

LUDMILA FADEJEVA
JĀNIS MAURIS
IEVA OPMANE
ANDRIS FISENKO

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DISCUSSION PAPER

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Latvijas Banka
K. Valdemāra iela 2A, Rīga, LV-1050
Tel.: +371 67022300 info@bank.lv
<http://www.bank.lv> <https://www.macroeconomics.lv>

Household Finance and Consumption Survey 2020 in Latvia: Summary Report

Ludmila Fadejeva, Jānis Mauris, Ieva Opmane, Andris Fisenko*

Abstract

This paper presents results from the fourth wave of the Eurosystem Household Finance and Consumption Survey (HFCS) for Latvia conducted in 2020. The paper focuses on the net wealth components of the household balance sheet – real assets, financial assets and liabilities. The report includes three special boxes – on precautionary savings, on potential change in household balance sheet due to rising interest rates and expenditures, and on the effect of Covid-19 pandemic. A detailed description of the use of administrative data in the HFCS database construction is provided in the Appendix.

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 between August and December of 2020¹. The survey is conducted by all national central banks in the euro area countries, as well as in Hungary, Poland, Croatia and Albania. So far there have been four harmonised HFCS waves (2010–2011, 2013–2015, 2016–2017, 2020–2021)², with Latvijas Banka taking part in the last three ones³. Aggregated euro area and country specific results of the previous waves are available on the ECB HFCS webpage⁴.

The HFCS survey was developed and implemented to obtain harmonised household-level data on household wealth in the participating countries. The elaborate sampling procedures ensures representation of the whole population. The uniqueness and advantage of Latvia’s HFCS is a combination of a very detailed information on households’ real assets, liabilities, income and consumption derived from the HFCS questionnaire with several administrative data sources. This allows to improve the coverage and reliability of the provided answers to questions, which are harder to answer, e.g. the current value of property, or questions to which respondents are usually not willing to provide answers.

In 2020, the survey was complemented with a new administrative data source, namely information on deposits, mutual funds, bonds, stocks from four largest commercial banks. This solved the underreporting problem of financial assets. In comparison to the 2017 survey, the median value of deposit holdings increased on average four times, and the share of financial assets in total assets for the highest income households doubled.

Results of the survey show that the median net wealth of households increased considerably in 2020 rising by approximately 40% in comparison to 2017, and the distribution of net wealth became less unequal. The two key drives explaining the development are as follows.

First, in line with a rise in median equalised net income, there was a pronounced increase in the value of real assets accompanied by a greater proportion of households being in possession of such assets. Participation⁵ and median value of all types of real assets increased, keeping the

¹The fieldwork period of the last HFCS wave was affected by the Covid-19 pandemic. Latvia and some other countries managed to complete the survey in between the first two pandemic waves (March–December 2020). Other countries postponed it to the spring–summer of 2021. To assess the effect of Covid-19, additional block of questions covering pandemic effects was added to the questionnaire.

²The methodology reports and result of the first wave are described in HFCN [Eurosystem Household Finance and Consumption Network \(2013a\)](#), [Eurosystem Household Finance and Consumption Network \(2013b\)](#), of the second wave – in [Eurosystem Household Finance and Consumption Network \(2016a\)](#), [Eurosystem Household Finance and Consumption Network \(2016b\)](#), of the third wave – in [Eurosystem Household Finance and Consumption Network \(2020b\)](#), [Eurosystem Household Finance and Consumption Network \(2020c\)](#).

³Results of the previous HFCS waves in Latvia are discussed in [Fadejeva et al. \(2018\)](#) and [Fadejeva et al. \(2020\)](#).

⁴ECB HFCS webpage https://www.ecb.europa.eu/stats/ecb_surveys/hfcs/html/index.en.html

⁵From this point forward, we will use the term ”participation in assets or debt” to refer to the ownership.

structure of real asset holdings unchanged.

Second, there was a decline in the outstanding amount of households' debt and in the percentage of households holding liabilities, which in fact has reduced the debt burden for households in Latvia. The development was not homogenous throughout the household income distribution and different types of debt. On the one hand, non-mortgage debt decreased more than mortgage debt, which was mostly related to a greater decline in the participation rate by wealthier households. On the other hand, mortgage debt participation and the median outstanding mortgage value increased for younger families with medium-high income, facilitated by the state support programme Altum. One of the factors holding back household activity was the perceived credit constraints, and larger proportion of households felt they would not be able to obtain credit or a loan if they applied for it. The factors, which most probably limited household ability to borrow from financial institutions, were a high share of envelope wages and continuously tight credit conditions for households.

Distribution of net wealth has become more equal. The proportion of households holding negative and very small net wealth declined. The concentration of net wealth in the bottom 50% of households by net wealth increased. And, despite some increase in accumulation of net wealth in the wealthiest household group, the ratio of total net wealth held by top 30% and bottom 30% of households declined, indicating more equal distribution.

The improvement in the distribution of net wealth is accompanied by better households' self-assessment concerning their financial situation. Less than one fifth of households viewed their debt as over excessive, compared to almost one third in 2017. One third of households reported that their income exceeded spending, enabling them to accumulate savings. Despite the overall improvement in income, the size of an average financial cushion for households remains relatively low. In the absence of employment income, around half of the households in Latvia do not have a financial cushion, and they would not be able to cover more than one month of regular expenses. Also, only a quarter of households participated in the voluntary pension schemes or whole life insurance programme (mainly those from higher income quintiles) therefore those that were previously facing relatively low income would continue to receive less at retirement.

Microsimulation analysis, incorporating data on the surge in prices and interest rates in 2022, suggests that an increase in interest rates would not significantly affect the proportion of financially distressed households. However, a spike in inflation would result in extra costs representing on average 17% of household net equalised income, thus limiting the ability to save.

As regards Covid-19, one in five families experienced some impact on their working hours,

income, or employment in 2020. The likelihood of becoming unemployed or experiencing a significant drop in income was more pronounced for lower-income households and households where the reference person had lower levels of education. Only a few households reported making adjustment to the loan terms due to Covid-19 in 2020.

The structure of the paper is as follows. Section 2 briefly describes the survey questionnaire, sampling, weights and the use of administrative data. It also provides important information on comparability issues between the 2017 and 2020 waves. Section 3 looks at one of the key results, i.e. net wealth of households and its distribution. Section 4 covers the real and financial assets. Section 5 discusses liabilities and financial vulnerability of households. Section 6 concludes.

The paper also includes three boxes: [Box 1: Savings and a financial cushion](#) on households' savings, [Box 2: Effect of changes in interest rates and prices](#) on recent developments in income, interest rates and prices and impact on the household budget, [Box 3: Covid-19 question module](#) on the effect of the Covid-19 pandemic on household balance sheet.

A detailed description of the use of administrative data in the HFCS database construction is provided in Appendix A.

2 Survey Description

2.1 Questionnaire

The questionnaire comprises ten main blocks: demographics, real assets and their financing, other liabilities/credit constraints, private businesses and financial assets, employment, pensions and whole life insurance policies, income, intergenerational transfers, consumption and the Covid-19 section. The largest question blocks cover aspects of households' wealth (real and financial assets, and liabilities). The sum of all assets comprises household gross wealth. Net wealth is obtained by deducting the total amount of household debt from the gross wealth. An overview of assets and liabilities covered by the HFCS is given in Table 1.

The survey is comprised of household and personal interviews conducted using two different questionnaires: the household questionnaire and the personal questionnaire⁶. Sections on demographics, employment, as well as pensions and the whole life insurance 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 at the interview. Information in the sections

⁶See the list of core and derived variables for the second HFCS wave available at https://www.ecb.europa.eu/home/pdf/research/hfcn/HFCS_Core_and_derived_variables_Wave2.pdf.

Table 1: Components of the balance sheet of a household

Assets	Liabilities
Real assets	Collateralised debt
Household main residence (HMR)	Mortgages on main residence
Other real estate property	Mortgages on other real estate property
Ownership of businesses where the members of the household are self-employed or have an active role in running the business	
Vehicles	
Valuables	
Financial assets	Uncollateralised debt
Sight accounts	Overdraft debt
Savings accounts	Credit card debt
Voluntary pensions	Other uncollateralised loans
Whole life insurance	
Mutual funds	
Bonds	
Publicly traded stocks	
Ownership of businesses, excluding businesses where the members of the household are self-employed or have an active role in running the business	
Money owed to household	

Source: HFCS Latvia 2020

on real assets and their financing, other liabilities and credit constraints, private businesses and financial assets, intergenerational transfers and gifts, as well as consumption, savings and the Covid-19 pandemic is 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 income section, 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 assets).

2.2 Sample, fieldwork and weights

The fieldwork for HFCS in Latvia was conducted between August and December 2020. Data were collected from 2290 individuals (1219 households) – similar to the sample sizes in 2017 and 2014⁷. The Covid-19 pandemic had a significant impact on the way interviews were conducted and on the duration of fieldwork. Interviews were previously conducted mainly as computer-assisted personal interviews (CAPI⁸), therefore adjustments had to be made due to the pandemic. In 2020, 43% of interviews were conducted via CAPI mode, while 57% – over the phone (CATI⁹). Additionally, the duration of fieldwork increased from three months in 2017 to five months in

⁷In the 2020 wave of HFCS in Latvia, the panel component was not introduced due to changes in the method used for panel design. It is planned that the panel component will be re-introduced in the 2023 wave of the survey.

⁸Computer-Assisted Personal Interviews (CAPI) is a face-to-face data collection method in which the interviewer uses a tablet, mobile phone or a computer to record answers given during the interview.

⁹Computer-Assisted Telephone Interviews (CATI) is a research technique that uses a computer to guide telephonic survey research. The interviewer makes a call to the respondent and conducts the entire study over the phone.

2020.

The CSB of Latvia developed the sample design, estimated the weights and conducted the fieldwork for the survey. Households were stratified in 12 groups according to two criteria: degree of urbanisation (Riga, eight big cities, other cities, rural areas)¹⁰ 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). In 2020, the initial sample involved 3000 households. Expecting lower response rate, the initial sample was increased to 3200 households. The resulting number of contacted households in the 2020 HFCS dataset is 2723 and the response rate is 44.7%.

Household design weights were calculated as the inverse of selection probability of a household in the sample and adjusted for the non-response across 12 stratification groups. The final weights were calibrated based on demographic and income information. The criteria for calibration were: the number of residents living in private households by four territories, gender and four age groups, as well as by 12 groups of total equalised household income in 2018 and 2019. Standard errors were estimated using 1000 bootstrap replicate weights.

2.3 Administrative data and comparability issues with HFCS 2017

The Latvian HFCS survey relies on administrative (register) data as a crucial source of information. It is utilised to complement, edit and identify missing information in the responses of the survey participants. For a detailed explanation on how the administrative data are incorporated into the construction of the HFCS dataset, please refer to Appendix A.

There are four main administrative data sources used in both the 2017 and 2020 waves of the survey. The State Land Service provided information on real estate properties, the Credit Register – on liabilities, the State Revenue Service – on all types of income, and the State Social Insurance Agency – on private pensions and whole life insurance. In 2020, the survey was complemented by an additional data source, namely the largest commercial banks operating in Latvia. Four banks, covering more than 95% of the household deposit market in Latvia, provided information on the financial assets held by the HFCS respondents at the end of 2019. The availability of such data (deposits, mutual funds, bonds, stocks) solves the under-reporting of financial assets, which is a well-known flaw in surveys, when people are asked to report their financial assets or income. At the same time, having much higher values of financial assets in the 2020 survey complicates comparison between the waves. Thus, we analyse data including

¹⁰In the previous survey, the small cities and rural areas formed one group, thus there were three urbanisation groups and nine stratification groups in total.

and excluding financial assets.

Another aspect, which should be taken into account when comparing the results, is the issue of technical classification and data availability of self-employment business in 2017. 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 were accounted for in the 2017 survey. Self-employed persons traditionally own a large share of real assets: in 2014 and 2020, self-employment business wealth constituted 15.4% and 11.1% of the total real assets in Latvia respectively. The above limitations in identification of self-employed people in the Latvian HFCS 2017 survey resulted in a drop in the percentage of households having self-employment business wealth (4.9%). Therefore, when comparing the results of the 2020 and 2017 HFCS waves, we also exclude self-employment business wealth from the real assets and provide the estimates of net wealth and real assets net of self-employment business wealth.

3 Net Wealth

3.1 Stock of net wealth

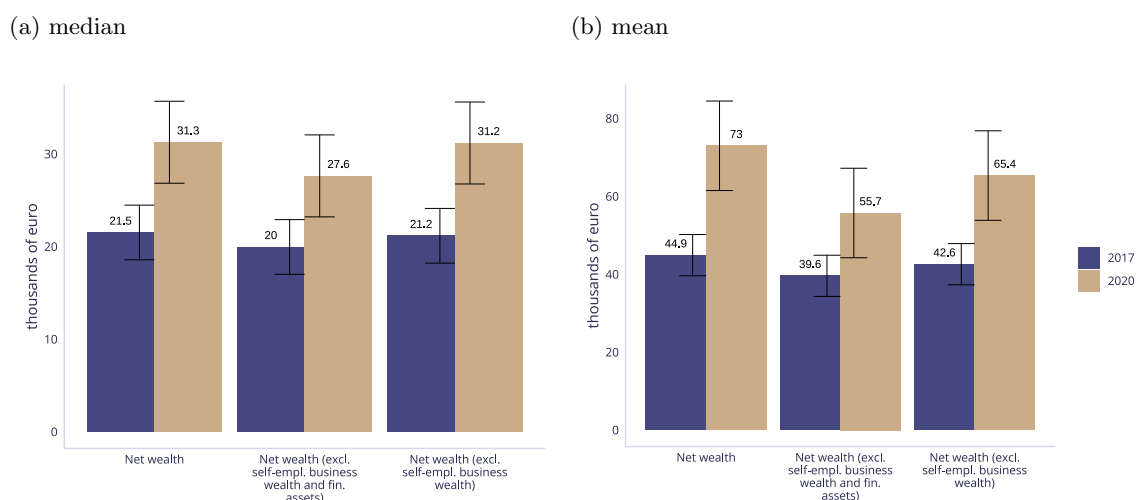
The focus of the HFCS survey is the net wealth of households, where the net wealth is defined as the total value of all household assets (real and financial) less the total outstanding liabilities. This section examines the net wealth of Latvian households in 2020 and compares it to the average values in 2017. To control for methodological change in values of self-employment business wealth and financial assets in 2020 and 2017, we provide two versions of indicators by including/excluding these components from the estimation.

In 2020, the median net wealth in Latvia was 31 300 euro, which is around one third of the median value in the euro area in 2017 (99 400 euro). Similarly to the results of the 2017 HFCS wave (Fadejeva et al., 2020), the growth rate of average net wealth was high, around 45% (see Figure 1). This result remains impressive even after excluding self-employment business wealth and financial assets (40% for median and 30% for mean net wealth).

Decomposing the overall change of net wealth into components, one can see that there are two main factors explaining this development (see Figure 2). First, the growth in value of both real estate and vehicles (see Section 4 for more details). According to the CSB, the price of real estate between 2017 and 2020 increased on average by 23.5%¹¹, which coincides with 33%

¹¹See CSB table PCI050c House price index and changes at <https://stat.gov.lv/en/statistics-themes/economy/consumer-prices/tables/pci050c-house-price-index-and-changes>.

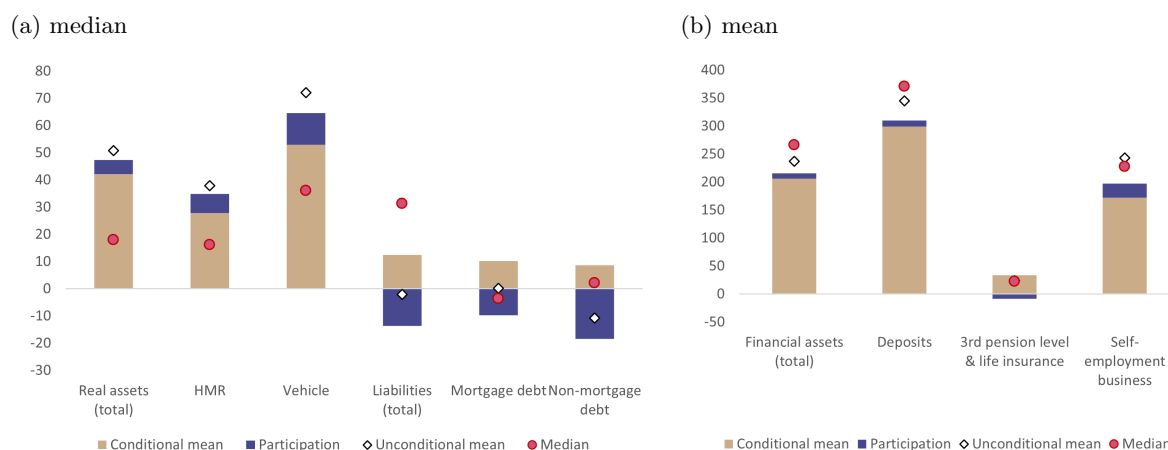
Figure 1: Net wealth mean and median, (thousands of euro)



Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors' estimates.

Note: Whiskers show a 95% confidence band.

Figure 2: Decomposition of the change in net wealth components (%)



Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors' estimates.

Notes: The growth in unconditional mean is estimated using total sum of the asset. The growth in conditional mean is estimated using mean values.

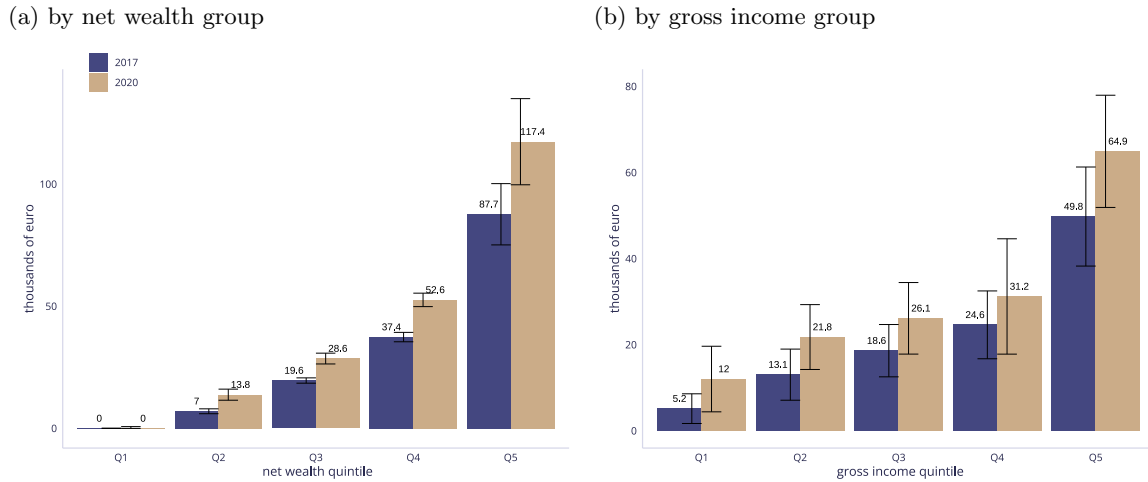
growth in median equalised net income since 2017¹². Higher participation in real assets also added to the increase in net wealth, although to a lesser extent. Second, lower participation in mortgage and non-mortgage debt, which was partly offset by a higher amount of outstanding debt (see Section 5).

Rapid growth in financial assets or self-employment business does not reflect the changes in

¹²See Eurostat table ILC_DI03_custom_6633921 Mean and median income by age and sex from EU-SILC and ECHP surveys at https://ec.europa.eu/eurostat/databrowser/view/ILC_DI03_custom_6633921/default/table?lang=en.

economic situation and can be explained by the change in data collection and editing in 2020, i.e. the access to the administrative data from banks and the change in reporting methodology of self-employment business (Section 2.3).

Figure 3: Median net wealth excluding financial assets and self-employment business wealth (thousands of euro)



Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors' estimates.
 Note: Whiskers show a 95% confidence band.

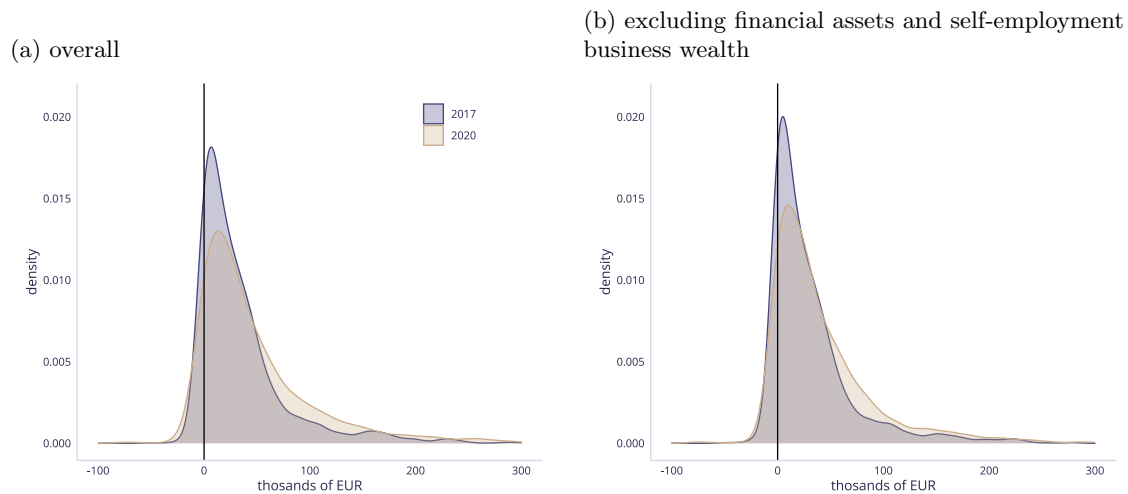
Even when excluding financial assets and self-employment business, the median net wealth increased for all groups of households in 2020 as compared to 2017 (see Figure 3). In the highest net wealth quintile, the median net wealth grew by more than 30% and reached 117.4 thousand euro. Importantly, the average growth rate of net wealth was higher for low-middle groups of households in both gross income and net wealth quintiles, which points toward more equal distribution of net wealth in 2020.

3.2 Net wealth distribution

The mean values of net wealth are more than two times larger than the medians indicating strong skewness in the distribution of net wealth (see Figure 4). Growth of real asset value, repayment of debt, and accumulation of savings due to reduced spending opportunities during the Covid-19 pandemic are reflected in the higher accumulation of net wealth with value above 50 000 euro.

In 2020, the availability of administrative data on financial assets allows for more precise estimation of financial holdings such as bonds and shares by higher income households. Thus, if comparing total value of net wealth in 2017 and 2020 (disregarding the changes in data availability), the inequality of net wealth distribution seems to increase due to larger concentration in the

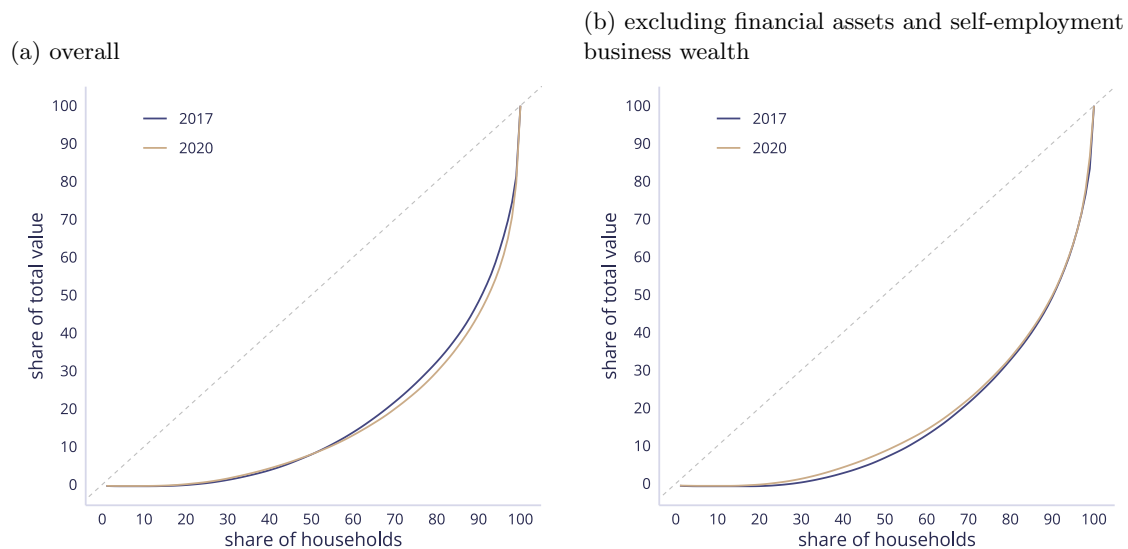
Figure 4: Net wealth distribution (thousands of euro)



Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors' estimates.

top wealth group (see Figure 5a). However, taking into account changes in methodology, and focusing on net wealth excluding financial assets and self-employment business wealth, or other measures of inequality, we observe more equal distribution of net wealth in 2020 as compared to 2017 (see Figure 5b), with fastest improvement in the middle wealth household groups.

Figure 5: Lorenz curve



Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors' estimates.

Note: The Lorenz curve shows the proportion of total wealth belonging to the percentage share of the population.

There are several ways to measure inequality, and most of them show more equal distribution of net wealth excluding financial assets and self-employment business wealth. One of the simplest indicators is a share of net wealth held by certain groups of households. In 2020, the top 10% of wealthiest households in Latvia owned 46.8% of net wealth (see Figure 5 and Table 2). It is an increase as compared to 2017, thus indicating a higher concentration of net wealth at the very

top of the distribution. At the same time, the share of households with negative net wealth (the value of debt is larger than the value of assets) declined from 5.2% in 2017 to 3.5% in 2020, and the share of net wealth belonging to the bottom 50% of households increased to 17.2% from 14.4%. Thus, wealth distribution as a whole moved to the right and became less concentrated in the lower net wealth interval (see Figure 4).

Table 2: Net wealth inequality indicators

	Net wealth (overall)		Net wealth (excl. fin.assets and self-empl.business)		Euro area (overall) 2017
	2017	2020	2017	2020	
Share indicators					
Top 10%; %	41.1	46.8	38.8	43.7	59.1
Bottom 50%; %	14.4	17.2	14.1	17.3	
Share of households with negative net wealth; %	5.2	3.5	6.2	5.4	4.7
Top 30% to bottom 30% ratio	16.7	10.6	21.4	12.3	
Inequality measures					
Gini	0.64	0.69	0.67	0.66	0.70
Percentile ratio indicators					
P90/P50 ratio	4.6	3.8	4.3	3.5	5.3
P80/P20 ratio	11.6	7.0	15.0	7.7	42.2

Sources: HFCS Latvia 2020, HFCS Latvia 2017, HFCS ECB 2017, authors' estimates.

Notes: The share indicators are defined as the share of the total net wealth owned by a specific groups of households or a ratio of the shares. The top 10% share indicator indicates concentration of wealth in the wealthiest 10% of households. The top 30% to bottom 30% share indicator shows the ratio between the total value of net wealth held by top 30% wealthiest households to the total value of net wealth held by the bottom 30% households.

The Gini coefficient takes values between 1 and 0 (0 represents perfect equality and 1 represents perfect inequality). The percentile ratio indicators (P80/P20, P90/P50) are defined as the ratio of the corresponding percentiles (cut points) of the distribution of net wealth.

Looking at the tails of the net wealth distribution (see Table 2), the total value of net wealth held by the top 30% wealthiest households is more than 10 times higher than the total value of net wealth held by the bottom 30% households. Ratios of the net wealth percentiles show that the distance between the top 20% and bottom 20% cut points of the net wealth distribution is seven times the maximum net wealth of the bottom 20% tail. All ratios decreased strongly in 2020 (both including and excluding financial assets and self-employment business wealth) pointing towards more equal distribution of net wealth.

Another common measure of inequality is the Gini coefficient, which indicates full equality if the measure is close to zero or perfect inequality if it is close to one. Graphically, the Gini coefficient corresponds to the normalised area between the Lorenz curve of the distribution and the 45 degree line in Figure 5. In 2020, excluding financial assets and self-employment business wealth, this area shrank slightly and the Gini coefficient declined from 0.67 to 0.66, indicating lower net wealth inequality. However, if one compares the overall net wealth disregarding change in the methodology, the Gini coefficient in 2020 increased from 0.64 to 0.69.

Net wealth inequality in Latvia is traditionally lower than the euro area average, which can

be explained by a higher proportion of households owning real estate.

4 Real and Financial Assets

4.1 Real assets

The majority of households (88.7%) hold real assets (see Figure 6). The share increased for households in middle income quintiles and households with either older or younger reference person. The ownership rate has increased in both cities and rural regions, though the largest increase was for households in the capital city Riga. The median value of household total real assets increased by 18% and was 35.2 thousand euro.

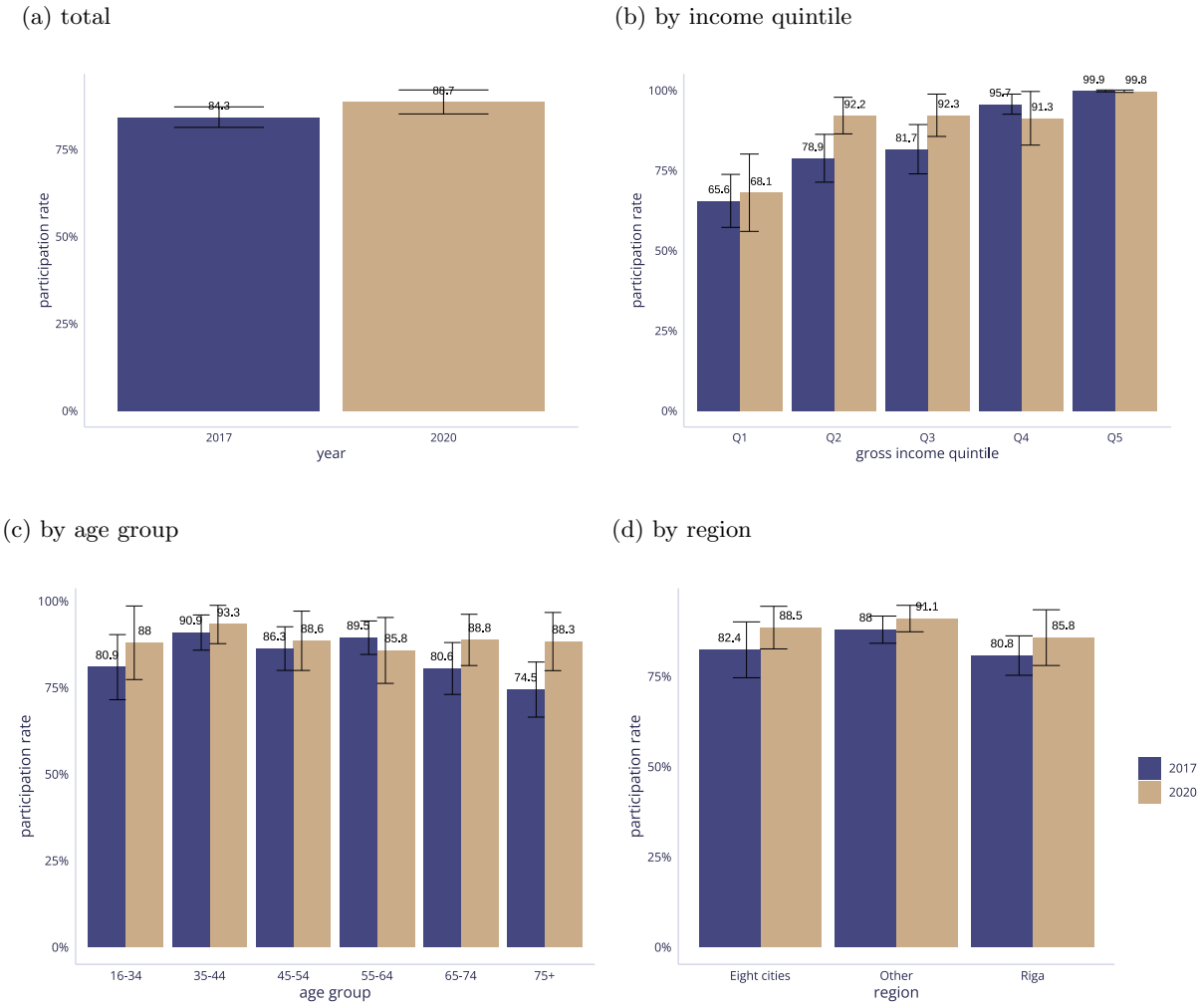
Household main residence constitutes the major part of real asset value (see Figure 7b). This is both due to a high main residence ownership rate in Latvia (see Figure 8b) and due to the fact that this asset type is relatively more expensive (see Figure 8a). The share of self-employment business wealth in total real assets in 2020 was significantly above the level reported in 2017 (see Figure 7a), which can be explained by the change in the reporting of administrative data and thus more precise representation of the self-employment business value in 2020 (see Section 2.3). If self-employment business wealth is excluded (see Figure 7b), there are no significant changes in the structure of total real asset value between 2017 and 2020.

Taking into account both owners outright and owners with mortgages, a vast majority (77.8% of households) owned a property of main residence compared to 60.3% in the euro area (Eurosystem Household Finance and Consumption Network, 2020d). In 2020, the share of households that owned a place of their main residence increased slightly (see Figure 8b). The ownership rate increased mainly in the young and mid-income household group (see Figure 9) facilitated by the state programme Altum, which supports obtaining mortgage for families with children and young professionals. Having more than one real estate property is less characteristic, nevertheless, other than HMR properties account for almost one third of real asset total value (see Figure 7b).

Overall, around 14% of households in Latvia have received an inheritance at some point in time. And the most inherited type of asset in Latvia has been a dwelling, which accounts for more than two thirds of all intergenerational transfers.

Despite the HFCS 2020 survey overlapping with the start of the Covid-19 pandemic, we do not observe signs of changes in demand for the real estate properties in the data. The share of real estate owners who bought a property in 2020 increased only slightly, accounting for 0.5%

Figure 6: Total real asset ownership rate (%)



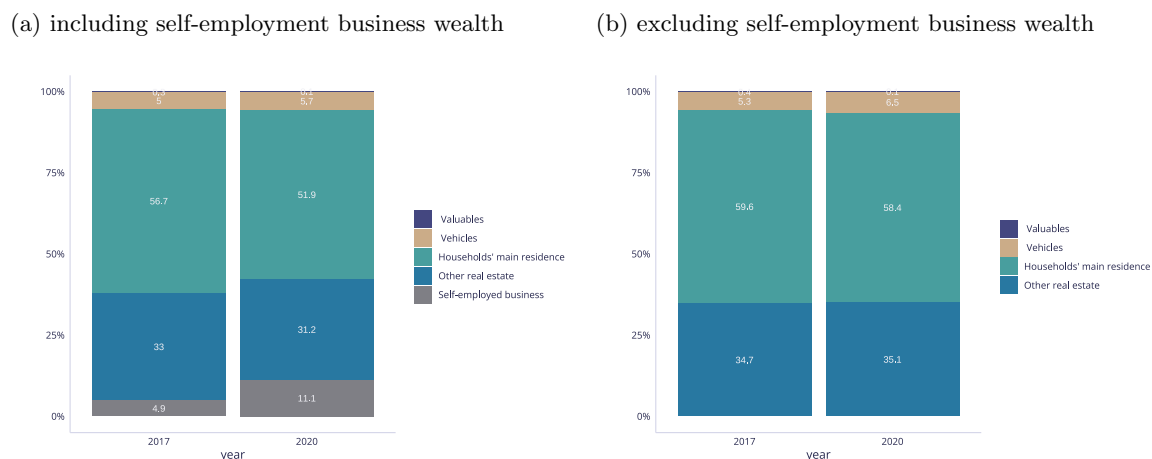
Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors’ estimates.

of real estate owners compared to 0.3% in 2017.

Another important part of real assets in Latvia are vehicles. In 2020, 55.2% of households had at least one vehicle (slight increase in ownership compared to 2017). The median value of vehicles was around 4 thousand euro. The value of vehicles increased more in Riga and other cities, but remained unchanged in rural areas, possibly reflecting the regional differences in purchasing power.

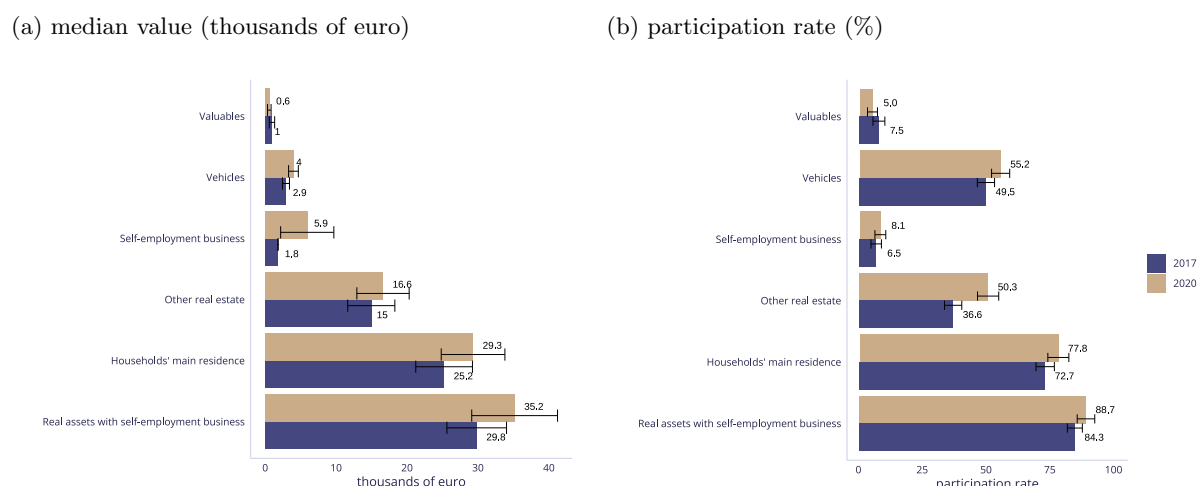
Around 8.1% of households owned some type of self-employment business with the median value of self-employment business being 5.9 thousand euro. The popularity of self-employment business ownership is comparable with the average euro area level of 10% (Eurosystem Household Finance and Consumption Network, 2020b).

Figure 7: Structure of total real asset value (%)



Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors' estimates.

Figure 8: Median values for and participation rate of real assets



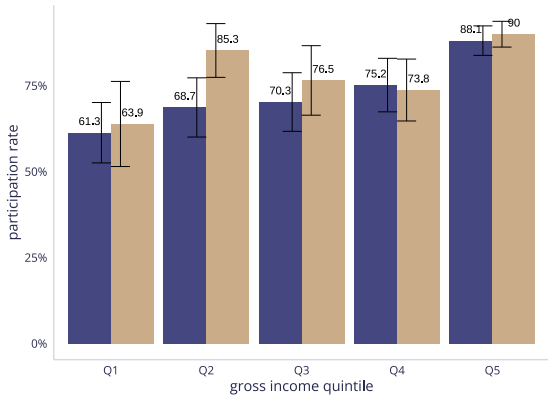
Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors' estimates.

4.2 Financial assets

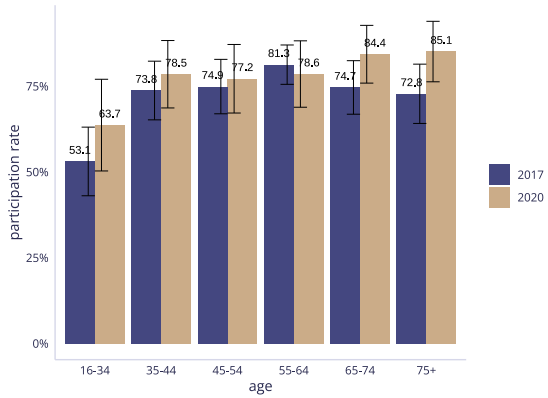
The HFCS survey also gathers information on different types of financial assets, including deposits, mutual funds, bonds, publicly traded shares, money owned to households, voluntary private pensions, whole life insurance, etc. In 2020, the administrative data from four major banks was used to cross-check participation and value of respondents' financial assets (for more details see Section 2.3) therefore the response rate had sharply increased and the structure of total financial assets changed (see Figure 10). More precise information on financial asset holdings

Figure 9: Main residence ownership rate (%)

(a) by income quintile



(b) by age group

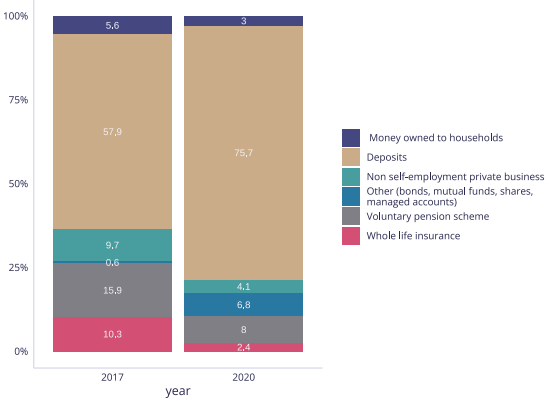


Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors’ estimates.

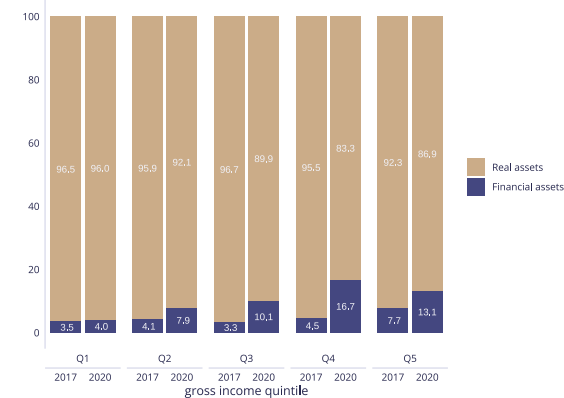
resulted in a higher share of deposits, as well as the increased share of bonds, shares and mutual funds in the structure of total financial assets (see Figure 10a). Despite the high participation rate, the share of financial assets in the total assets of households is low and represents less than 5% on average and 13% in the highest income group (see Figure 10b).

Figure 10: Composition of household assets (%)

(a) financial asset structure



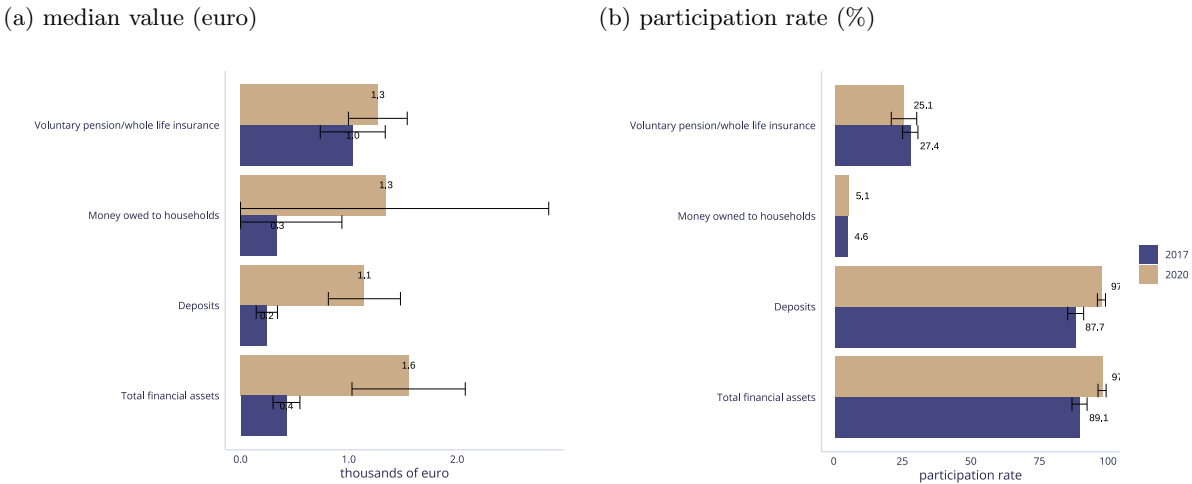
(b) asset structure by income group



Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors’ estimates.

Almost all (97.4%) households have some kind of financial assets. In 2020, the median value of financial assets was around 1.6 thousand euro (see Figure 11). High participation in financial assets is observed mainly due to almost universal participation in sight accounts for all types of

Figure 11: Median values and participation rate of financial assets



Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors’ estimates.

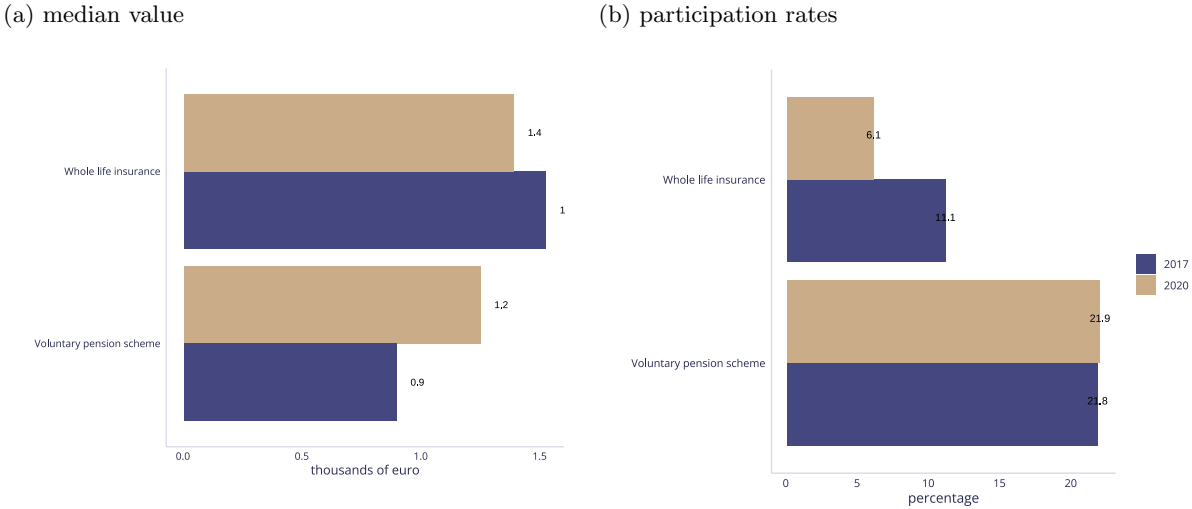
households. Around one quarter of surveyed households have voluntary pension or life insurance assets. Around 5% of households lent money to others. And only 3% of households held other financial assets (bonds, shares, mutual funds or managed accounts), which is relatively low compared to the euro area average (Eurosysteem Household Finance and Consumption Network, 2020c). Compared to the HFCS 2017 survey from the neighbouring country Estonia¹³, the share of households owning mutual funds (0.8% in Latvia compared to 3.4% in Estonia) and shares (1.8% compared to 4.4%) is lower.

Participation in the whole life insurance schemes has decreased, as has their median value (see Figure 12). An uptake of the instrument could be affected by the change in conditions. Until the end of 2017, it was possible to sign up to the whole life insurance contracts with duration of five years receiving annual income tax refund and the return of the total amount at the expiration. Since then, the conditions have changed and in order to receive tax refund the duration of the contract must be at least ten years. This made the instrument less attractive to the potential contributors. Similar trends are observed in the statistics on operations of insurance companies¹⁴, showing that the gross premiums written to the whole life insurance have decreased by a quarter as compared to the end of 2017.

As for voluntary pension schemes, both participation and median value have increased (see Figure 12). According to the reports on operation of private pension funds¹⁵, the number of

¹³In Estonia, administrative data on financial assets are also available for 2017.
¹⁴Latvijas Banka, Report on Operation of Insurance Companies in 4th Quarter of 2020 and 4th Quarter of 2017, reports available at <https://uzraudziba.bank.lv/en/statistics/insurance/quarterly-reports/>
¹⁵Latvijas Banka, Operation of Private Pension Funds in 4th Quarter of 2020 and 4th Quarter of 2017, reports available at <https://uzraudziba.bank.lv/en/statistics/pension-funds/quarterly-reports/>

Figure 12: Median values and participation rate of voluntary pension schemes and whole life insurance



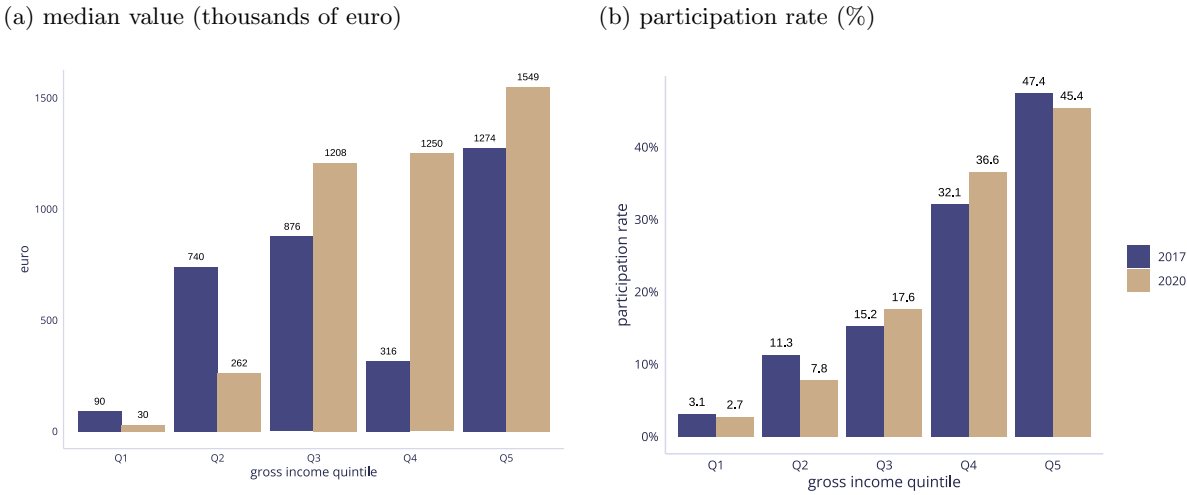
Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors’ estimates.

pension plan members has increased by 17% over this period, and the net assets of pension plans have increased by 40%. Voluntary pension schemes are essential in increasing the total pension income at later stages of life. However, both participation in voluntary pension schemes and higher median values of accumulated savings are more characteristic of the high income households (see Figure 13). Unfortunately, this would lead to a situation where households whose income was previously relatively low would continue to receive less income at retirement. Data on other types of financial assets also shows that low-income households lack savings that could lead to a more substantial income streams in the future.

Deposits are the most widespread form of financial assets in Latvia (see Figure 14). This reflects the structure of the settlement system such as salaries, social benefits and other income received using a bank account. Thus, almost all households have sight accounts and the deposits can be quickly converted in to cash. The median value of a sight account in 2020 was around 1000 euro.

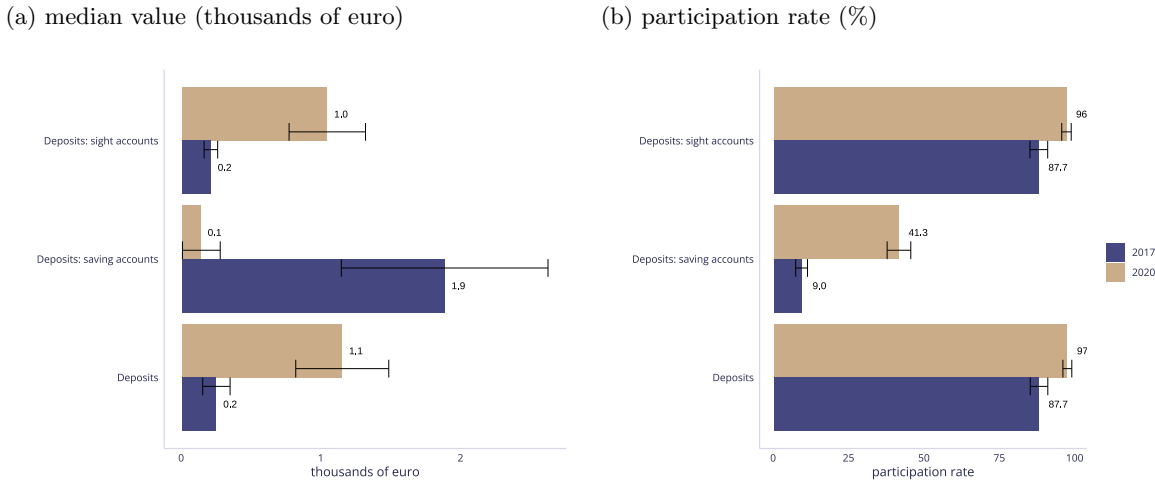
Due to the availability of administrative data from banks for the 2020 survey, the participation in and median values of saving accounts are reflected more precisely and cannot be directly compared to the values reported by respondents in 2017. More than a third of households have some kind of savings accounts, but many households have opened them together with other accounts, and the amount of funds held there is often close to zero. Therefore, the median value of total saving deposits was only 133 euro. In future, when deposit rates increase, the propensity

Figure 13: Median values and participation rate in voluntary pension schemes by income group



Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors’ estimates.

Figure 14: Median values and participation rate of deposits



Sources: HFCS Latvia 2020, authors’ estimates.

to keep money in savings accounts can increase.

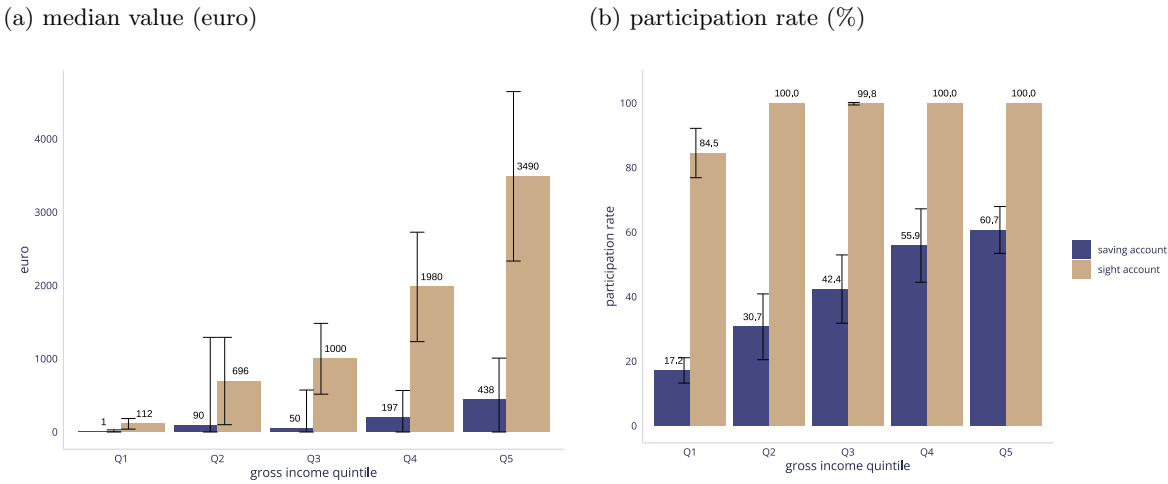
Box 1: Savings and a financial cushion

In this box, we have a closer look at different types of savings, reasons to save and the ability to overcome a sudden cease of income. In turbulent times, like the recently experienced Covid-19 pandemic, the importance of a safety cushion in the form of savings is crucial. The restrictions imposed on various types of economic activities in 2020 were reflected in 7.6% of economically

active inhabitants facing full or partial decline in income that was subsidised by government policies such as idle time benefits and wage subsidies (Latvijas Banka, 2022c). According to the HFCS Covid-19 question module, around 21% of households reported that they experienced some effect on employment, hours worked or income from the pandemic and related restrictions (see Box 4: Covid-19 question module).

Savings can be made in various ways: keeping cash at home, holding money in a sight account or transferring it to a savings account, or investing it in any other financial instrument or real asset. Sight accounts are almost universally used by all types of households. Savings accounts are mostly opened by high-income households (see Figure 15b). However, these accounts are not used to store significant amounts of money. In 2020, the median amount held in savings accounts for the top income quintile households was on average below 500 euro (see Figure 15a). Preference to keep larger amounts in sight accounts could be explained by the negligible difference in interest rates between the two deposit types.

Figure 15: Median value and participation in savings and sight accounts in 2020



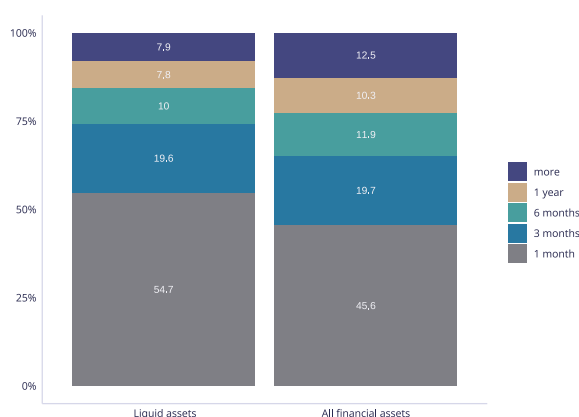
Sources: HFCS Latvia 2020, authors' estimates.

To better understand the impact of possible loss of employment income, we simulate a hypothetical scenario of a rapid cease of wage income. Calculations are made to approximate households' ability to meet their expenses after the loss in employment income. We assume that other income flows (for example, pensions or regular private transfers) do not cease, and unemployment benefit is not available. We assume two cases: first, only liquid assets (sight account deposits) can be used to compensate for the fall in income; second, all financial assets (excluding public and occupational pension plans) can be used. Real assets are less liquid and

cannot be utilised for such purposes. The level of utility and food expenses remains unchanged.

The results show that in the absence of employment income around half of the households in Latvia do not have a financial cushion, and they would not be able to cover more than one month of regular expenses (see Figure 16), which is in line with the results of Latvijas Banka’s survey on financial literacy (Latvijas Banka, 2022b). They are households that heavily rely on employment income, and a sudden job loss would put them in a financial distress that could only be temporarily mitigated by unemployment benefit payments.

Figure 16: Financial cushion in case of employment income loss (share of households; %)

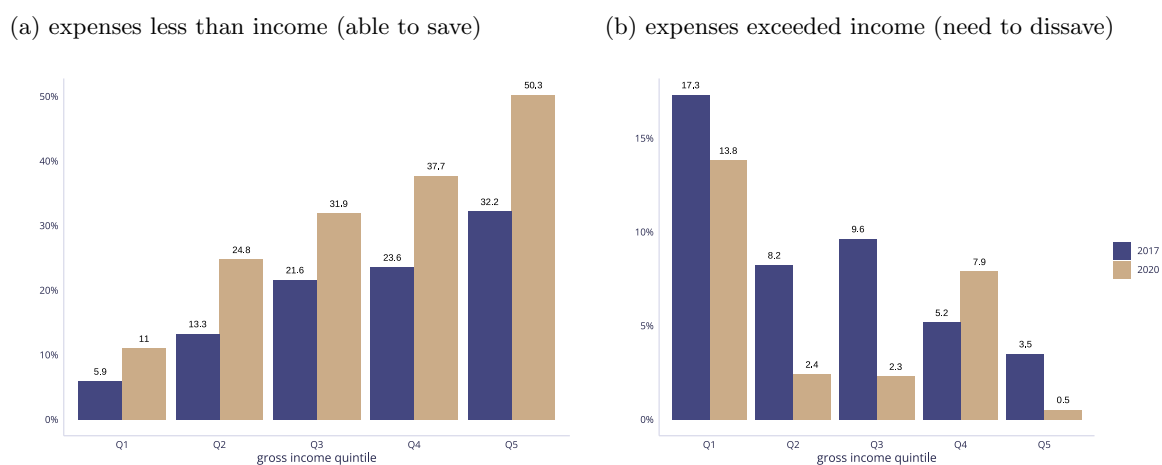


Sources: HFCS Latvia 2020, authors’ estimates.

Overall, household self-assessment of financial situation has improved in 2020 as compared to 2017. In 2020, 31.1% of respondents reported that their income exceeded expenses (19.3% in HFCS 2017) and thus they were able to save. The improvement was observed across all income quintiles (see Figure 17). Also, the share of respondents reporting that their expenses exceeded income (household was dissaving) dropped from 8.8% in 2017 to 5.4% in 2020. This may have been caused by both the effect of an increasing income and the impact of pandemic restrictions that limited spending possibilities during 2020. It appears that this situation affected higher income households in particular.

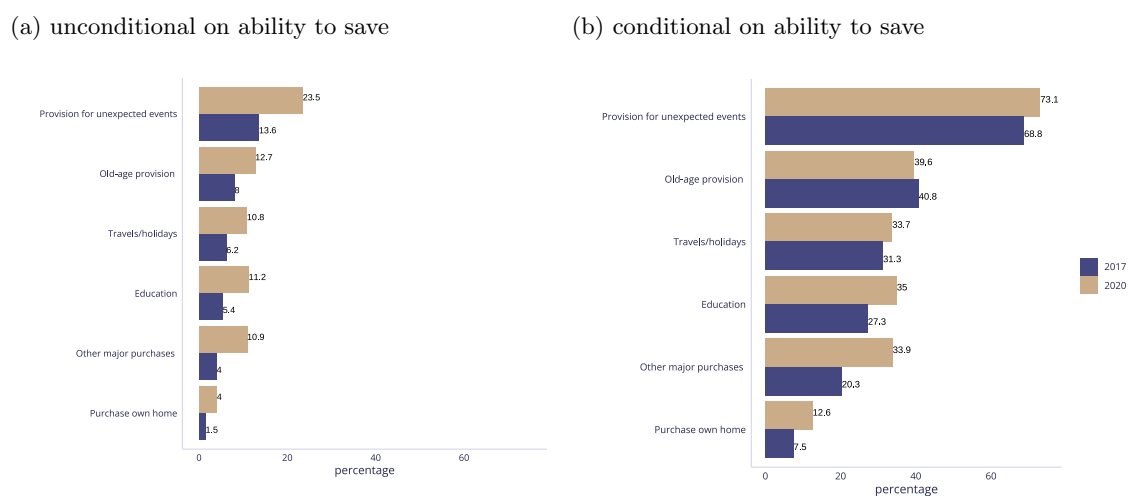
In line with the higher share of households reporting that they were able to save in 2020, the share of households saving for different purposes increased proportionally (see Figure 18a). The most popular purpose of saving both in 2017 and 2020 was the provision for unexpected events. Conditionally on being able to save, around 70% of households mention this reason as one of the main ones (see Figure 18b). Other important reasons to save are putting money aside for old-age provision, travelling and holidays, as well as for other major purchases.

Figure 17: Self-assessment of balance between income and consumption over the last calendar year (%)



Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors' estimates.

Figure 18: Share of households by main reason to save (%)

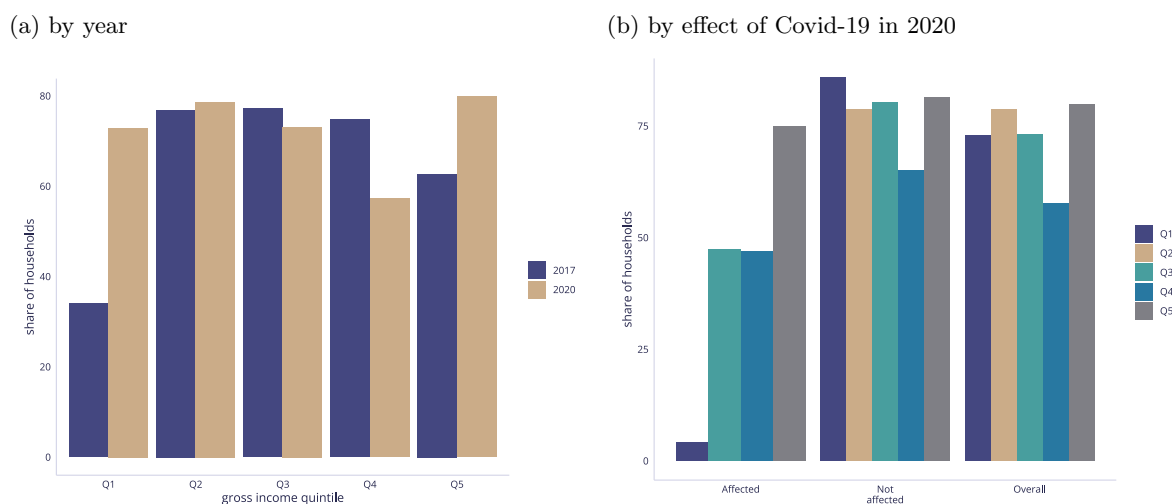


Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors' estimates.

Note: Question about reasons to save were asked only to respondents who reported that their income exceeded expenses. Multiple answers possible.

Saving for unexpected events is reported equally frequently across all income level households (see Figure 19a). Interestingly, in 2020, households in both very low and very high income groups reported saving for unexpected events more often. Households from the lower income quintiles, conditional on being able to save, relatively more often than wealthier households save for travel and holidays. This might be because otherwise they could not afford that, but wealthier households could allocate funds for travelling and holidays without specifically saving for that.

Figure 19: Share of households saving for unexpected events (if income exceeds expenses) (%)



Sources: HFCS Latvia 2020, authors' estimates.

Note: Values are estimated only for the households reporting that their income exceeds expenses and thus they are able to save. We consider that a household is affected by Covid-19 if it reported that the situation caused by Covid-19 negatively affected the employment status, hours worked or income of any member of the household in 2020 (for at least 1 month).

Lower income households also more often indicate that they make saving to purchase own home. Wealthier households indicate some other possible reasons to save. For example, setting up a business or investing in financial assets.

The share of savings for unexpected events is on average lower for households affected by Covid-19 (see Figure 19b). On the one hand, the effect is more pronounced in the lower income group, which can be explained by a smaller share of income available to be put aside and a higher probability to lose employment due to Covid-19 (see Box 4: Covid-19 question module). On the other hand, the share of households from the medium-high income quintiles saving for unexpected events even if affected by Covid-19 is only slightly lower than the share of those not affected by Covid-19. Thus, the change in saving behaviour due to Covid-19 was income level specific.

5 Liabilities and Financial Vulnerability

5.1 Household liabilities

The HFCS survey shows a detailed overview of household liabilities and how the overall debt structure has changed over time. In 2020, households in Latvia decreased their participation

in borrowing activities, and this is in line with the data contained in the Credit Register of Latvijas Banka¹⁶. The share of households having mortgage debt has not significantly changed since the previous survey, however, the non-mortgage debt has slightly decreased. The share of households without any outstanding liabilities has risen by 5.4 percentage points, primarily due to a decrease in participation in a short term debt (see Figure 20). An important factor restricting lending in Latvia is the shadow economy. Almost half of it is due to underreporting of salaries, which lowers the official income, and thus limits household ability to borrow from financial institutions¹⁷.

The share of households with debt decreased in 2020, and the participation rates dropped faster for the upper income households which tend to borrow more than households at the lower end of the income distribution. A decline in participation can also be attributed to a continuously tight credit conditions by financial institutions and relatively high interest payments for household loans¹⁸. Although, there has been a stable growth in household incomes, which allowed to accelerate debt repayments (see Figure 21a). Debt participation rates have decreased for most of the age groups, most notably for households with a reference person 35–44 years of age. This could be amplified by a negative attitude towards a mortgage debt after the collapse of housing market in 2008, when many households in Latvia encountered difficulties in meeting their debt obligations. The opposite can be seen for younger households with reference person 16–34 years of age, where participation rates increased by 3.4 percentage points if compared to 2017 (see Figure 21b).

Despite an overall decrease in participation rates, the median value of outstanding debt has remained relatively stable and increased for some households¹⁹. A fall in the median value can be seen for low income households, where the outstanding amount of debt has been relatively small and the overall level of debt has not particularly changed since 2017. This seems to be pointing to differences in the loan structure – low income households tend to commit to smaller, non-collateralised loans more frequently than households at the other end of the income spectrum (see Figure 22a). A decreasing rate of borrowing with a higher median value of outstanding debt indicates the presence of nominal effects, notably, there has been a consistent growth in the outstanding debt among mid to upper income households, despite an overall decline in the

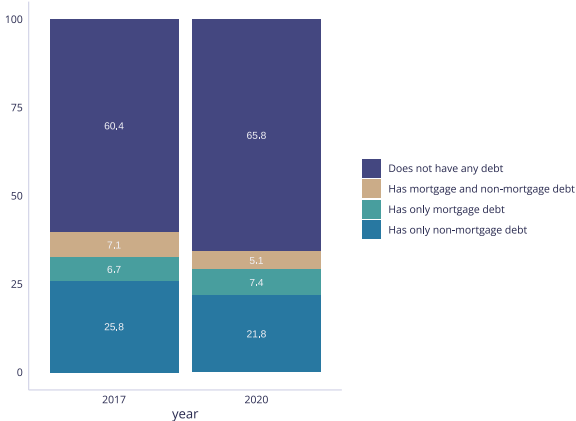
¹⁶Data of Latvijas Banka's Credit Register confirms a decrease in the amount of active household debt obligations compared to 2017.

¹⁷The Shadow Economy Index for the Baltic states by [Sauka and Putniņš \(2023\)](#) shows a gradual increase in the shadow economy in Latvia from 22% in 2017 to 25.5% of GDP.

¹⁸Interest rates on new loans for Latvian households were among the highest in the Baltic states and well above 2% while the ECB refinancing rate was negative during the survey period [Latvijas Banka \(2023\)](#).

¹⁹Data of Latvijas Banka's Credit Register confirms an increase in outstanding amount of household liabilities compared to 2017.

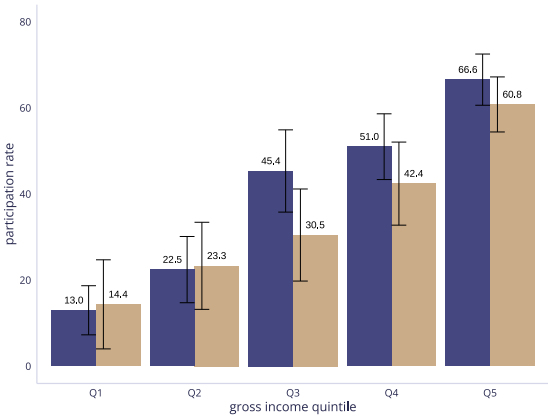
Figure 20: Household debt holdings by type of debt (%)



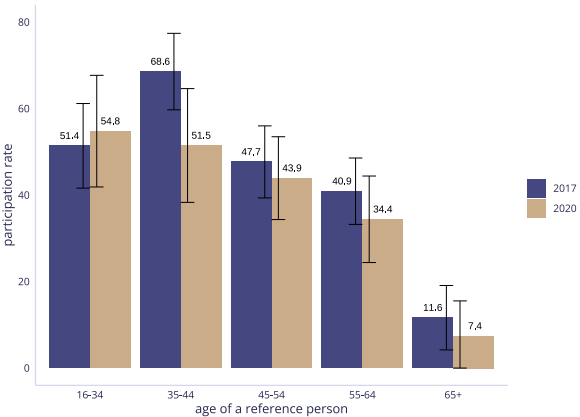
Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors' estimates.

Figure 21: Household debt participation rate (%)

(a) by income quintile



(b) by age group



Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors' estimates.
 Note: Whiskers show a 95% confidence band.

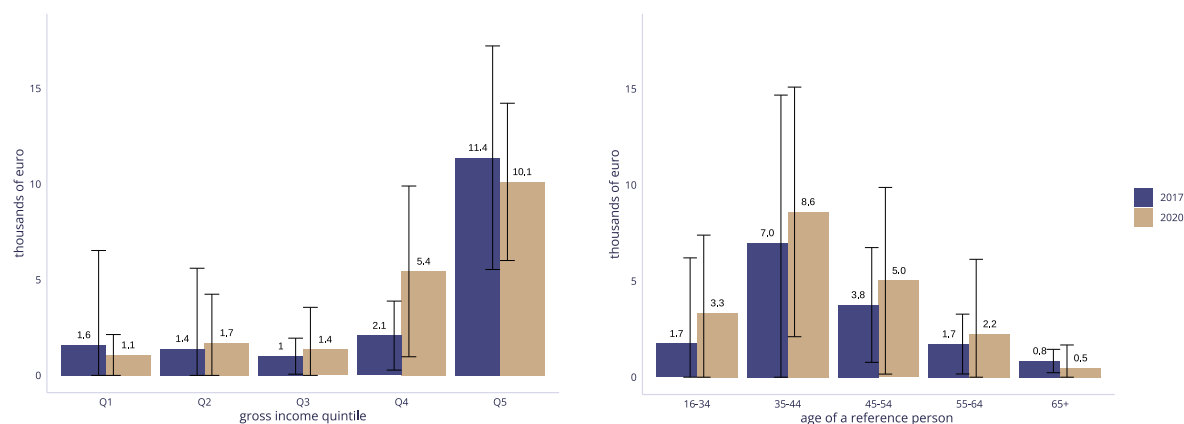
participation rate (see Figure 22).

The structure of total outstanding household debt has not particularly changed since 2017, although the share of mortgage debt has shifted up by 1.9 percentage points (see Figure 23). Changes in debt structure can be based on the fact that mortgage loans are primarily long-term liabilities. Due to a term structure of household debt, a decrease in participation has mostly reduced the short-term liabilities, which can be paid off in a much shorter time horizon. These short-term liabilities include a credit card debt, credit line/overdraft and private/non-private loan debt holdings by households.

Figure 22: Median value of outstanding household debt (thousands of euro)

(a) by income quintile

(b) by age group



Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors' estimates.

Notes: Median values are reported conditional on debt holdings. Whiskers show a 95% confidence band.

The overall participation in mortgage debt slightly decreased in 2020, however, this was not the case for the mid-upper income households, specifically younger families with children where mortgage loans were already more common in 2017 (see Figure 24). An increased mortgage lending was stimulated by the state support programme Altum, providing specific programme designed for families with children and young professionals to encourage bank lending²⁰. Despite already low participation in mortgage debt among the lowest income households, the gap grew even wider between different income groups in 2020, which could be explained by a greater growth of the median income levels among relatively younger people with a higher education.

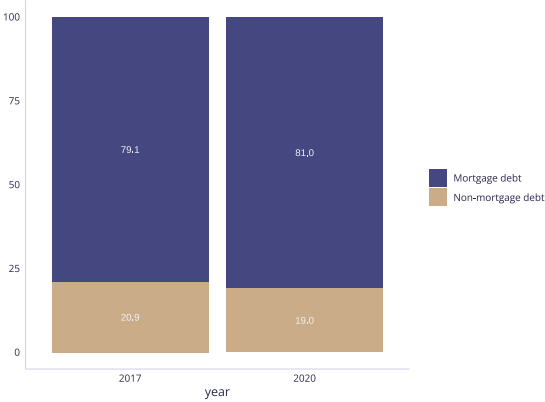
The median value of outstanding mortgage debt has substantially decreased for the lower income households (see Figure 25), which could be due to both a repayment effect of the existing obligations by older households, and a decrease in newly issued mortgages to households at the bottom end of the income spectrum. At the same time, the median value of outstanding mortgage debt has gradually increased for younger and wealthier households, which, in general, characterise the structure of newly issued mortgage loans.

The primary purpose of mortgage loans did not particularly change in 2020, around 77% of household main residence (HMR) loans and almost 60% of non-household main residence loans (non-HMR) were taken to purchase or to construct a property and remained the primary purpose for newly issued loans. Around 16% of HMR mortgages were used to refurbish or renovate the

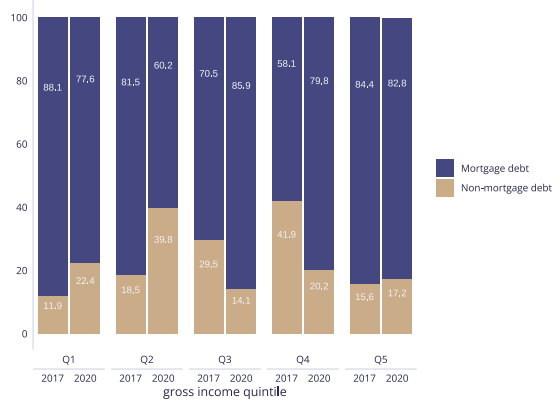
²⁰According to the Financial Stability Report of [Latvijas Banka \(2021\)](#), new loans granted under the state support programme accounted for almost half of the total new mortgage loans in 2020.

Figure 23: Total outstanding liability structure by type of debt (%)

(a) debt structure



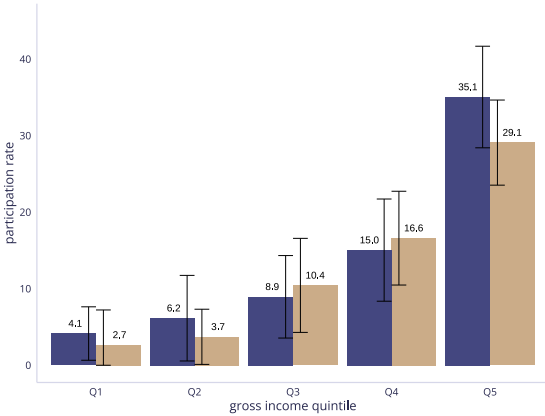
(b) by income quintile



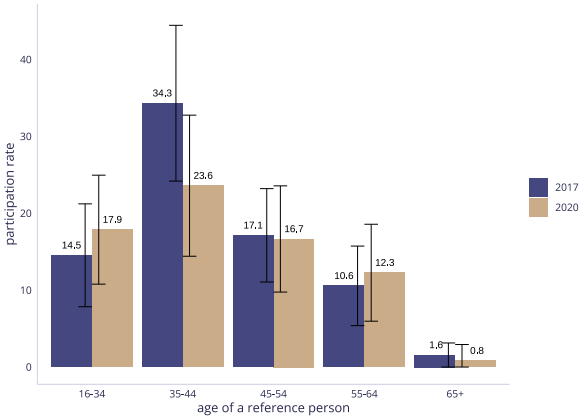
Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors' estimates.

Figure 24: Household participation rate in mortgage debt (%)

(a) by income quintile



(b) by age group



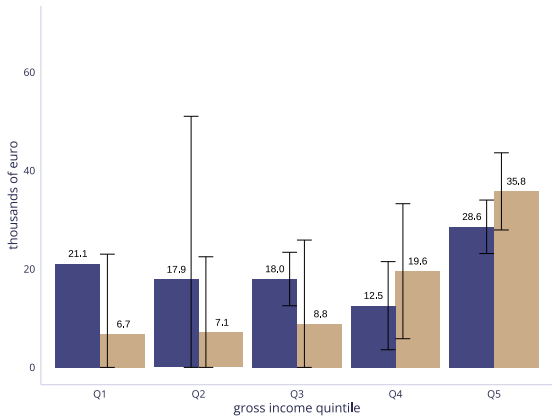
Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors' estimates.
 Note: Whiskers show a 95% confidence band.

residence, however, slightly over 20% of non-HMR loans were used for that purpose.

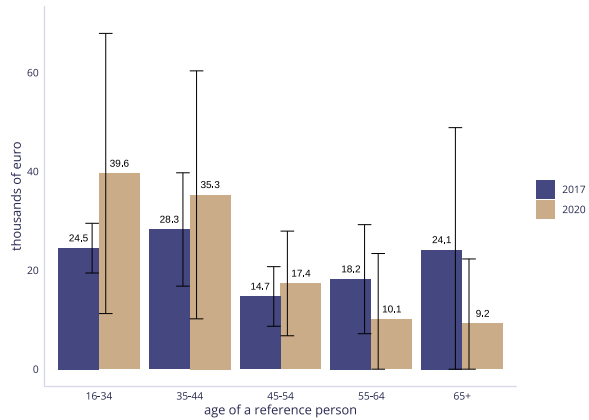
The overall participation in non-mortgage debt somewhat decreased across all income groups compared to 2017, most notably for the wealthiest households in the upper income quintiles (see Figure 26). Conversely, the opposite trend was observed for household participation in mortgage debt. The purpose of non-mortgage loans varied greatly since 2017. Around 30% of households used non-collateralised loans to cover their living expenses or other purchases. On the other hand, around 30% of households used a private loan (a loan from relatives or friends) to cover

Figure 25: Median value of outstanding mortgage debt (thousands of euro)

(a) by income quintile



(b) by age group

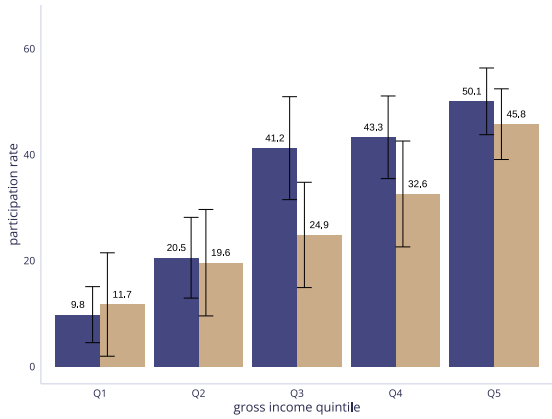


Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors’ estimates.
 Notes: Median values are reported conditional on debt holdings. Whiskers show a 95% confidence band.

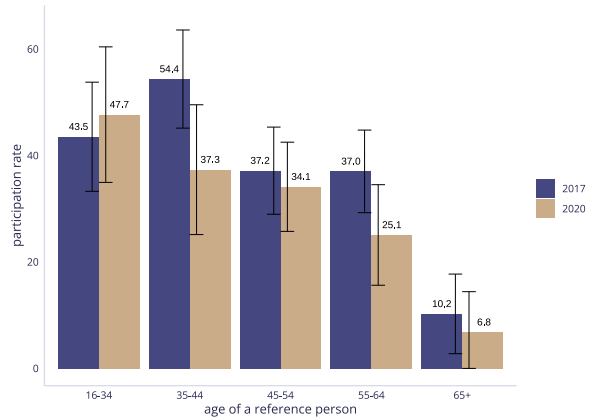
their living expenses or other purchases, which is relatively lower than in 2017. The purpose of private loans shifted to other spending items in 2020, for example, to refurbish or renovate the household residence or to buy a vehicle or other means of transport.

Figure 26: Household participation rate in non-mortgage debt (%)

(a) by income quintile



(b) by age group



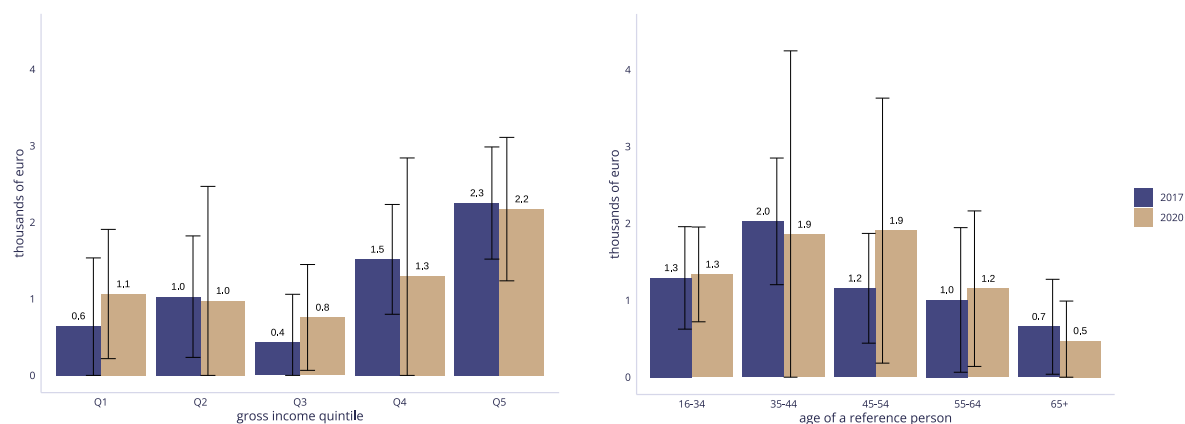
Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors’ estimates.
 Note: Whiskers show a 95% confidence band.

The median value of outstanding non-mortgage debt has not particularly changed since 2017. A small variation between household size, different income levels or age can be seen, however, differences have not been particularly significant (see Figure 27).

Figure 27: Median value of outstanding non-mortgage debt (thousands of euro)

(a) by income quintile

(b) by age group



Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors' estimates.

Notes: Median values are reported conditional on debt holdings. Whiskers show a 95% confidence band.

Most of the household credit originated from commercial banks, however, other financial institutions also played an important role in household lending. Although the amount of bank applications has decreased for the past three years, it is by far the most frequent source for household loans in Latvia and is mostly driven by the upper income households (see Figure 28). The year 2020 saw the largest increase in leasing applications, partially due to a higher activity from households at the lower end of the income distribution. Also, low income households decreased the number of their loan applications online, which typically is a funding for a short period, smaller loans with a high interest rate (see Figure 28b).

Household demand for loans has not particularly increased for the past three years, the share of households applying for credit has remained unchanged since 2017. One of the factors holding back household activity was the perceived credit constraints, a larger proportion of households felt they would not be able to get a credit or loan if they applied for it (see Figure 29a). Although the overall level of credit constrained households²¹ has risen, the share of households whose loan applications have been rejected or received a smaller amount than initially requested has decreased. Perceived credit constraints were the main factor holding back household borrowing in 2020, and it can be observed throughout all income groups (see Figure 29b).

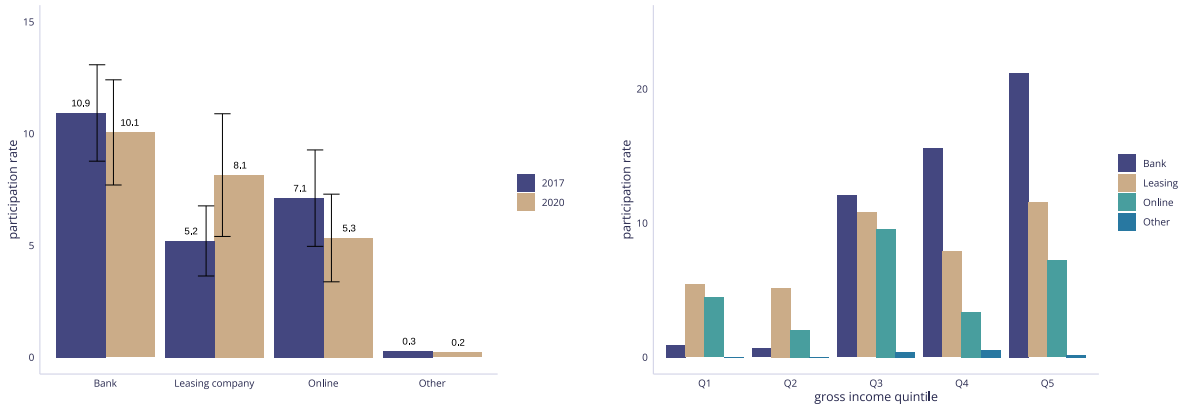
²¹Credit-constrained households are the households subject to one of the following situations:

- applied for a credit within the last three years and were turned down, and did not report a successful reapplication later.
- applied for a credit but were not given as much as applied for.
- did not apply for a credit due to a perceived credit constraint.

Figure 28: Questionnaire on credit applications for the past three years (%)

(a) by type of creditor

(b) by income quintile in 2020

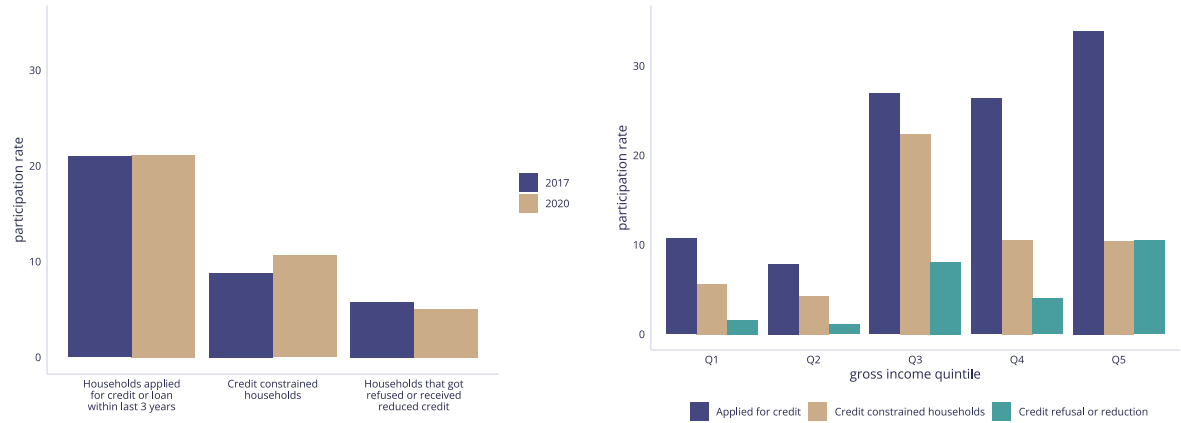


Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors’ estimates.
 Note: Whiskers show a 95% confidence band.

Figure 29: Questionnaire on household credit applications (%)

(a) by application and credit constraints

(b) by income quintile (2020)



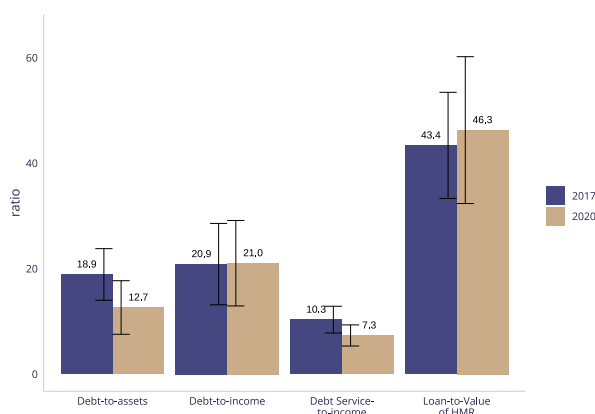
Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors’ estimates.

To summarise, there has been a decline in household debt participation compared to the previous survey period in 2017. Non-mortgage debt has decreased more than mortgage debt, which was mostly related to a greater decline in participation rate by wealthier households. By contrast, higher income, younger families with children seem to have increased their mortgage participation, increasing the median value of outstanding debt for households in Latvia. Although household participation in non-mortgage debt has decreased and there have been some shifts in the purpose, the median value of outstanding non-mortgage debt has remained relatively stable.

5.2 Financial vulnerability

Excessive accumulation of debt can increase households' financial vulnerability and elevate the risk of insolvency during an economic downturn. Therefore, it is crucial to maintain a healthy balance of debt, income, and assets to ensure a sound level of household financial security. While the overall household exposure to insolvency risks has declined compared to 2017 (see Figure 30), there has been an apparent shift in a degree of vulnerability across different household groups.

Figure 30: Conditional medians of debt burden (ratio; %)



Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors' estimates.

Notes: The median values are reported conditional on debt holdings. Whiskers show a 95% confidence band.

The 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.

The 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.

The 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.

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

The debt-to-assets ratio shows the proportion of outstanding household debt relative to the overall stock of assets that households have accumulated over time. In 2020, median debt-to-assets ratio decreased from 18.9% to 12.7%, which was mainly driven by an increase in asset value held by households. While the total value of assets has increased for a majority of households, those with greater wealth have also seen a more significant rise in the outstanding liabilities. Due to these level shifts, the debt-to-assets ratio has become more balanced between households within different income groups in Latvia.

The debt-to-income ratio shows household capacity to meet its debt obligations in relation to incomes, which in 2020 remained largely unchanged at 21.0%. Despite a steady growth in

household incomes, the outstanding level of liabilities has also increased. Although debt for mid to upper income households increased at a faster pace than incomes, vulnerability risks are still relatively low for these households. As a result, households at the lower end of the income distribution substantially improved their financing conditions in 2020, and the overall debt capacity did not particularly worsen.

The debt service-to-income ratio decreased from 10.3% to 7.3% in 2020. Despite a slight increase in monthly debt payments for most households in Latvia, a decline in the ratio was driven by a faster growth in household disposable incomes. Debt servicing has become more difficult for mid to high income households where both the outstanding liabilities and debt payments have grown relatively faster, however, the overall financial pressure and debt servicing burden in Latvia has eased²².

The loan-to-value ratio increased from 43.4% to 46.3% in 2020, mostly due to a rise in outstanding household debt for wealthier households. Despite an overall increase in the real estate prices and a steady growth in the HRM value, the outstanding mortgage debt has increased by a higher margin. The median amount of outstanding mortgage debt has sharply decreased for households within the first three income quintiles, but increased for wealthier households. This can be explained by an increase in new mortgage loans and other obligations for households at a higher end of the income distribution, and with repaid obligations at the other end²³.

In general, the HFCS survey shows an overall decline in household exposure to insolvency risks in 2020 compared to 2017. The share of households exceeding a certain risk threshold²⁴ has decreased, except for the loan-to-value ratio. The loan-to-value ratio increased due to a higher outstanding mortgage debt, where most households exceeding the level of 75% were in the 5th income quintile. Importantly, these households were not under a higher financial stress, in fact, the median debt service-to-income ratio for these households was the same or even lower due to a higher level of income (see Figure 31). The share of households exceeding the debt-to-assets ratio of 0.75 decreased, mostly due to the higher asset growth at the lower end of the income distribution. Also, the share of households exceeding the debt-to-income and debt service-to-income thresholds decreased, primarily due to a steady growth in the household income level

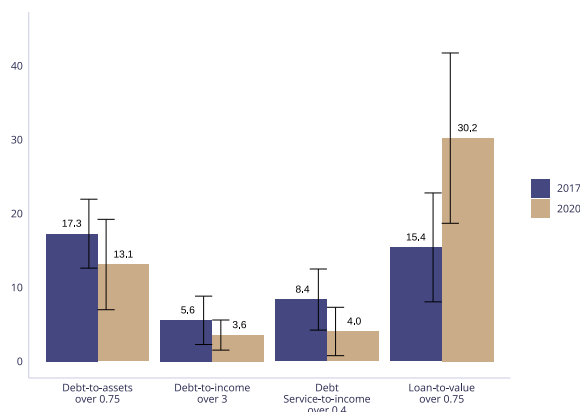
²²EURIBOR borrowing rates were close to zero at the time of the HFCS survey, however, the ECB has implemented successive increases in lending rates starting from July 2022.

²³According to the Financial Stability Report of [Latvijas Banka \(2022a\)](#), the loan-to-value ratio estimated from the population of the credit register data in 2020 declined slightly, which differs from the HFCS result. Factors driving the loan-to-value ratio in HFCS up was related: first, to a higher proportion of wealthier households in the data, thereby oversampling households where the outstanding mortgage debt increased by a larger margin; and second, due to the fact that newly built homes with new addresses were not included in the address sample used in the HFCS survey in 2017.

²⁴A high financial risk is associated with specific vulnerability thresholds: the debt-to-assets and loan-to-value ratio over 75%, the debt-to-income ratio over 300% and the debt service-to-income ratio over 40%.

(see Figure 31).

Figure 31: Financially distressed households (%)



Sources: HFCS Latvia 2020, HFCS Latvia 2017, authors' estimates.

Notes: The values are reported conditional on debt holdings.

The 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.

The 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.

The 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.

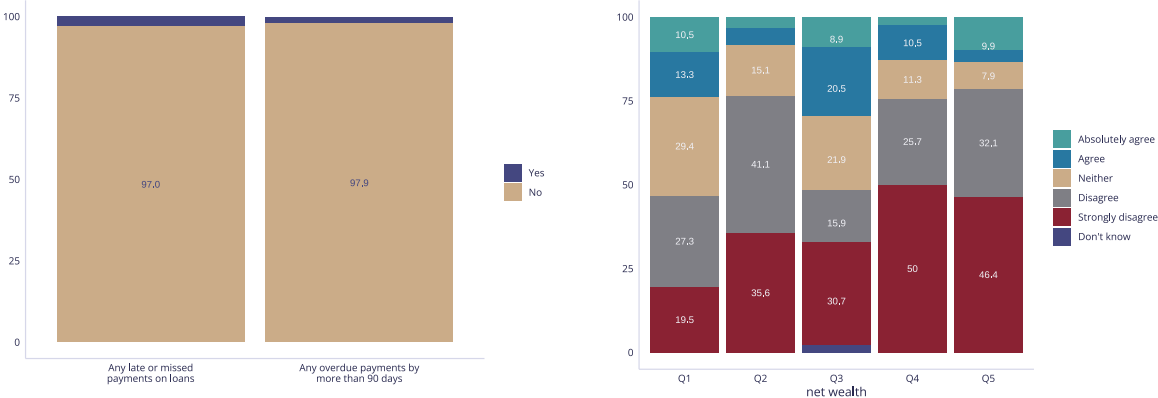
The loan-to-value ratio is defined as the ratio between the outstanding amount of the HMR mortgage and the current value of the HMR.

In 2020, indebted households were surveyed concerning their loan and mortgage payments, questioning on any due payments for the past 12 months. Only 3% of households confirmed they had failed to make their debt payments or had delayed them at least once, and around 2% of households confirmed an overdue payment by 90 or more days. Results for both questions are quite similar, the rate of overdue payments shows a low insolvency risk of household debt (see Figure 32a).

Also, households were asked questions whether their liabilities or debt payments were considered to be too excessive. Overall, around 66% of households believed that their debt levels were reasonable, however, 17% of households considered their debt as over excessive. The major concerns about their debt holdings were possessed by households at the lower end of the wealth distribution, where a higher proportion of incomes has been spent to cover the expenses on debt repayments (see Figure 32b). In the 1st net wealth quintile, around 24% of households believed their debt payments were too excessive, and only 47% disagreed with that statement. By contrast, less than 14% of households in the 5th net wealth quintile indicated that their liabilities were too excessive, and around 80% disagreed with the statement.

Figure 32: ndebted household self-assessment (%)

(a) late or missed payments in the last 12 months (b) liabilities considered as too excessive



Sources: HFCS Latvia 2020, authors' estimates.

Box 2: Effect of changes in interest rates and prices

In this section, we apply microsimulation modelling technique to estimate how changes in interest rates, prices and income could affect households' resilience. This allows us to better understand possible consequences for households' vulnerability and ability to face rapidly changing economic conditions. We follow the steps applied the section on Assessment of the Surveyed Household Borrowers' Financial Vulnerability of the Financial Stability Report of [Latvijas Banka \(2022a\)](#) and apply them to the HFCS dataset.²⁵ Keeping the structure of a household's assets, liabilities, gross income and costs from 2020, we apply indexation, which refers to the price change of these components in 2022 as compared to 2020. The reference period for income is 2019, thus indexation for income variables has been carried out using growth rates from 2019 to 2022.

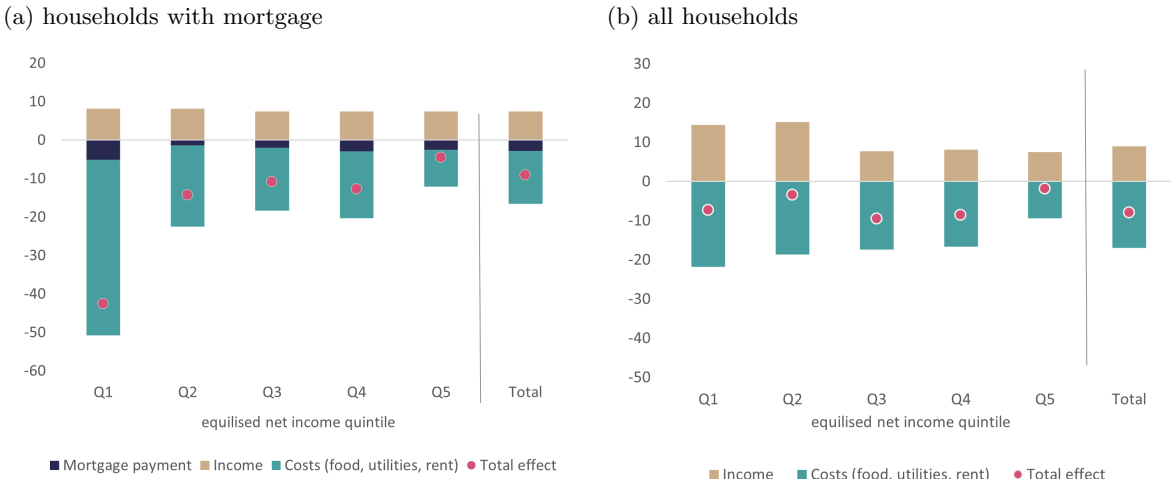
The main indexation assumptions are: employment income is indexed with the average wage growth; rental income with the HICP component rentals for housing; social transfers indexed with the growth of budget expenditure for social protection (excluding old age pensions); financial investment indexed with the growth rate of bank deposits; regular private transfers and other income remained uncharged. Expenses on food are indexed with the change in the price index for food and non-alcoholic beverages; utilities are adjusted with the price index for household, water, electricity, gas, etc.; expenses for non-utilities and other household expenses

²⁵The main two differences between the Survey of Household Borrowers and the HFCS (both conducted by Latvijas Banka in 2020) are the coverage of households and the availability of administrative data to impute and check the answers provided by the respondents. In the former, only households with mortgages are included, thus the number of households with mortgages are four times larger as compared with the HFCS database, and data checks are based on the expert evaluation of reliability and economic logic of a household's replies. In the latter, the sample is representative of the household distribution in Latvia, and administrative data on income, credit register, land register, and banks are used to perform checks and imputations.

are indexed with HICP overall index excluding energy, food, alcohol and tobacco. As regards liabilities, we assume that the outstanding values of mortgage loans and loan maturity remain the same as at the moment of the survey. We also assume annual interest rate increase by 3 pp and a perfect pass-through to mortgage rates (around 95% of loans in Latvia have flexible lending rates tied to short-term Euribor rates), and interest rate for non-mortgage loans remains unchanged²⁶. Based on that, we re-estimate household income, costs and debt payments.

Tax rules for the corresponding years are applied to estimate net income. Figure 33 shows a percentage point change in costs and income of households in 2022 relative to the net income in 2021²⁷. Results are presented by equivalised net income groups²⁸, thus taking into account the size and structure of households.

Figure 33: Change in income and cost components as % of equivalised net income in 2021



Sources: HFCS Latvia 2020, authors’ estimates.

The analysis shows that the average increase in net income in 2022 was 8.9%, which was quite similar across top four net income quintiles due to fast growth in all income components. Income growth of the first quintile is faster due to a larger share of pension and social transfer components, which according to our assumption increase by 14.8% and 12% in 2022. The interest rate increased shock has a moderate effect on households with mortgage (see Figure 33a) as

²⁶The key assumption of microsimulation model is that the structure of debt holdings does not change, therefore there are no new debts and the non-mortgage rates (since mostly fixed) remains unchanged.

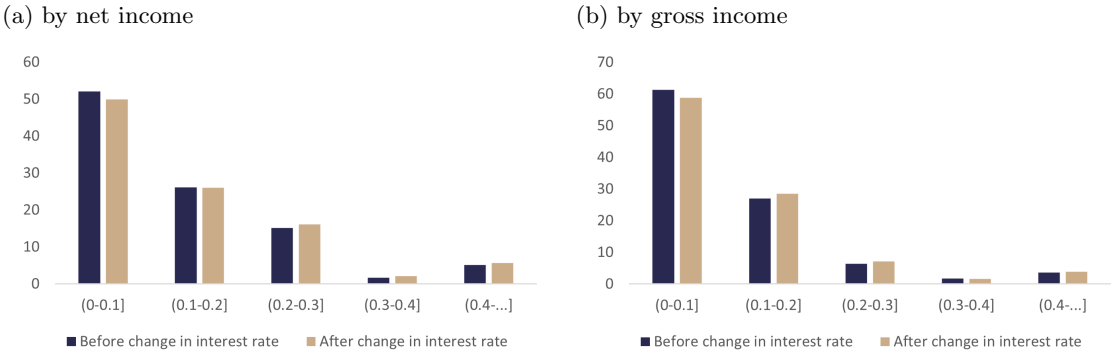
²⁷By providing growth rates of components relative to the net income in 2021 and not 2020 we account for the relative change in proportion of costs and income since 2020, when income was growing on average faster than costs

²⁸The equivalised disposable income is the total income of a household, after taxes and other deductions, available for spending or saving, divided by the number of household members converted into equalised adults; household members are equalised by weighting each according to their age, using the so-called modified OECD equivalence scale (1.0 to the first adult; 0.5 to the second and each subsequent person aged 14 and over; 0.3 to each child aged under 14).

interest payments constitute a relatively small share of the surveyed households' spending (in 2020, median debt service-to-gross income was 7.3%; see Figure 30). The rise in interest rates by 300 basis points would constitute on average additional 2.8% from the equalised net income in 2021 moved towards the re-payment of debt.

Similarly to the results obtained at [Latvijas Banka \(2022a\)](#), we show that the price increase has a more pronounced effect on household financial vulnerability compared with the increase in interest rates. The rise in food and energy prices in 2022 increased the share of this component in equalised net income on average by 13.8% for households with mortgage or by 16.9% for all households (see Figure 33b). The impact was felt more by the lower income households, as expenditure on food constituted a larger share of their expenditure (45% of expenditure in the lower income quintile as compared to 12% for the higher income quintile). Net income growth does not cover an increase in costs for all income groups, and the amount of net income which could be used for saving declined on average by 7–9% (measuring as the share of equalised net income in 2021).

Figure 34: Distribution of debt service-to-income (%)



Sources: HFCS Latvia 2020, authors' estimates.

Notes: Debt service-to-income is estimated for households with any kind of debt. Income and cost indexations are applied to both scenarios. The only difference is increase in the interest rate by 300 basis points.

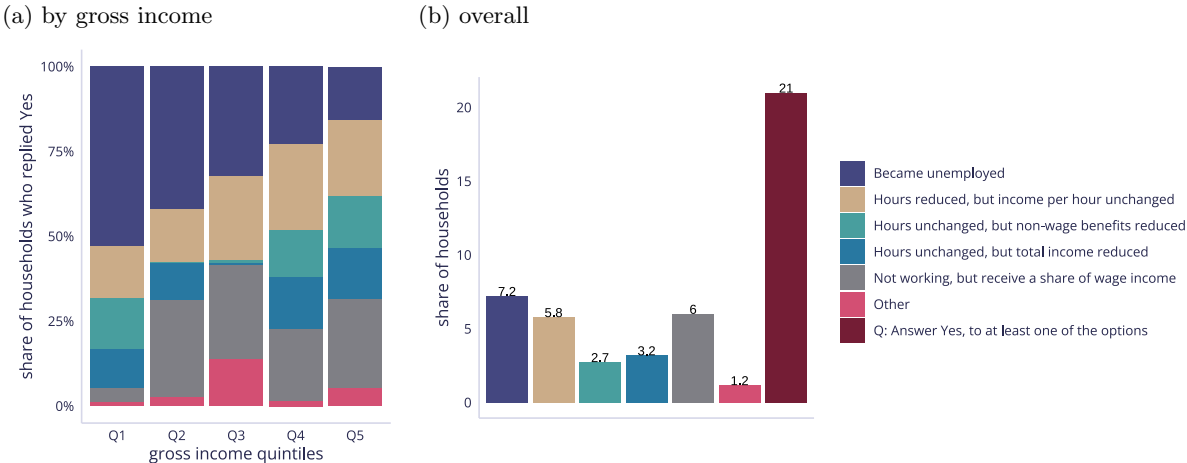
The rise in interest rate changed distribution of the debt service-to-income ratios (see Figure 34). Distribution moved to the right with a larger share of households paying around 20–30% of net income to cover debt, which is in line with the results of [Semjonovs et al. \(2022\)](#). The share of financially distressed households (paying more than 40% of income in debt payments) increased slightly.

Box 3: Covid-19 question module

The fieldwork for HFCS in Latvia took place between August and December 2020, thus overlapping with the beginning of the second Covid-19 wave, which lasted from November 2020 until May 2021. The Covid-19 question module included five questions. The topics covered were: a) the effect on employment status, hours worked, income of any member of a household (for at least one month); b) number of household members affected; c) change in total income; d) new credit commitments; e) change in lending terms.

According to the module results, between August and December 2020, every fifth family (21%) experienced some effect on working hours, income or employment from Covid-19 (see Figure 35b). One third of those households (7.2%) through losing a job, 5.8% through the reduction in working hours, or receiving a share of wage income while temporary not working (6%), or the reduction in wage income (5.9%). In almost 45% of the affected households, the change in employment status, working hours or income due to Covid-19 was reported for all adult members of a household. There is a positive association between a higher gross income quintile and a lower probability to be unemployed if affected by Covid-19 through at least one of the above channels (see Figure 35a).

Figure 35: Share of households affected by Covid-19 (%)

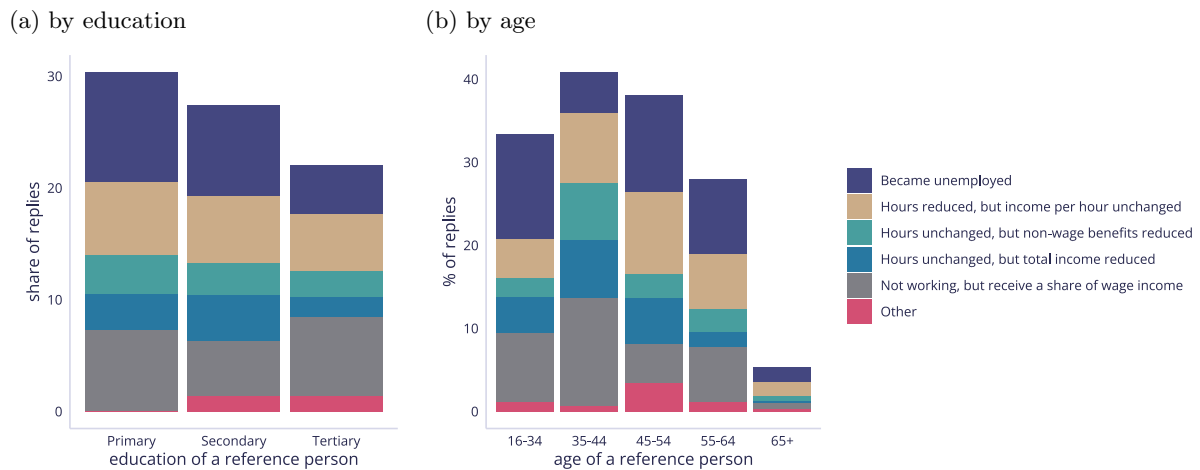


Question: Has the situation caused by Covid-19 negatively affected the employment status, hours worked or income of any member of your household in 2020 (for at least 1 month)?
Sources: HFCS Latvia 2020, authors' estimates.

Almost 40% of households with a reference person in the middle age group (see Figure 36a) and 30% of households with a reference person holding primary education (see Figure 36b) were affected by Covid-19. The share of households with some of its members becoming unemployed

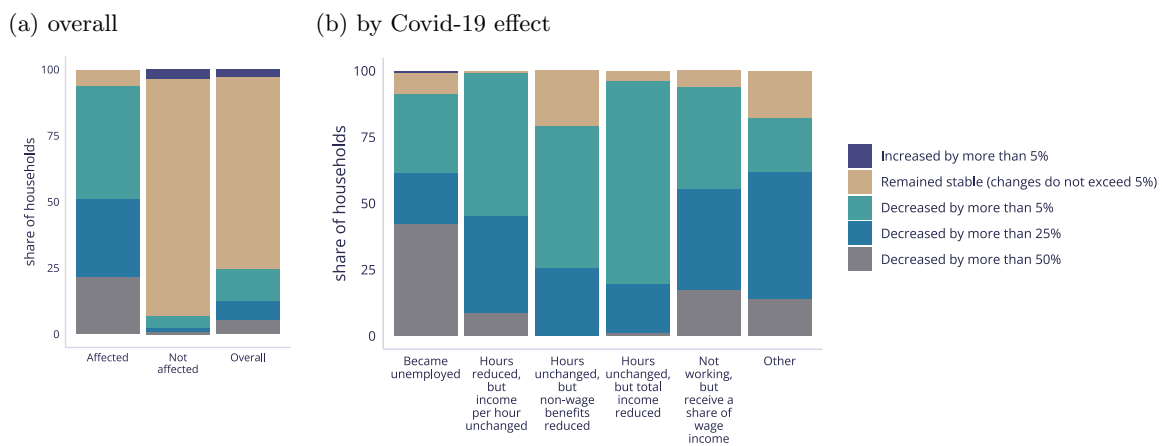
were especially pronounced for the primary education group.

Figure 36: Share of households affected by Covid-19: by age and education of reference person (%)



Question: Has the situation caused by Covid-19 negatively affected the employment status, hours worked or income of any member of your household in 2020 (for at least 1 month)?
Sources: HFCS Latvia 2020, authors' estimates.

Figure 37: Change in total household income due to Covid-19 (%)

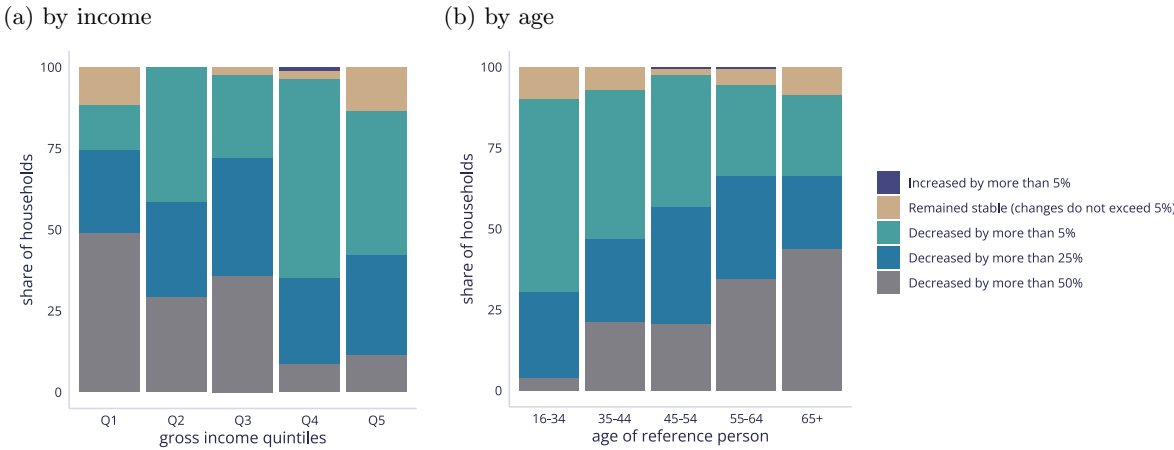


Question: How did the total income of your household (including income from wages, pensions, unemployment benefits, etc.) change in 2020 compared to a similar period in 2019 as a result of Covid-19?
Sources: HFCS Latvia 2020, authors' estimates.

Figures 37a and 37b put together a self-reported change in income in 2020 and the effect on working hours, wages, employment as a result of Covid-19. Overall, around one fourth of all households report some decline in income due to Covid-19. The majority (90%) of households, which reported that they were not affected by Covid-19, stated that the total household income

remained stable (changes do not exceed 5%) as compared to a similar period in 2019. Around 3.4% of these households reported an increase in income. On the other hand, 21% of households affected by Covid-19 reported a decrease in total income by more than 50%, 30% – a decline in income by more than 25%. Almost half of households, where some of their members became unemployed, report a decline in total income exceeding 50%. For households, where Covid-19 effect materialised mostly through wage or benefit reductions without a decline in hours worked, the contraction in income was much milder, with the majority of households reporting a drop of around 5–25%.

Figure 38: Change in total household income conditional on being affected by Covid-19 (%)



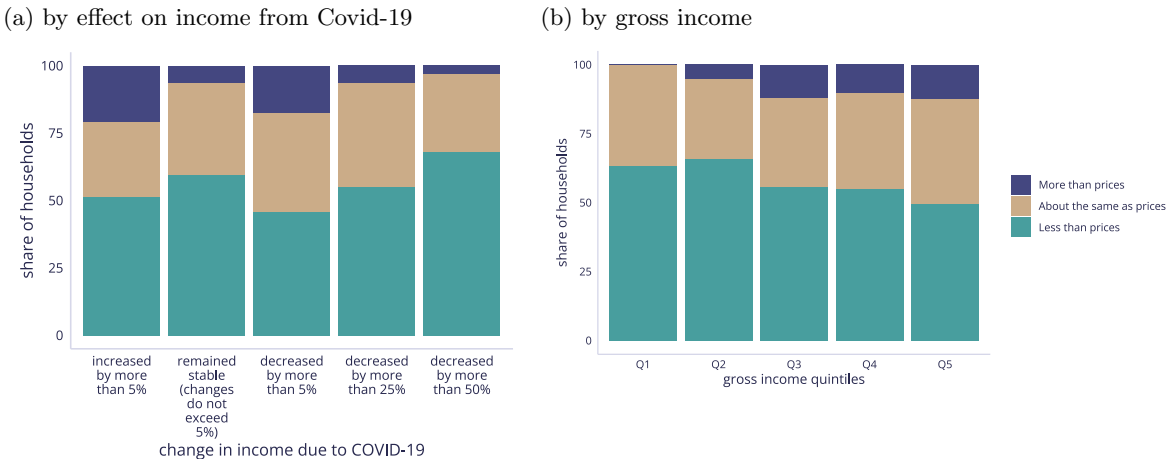
Question: How did the total income of your household (including income from wages, pensions, unemployment benefits, etc.) change in 2020 compared to a similar period in 2019 as a result of Covid-19?

Sources: HFCS Latvia 2020, authors’ estimates.

Conditional on being affected by Covid-19, the most severe decline in income is reported by low and middle income households (see Figure 38a) and by households with an older reference person (see Figure 38b). Households with a stronger decline in income also expect their future income to grow slower than prices (Figure 39a). Opposite is true for households experiencing income growth. The optimism of forward-looking expectations is most probably created by the present situation.

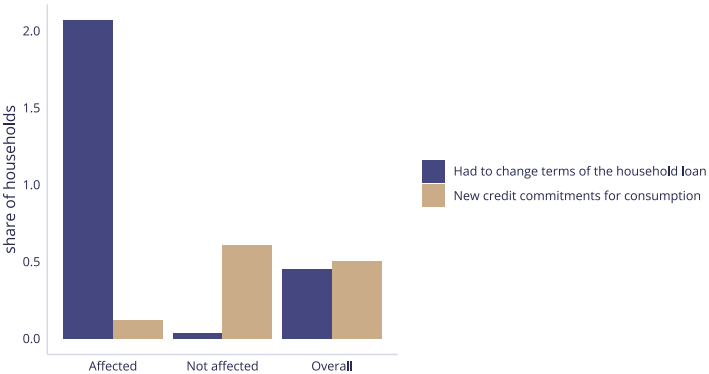
The share of households which undertook new credit commitments for consumption purposes or agreed with the lender to change the terms of the household loan (longer term, grace period, etc.) as a result of Covid-19 was around 0.5% (see Figure 40a). Around 2% of households reporting changes in income, hours worked or employment due to Covid-19 reported changes in loan terms.

Figure 39: Expectations of future income growth (%)



Question: Over the next year, do you expect your (household's) total income to go up more than prices, less than prices, or about the same as prices?
 Sources: HFCS Latvia 2020, authors' estimates.

Figure 40: Necessity to change credit terms due to Covid-19 (%)



Questions: (1) Have you made new credit commitments for consumption after 12 March 2020 as a result of the situation caused by Covid-19? (The purpose of the new loan was to improve your household's consumption of money, and you had not planned such a loan before the situation caused by Covid-19.)? (2) Have you agreed with the lender to change the terms of the household loan (longer term, grace period, etc.) after 12 March 2020 as a result of the situation caused by Covid-19?
 Sources: HFCS Latvia 2020, authors' estimates.

6 Concluding Remarks

The HFCS collects granular information on households' incomes, assets, debts, income and spending, which is crucial for understanding the distribution and accumulation of households' net wealth. Administrative data is an important source of information for the Latvian HFCS survey. It is used to complement, edit and identify missing data in respondents' answers on income, real estate ownership and value, and liabilities. In 2020, a new administrative data source

became available. The information from four major banks was used to improve underreporting of financial assets.

Summarising the results, in 2020, the 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 inflated the asset side of household balance sheet. At the same time, reduction in non-mortgage debt participation and the pay-off of outstanding mortgage debt reduced the liability side of the balance sheet. The only groups where the outstanding amount of mortgage debt increased were higher income households and households with a younger reference person. The inequality of net wealth distribution declined. Despite some increase in accumulation of net wealth for the wealthiest household group, the proportion of households holding the average size net wealth increased. Growing income is reflected in lower financial vulnerability and better self-assessment measures of households.

The next wave of the HFCS survey in Latvia will start in the second half on 2023 and will include a panel component. The novelty of the 2023 wave is the inclusion of question module about energy use and administrative data on vehicles.

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A Additional Materials

A.1 Administrative data use in variable editing

Administrative data allows cross-checking responses on participation in assets and liabilities, adjusting data for income and market value of real estate, or filling-in information about value of deposits in case of non-response.

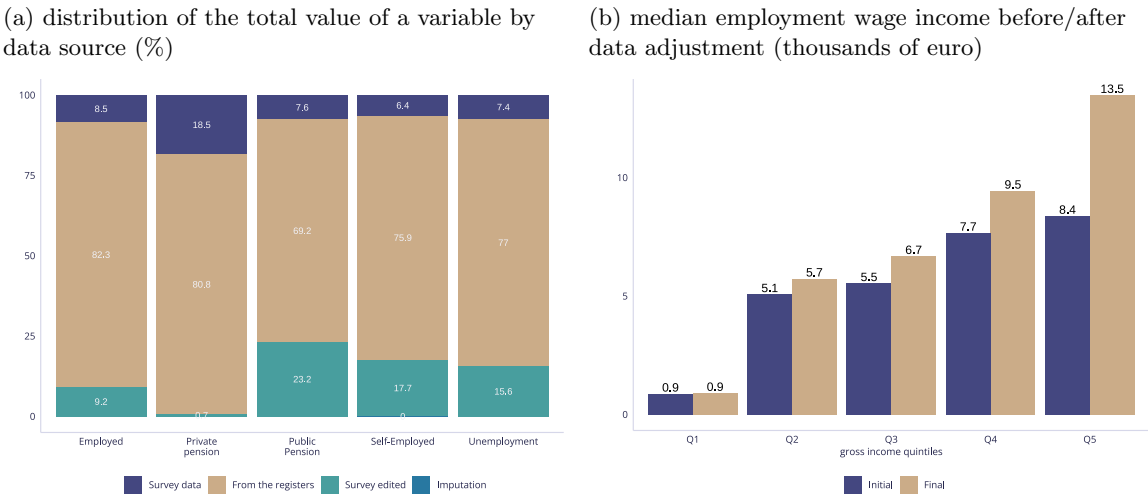
The set of flags is used to document adjustments made to the initial data ²⁹. The majority of flags are not directly connected to the use of administrative data. For example, imputing value from range, when respondents decided to indicate the interval instead of the precise value, or imputing values using information on other respondents in case if a respondent indicates the existence of some items but refuses to disclose details for which the administrative data is not available. Another option is editing/estimation, it is used if the survey contains additional information needed to estimate the correct value, for example, estimating the gross value from the net value.

When using administrative data, the flag is applied in three cases. First, an administrative data is available and it is used to replace an item or value if a respondent has not reported it, e.g., the participation and value of financial assets. Second, the case when we believe that an administrative data is true and we replace all respondents' answers with the available administrative data if replies differ. An example is the use of Credit Register data to edit information on participation and value of the outstanding mortgage and non-mortgage debt. Third, if the values from an administrative data exceed the ones reported by a respondent, the survey data is replaced with the data from the administrative source, otherwise the value reported by a respondent is kept unchanged. This option is used for employment and self-employment income variables due to a relatively large share of people receiving unofficial wage payments ([Benkovskis and Fadejeva, 2022](#)). Thus, earnings reported by respondents, if higher than the ones in the State Revenue Service data, are kept unchanged. Another example of this procedure is the market value of real estate. The market value of real estate provided by the State Land Register is an estimated value and might not always be representative, especially if the number of real estate transactions in the area is low. We assume that the estimations provide the baseline price and, in cases when the value reported by a respondent is higher, we keep the reported value unchanged.

Around 80% of the total value of gross income were adjusted using administrative data from

²⁹For more information on flags, see the HFCS User Guide Documentation; [Eurosystem Household Finance and Consumption Network \(2020a\)](#).

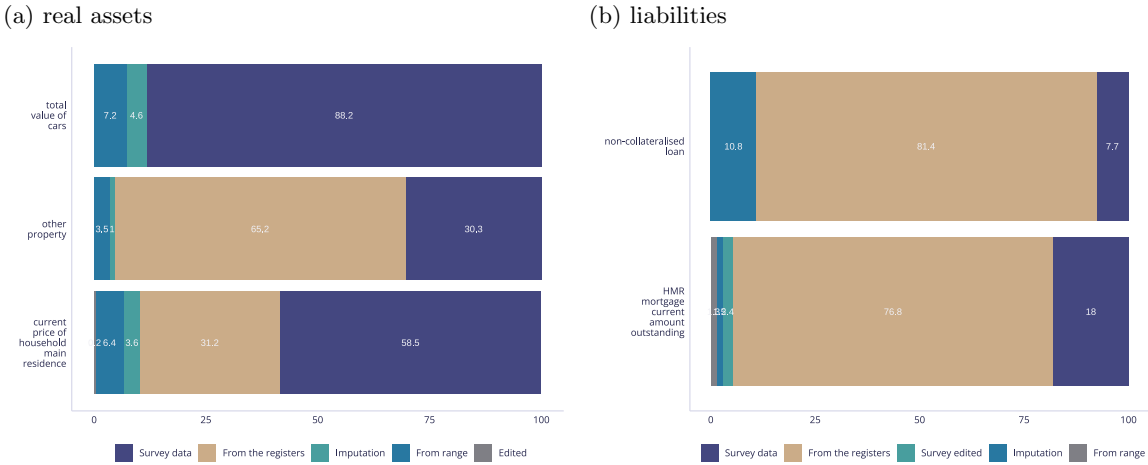
Figure A1: Use of administrative data in income variables



Sources: HFCS Latvia 2020, authors' estimates.

the State Social Insurance Agency and the State Revenue Service (see Figure A1a). In case of employment income, around 68% of respondents, who answered that they received employment income, did not report their gross income (42% did not report net income). Around 9% of respondents did not report receiving employment income, despite administrative data suggesting otherwise. After adding the administrative data and editing, the resulting median employment income was on average 25% higher (see Figure A1b). The increase is more pronounced for people in higher income quintiles.

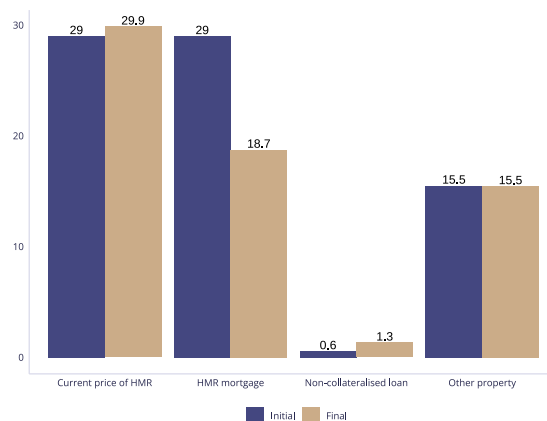
Figure A2: Use of administrative data in real assets and liabilities: distribution of value by data source (%)



Sources: HFCS Latvia 2020, authors' estimates.

The real estate market values estimated by the State Land Register was used to adjust re-

Figure A3: Use of administrative data in real assets and liabilities: median value before/after data adjustment (thousands of euro)



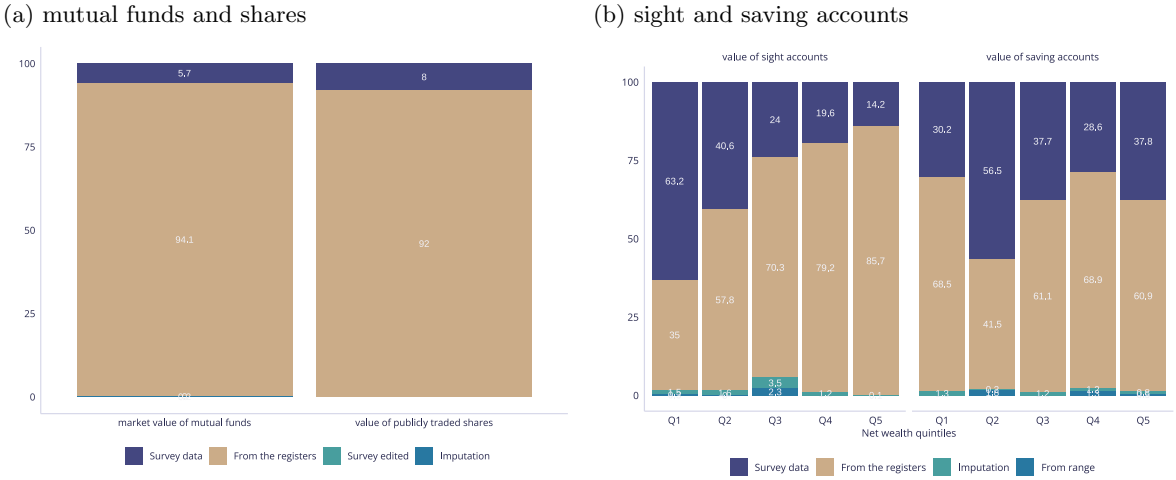
Sources: HFCS Latvia 2020, authors' estimates.

spondents' answers concerning the market value of their real estate. Almost 31% total value of household main residence (HMR) and 65% of other property were adjusted using the administrative data (see Figure A2a). Around half of the adjustments were due to adding non-reported real estates, the other half was due to State Land Register estimated market value being higher than the value reported by the respondent. Despite the relatively high share of adjustments, the median value in the final database remained almost unchanged (see Figure A3).

Information from the Credit Register on holdings and the outstanding value of mortgage and non-collateral debt was used for around 80% of corresponding total liability value (see Figure A2b). The main reason for adjustment is the availability of more precise values of outstanding liabilities from the Credit Register. The median of HMR mortgage after the adjustment became smaller mainly due to values of outstanding mortgage being lower than reported by respondents. Interestingly, around two thirds of non-mortgage debt items were not reported in the questionnaire. After adding information from the Credit Register, the resulting median for non-collateralised debt became higher than reported by respondents.

One of the most significant changes in the HFCS 2020 for Latvia, was the availability of administrative data on financial assets from four major banks. Traditionally, only around 20% of total financial asset value is covered in the HFCS data as compared to the total value in the Financial Accounts. The under-reporting of financial assets is observed across all countries in the HFCS network. In the 2020 survey for Latvia, the share of financial asset value covered in HFCS was around 70%, which is similar to the case of Estonia, which also has access to the administrative data on financial assets from banks. Almost all information on values of mutual funds and shares, and around 70% of values on sight accounts and 60% of saving accounts was

Figure A4: Use of administrative data in financial assets: distribution of value by data source (%)



Sources: HFCS Latvia 2020, authors' estimates.

adjusted using administrative data. Importantly, we see that richer households underreport larger share of total value of sight accounts (see Figure A4). It is less pronounced for savings accounts, which is probably due to much smaller popularity of this type of financial instrument during the low interest rate period.