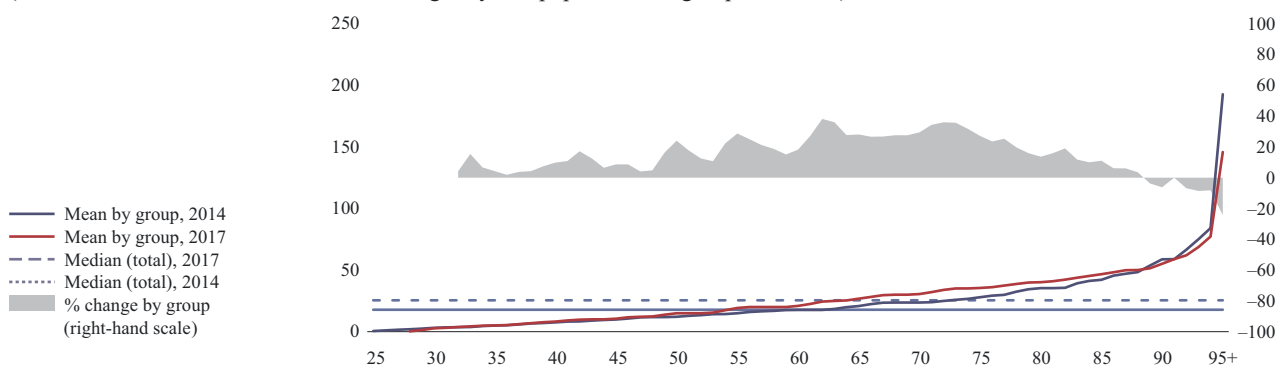
Note: For 2014, the value of housing in Latvia is adjusted to be representative of the market price value (instead of the cadastral value). Self-employment business wealth is excluded from estimation of real assets.

According to the HFCS results, from 2012 to 2016, the value of HMR and that of other real estate increased by 44% and 27% respectively. Taking into account a 14% rise in the house price index during 2012–2014, the net increase could be around 30% and 13% respectively. The increase in the HMR value was observed in all groups of households (see Appendix 2). It was stronger for high income households with the reference person of a younger age and tertiary education, which could suggest higher quality of the real estate owned by these groups.

Figure 31

Distribution of HMR value in 2014 and 2017

(thousands of euro; means and their % changes by 100 population subgroups; medians)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Note: For 2014, the value of housing in Latvia is adjusted to be representative of the market price value (instead of the cadastral value).

How to read this graph: All households are ranked by the value of HMR. Solid lines – each point represents the mean value of HMR for 1/100 of the household population ranked by the size of HMR. Dotted lines – median values of HMR in 2014 and 2017. Area – % change in the mean value of HMR between 2014 and 2017 in each of the 100 percentiles of the household population.

The most pronounced growth of the average HMR value was observed for households in the middle part of the HMR value distribution (see Figure 31), which explains the strong increase in the median value of the HMR and the relatively low increase in the mean values (see Figure 7). The drop in the top HMR values could be partially explained by changes in the Immigration Law implemented in September 2014¹⁰. Before that, to get a temporary residence permit, initially, a household had to buy a property worth at least 100 000 lats (142 287 euro). Afterwards the threshold was

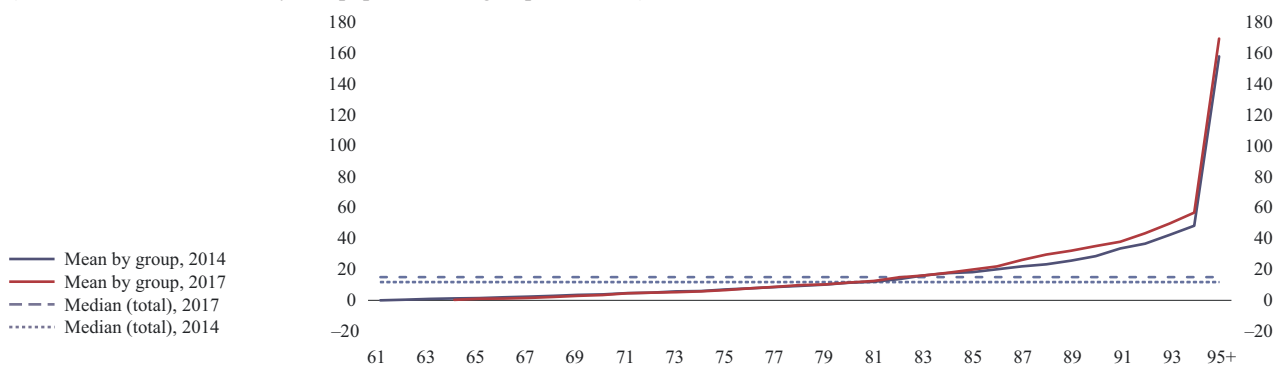
¹⁰ Immigration Law <https://likumi.lv/ta/en/en/id/68522-immigration-law>.

increased up to 250 000 lats 355 717 euro, which reduced the demand for top price real estate dramatically and thus caused a decline in the prices of those estates¹¹.

Figure 32

Distribution of other real estate value in 2014 and 2017

(thousands of euro; means by 100 population subgroups; medians)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Note: For 2014, the value of housing in Latvia is adjusted to be representative of the market price value (instead of the cadastral value).

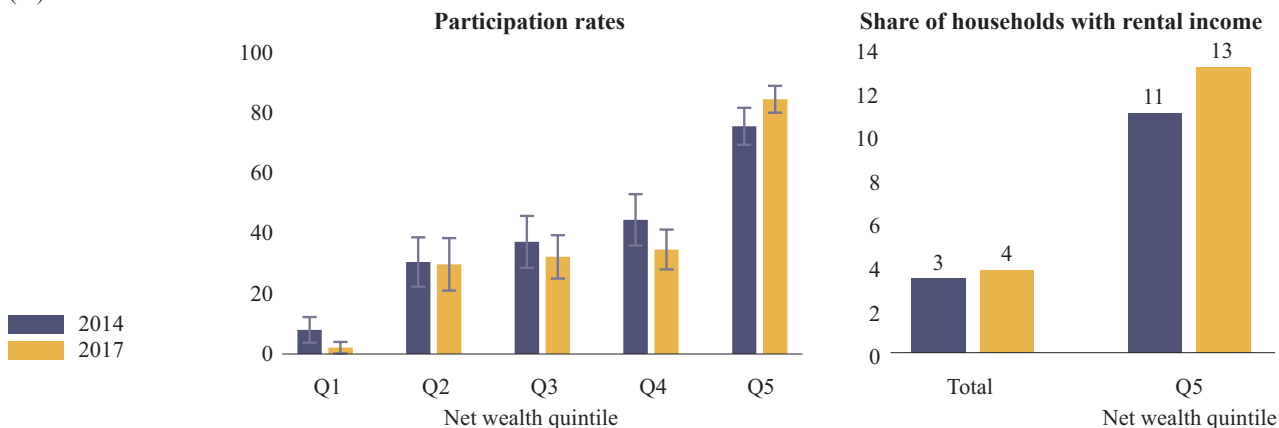
How to read this graph: All households are ranked by the value of other real estate property. Solid lines – each point represents the mean value of other real estate property for 1/100 of the household population ranked by the value of other real estate property. Dotted lines – median values of other real estate property in 2014 and 2017.

An increase in the value of other real estate was mostly observed in the top part of the distribution (see Figure 32). The only household group with higher participation rates for the other real estate category in Latvia are households in the 5th net wealth quintile, where the share of households with rental income grew from 11% to 13% (see Figure 33). The value of other real estate increased only for households with an older reference person (see Appendix 3).

Figure 33

Participation rates for other real estate and share of households with rental income

(%)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Note: Whiskers show 95% confidence band.

Vehicles represent 5% of the total real asset value. Although their share in real assets has remained unchanged since the previous wave, a larger share of households own

¹¹ According to the Central Statistical Bureau, the real estate prices for new projects declined by 22% in the fourth quarter of 2014. House price index and changes available at https://data.csb.gov.lv/pxweb/lv/ekfin/ekfin_PCI_isterm/PC070c.px.

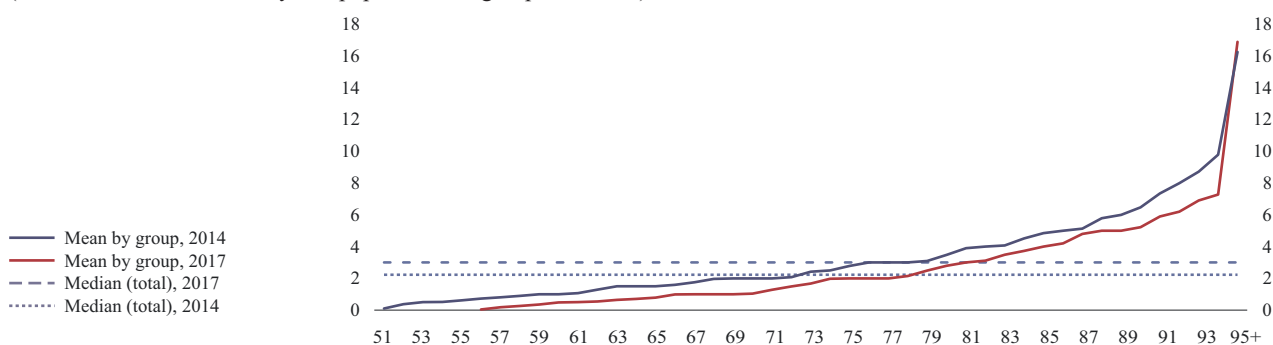
vehicles, as shown by the 5.1% increase in participation rate (see Figure 34 and Figure 29). These results are in line with the statistics on new vehicle registrations (excluding second-hand cars) which indicates that registrations of new vehicles have increased by 8.5%¹² during this period.

According to the HFCS 2017 results, the median vehicle value of Latvian households was 3000 euro (up from 2230 euro in 2014), which is twice lower than the euro area median (6000 euro in 2017). The leasing market statistics compiled by the Latvian Leasing Association confirm a sharp rise in the vehicle value¹³ (50% for cars). Interestingly, the mean value has increased more for the bottom and middle part of the distribution (see Figure 35), which might be explained by a combined effect from the progressive vehicle operation tax on CO₂ emissions, availability of leasing options and higher income growth in mid-income households (see Appendix 4).

Figure 34

Distribution of vehicle value in 2014 and 2017

(thousands of euro; means by 100 population subgroups; medians)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

How to read this graph: All households are ranked by the value of their vehicle. Solid lines – each point represents the mean value of vehicle for 1/100 of the household population ranked by the value of vehicle. Dotted lines – median values of vehicle in 2014 and 2017.

4.3 Financial assets

Ownership of financial assets is an indicator of household income, risk tolerance as well as financial literacy. The HFCS gathers information on the following financial assets: deposits, mutual funds, bonds, shares (publicly traded), money owed to a household, voluntary private pensions, whole life insurance and other financial assets. Since the financial market in Latvia is fairly underdeveloped, similar to the previous wave, some financial assets that could be only partly accounted for in the HFCS survey in Latvia due to a highly skewed distribution of the components of financial wealth (deposits, bonds, mutual funds and publicly traded shares), small HFCS sample size, high unit and item non-response¹⁴ as well as lack of administrative data on financial assets were aggregated into the following broader groups for analysis purposes: private pension funds and whole life insurance, and other financial assets (mutual funds, securities, publicly traded shares, financial derivatives, etc.). It should be noted that the HFCS survey in Latvia can account only for a relatively small fraction of adjusted financial

¹² Road Traffic Safety Department (<https://www.csdd.lv/transportlidzekli/registreto-transportlidzeklu-skait>).

¹³ Latvian Leasing Association, <http://www.llda.lv/en/par-asociaciju/statistika.html>.

¹⁴ Only very few households with the largest holdings of financial assets agree to participate in the survey; and even if these households do participate in the survey, they often refuse to answer questions related to the value of their financial assets.

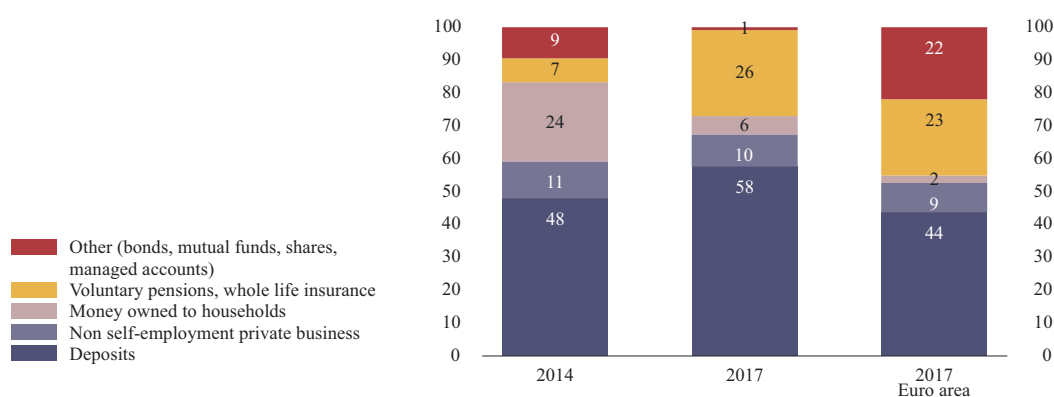
wealth¹⁵ per capita in National Accounts. However, this is a common issue for all countries in the HFCS network, mainly caused by divergences in the methodologies applied and item non-response regarding financial assets in the HFCS.

According to the HFCS results, less than 0.5% of the population of Latvia own shares in publicly traded companies and around 0.5% of the population own mutual fund shares. In addition, the distribution of the market value of these financial asset holdings is extremely skewed and the total value is determined by very few owners. The HFCS survey 2017 accounts for less than 5% of the total value of this asset type per capita¹⁶.

Deposits have remained the most significant asset class in the financial assets portfolio (57.6%; see Figure 35). The share of deposits has grown by 9.6 percentage points since 2014 and is larger than the euro area average. Similarly, the importance of voluntary pensions and whole life insurance has grown, with this asset type representing 26.2% of financial assets in 2017. By contrast, the share of money owed to households in financial assets declined by 18.5 percentage points. Unlike in the EU, other financial assets accounted for only 1% of financial assets in Latvia (9% in 2014). However, this could be attributed to poor representation of households with very high income in the sample.

Figure 35

Composition of financial assets (%)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, HFCS ECB 2017, authors' estimates.

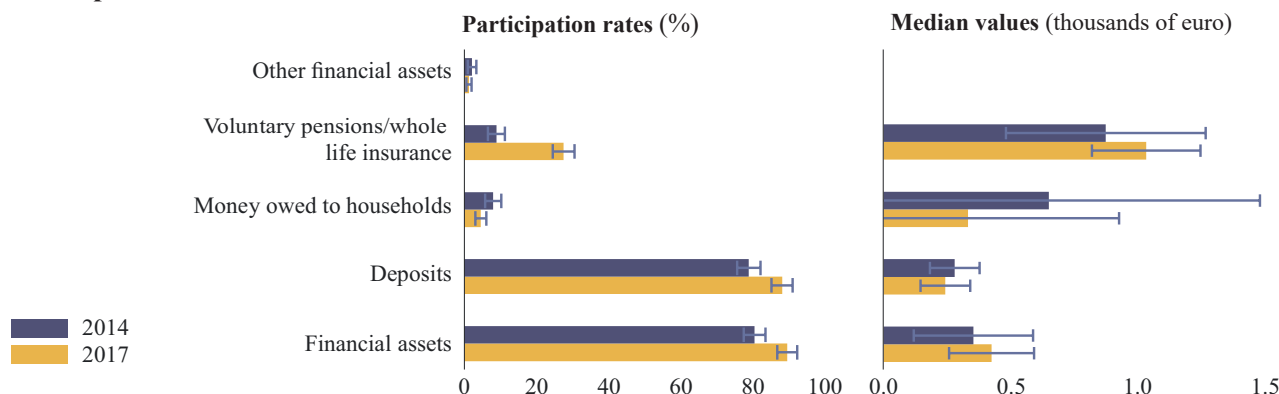
Ownership of financial assets among households in Latvia increased from 80.2% in 2014 to 89.1% in 2017 (see Figure 36). Participation rates for deposits, which remained the most widely held financial asset class among households in Latvia, rose by 9.2 percentage points, to 87.7%. At the same time, a smaller number of households reported owing money to other households and having other types of financial assets such as bonds, shares etc. The median value of financial assets rose by 20.1%, with the median value of voluntary pensions and whole life insurance increasing and that of money owed to other households and deposits decreasing.

¹⁵ Adjusted financial wealth from the National Accounts is the sum of deposits, bonds, mutual funds and shares.

¹⁶ In the HFCS 2014 survey, the coverage of bonds, shares and managed accounts was around 50%, which was due to better item response in some top income households.

Figure 36

Participation rates for financial assets and conditional median values of financial assets

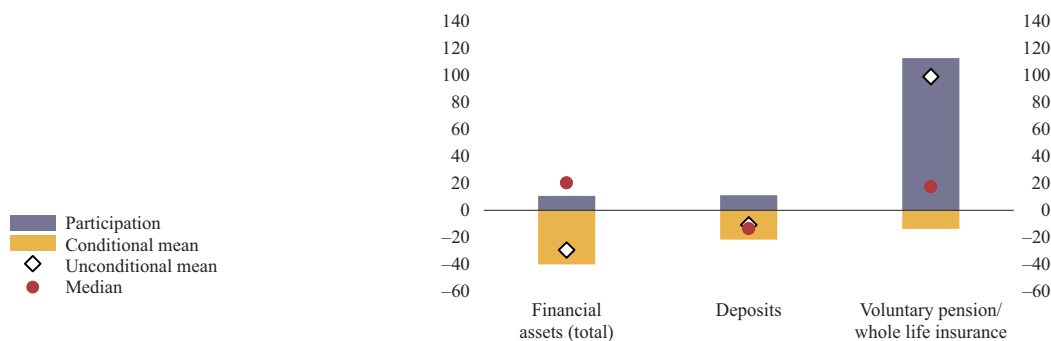


Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.
 Note: Whiskers show 95% confidence band.

Looking at the developments in the most prominent financial asset classes (see Figure 37), it could be noted that private pension schemes and whole life insurance showed opposite trends depending on whether the conditional or unconditional mean values were examined. With higher participation, the value of the unconditional mean increased, while the conditional mean declined showing an increase in low-value voluntary pensions and whole life insurance.

Figure 37

Decomposition of participation and value effects: financial assets
 (% changes)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

In the previous wave, data regarding private pensions and whole life insurance was purely based on the respondents' answers, whereas in 2017 this information was also obtained from the State Revenue Service and was used to cross-check the HFCS responses. Due to the use of these two data sources, information on voluntary pensions in the 2017 HFCS is more accurate than previously and is therefore representative of the situation in Latvia. Thus, the sizeable increase in participation and larger median values observed in 2017, can be partially attributed to the previous underreporting regarding both, participation and value of savings in the third pillar pension and whole life insurance schemes.

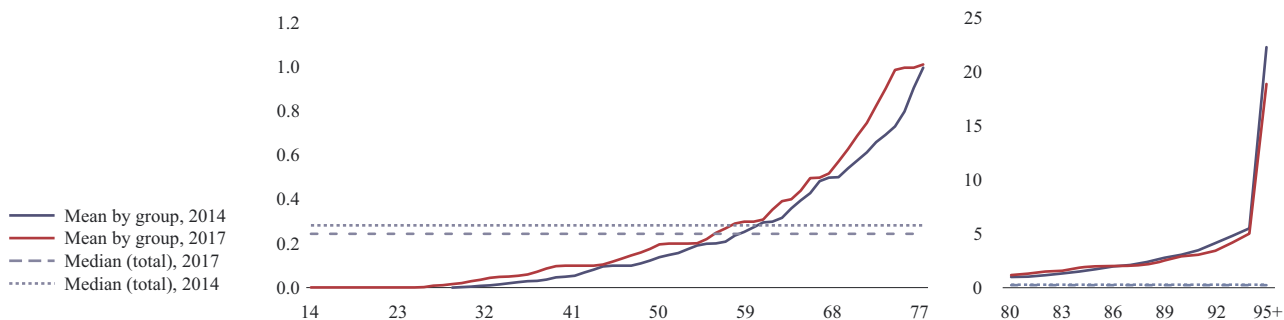
Taking a closer look at deposits in 2014 and 2017 (see Figure 38), it can be observed that 86% of households held some deposits compared with 71% in 2014. The median value of deposits declined from 283.2 euro in 2014 to 244.4 euro in 2017 due to the large number of small deposits reported, and partly can be attributed to low willingness

of respondents to declare deposit amounts. Deposit distribution shows that the mean value of deposits increased more for the middle part of the deposit distribution, while the mean value declined for the top part of the deposit distribution.

Figure 38

Deposit distribution in 2014 and 2017

(thousands of euro; means by 100 population subgroups; medians)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

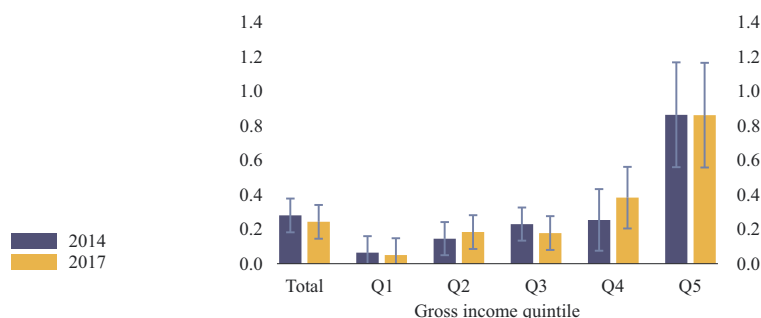
How to read this graph: All households are ranked by their deposit holdings. Solid lines – each point represents the mean value of deposits for 1/100 of the household population ranked by the size of their deposit holdings. Dotted lines – median values of deposits in 2014 and 2017.

The median value of deposits increases along with income, and in the upper income quintile it is more than four times higher than in the lower ones (see Figure 39). It can also be observed that there is no unanimous trend in the change of the median deposit value across different income quintiles. The most pronounced increase in the median deposit can be observed for households in the 4th income quintile. At the same time, households both in the top and bottom income quintiles did not report any improvement in their deposit holdings. One of the reasons explaining the decline in the median deposit could be the strong growth of consumption and non-mortgage loans and therefore lower savings ratios (see Section 4.1 and Section 5.1).

Figure 39

Median value of deposits by income quintile

(thousands of euro)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

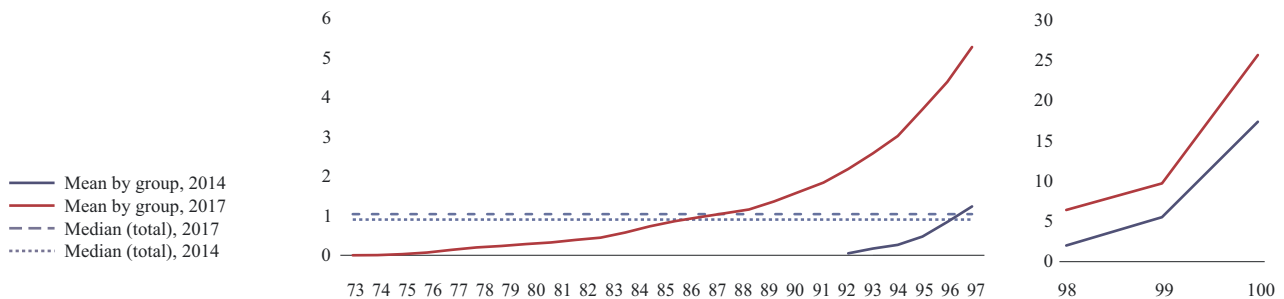
Note: Whiskers show 95% confidence band.

The second most widely held financial asset was "voluntary pensions and whole life insurance" held by 27.4% of households in Latvia (8.9% in 2014; see Figure 40). This is still lower than the euro area average where the assets of this particular class are held by almost 1/3 of households. At the same time, the median value of retirement savings remains the lowest among the HFCS countries (1041 euro vs. 14 000 euro in the euro area).

Figure 40

Distribution of "voluntary pensions/whole life insurance" in 2014 and 2017

(thousands of euro; means by 100 population subgroups; medians)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

How to read this graph: All households are ranked by the amount of their voluntary pension/whole life insurance. Solid lines – each point represents the mean value of voluntary pensions/whole life insurance for 1/100 of the household population ranked by the size of their voluntary pension/whole life insurance holdings. Dotted lines – median values of voluntary pension/whole life insurance holdings in 2014 and 2017.

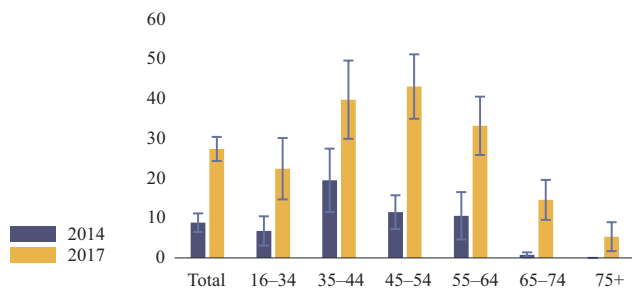
Overall participation in voluntary pension schemes and whole life insurance increased for all age groups (see Figure 41). Similar to 2014, the participation rate displays a hump-shape pattern when analysed across age groups, with the maximum participation rate (43.1%) displayed by the age group 45–54. The median value grew more strongly for households with the reference person aged 45+ (see Figure 42), indicating a higher willingness to save for retirement when coming closer to the retirement age. The median value reaches its peak (2700 euro) for households with the reference person aged 65–74¹⁷. The large increase in the median value of this asset in comparison with 2014 could be partially attributed to previous misreporting as explained earlier.

The voluntary pension and whole life insurance data collected by the HFCS 2017 in Latvia seem representative as the participation rate is fairly similar to the third pillar pension scheme data gathered by the authorities¹⁸. Also, the changes in the total value compare well with the reported ones.

Figure 41

Participation in voluntary pensions and whole life insurance by age of the reference person

(%)



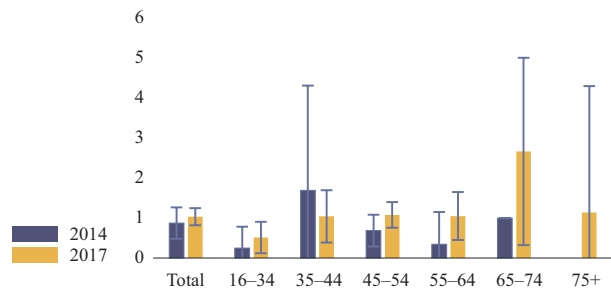
Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Note: Whiskers show 95% confidence band.

Figure 42

Median value of voluntary pension and whole life insurance by age of the reference person

(thousands of euro)



To sum up, the HFCS results show that in the period from 2014 to 2017 the participation rates for financial assets increased, particularly for deposits, private pension schemes

¹⁷ Very few observations in the age group 65–74 in 2014.¹⁸ Data on the third pillar (voluntary) pension schemes in Latvia can be accessed via <https://www.manapensija.lv/lv/pensiju-3-limenis/vesture-un-statistika/>.

and whole life insurance. The median value of pension funds increased as well, while there was a significant reduction in the median amount of money owed to other households.

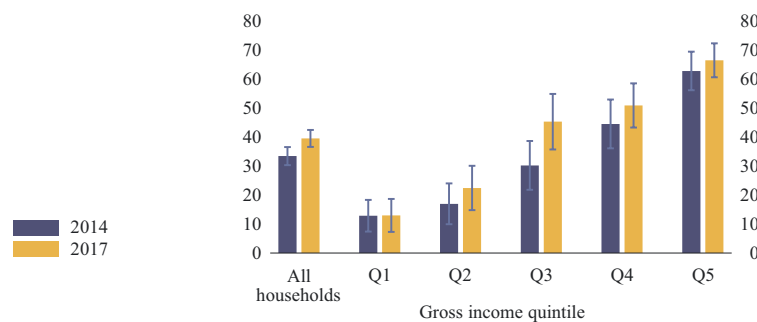
5. HOUSEHOLD LIABILITIES AND FINANCIAL VULNERABILITY

5.1 Household liabilities

Although the overall debt participation rates have increased¹⁹, that has not been the case for all income groups (see Figure 43). The most significant increase is observed for the middle (third) income quintile, while the participation rate in the lowest quintile has remained unchanged. No change in the first income quintile can be explained by the high credit constraints in this income group inter alia comprising seniors and long-term unemployed²⁰.

Figure 43

Debt participation by income quintile (%)



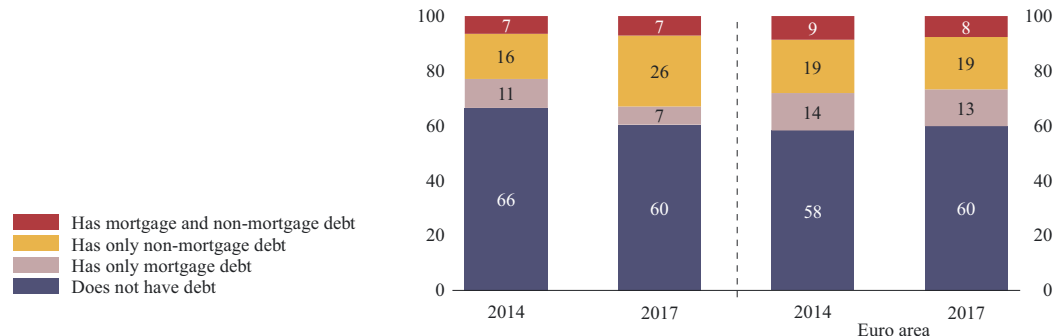
Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Note: Whiskers show 95% confidence band.

Household debt holdings by type of debt (see Figure 44) show that in the period from 2014 to 2017 the share of households that have no debt has decreased by 6 percentage points. The share of households with only non-mortgage debt has increased significantly (by 10 percentage points) and has exceeded the euro area average by 7 percentage points in 2017.

Figure 44

Household debt holdings by type of debt (%)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, HFCS ECB 2014, HFCS ECB 2017, authors' estimates.

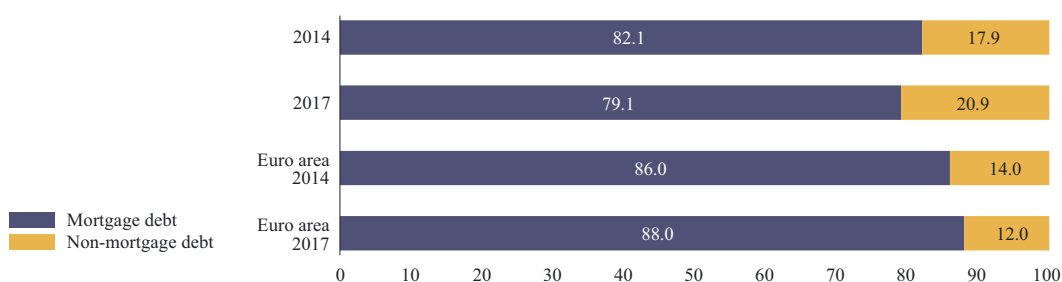
¹⁹ Data from the Credit Register of Latvijas Banka on individuals with existing obligations also show an increase in debt participation as a percentage of population aged 18–74.

²⁰ Only 12% of people in the first income quintile are employed or self-employed. Most people in the lowest income quintile are retired (59%) and unemployed (10%).

Survey results show that the share of mortgage debt (see Figure 45) in Latvia has decreased from 2014 to 2017²¹ as opposed to what has happened in the euro area as a whole. That was facilitated by both a decrease in the total outstanding balance of mortgage debt and an increase in the total outstanding balance of the non-mortgage debt.

Figure 45

Share of total liabilities by debt type
(%)

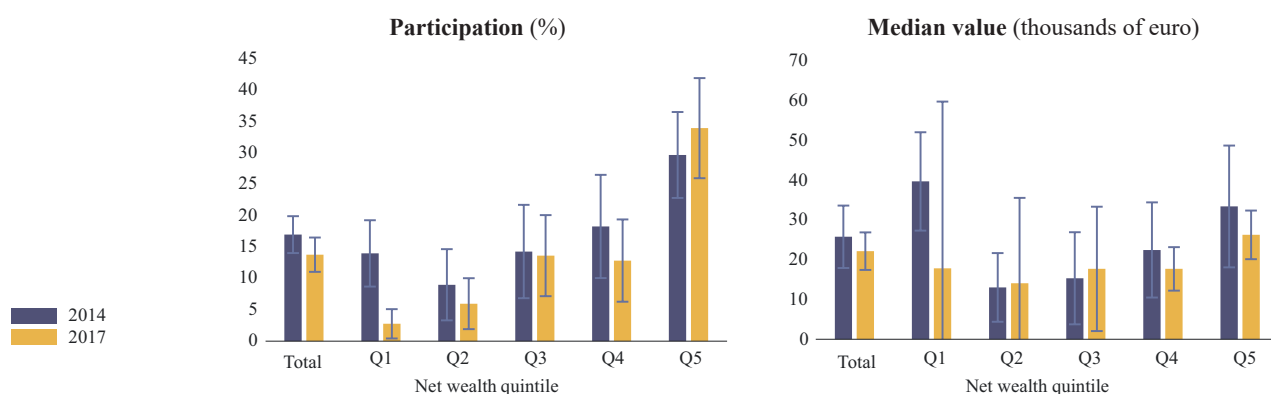


Sources: HFCS Latvia 2014, HFCS Latvia 2017, HFCS ECB 2014, HFCS ECB 2017, authors' estimates.

While the total participation rates for mortgage debt decreased, the most prominent fall was observed in the first net wealth quintile (see Figure 46). The share of households with a mortgage in the lowest net wealth quintile declined due to an increase in real estate prices as well as mortgage repayments. As a result, the lowest net wealth households with a mortgage shifted higher in the net wealth distribution. The decrease in the share of households with a mortgage in the first net wealth quintile resulted in a lower median value in this group. Interestingly, the mortgage debt participation rates increased only for the top net wealth households, while their median debt value also declined.

Figure 46

Participation rates and median values for mortgage debt by net wealth quintile



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Note: Whiskers show 95% confidence band.

The changes in the composition of non-mortgage debt observed in Latvia are also different from those in the euro area. While in the euro area the distribution across various types of non-mortgage debt has not changed significantly (see Figure 47), the changes in Latvia were more pronounced. The share of other non-mortgage loans

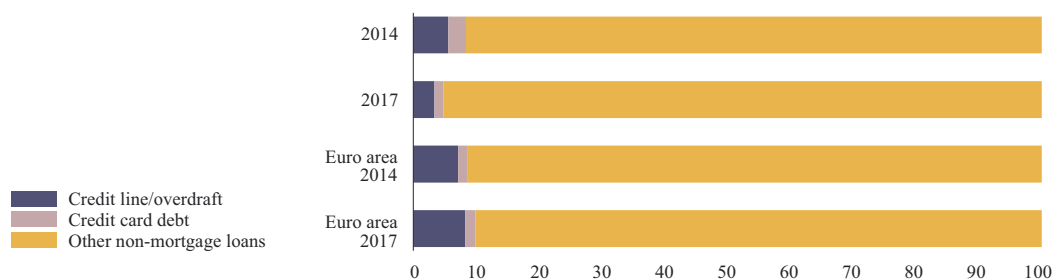
²¹ The data available from the Credit Register of Latvijas Banka on distribution of household loans (stock; %) also show a decrease, although less a remarkable one, of -0.9 percentage point.

(online credit, friends and family) decreased by 1.35 percentage points in the euro area, whereas in Latvia it increased by 3.57 percentage points. This could be partially explained by the growth of new loans issued by non-banks (for example, from 2014 to 2017, new loans by online credit companies increased by 51.4%).

Figure 47

Share of non-mortgage debt by type

(outstanding balances; %)



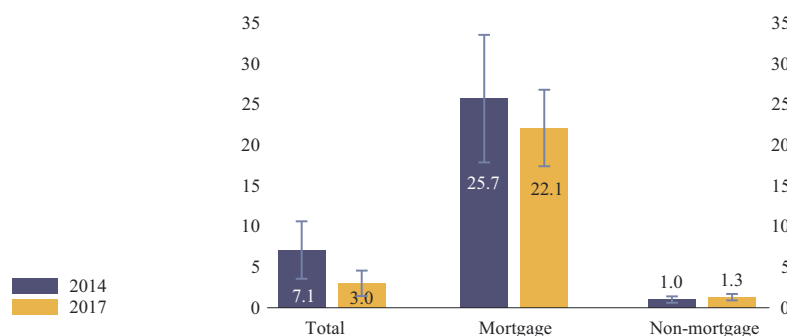
Sources: HFCS Latvia 2014, HFCS Latvia 2017, HFCS ECB 2014, HFCS ECB 2017, authors' estimates.

With predominantly large mortgages declining and usually small non-mortgage loans growing, the median total liabilities also contracted significantly (see Figure 48). First, mostly due to repayments of mortgages, the median mortgage debt decreased by 3.6 thousand euro. Second, although the median non-mortgage liabilities increased by 30%, the share of households with small amounts of debt increased.

Figure 48

Median liabilities

(thousands of euro)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

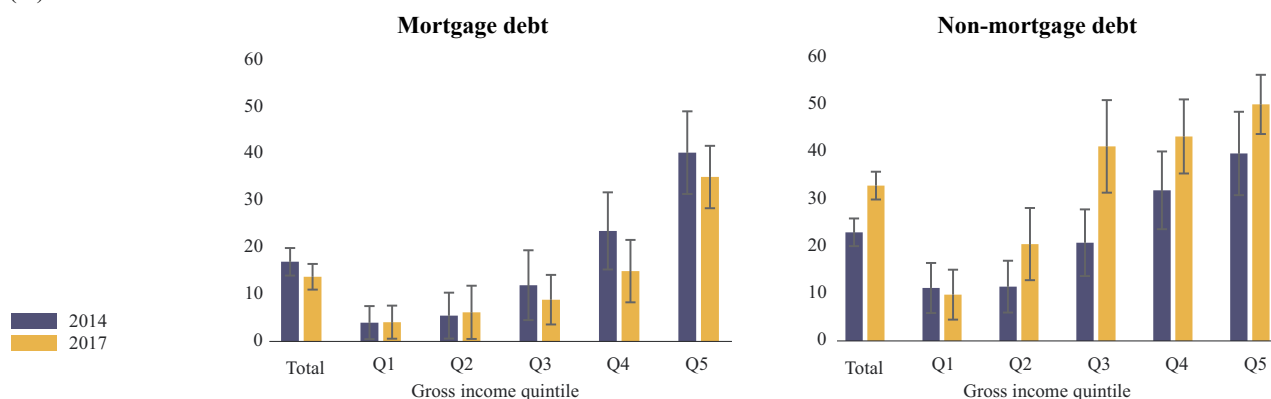
Note: Whiskers show 95% confidence band.

Comparison of participation rates for mortgage and non-mortgage debt (see Figure 49) shows that households mostly have non-mortgage debt rather than mortgage debt and that the total increase in debt participation is attributable to a steeper increase in non-mortgage debt. Although the overall participation rate for mortgage debt decreased, looking by income group, the decline is only present in the third to fifth income quintiles. The decrease in mortgage debt participation can be attributed to mortgage repayments and more cautious lending and borrowing.

Despite the minor increase in income (see Section 4.1), mortgage debt participation in the first income quintile is not showing significant changes and remains low in comparison with other quintiles and debt types (see Figure 49). The second income quintile is the only one that shows a slight increase in mortgage debt participation, potentially supported by higher income (purchasing power), state aid programmes for

families and young professionals as well as new kinds of mortgage loans becoming available.

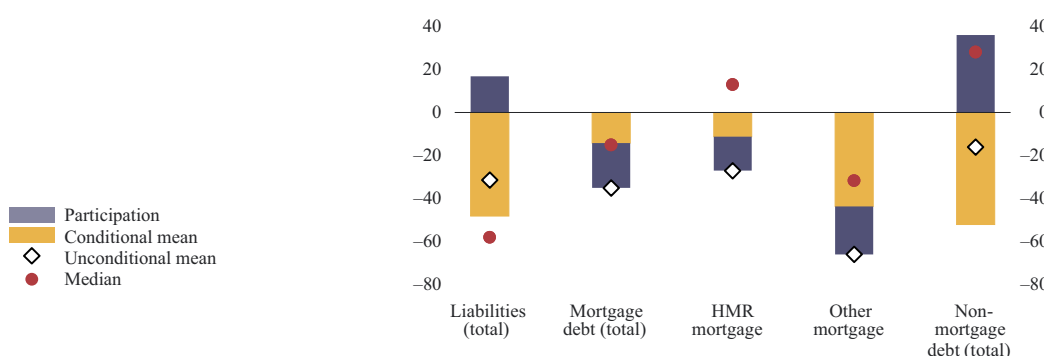
Figure 49
Participation rates for mortgage and non-mortgage debt by income quintile
 (%)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.
 Note: Whiskers show 95% confidence band.

At the same time, participation rates for non-mortgage debt have increased across all income groups, except the lowest income group. While in 2014 the participation rates increased along with rising income, in 2017 the rates for the third through fifth income quintiles became more similar (around 40–50%), although the relationship with income also remains. The strongest increase in non-mortgage debt participation is observed for the middle-income group.

Figure 50
Decomposition of participation and value effects: liabilities
 (% changes)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Decomposition of participation and value effects (see Figure 50) shows that conditional and unconditional means have declined for all types of liabilities, thereby decreasing also the means for total liabilities. At the same time, the change in total debt participation is apparently driven by non-mortgage debt. Although the median non-mortgage debt has increased, it is not enough to offset the decline in other types of debt.

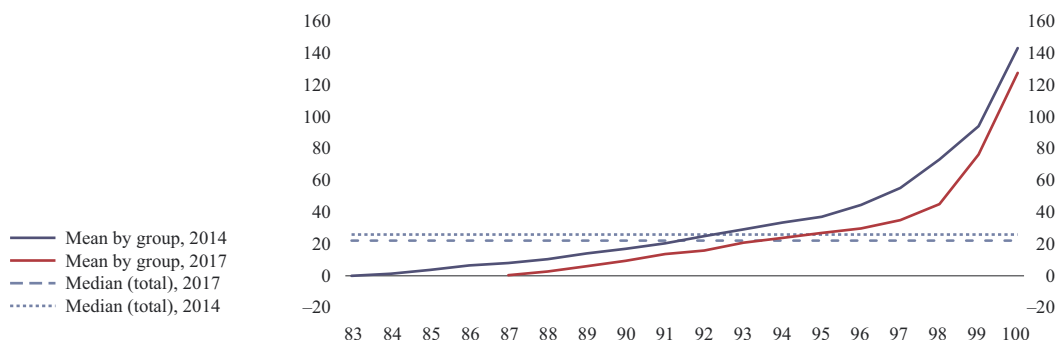
The distribution of outstanding mortgage debt in 2014 and 2017 (see Figure 51) shows that the mean outstanding mortgage debt has decreased for all household groups. In

2017, 87% of households did not have any outstanding mortgage debt, while in 2014 the share was 83%.

Figure 51

Distribution of outstanding mortgage debt in 2014 and 2017

(thousands of euro; means by 100 population subgroups; medians)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

How to read this graph: All households are ranked by the size of their outstanding mortgage debt.

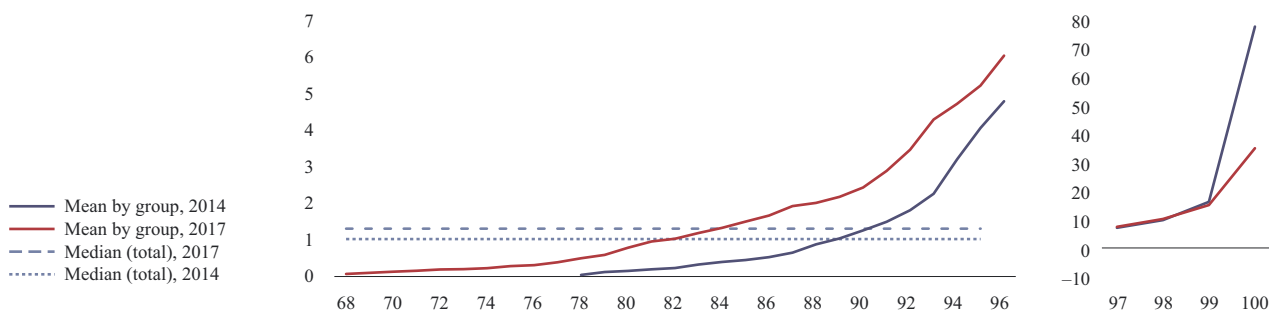
Solid lines – each point represents the mean value of mortgage for 1/100 of the household population ranked by the size of their mortgage debt. Dotted lines – median values of mortgage in 2014 and 2017.

The distribution of non-mortgage debt shows an opposite trend (see Figure 52). The mean outstanding balance of non-mortgage debt has increased for all groups ranked by the size of their non-mortgage debt and the share of households without outstanding debt has decreased from 78% to 68%.

Figure 52

Distribution of outstanding non-mortgage debt in 2014 and 2017

(thousands of euro; means by 100 population subgroups; medians)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

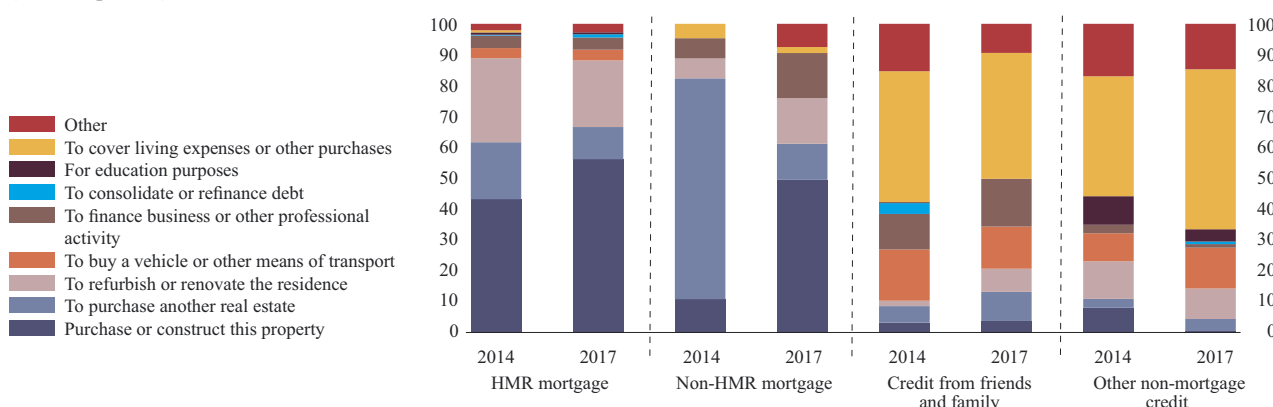
How to read this graph: All households are ranked by the size of their outstanding non-mortgage debt. Solid lines – each point represents the mean value of non-mortgage debt for 1/100 of the household population ranked by the size of their non-mortgage debt. Dotted lines – median values of non-mortgage debt in 2014 and 2017.

The primary purpose of loan varies across the types of debt. In about 90% of cases, the primary purpose of HMR mortgage (see Figure 53) remains related to real estate. The share of HMR mortgage liabilities undertaken to purchase or construct another real estate have halved. Also, less HMR mortgages are taken to refurbish or renovate the residence.

The main purpose for taking a non-HMR mortgage loan in 2017 was to finance the very same property, whereas in 2014 the main reason was to purchase another property. In 2017, the share of households who financed business or other professional activities as well as renovations with non-HMR mortgage loans increased. Credit from

friends and family as well as other non-mortgage credit is still mostly taken to cover living expenses or other purchases, with the shares of those types of credit in other non-mortgage loans increasing. Another more often reported reason for other non-mortgage credit is purchase of a vehicle or other means of transport, which corresponds to the findings in real assets (see Figure 29).

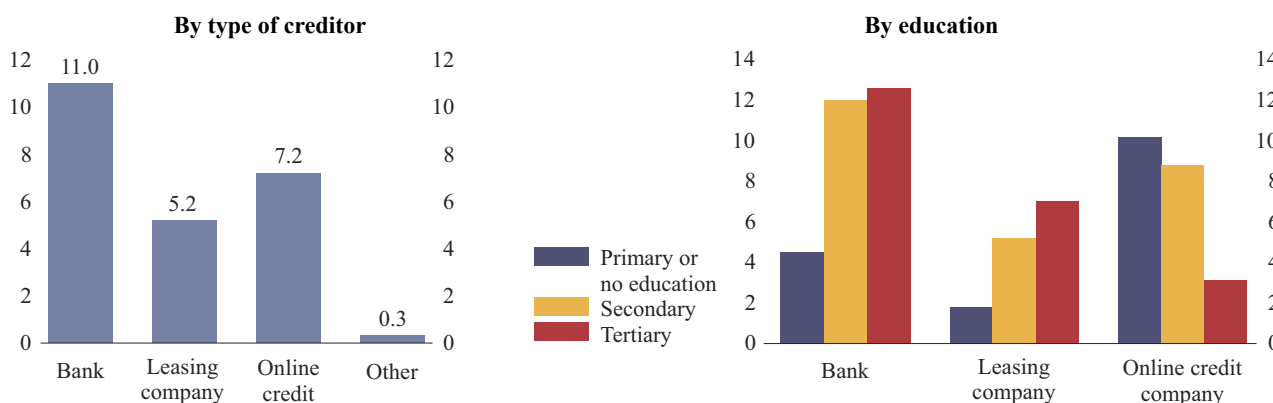
Figure 53
Purpose of liabilities by type
 (% of responses)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Judging by credit applications, banks were the most sought source of credit in 2017, with 11% of households applying for credit in a bank (see Figure 54), followed by online credit companies with 7.2%. Breakdown by education shows an opposite relationship between education and applications for credit in banks or leasing companies and online credit companies. While applications for credit in banks and leasing companies are mostly made by households whose reference person has a tertiary or secondary education, applications for credit in online credit companies are mostly made by households whose reference person has a primary or no education as well as secondary education. This could be associated with banks and leasing companies requiring proof of their customers' long-term ability to earn stable income.

Figure 54
Applications for credit in the last three years by type of creditor and education
 (% of households)

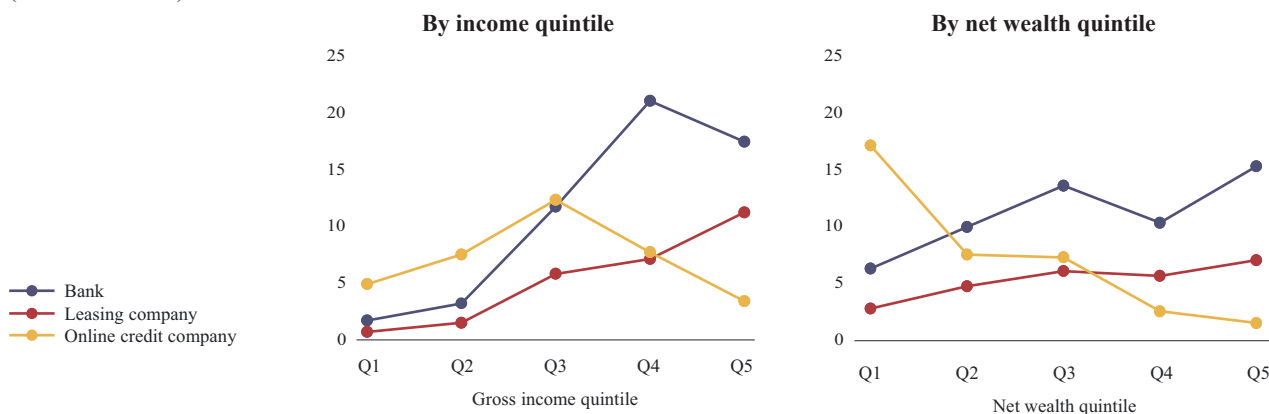


Sources: HFCS Latvia 2017, authors' estimates.

Household applications for credit in last three years (see Figure 55) show that the application rate for credit in banks and leasing companies grows with income and net wealth. In the case of credit from online credit companies, it grows up to the middle-income group and then declines. Meanwhile, the application rate declines with higher net wealth. That can be explained by the fact that higher income and net wealth households have enough funds and do not require small loans to cover living expenses or make daily purchases. Households with lower net wealth (the ones with liabilities exceeding assets) apply for online credit most frequently. This could be caused by the limited abilities of those households to get a loan from a bank or a leasing company.

Figure 55

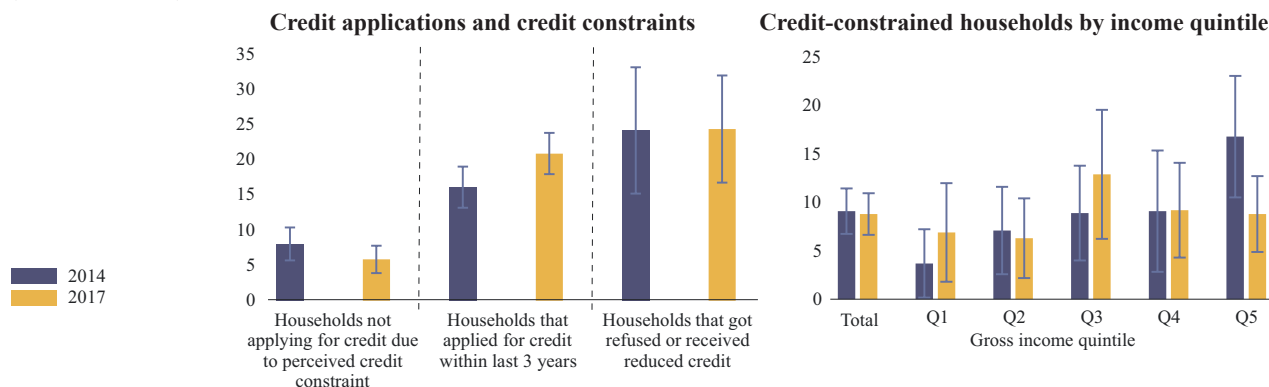
Applications for credit in last three years by income and net wealth quintiles
(% of households)



Source: HFCS Latvia 2017, authors' estimates.

Figure 56

Credit applications and credit constraints
(% of households)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Note: Whiskers show 95% confidence band.

With higher income, households felt more optimistic about their chances of getting a loan and therefore applied for credit more often (see Figure 56). However, the rate of households that got refused or received a smaller amount than requested did not change significantly from 2014 to 2017. Although the total rate of credit-constrained

households²² slightly diminished, the share of households that got refused or received a smaller amount than requested (and therefore became credit constrained) increased for the low-middle income households.

5.2 Financial vulnerability

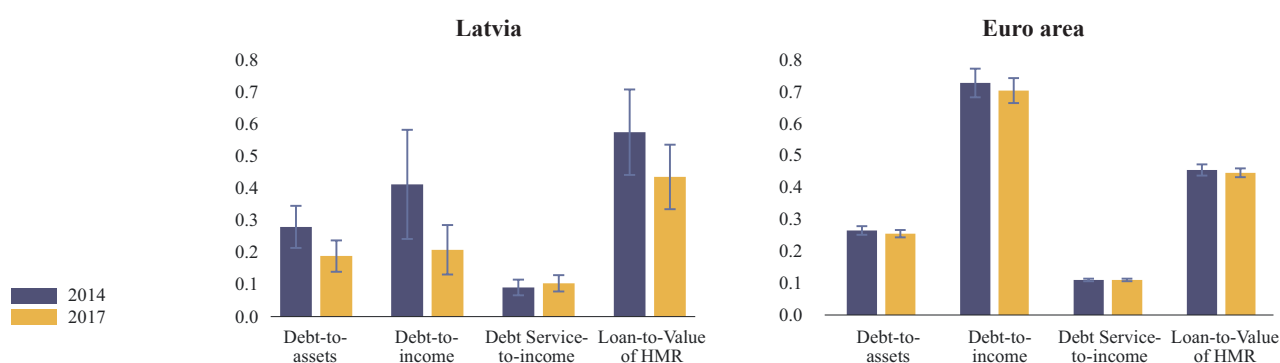
Household indebtedness increases its financial vulnerability in case of an economic turmoil. Therefore, it is important to monitor the balance between debt holdings, income and value of assets at household level. The debt-to-asset ratio can be interpreted as the household's capacity to repay its debts from the stock of assets it has. Due to the rising real estate value, the median debt-to-asset ratio decreased from 0.28 in 2014 to 0.19 in 2017, suggesting a decline in the overall insolvency risk (see Figure 57).

The debt-to-income ratio measures the extent to which a household is able to repay its debts on the basis of its income generating capability. The indicator shows how many years it would take for a household to repay its debts if it used its entire income for the purpose. The median debt-to-income ratio declined from 0.41 in 2014 to 0.21 in 2017. A contributing factor was the rapid median income growth, which was among highest in the euro area countries. Another reason why the median debt-to-income in Latvia is lower than in the euro area is the strong increase in the share of households holding only non-mortgage debt (see Figure 44).

The loan-to-value ratio is estimated by dividing the outstanding amount of the HMR mortgage by the current value of the HMR. The median loan-to-value ratio in Latvia decreased from 0.57 in 2014 to 0.44 in 2017 and was approaching the euro area average. These changes were mainly caused by the positive evolution of real estate prices in the respective period as well as mortgage debt repayments.

Figure 57

Conditional medians of debt burden (ratio)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, HFCS ECB 2014, HFCS ECB 2017, authors' estimates.

Note: The median values are reported conditional on debt holdings.

Whiskers show 95% confidence band.

Loan-to-value ratio is defined as the ratio between the outstanding amount of the HMR mortgage and the current value of the HMR. Debt-to-asset ratio is defined as the ratio between total liabilities and total gross assets for indebted households. Zero total gross assets are bottom coded at 1 euro. Defined for indebted households.

²² A credit-constrained household is defined as a household to which one or more of the following situations apply:

- (i) applied for credit within the last 3 years and was turned down, and did not report successful later reapplication,
- (ii) applied for credit but were not given as much as they applied for, or
- (iii) did not apply for credit due to a perceived credit constraint.

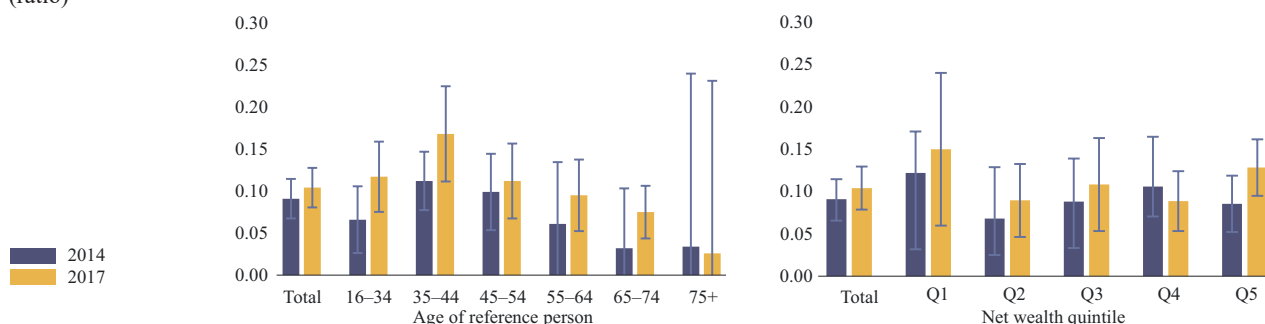
Debt-to-income ratio is defined as the ratio between total liabilities and total gross income for indebted households. Zero income is bottom coded at 1 euro.

Debt service-to-income ratio is defined as the ratio between total monthly debt payments and gross monthly income of households. Zero income is bottom coded at 1 euro/month. Defined for all households with debt, households with debt and no payments get the value 0.

Debt service-to-income ratio reflects the burden of short-term commitments, i.e. the ability to cover debt payments from monthly gross income. Despite the strong household income growth, the debt service-to-income ratio in Latvia increased from 9.1% in 2014 to 10.4% in 2017 (see Figure 57). Households in almost all age groups and net wealth quintiles appear to have taken advantage of the rise in income and have increased their debt participation and debt payments (Figure 58 and Appendix 8).

Figure 58

Median debt service-to-income ratio (ratio)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

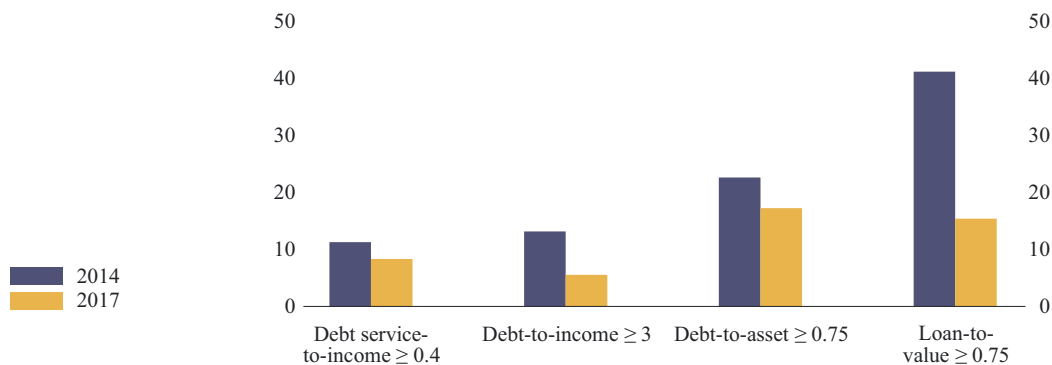
Note: The median values are reported conditional on debt holdings.

Whiskers show 95% confidence band.

The main driver of the rise in total debt payments is non-mortgage debt (see Appendix 8). Median mortgage payments have not changed substantially, with the exception of some increase in the middle-income household group. At the same time, the overall median non-mortgage debt payments have almost doubled. The highest increase is observed for top-income and largest net wealth households. The only strong decline is observed in the low-income household quintile.

The shares of households, with high financial risk, i.e. those with debt-to-assets, debt-to-income, loan-to-value and debt service-to-income ratios exceeding certain thresholds have declined (see Figure 59). The shares of households with high financial risk largely correspond to the results from the household self-assessment (see Figure 60).

Figure 59
Financially vulnerable households
 (%)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Notes: The values are reported conditional on debt holdings.

Loan-to-value ratio is defined as the ratio between the outstanding amount of the HMR mortgage and the current value of the HMR.

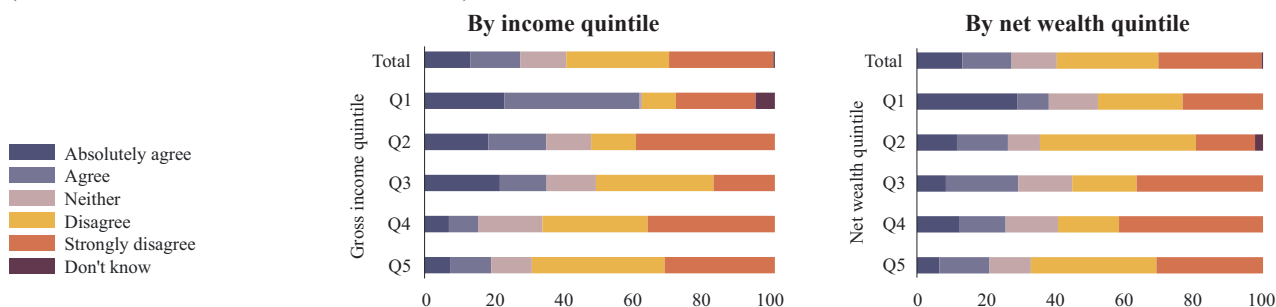
Debt-to-asset ratio is defined as the ratio between total liabilities and total gross assets for indebted households. Zero total gross assets are bottom coded at 1 euro. Defined for indebted households.

Debt-to-income ratio is defined as the ratio between total liabilities and total gross income for indebted households. Zero income is bottom coded at 1 euro.

Debt service-to-income ratio is defined as the ratio between total monthly debt payments and gross monthly income of households. Zero income is bottom coded at 1 euro/month. Defined for all households with debt, households with debt and no payments get the value 0.

Household self-assessment of their liabilities as excessive (Figure 60) is associated with lower income and net wealth. That can be explained by the fact that lower income households have to spend more of their income to cover the costs associated with debt repayments. At the same time, low net wealth households have disproportionately large liabilities as compared to their assets. It should be noted that low income and net wealth households also have proportionally lower debt participation rates.

Figure 60
Household self-assessment of their liabilities as excessive by income and net wealth quintile
 (answer distribution; % of indebted households)



Sources: HFCS Latvia 2017, authors' estimates.

6. CONCLUDING REMARKS

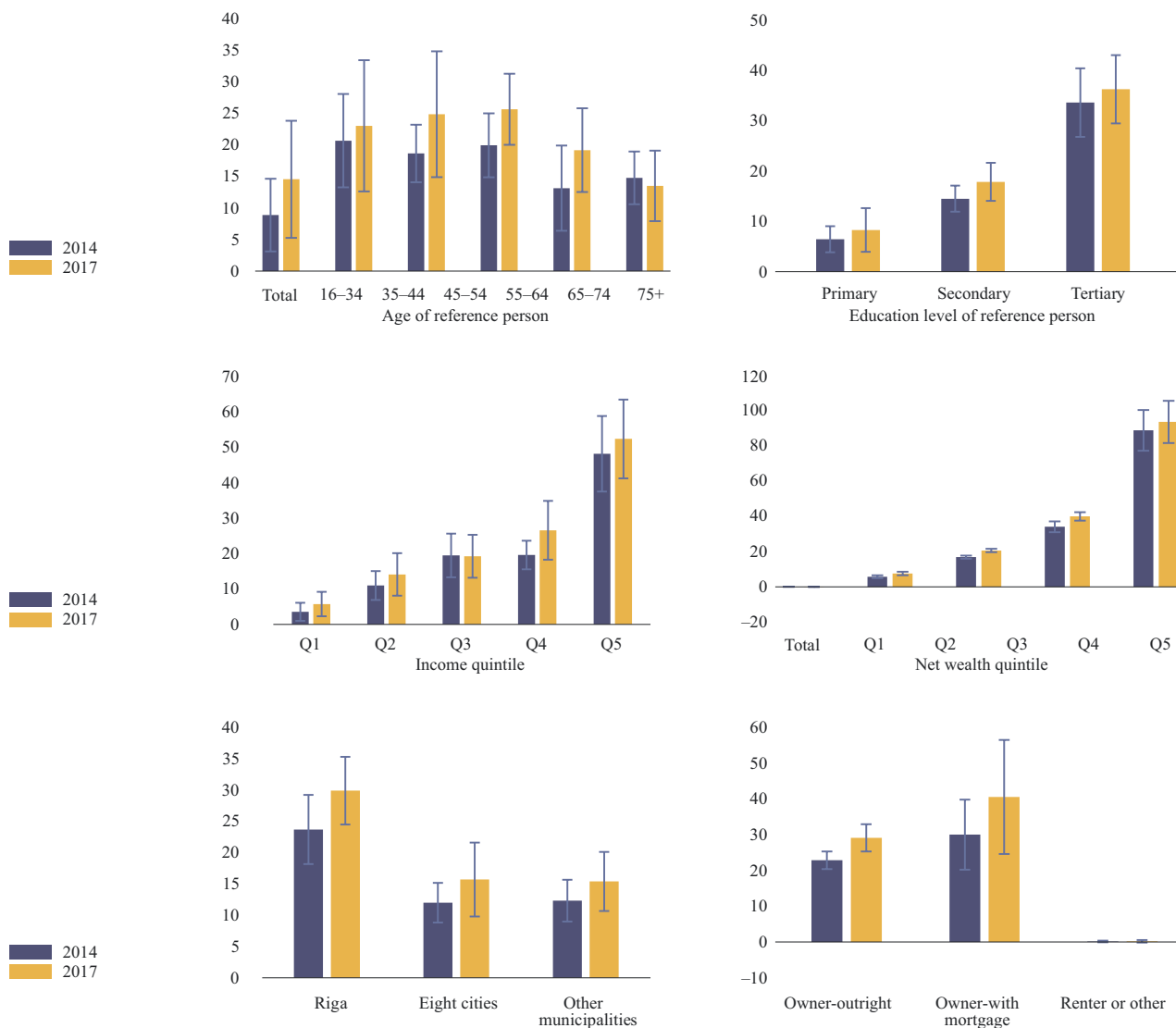
The HFCS data provide detailed information about the asset and liability sides of the household balance sheet in order to assess the changes in household net wealth. Administrative data are used extensively to cross-check and impute the HFCS data. The only major part of the questionnaire where administrative data were unavailable in the HFCS 2014 and HFCS 2017 waves was financial assets. Despite the availability of the administrative data, the comparison between the two waves should be made with caution, especially with regard to the changes in real estate value and self-employment business wealth in Latvia in 2017. During future waves, particular attention should be paid to the representativeness of the top net wealth households in the survey.

The two waves of the HFCS in Latvia show that in 2017, as compared to 2014, net wealth value and distribution improved significantly in Latvia. The rise in net wealth was mainly driven by an increase in the real estate value and a decline in the mortgage debt outstanding. In 2017, the decline in the majority of the financial vulnerability indicators, such as debt-to-asset, debt-to-income and loan-to-value ratios, points to an easing of the financial burden of Latvian households. At the same time, despite the strong household income growth, the ratios of debt service-to-income and consumption-to-income increased, resulting in lower savings ratios. Participation rates for non-mortgage debt rose, which is associated with an increase in consumption. This, to some extent, can be attributed to higher participation rates and value of vehicles owned.

ADDITIONAL MATERIALS

APPENDIX 1

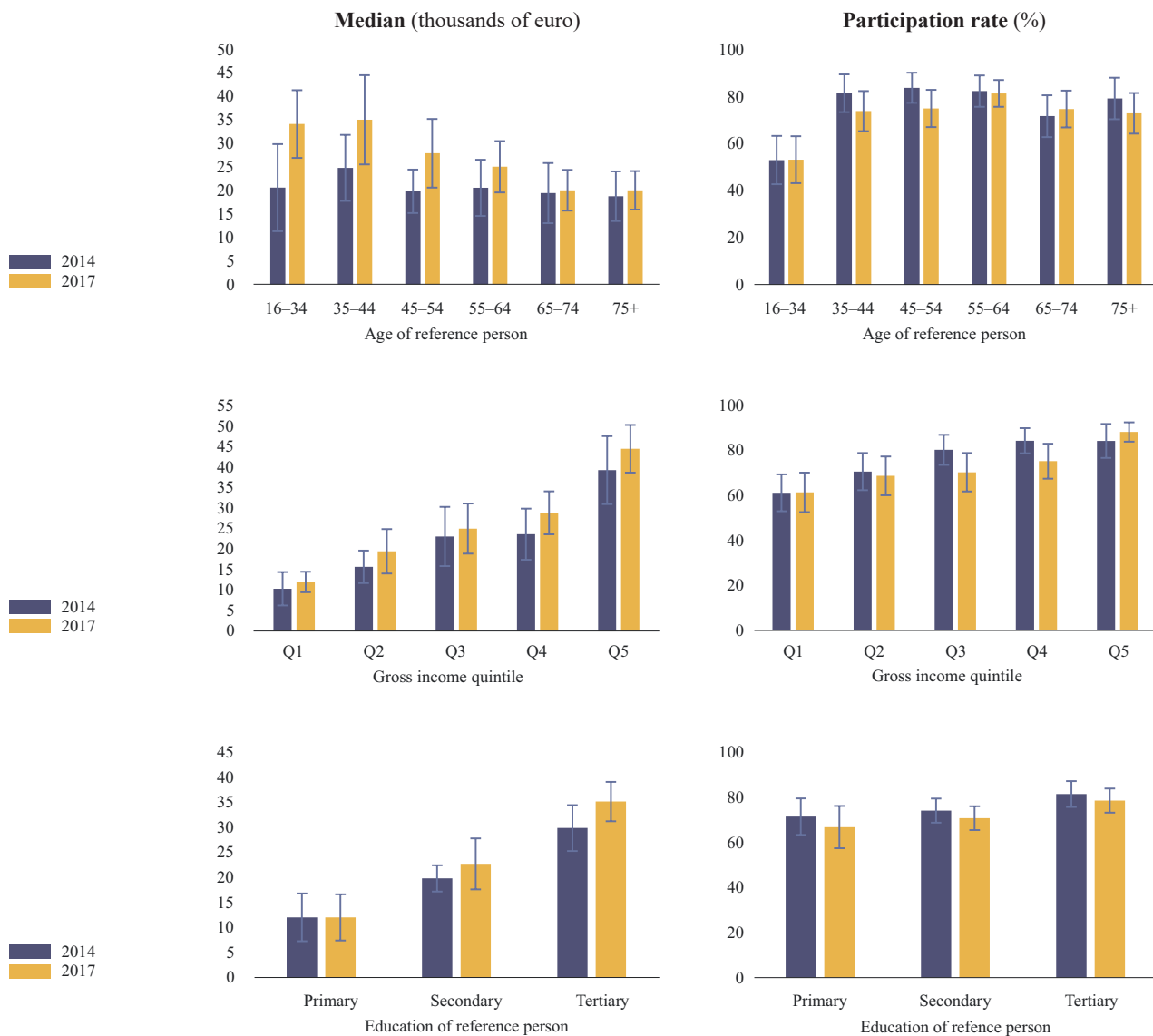
Median net wealth by household characteristics (excluding self-employment business wealth)
(thousands of euro)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Notes: For 2014, the value of housing in Latvia is adjusted to be representative of the market price value (instead of the cadastral value). Self-employment business wealth is excluded from estimation of real assets. Whiskers show 95% confidence band.

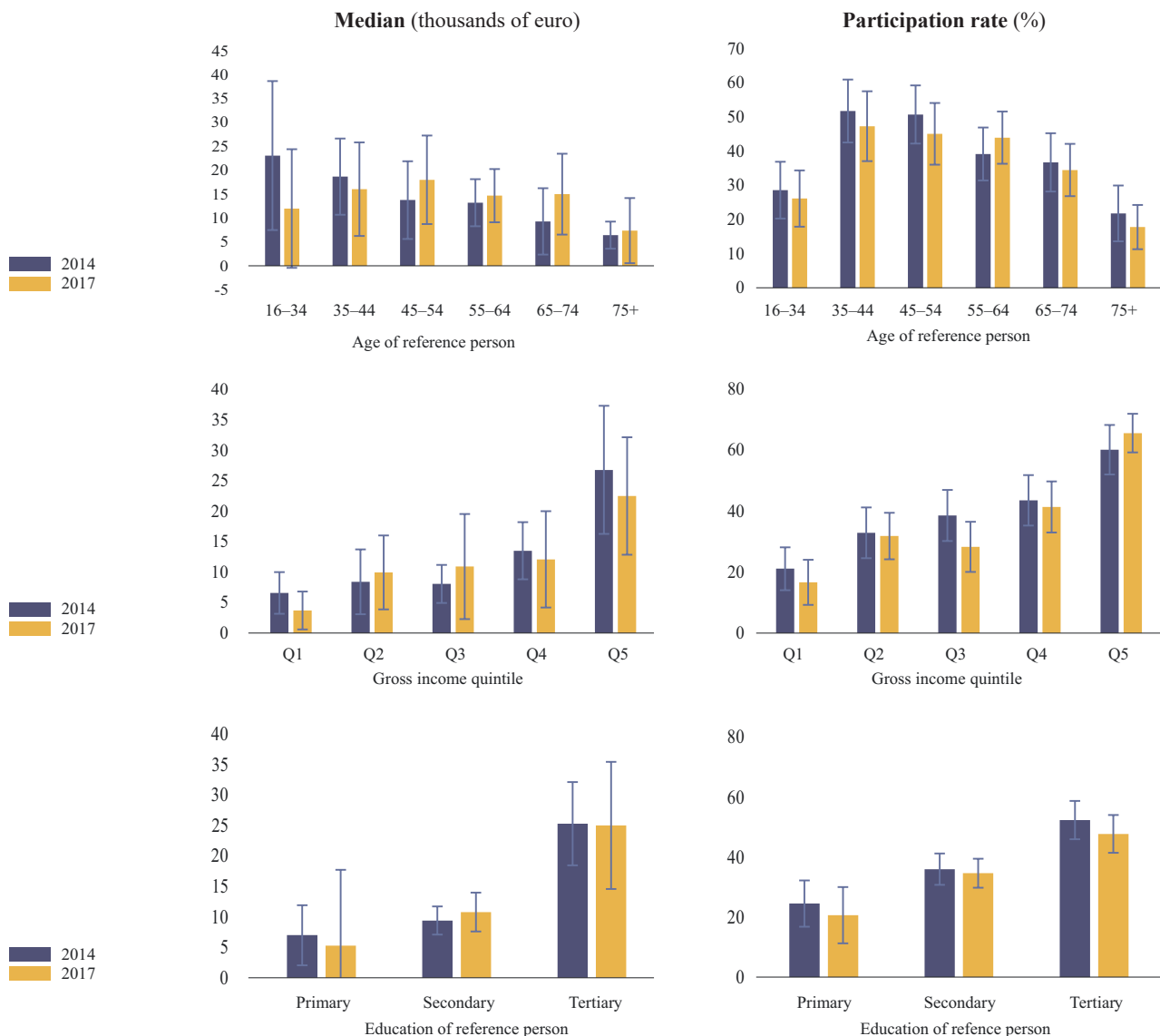
APPENDIX 2
Median values and participation in HMR



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Notes: For 2014, the value of housing in Latvia is adjusted to be representative of the market price value (instead of the cadastral value). Whiskers show 95% confidence band.

APPENDIX 3
Median values and participation rates for other real estate

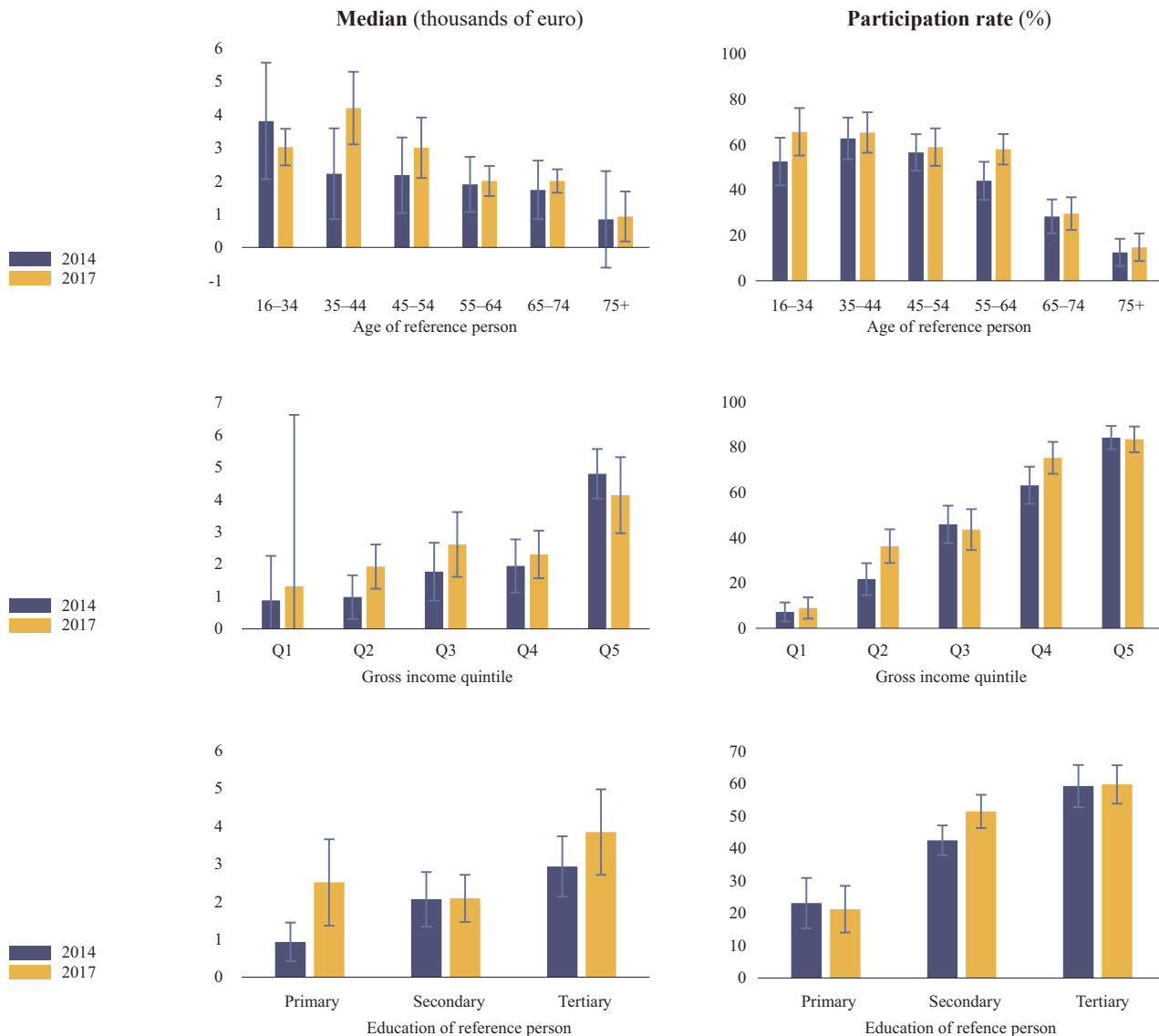


Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Notes: For 2014, the value of housing in Latvia is adjusted to be representative of the market price value (instead of the cadastral value). Whiskers show 95% confidence band.

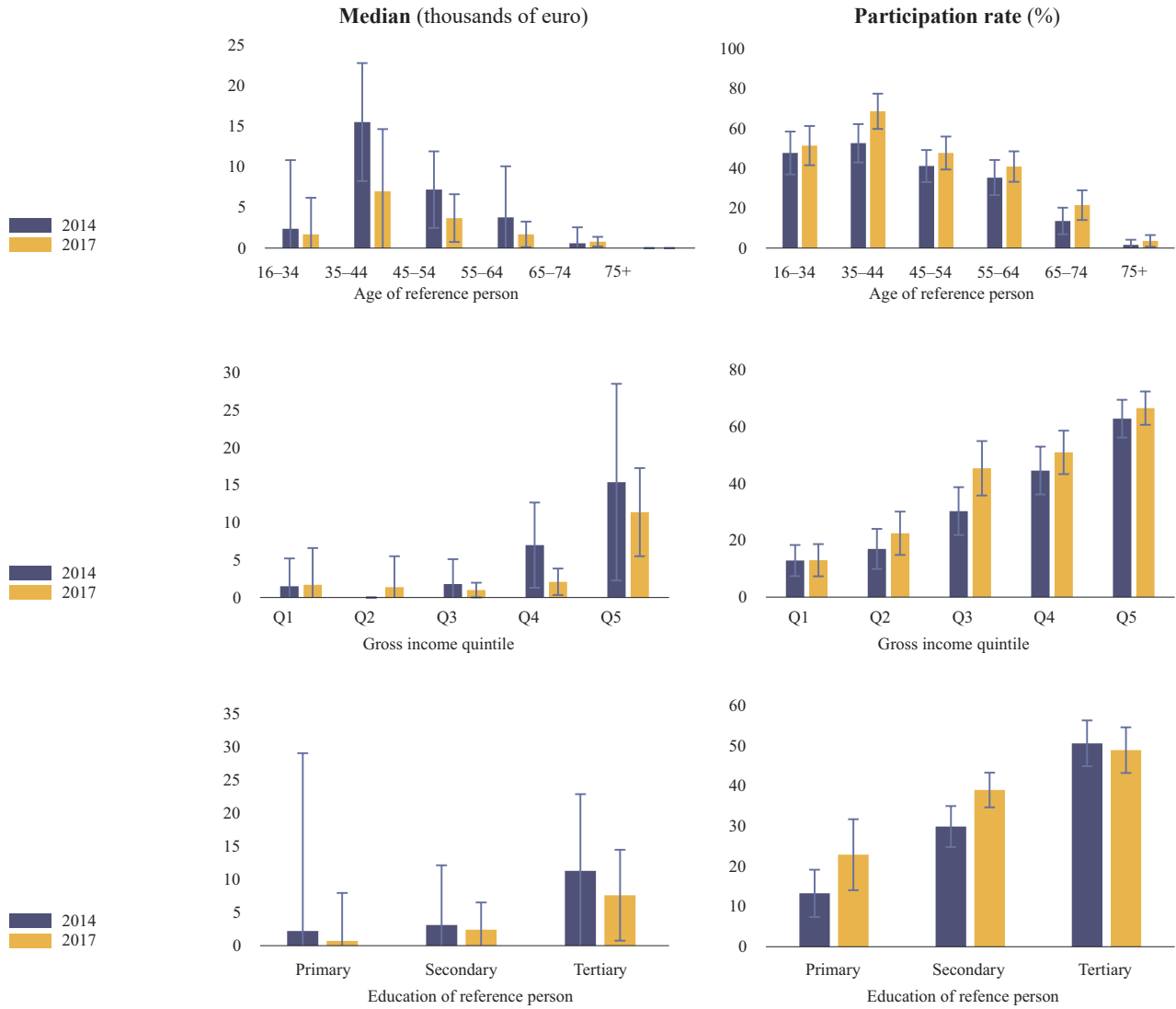
APPENDIX 4

Median values and participation rates for vehicles



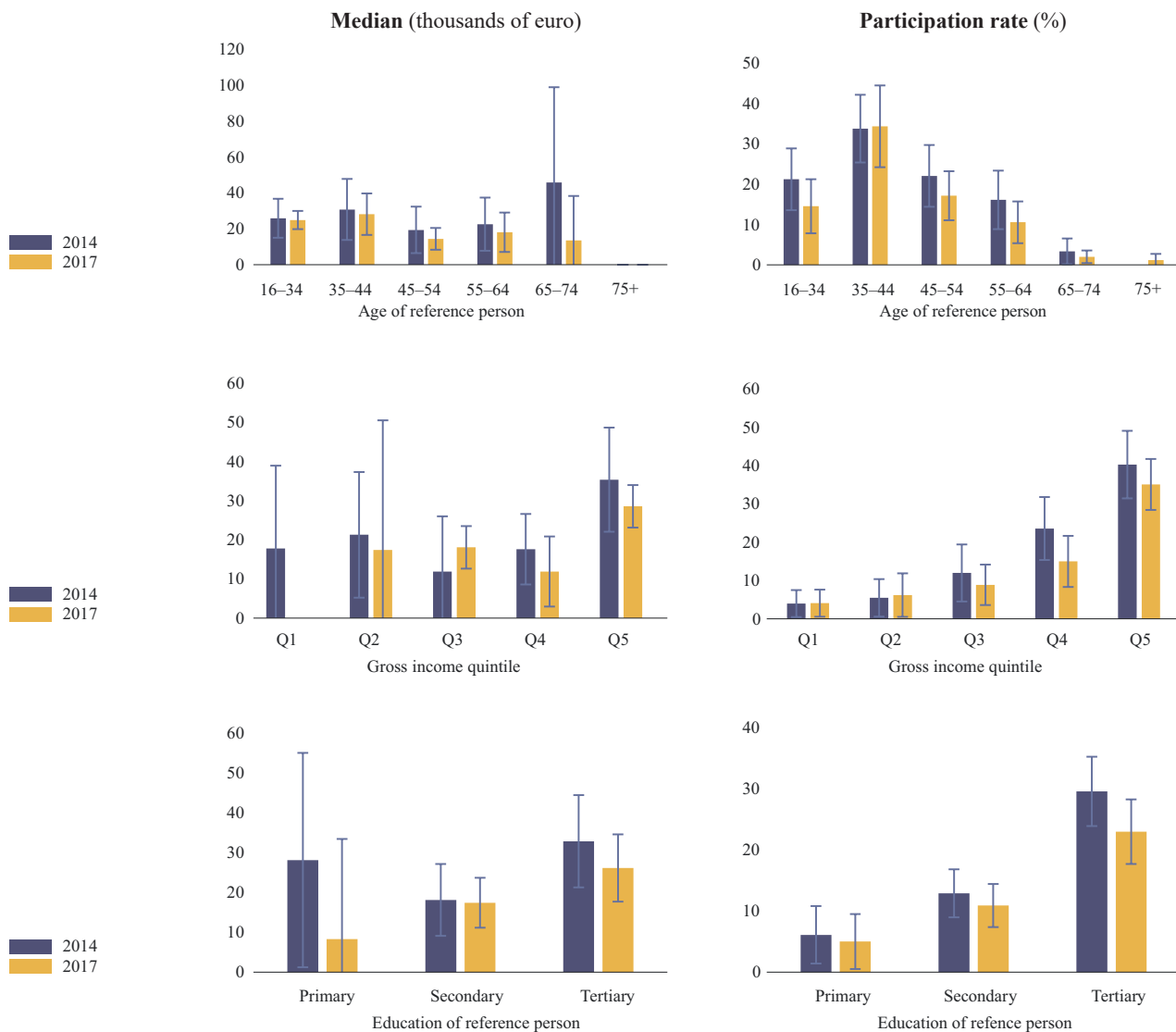
Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.
 Note: Whiskers show 95% confidence band.

APPENDIX 5
Median values and participation rates for total debt



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.
 Note: Whiskers show 95% confidence band.

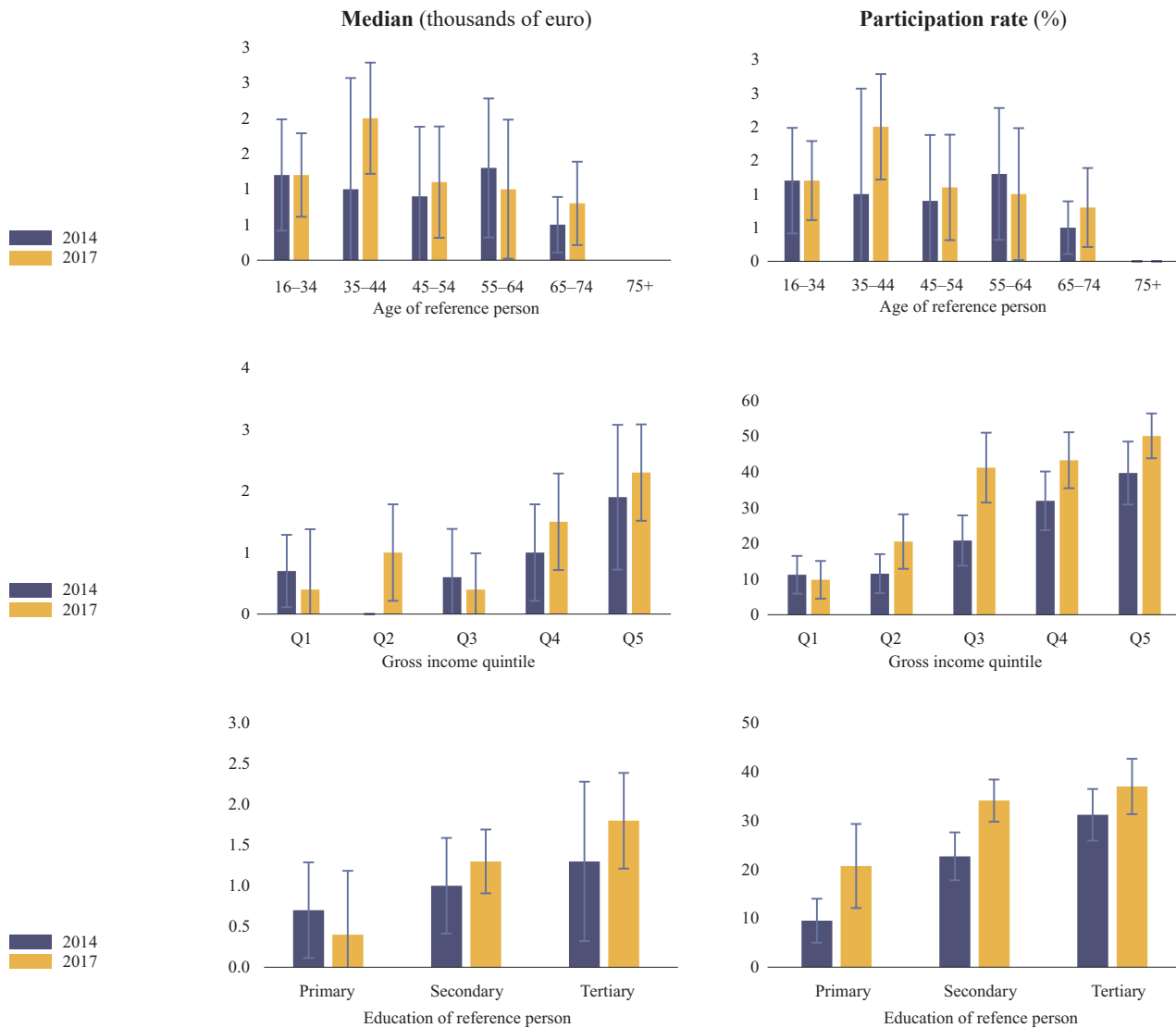
APPENDIX 6
Median and participation rates for mortgage debt



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.
 Note: Whiskers show 95% confidence band.

APPENDIX 7

Median values and participation rates for non-mortgage debt

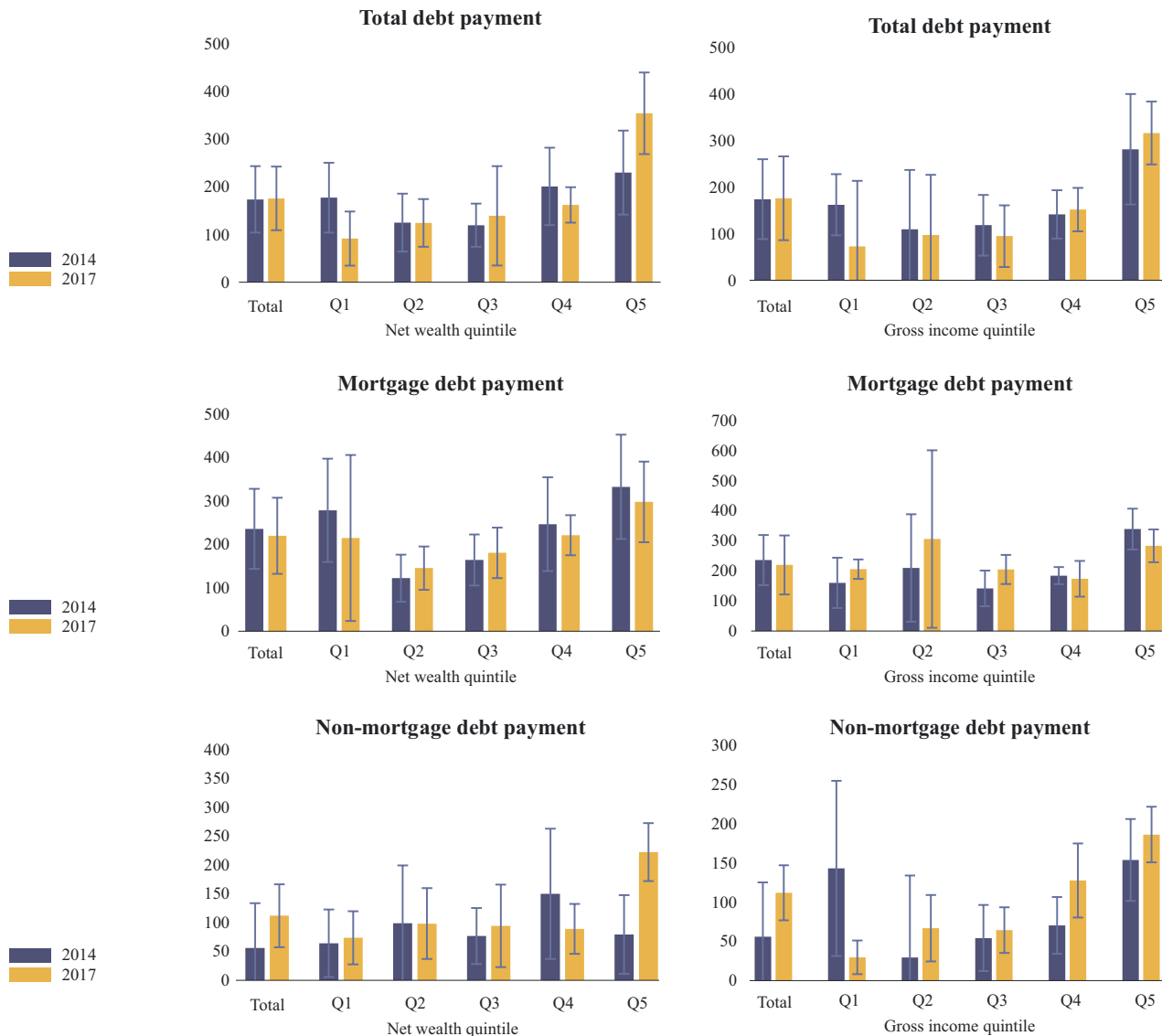


Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.
 Note: Whiskers show 95% confidence band.

APPENDIX 8

Median debt payment

(EUR; conditional on holding mortgage or non-mortgage debt)



Sources: HFCS Latvia 2014, HFCS Latvia 2017, authors' estimates.

Notes: Non-mortgage debt payments include leasing payments. Whiskers show 95% confidence band.

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