NBS Occasional paper
1/2026

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NATIONAL BANK OF SLOVAKIA
EUROSYSTEM

www.nbs.sk

Publisher

research@nbs.sk

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Electronic version
https://nbs.sk/en/publications/research-papers-working-and-occasional-papers-wp-op/

ISSN 2585-9277 (electronic version)

Household Finance and Consumption Survey 2023: Results from Slovakia[*]

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January 26, 2026

Abstract

This report presents findings from the 2023 wave of the Household Finance and Consumption Survey (HFCS) in Slovakia. Median household net wealth increased by about 30% in nominal terms between 2021 and 2023. However, these gains were largely offset by inflation, resulting in real net wealth increasing by only 4%. The inflationary period and the cooling of asset markets between the two waves benefited homeowners and pensioners in particular, while renters experienced little to no improvement – and in some cases a decline – in their real wealth. Participation in financial markets continued to expand; however, deposits remain the dominant component of household portfolios. Despite rising wealth, household liquidity did not improve. About a quarter of households remains hand-to-mouth, suggesting that higher net worth does not automatically translate into stronger liquidity buffers. Although household indebtedness continued to grow, key debt burden indicators remained stable. The report also reviews developments in financial literacy, economic expectations, and attitudes toward fairness and redistribution.

[*]We thank Jochen Mankart, Pavel Gertler, and Ján Klacso for their helpful comments and suggestions. We would also like to thank Roman Vrbovský for his insights into real estate price developments, as well as Pavol Latta for his comments on household indebtedness. We would also like to thank Norbert Švarda from the Council for Budget Responsibility for helping us obtain the underlying data used to calibrate the survey weights. Additionally, we would like to thank our official partner in conducting this survey: the Statistical Office of the Slovak Republic. The views and results presented in this report are those of the authors and do not necessarily represent the official opinion of the National Bank of Slovakia or the Eurosystem. All remaining errors are our own.

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Executive summary

Wealth increased in nominal terms by about 30%, while real gains remained modest and inequality widened slightly.

- Slovak households recorded a seemingly strong increase in median net wealth, rising from €97,000 in 2021 to €125,400 in 2023. However, once adjusted for inflation, the 2023 value indicates only a small change in real terms, with real median net wealth increasing by 4% between the 2021 and 2023 waves.
- Some households benefited more from these wealth gains than others, resulting in a modest increase in wealth inequality between 2021 and 2023. The Gini index increased from 0.45 to 0.47.

Wealth gains were strongest among homeowners with mortgages and older households, with real assets remaining the dominant form of wealth.

- Household portfolios remain heavily concentrated in housing, with rising property values accounting for most of the growth in wealth.
- Real net wealth gains were especially strong among households aged 45 to 54 and 65+, with increases of more than 10%, while younger households experienced only minor real gains or even real declines.
- Financial assets remain secondary, with over 90% of households holding deposits. Although participation in more advanced instruments, such as mutual funds, shares and bonds, has grown, it remains modest overall.
- In particular, participation in mutual funds almost doubled, increasing from around 4% to nearly 8%. This growth, however, came mostly from households investing relatively small amounts.
- No major socio-demographic group shows the opposite pattern, in which financial or business assets predominate within household portfolios.

More than a quarter of households are hand-to-mouth, due to not having built up a financial buffer.

- Over a quarter of Slovak households live from *"paycheck to paycheck"*, i.e. their liquid financial wealth (such as deposits) is less than half of their monthly income. Most of them belong to the group of asset-rich hand-to-mouth households, who hold illiquid wealth in the form of real assets such as housing, accounting for about 24% of households in 2023.
- In contrast, only around 3% are asset-poor hand-to-mouth households, with little

wealth in either liquid or illiquid form.

- Households with higher education and greater financial literacy are less likely to fall into the hand-to-mouth category, whereas younger households are considerably more vulnerable.

Generally, households continued to take on mortgages, while key debt burden indicators showed little change.

- Households maintained a strong interest in mortgage borrowing, with the share of those holding mortgage debt rising from 25% in 2021 to almost 30% in 2023. In contrast, non-mortgage debt holdings remained broadly stable at around 16%, showing virtually no change over the 2021–2023 period.
- Despite somewhat tighter credit conditions during the 2021–2023 period, key debt burden indicators such as the loan-to-value (LTV) ratio and the debt service-to-income (DSTI) ratio remained broadly stable.

Households became more financially informed and open to risk, yet progress remains limited.

- Financial literacy in Slovakia has improved modestly. The share of respondents reaching a high level of financial literacy increased from 13% in 2021 to 16% in 2023, but overall levels remain low by international standards.
- Households have become slightly more willing to take financial risks, although most still prefer low-risk options.
- Higher financial literacy and greater risk appetite are associated with a higher likelihood of holding shares, bonds, or mutual funds.

Macroeconomic expectations vary markedly across households, and perceptions of unfairness remain widespread.

- Households tend to substantially overestimate current and future inflation.
- Households with higher levels of education and stronger financial awareness form more realistic perceptions and expectations about the future.
- The majority of Slovak households perceive the economic system as unfair. Support for redistribution declines with income and increases with age. In addition, social comparisons are closely correlated with perceptions of (un)fairness.

1. Introduction

This report introduces microdata from the 2023 wave of the Household Finance and Consumption Survey (HFCS) conducted in Slovakia. It reports the main changes in household finances between 2021 and 2023 in the context of recent economic developments.[1]

The HFCS is a Europe-wide initiative coordinated by the European Central Bank (ECB) together with other Eurosystem national central banks.[2] The survey has been conducted in euro area countries and some other European Union countries (Czech Republic, Hungary, and Poland) at roughly three-yearly intervals since 2010, using a harmonised methodology, making the results directly comparable across countries and over time.

The survey collects detailed household-level microdata on real and financial assets, liabilities, income and consumption, along with detailed socio-demographic and economic information. These data make it possible to identify differences across household groups and to assess the distributional effects of economic developments and policy measures. In essence, the survey provides a deeper understanding of the structure of household wealth and its evolution over time.

Box 1: Slovak HFCS 2023 main features

This is the fifth wave of the HFCS in Slovakia, data collected in the winter of 2023. It is administered by the National Bank of Slovakia, with fieldwork carried out by the Statistical Office of the Slovak Republic.

In addition to the standard HFCS variables, this new wave also included novel questions on households' macroeconomic expectations and their attitudes towards fairness and redistribution.

To ensure representativeness, the survey randomly selected around 4,000 households from 600 municipalities in eight regions of Slovakia using multi-stage, stratified probability sampling methods. A response rate of over 50% resulted in a final sample of 2,127 households. To increase their participation rate in the survey, wealthy households were oversampled.

An essential part of the survey data is the construction of weights needed to be used to combine information from the samples to construct estimates for the full population. Further details on the survey methodology are given in the Appendix.

[1] Results of the previous HFCS waves in Slovakia can be found here: HFCS 2010, HFCS 2014, HFCS 2017, and HFCS 2021.

[2] More details are available here: `https://www.ecb.europa.eu/stats/ecb_surveys/hfcs/html/index.en.html`.

The survey timing enables the analysis of household wealth rebalancing and sentiment formation during a turbulent period. Slovak households experienced significant macro-financial shocks between 2021 and 2023, marked by movements in house prices, inflation and interest rates. During this period, house prices rose exceptionally fast, with annual growth exceeding 20% in both 2021 and 2022. As interest rates increased and affordability weakened, the housing market cooled, leading to the first annual decline in property prices in the past ten years (around 6% in 2023). This adjustment may have partly offset some of the earlier gains in household wealth, particularly for recent buyers.[3]

Inflation remained exceptionally high in 2022 and 2023, putting strong pressure on household budgets and real wealth. Average headline inflation reached 12.1% in 2022 and 11.0% in 2023, considerably reducing the purchasing power of household incomes and the real value of assets.[4] In response, interest rates rose sharply in line with ECB policy. The average interest rate on new housing loans increased from below 1% in late 2021 to around 4.5% by the end of 2023, making new borrowing significantly more expensive. The rise in interest rates also raised refinancing costs for households whose fixed-rate periods expired, further tightening households' access to credit.[5]

As a result, the HFCS 2023 in Slovakia provides new insights into the overall financial situation of households. The following sections present key findings on wealth, assets, and indebtedness. The report also sheds light on selected topics, such as financial literacy, risk attitudes, and macroeconomic expectations. There is a particular focus on identifying the hand-to-mouth households.

[3] See, for example, NBS (2023) and Kupkovič & Cesnak (2023).
[4] See, for example, Pallotti et al. (2024) or Doepke & Schneider (2006).
[5] See European Commission (2023).

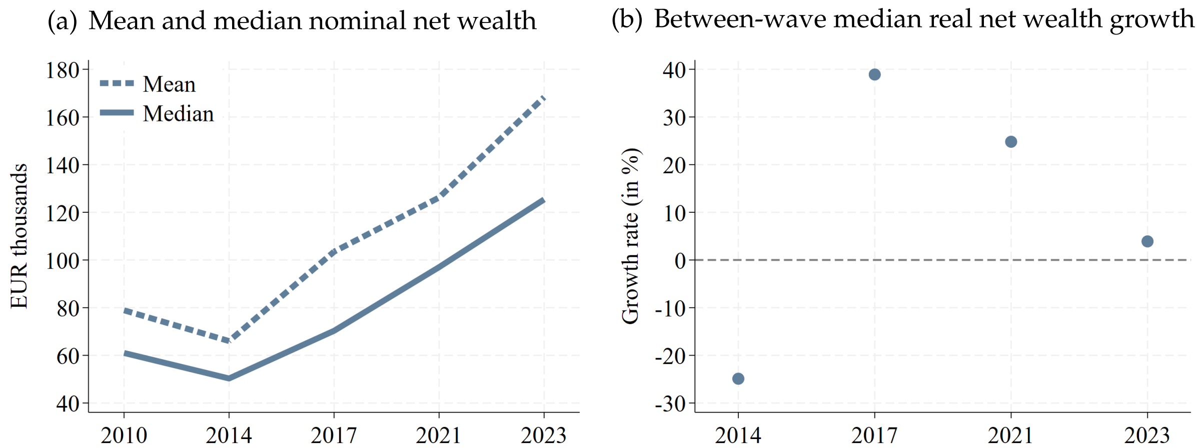
2. Household wealth and financial situation

This section presents the main changes in the financial situation of households in Slovakia in recent years. It focuses primarily on net wealth, as well as specific asset classes and debt components. It also reports on developments in inequality, income, consumption, and savings.

2.1. Net wealth

Household net wealth[6] continued to grow strongly in nominal terms between 2021 and 2023, but was largely offset by high inflation. Median net wealth rose from €97,000 to €125,400 (around 30% in nominal terms) and the mean increased from €126,200 to €168,300 (see Figure 1). However, much of this growth was offset by high inflation. After adjusting for price increases, median net wealth shows only a modest real gain, rising by just 4% between the 2021 and 2023 waves. In other words, while households' nominal balance sheets strengthened, their real wealth improved only slightly once inflation is taken into account.

Figure 1: Evolution of household net wealth



Notes: Statistics computed using survey weights and multiple imputed data. The real growth rates in panel (b) are calculated as the percentage increase in real volumes, where real volumes are obtained by deflating nominal values using the HICP index (2021=100).

[6]Net wealth is defined as the sum of real assets (value of real estate, vehicles, valuables, and self-employed business wealth) and financial assets (value of deposits and savings accounts, mutual funds, bonds, private non-self-employed business, shares, managed accounts, money owed to the household, voluntary pensions and whole life insurance) less the sum of value of mortgage and non-mortgage debt.

Table 1: Household net wealth by socio-demographic status (median in thousands of EUR)

Household characteristics	2017	2021	2023	Nominal difference 2021–2023	Real difference 2021–2023
Overall	70.3	97.0	125.4	29%	4%
Region					
Bratislava	110.1	134.9	180.2	34%	7%
Trnava	64.4	101.5	139.0	37%	10%
Trenčín	80.5	93.8	128.6	37%	10%
Nitra	50.8	81.6	102.6	26%	1%
Žilina	76.9	118.0	150.1	27%	2%
Banská Bystrica	52.0	71.9	85.9	20%	-4%
Prešov	67.7	88.5	112.1	27%	2%
Košice	65.2	87.4	106.7	22%	-2%
Housing status					
Owner outright	82.0	114.0	140.4	23%	-1%
Owner with mortgage	57.7	89.4	128.3	44%	15%
Rent	2.2	5.5	4.8	-13%	-30%
Percentile of income					
Less than 20	36.9	62.4	87.5	40%	13%
20-39	57.0	86.0	105.8	23%	-1%
40-59	61.0	88.5	123.6	40%	12%
60-79	88.6	113.2	142.4	26%	1%
80-100	127.2	147.1	197.8	35%	8%
Age of reference person					
16-34	33.6	71.5	74.6	4%	-16%
35-44	67.0	83.8	109.5	31%	5%
45-54	80.0	105.9	151.5	43%	15%
55-64	95.0	128.7	148.5	15%	-7%
65+	70.6	93.8	130.3	39%	12%
Employment status of reference person					
Employed	70.6	97.3	122.3	26%	1%
Self-employed	118.0	130.2	178.7	37%	10%
Unemployed / not working	24.9	39.9	52.2	31%	5%
Retired	61.0	94.6	123.6	31%	5%
Education of reference person					
Primary or lower secondary	31.2	42.8	51.8	21%	-3%
Upper secondary, non-tertiary	67.1	93.2	117.6	26%	1%
Tertiary	101.9	134.5	164.4	22%	-2%

Notes: Statistics computed using survey weights and multiple imputed data. The real difference is calculated as the percentage increase in real volumes, where real volumes are obtained by deflating nominal values using the HICP index (2021=100). Age, working status and education follow the UN/Canberra definition of the household reference person.

Household wealth levels in Slovakia show clear regional differences, with the western part of the country generally wealthier than the central and eastern regions. In 2023, median household net wealth ranged from €85,900 in Banská Bystrica to €180,200 in Bratislava. Regions such as Žilina and Trnava also report relatively high wealth levels, while Košice and Nitra remain below the national median (see Table 1). Real gains between 2021 and 2023 were strongest in Trnava and Trenčin (both +10%), whereas Banská Bystrica (–4%) and Košice (–2%) experienced declines once inflation is taken into account.

Home ownership is strongly associated with higher household net wealth, with both outright owners and owners with a mortgage holding far more wealth than renters. Households that own their dwelling outright reported a median net wealth of €140,400, while those with a mortgage reached €128,300 in 2023. Both groups saw nominal gains, but only owners with a mortgage recorded a meaningful increase in real terms (+15%). This reflects that high inflation reduces the real burden of mortgage debt and, for some households, supports additional borrowing for property purchases. Renters, in contrast, had a median wealth of just €4,800, down from €5,500 in 2021, which corresponds to a −30% real change.

Real net wealth gains were concentrated among households aged 45–54 and 65+, while the youngest households saw declines. In 2023, households with a reference person aged 16–34 reported a median net wealth of €74,600, compared with €109,500 among those aged 35–44 years and €151,500 among households aged 45–54 years, the wealthiest age group. Median net wealth is then somewhat lower at €148,500 for households aged 55–64 and €130,300 for households aged 65+. Between 2021 and 2023, nominal gains were strongest among the 45–54 (+43%) and 65+ (+39%) age groups, translating into real increases of 15% and 12%, respectively, while the youngest cohort experienced a real decline of 16%.

Household net wealth differs substantially across employment and education groups, with the self-employed and tertiary-educated holding the highest levels of median wealth. In 2023, self-employed households reported a median net wealth of €178,700, compared with €122,300 among employed households and €123,600 among retired. A similar pattern appears across education levels. Households with a tertiary-educated reference person held a median wealth of €164,400, well above those with upper-secondary education (€117,600) and those with only primary or lower-secondary education (€51,800). These differences underline the notable link between labour-market position, educational attainment, and long-term wealth accumulation.

2.1.1. Wealth inequality

The top 10% of households hold about 36% of total wealth, which remains one of the lowest inequality shares internationally. This value increased slightly in 2023, but has been broadly stable over time (see Table 2). The Gini index peaked in 2017, fell notably in 2021 and then rose slightly again in 2023. A similar pattern is observed for other inequality indicators, such as wealth shares. In international comparison, Slovakia continues to exhibit relatively low wealth inequality. For example, in 2021 the top 10% households in the euro area held over 53% of total net wealth.[7] Lower inequality in Slovakia is largely driven by its high rate of homeownership rate. Real estate is considered the most equalizing asset, given its widespread ownership, especially in Central and Eastern Europe.[8]

[7] See HFCS statistical tables (ECB, 2021).
[8] See Brzezinski & Sałach (2021).

Table 2: Evolution of wealth inequality

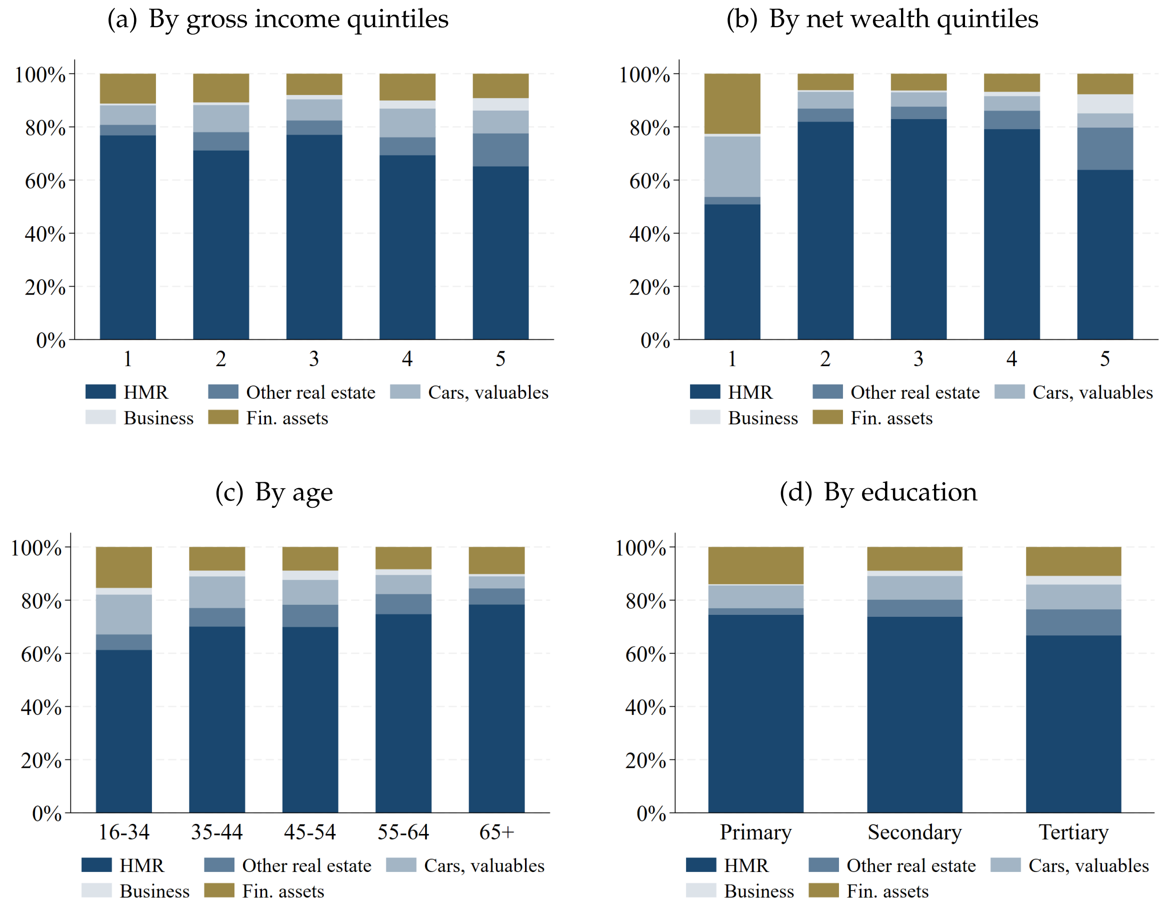
Inequality indicator	2014	2017	2021	2023
Gini coefficient	0.492	0.540	0.456	0.473
Mean-to-median ratio	1.313	1.472	1.301	1.342
p90/median	2.618	2.854	2.529	2.420
p80/p20	5.444	5.525	4.184	3.696
Wealth shares				
Wealthiest 10%	34.6%	40.7%	32.8%	35.8%
50-90%	48.0%	44.1%	47.5%	44.9%
Bottom half	17.4%	15.2%	19.7%	19.3%

Notes: Statistics computed using survey weights and multiple imputed data.

2.2. Assets

Household portfolios in Slovakia remain heavily concentrated in housing, with limited diversification beyond real estate. Housing, and particularly the household's main residence (HMR), remains the dominant component of gross wealth across all groups (see Figure 2), with HMR typically accounting for 60-80% of total assets.

Figure 2: Composition of household portfolios (HFCS 2023)

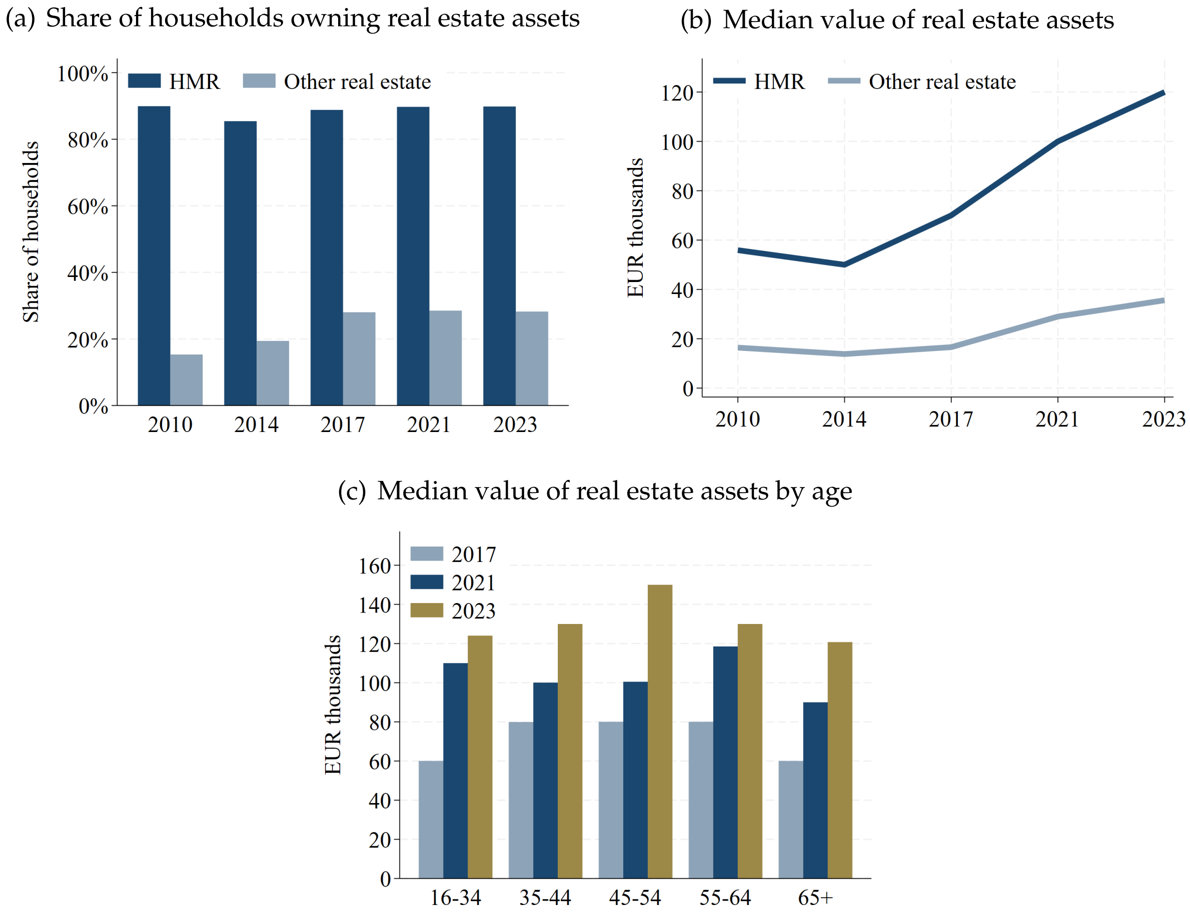


Notes: Statistics computed using survey weights and multiple imputed data. HMR – Household main residence. Age and education follow the UN/Canberra definition of the household reference person.

Wealthier and better-educated households hold a somewhat larger share of other real estate, financial, and business assets, while lower-income and older households rely more heavily on their main residence and have comparatively little wealth in other asset categories.

The median value of both primary residences and other properties has increased notably since 2021. Ownership of the real estate assets remained broadly stable, with around 90% of households owning the household's main residence (Figure 3a). Ownership of other real estate, such as secondary or investment properties, stayed at approximately 30% between 2021 and 2023. In contrast, the median value of the main residence increased from €100,000 to €120,000 (Figure 3b), while the median value of other real estate rose from €29,000 to €35,600, reflecting ongoing growth in housing prices.

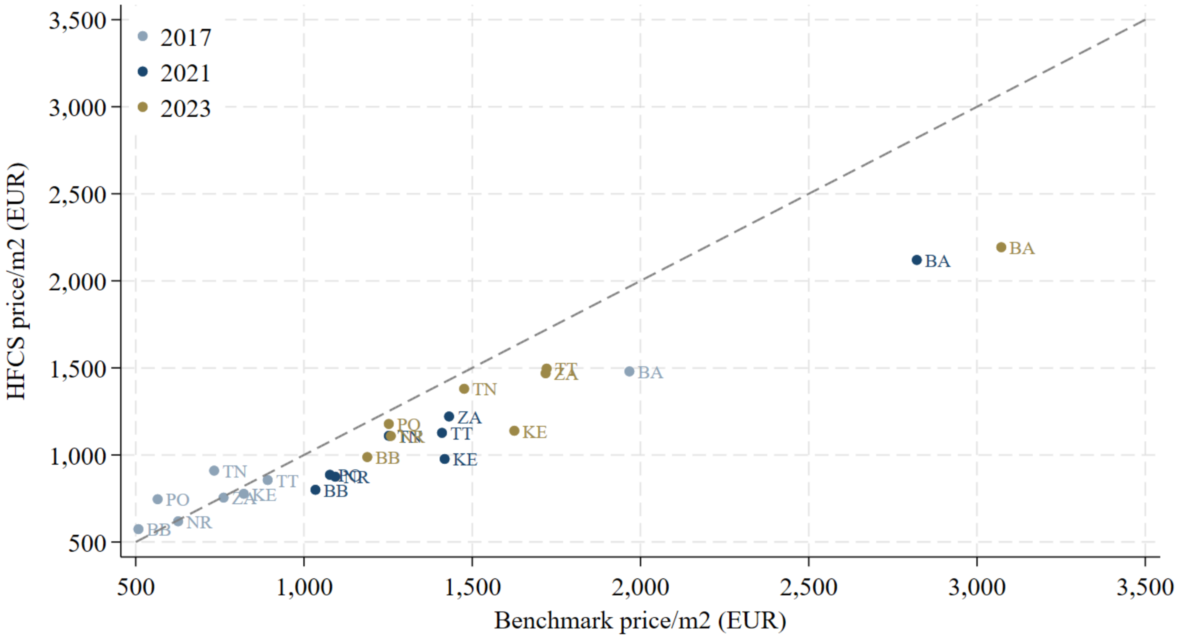
Figure 3: Evolution of ownership and value of real estate assets



Notes: Statistics computed using survey weights and multiple imputed data. Median values are reported conditional on holding a particular asset. HMR – Household main residence. Age follows the UN/Canberra definition of the household reference person.

Growth of housing prices was reported across all regions, with particularly strong growth outside Bratislava. The rise in housing prices is clearly reflected in the regional data (Figure 4). Prices per square meter increased in all regions between 2021

Figure 4: Proximity of HMR price/m2 in the HFCS to the external benchmark



Notes: Average values in the HFCS are computed using survey weights and multiple imputed data. Benchmark prices are computed using the adjusted official NBS methodology. Average prices per region are calculated as an arithmetic average of the underlying districts, instead of a weighted average. The 45-degree line represents equality between HFCS-reported and benchmark prices; deviations from this line indicate under- or overvaluation by region.

and 2023. The most notable increases were recorded in regions of Trnava and Prešov, where prices rose by more than 30%, while reported growth in Bratislava was comparatively moderate (around 3%). Although the HFCS captures this general upward trend, households tend to report property values below market benchmarks, suggesting that actual price appreciation may be even more pronounced.

Turning to financial assets, household portfolios continue to be dominated by deposits, which remain by far the most widespread instrument. In 2023, around 91% of households held deposits, as shown in Figure 5a, while only about 12% held whole-life insurance (or voluntary pension savings).[9] Participation in more sophisticated financial instruments – such as shares, bonds, and mutual funds – has increased from 6% in 2021 to more than 10% in 2023. Despite this gradual expansion, advanced financial products remain relatively uncommon in household portfolios.

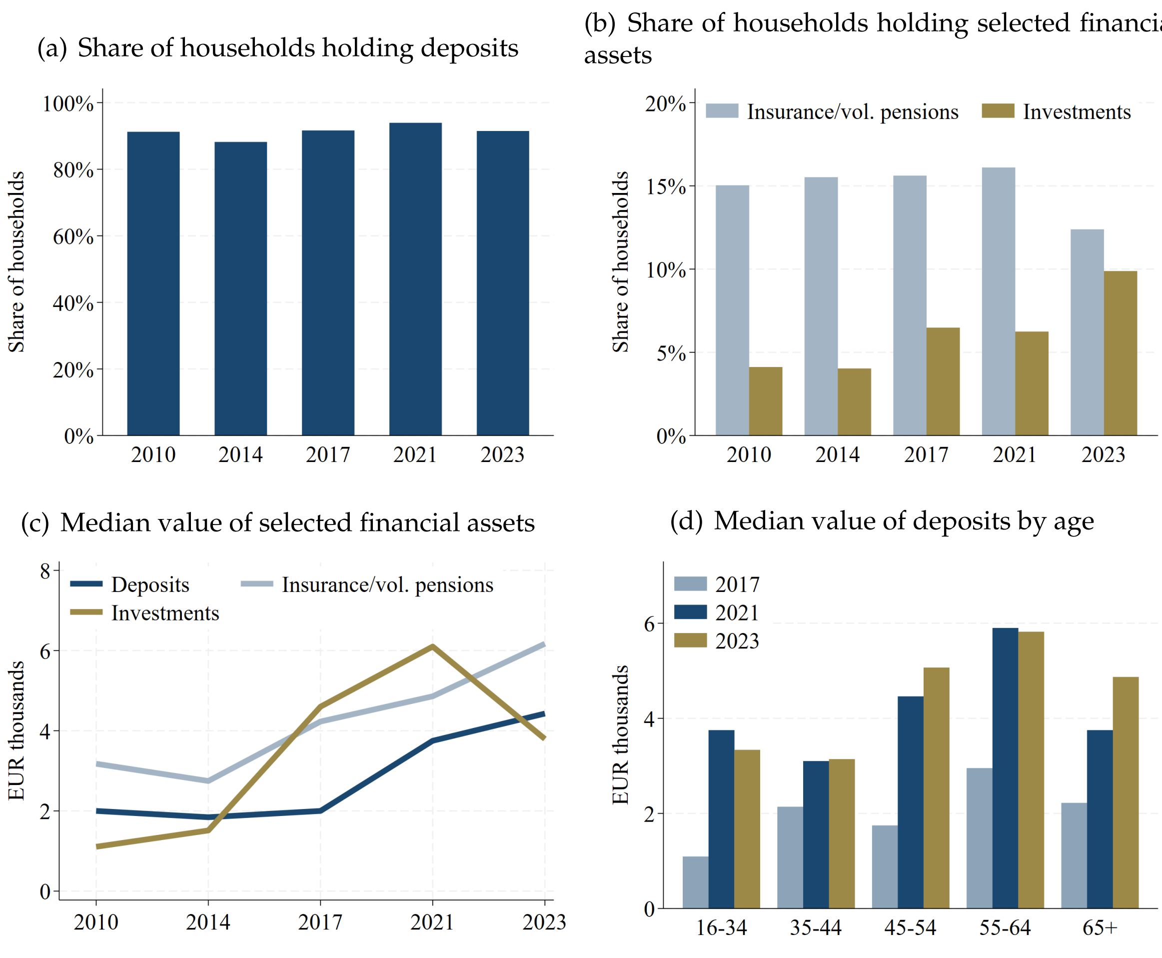
Median deposits rose modestly in nominal terms, with larger gains among households aged 45–54 and 65+, while younger households saw nominal declines. Between 2021 and 2023, median deposits increased from €3,800 to €4,100 (Figure 5c), a very small change relative to the nearly 20% inflation recorded over the period. This implies that liquid savings did not increase in real terms and may even have declined.

[9] Note that information on voluntary pension savings has not been collected since 2017.

Nominal gains were most visible among households aged 45–54 and 65+, where median deposits rose by around 14% and 30% respectively, while the youngest cohort recorded an 11% nominal decline (Figure 5d). In real terms, however, all groups except those aged 65+ likely experienced a reduction in the purchasing power of their liquid savings.

Long-term savings in whole-life insurance products kept rising, while typical investment amounts declined as more households entered financial market. Assets in whole-life insurance increased from €4,900 to €6,200, indicating steady expansion of long-term savings. By contrast, investment holdings fell from €6,100 to €3,800, largely because many new investors contributed only small amounts, lowering the typical value held in these products.

Figure 5: Evolution of ownership and value of selected financial assets



Notes: Statistics computed using survey weights and multiple imputed data. Median values are reported conditional on holding the particular asset. Note that information on voluntary pension savings has not been collected since 2017. The category "investments" includes financial assets such as bonds, shares and mutual funds. Age follows the UN/Canberra definition of the household reference person.

2.3. Indebtedness

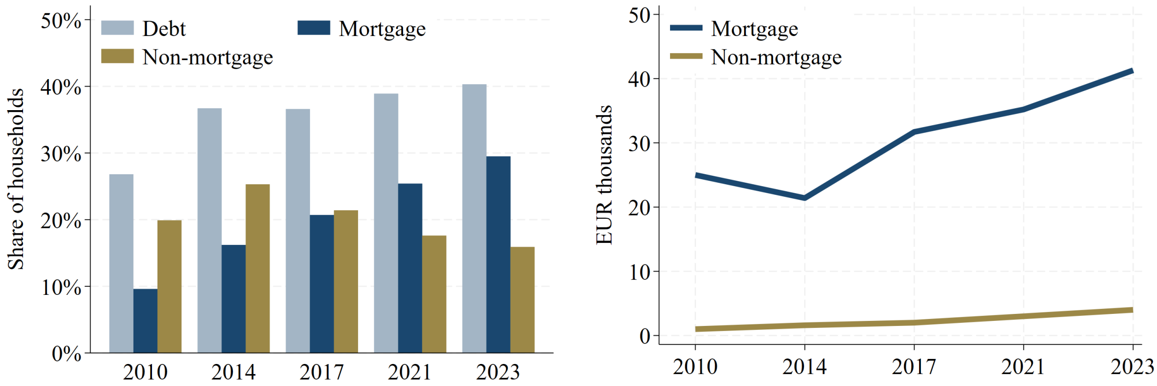
Household indebtedness rose slightly between 2021 and 2023, mainly due to increased mortgage borrowing. The share of households with any form of outstanding debt inched up from 39% in 2021 to 40% in 2023 (Figure 6a), remaining below the average debt participation observed in many euro area countries. This modest increase was driven primarily by mortgage borrowing, with the share of households holding a mortgage rising from 25% to 30% over the period. In contrast, the share of households with non-mortgage debt, such as consumer or short-term loans, declined slightly from 18% to 16%, indicating that the recent rise in indebtedness was concentrated in long-term, housing-secured loans.

Outstanding debt levels increased between 2021 and 2023, driven mainly by rising mortgage balances. The median amount of mortgage debt grew from €35,000 to €41,000 (Figure 6b), reflecting both higher house prices and continued mortgage activity. Non-mortgage debt also increased, but more modestly, with the median rising from €3,000 to €4,000. Overall, the expansion of debt was shaped primarily by mortgages, while growth in other forms of borrowing remained limited.

Figure 6: Evolution of household indebtedness

(a) Share of indebted households

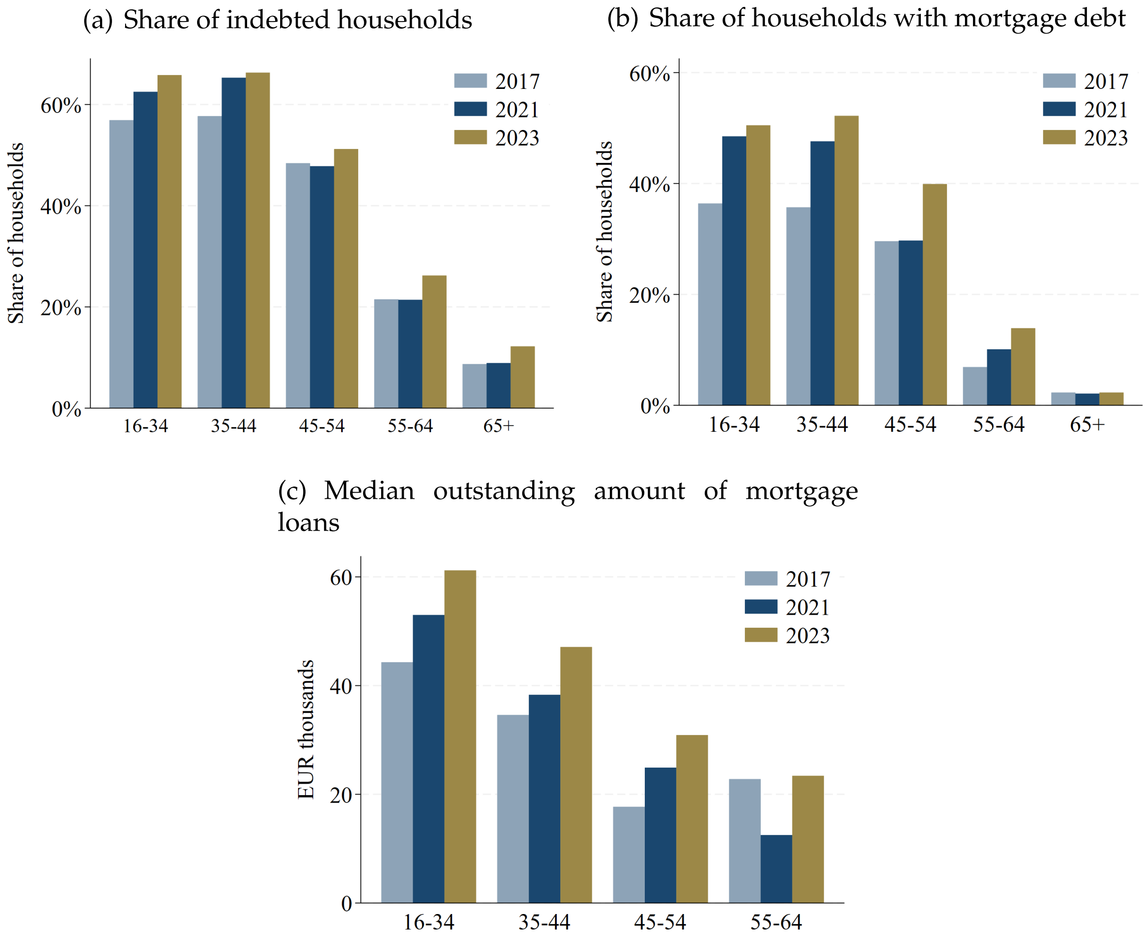
(b) Median outstanding amount of loans



Notes: Statistics computed using survey weights and multiple imputed data. Median values are reported conditional on holding a particular debt component.

Debt is most common among younger households, reflecting a clear life-cycle pattern in borrowing. However, the share of households with any outstanding debt increased across all age categories between 2021 and 2023 (see Figure 7a). The rise in overall indebtedness among younger households was largely driven by mortgage borrowing, with the share of mortgage holders in the 16–34 cohort slightly increasing from 48% to 50%, and from 48% to 52% among those aged 35–44 (Figure 7b). Though, one of the sharpest increases in the level of indebtedness (by roughly 10 percentage points) was observed among households aged 45–54. The evolution of loan volumes broadly

Figure 7: Evolution of household indebtedness by age group

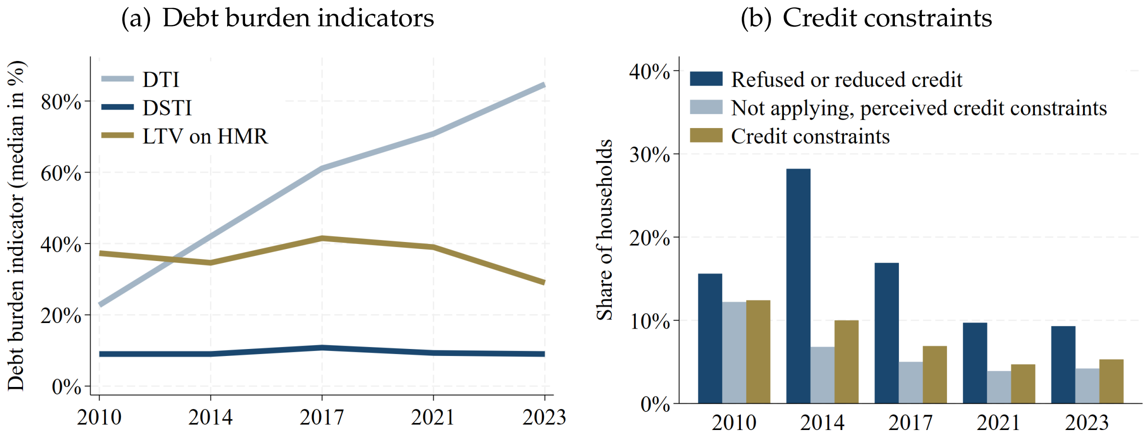


Notes: Statistics computed using survey weights and multiple imputed data. Age cohorts "65-74" and "75+" were dropped from panel (c) due to insufficient number of observations. Median values are reported conditional on holding the particular debt component. Age follows the UN/Canberra definition of the household reference person.

mirrors these participation patterns, with median mortgage debt rising across all borrowing age groups. Mortgage debt levels are highest among younger households and continued to rise, while other age groups also experienced increases (Figure 7c).

Despite higher mortgage balances, debt burden indicators point to stable repayment capacity. Overall, debt burden indicators suggest a gradual stabilisation between 2021 and 2023 (Figure 8a). The debt-to-income ratio (DTI) increased from 71% to 85%, reflecting higher outstanding debt relative to income, likely driven by rising real estate prices and expanding mortgage lending. In contrast, the debt-service-to-income ratio (DSTI) remained broadly stable at around 9%, indicating that although households took on more debt, the share of income devoted to repayments did not rise in parallel. This stability can be mostly attributed to extended loan maturities, the prevalence of mortgages with longer interest rates fixation originated in the low-interest period before 2022, and macro-prudential limits on debt-service burdens. At the same time, the

Figure 8: Evolution of debt burden and credit constraints



Notes: Statistics computed using survey weights and multiple imputed data.

loan-to-value ratio (LTV) on the main residence declined from 39% to 29%, suggesting that recent borrowers entered the market with larger down payments.[10]

Access to credit remained stable, with few households facing borrowing constraints. Indicators of credit constraints show that access to credit has remained relatively stable in recent years (Figure 8b). The share of households that were refused or received a reduced amount of credit was virtually unchanged, at around 10% in both 2021 and 2023. Similarly, the proportion of households that did not apply for credit due to perceived constraints remained low at around 4%. Overall, the share of credit-constrained households remained the same between 2021 and 2023 (around 5%). Borrowing conditions tightened as interest rates rose, and a small group of households continues to face limited access to credit.

2.4. Income, consumption and savings

Median household income grew strongly in nominal terms, but real gains were modest. Between the 2021 and 2023 HFCS waves, median annual gross household income increased by 28% reaching €26,800. However, once the sharp increase in prices over this period is taken into account, the real income of a typical household grew by only around 3%.

Nominal income growth was broadly balanced across socio-demographic groups, though some lower-income households saw the strongest gains. Renters, households with older or non-working reference persons, and those with lower levels of education experienced the largest increases in gross income between 2021 and 2023. As a result,

[10] Note that the HFCS data evaluates debt burden indicators based on stock values, not new mortgage inflows. Therefore, these results are not directly comparable to those presented in standard Financial Stability Reports of the NBS.

these groups also experienced the largest improvements in real terms. See Table 3 for details.

Table 3: Household annual gross income by socio-demographic status (median in thousands of EUR)

Household characteristics	2017	2021	2023	Nominal difference 2021–2023	Real difference 2021–2023
Overall	16.0	21.0	26.8	28%	3%
Percentile of income					
Less than 20	5.5	6.8	10.2	51%	21%
20-39	10.7	13.8	18.4	33%	7%
40-59	16.0	21.0	26.8	28%	3%
60-79	22.6	29.1	36.9	27%	2%
80-90	31.1	38.3	49.3	29%	3%
90-100	46.9	52.0	67.7	30%	5%
Age of reference person					
16-34	15.7	23.2	27.5	19%	-5%
35-44	19.0	24.6	29.1	18%	-5%
45-54	22.4	27.2	34.6	27%	2%
55-64	19.0	23.5	28.9	23%	-1%
65+	8.9	10.8	15.9	48%	19%
Employment status of reference person					
Employee	19.5	25.4	29.9	18%	-5%
Self-employed	24.5	29.3	38.2	30%	5%
Unemployed / not working	6.4	6.6	11.0	67%	34%
Retired	9.0	11.1	14.9	35%	8%
Education of reference person					
Primary or lower secondary	6.1	8.5	12.5	48%	19%
Upper secondary, non-tertiary	15.8	20.0	25.4	27%	2%
Tertiary	21.9	27.1	36.8	36%	9%

Notes: Statistics computed using survey weights and multiple imputed data. The real difference is calculated as the percentage increase in real volumes, where real volumes are obtained by deflating nominal values using the HICP index (2021=100). Age, working status and education follow the UN/Canberra definition of the household reference person.

Similarly, household food consumption rose considerably in nominal terms but showed no real increase. Between the 2021 and 2023 HFCS waves, the median household's annual food spending increased by 25%. This increase largely mirrors inflation, leaving real consumption essentially unchanged. The main developments in household food spending are summarised in Table 4.

The elderly, the unemployed, and households with lower levels of education saw the largest increases in food expenditure between 2021 and 2023. These groups typically spend more on food relative to their income, so their expenditures grew the most in both nominal and real terms over the period.[11]

[11] A typical household spent around 24% of its gross income on food in 2023, unchanged from 2021. At the same time, median households in the 1st income quintile spent 41%, while those in the highest income quintile allocated 14% of their gross income on food.

Table 4: Household annual food consumption by socio-demographic status (median in thousands of EUR)

Household characteristics	2017	2021	2023	Nominal difference 2021–2023	Real difference 2021–2023
Overall	4.2	4.8	6.0	25%	0%
Percentile of income					
Less than 20	2.0	2.6	4.2	58%	28%
20-39	3.6	4.2	5.4	29%	3%
40-59	4.2	4.8	6.6	38%	10%
60-79	5.3	6.0	7.2	20%	-4%
80-89	6.0	6.1	7.9	30%	4%
90-100	6.9	7.2	8.3	16%	-7%
Age of reference person					
16-34	3.8	4.8	6.0	24%	0%
35-44	4.8	5.4	6.6	22%	-2%
45-54	4.8	5.4	7.2	33%	7%
55-64	4.3	5.2	6.2	19%	-4%
65+	2.9	3.6	4.9	37%	10%
Employment status of reference person					
Employee	4.4	5.4	6.6	22%	-2%
Self-employed	5.4	6.0	7.2	20%	-4%
Unemployed / not working	2.4	2.4	4.8	100%	61%
Retired	3.0	3.6	5.0	38%	12%
Education of reference person					
Primary or lower secondary	2.4	3.1	4.8	53%	23%
Upper secondary, non-tertiary	4.2	4.8	6.0	25%	0%
Tertiary	4.8	5.4	6.9	28%	3%

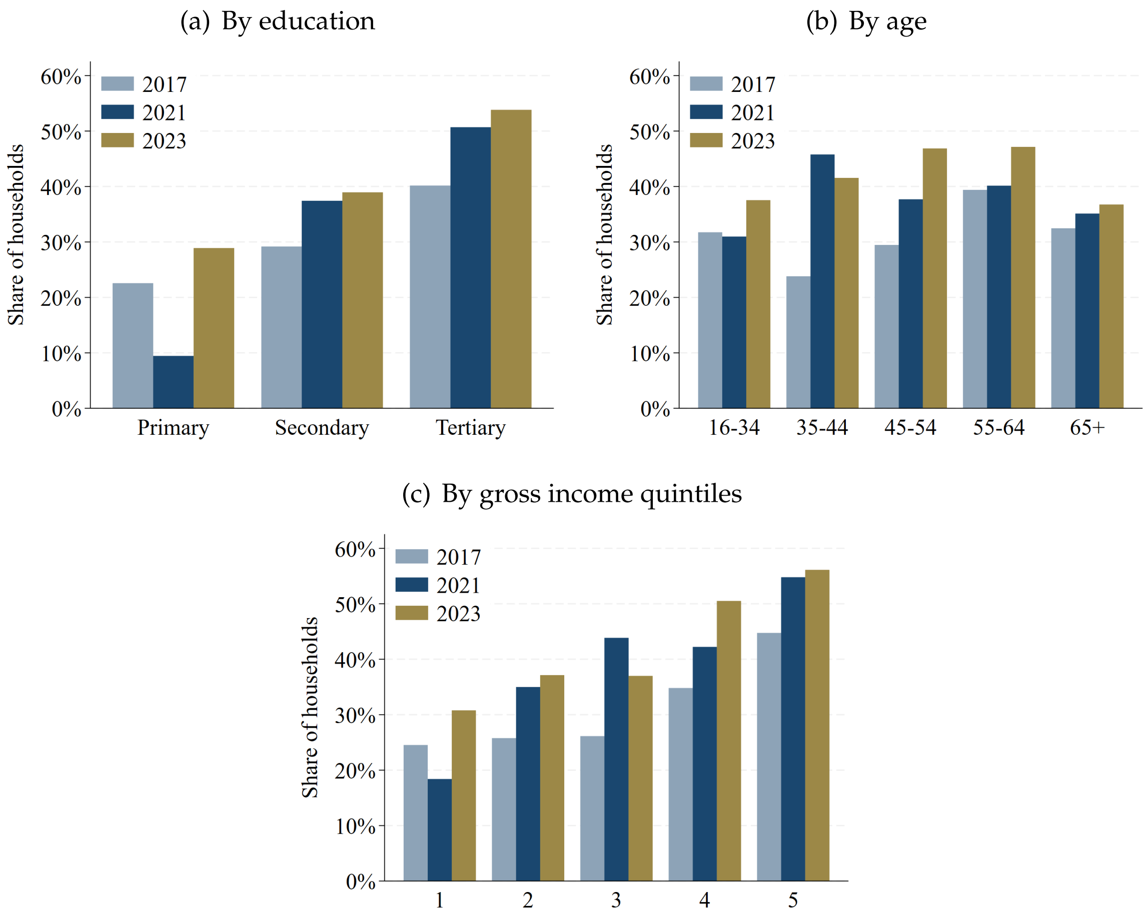
Notes: Statistics computed using survey weights and multiple imputed data. The real difference is calculated as the percentage increase in real volumes, where real volumes are obtained by deflating nominal values using the HICP index (2021=100). Age, working status and education follow the UN/Canberra definition of the household reference person.

The saving capacity[12] of Slovak households remained broadly unchanged between 2021 and 2023. With real incomes and expenditures stagnating, the share of households able to save hovered around 40%. The most common reasons for saving were creating an emergency fund (91%), preparing for retirement (64%), and financing vacations (53%).

The ability to save varied widely across different socio-demographic groups. As shown in Figure 9, saving capacity generally increases with income and education. While only about 30% of households in the lowest income bracket or with a primary education can save, more than half of those in higher income brackets or with a tertiary education can. The ability to save also varies by age group and follows an inverted U-shape.

[12] Households are defined as having the ability to save if their regular expenses are lower than their income.

Figure 9: Evolution of the ability to save by selected household characteristics



Notes: Statistics computed using survey weights and multiple imputed data. Age and education follow the UN/Canberra definition of the household reference person.

Low income households and those with low levels of education experienced the fastest improvement in their ability to save. This likely reflects a recovery from the initial shock of the pandemic, which marred their savings capacity.

3. Selected topics

This section summarises the main findings from the non-core modules included in the 2023 HFCS wave. In addition to the core financial and economic variables, the Slovak HFCS collects information on behavioural aspects such as households' willingness to take risks and their level of financial awareness, which is assessed through financial literacy questions. The section also analyses the incidence of hand-to-mouth households and uses core balance sheet data to show how common liquidity constraints are across different socio-demographic groups. Finally, the 2023 wave provides new insights into households economic expectations and their views on fairness and redistribution.

3.1. Financial literacy and risk attitudes

Overall financial literacy in Slovakia has increased moderately in recent years, although it still remains below the levels seen in developed economies. The share of households correctly answering all financial literacy questions in the survey[13] rose from about 10% in 2014 to around 16% in 2023 (as shown in Figure 10a). Panel (b) shows a similar pattern, summarising the share of households that answered either three or four questions correctly, which corresponds to the combined bar values in categories 3 and 4 in panel (a), for each survey year. As indicated in panel (c), respondents generally understand basic concepts such as interest rates and inflation, while diversification and risk remain the least well understood. Despite these gradual improvements, financial literacy levels in Slovakia continue to fall short of those observed in other developed economies.[14]

Between the 2021 and 2023 HFCS waves, the share of households willing to take minimal or no risk has decreased.[15] While Slovak households still maintain a generally conservative stance regarding financial risk-taking, the data summarised in Figure 11 indicates a modest increase in willingness to engage with risk across the recent HFCS waves.

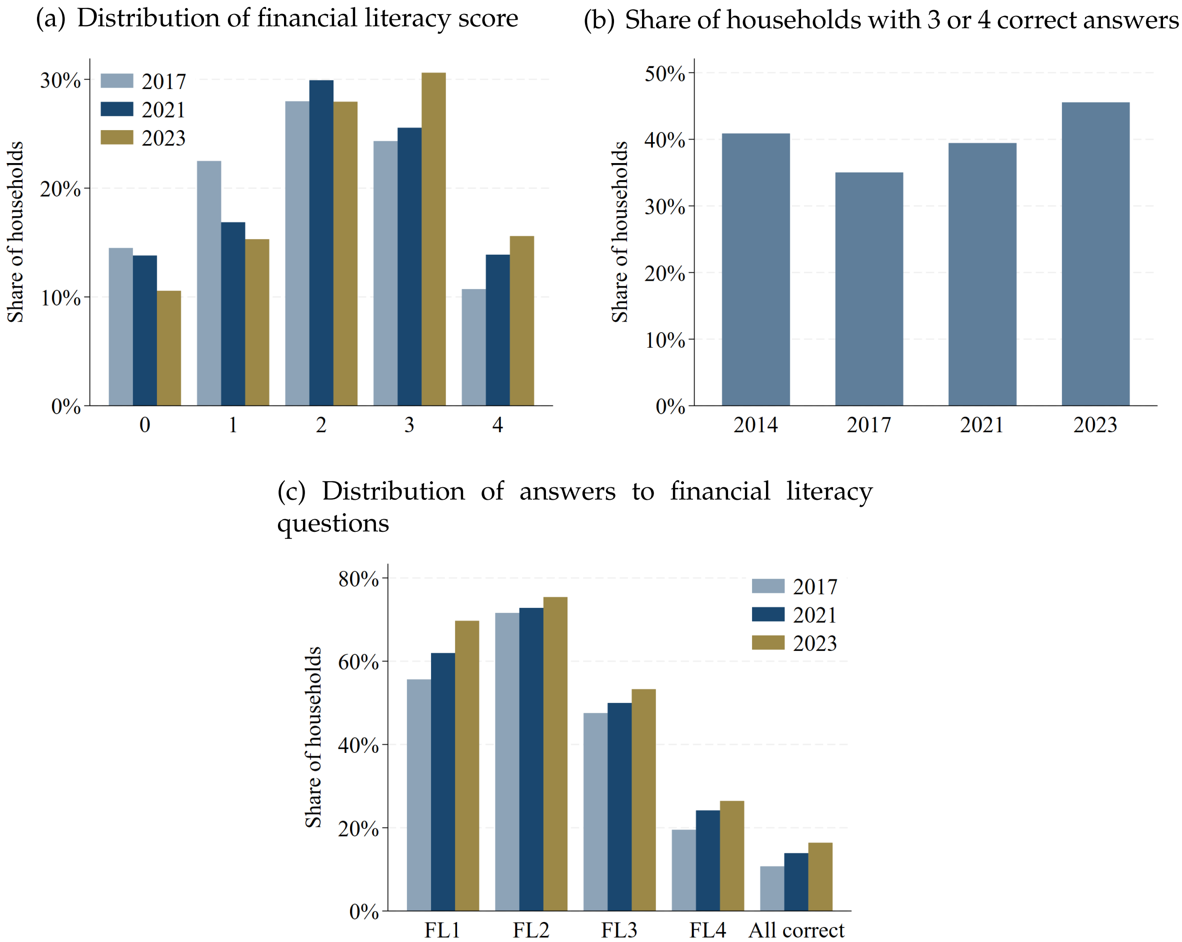
Financial literacy and appetite for taking risk is markedly lower among older households. As shown in Figure 12, both financial awareness (measured as the ability to answer at least three out of four questions correctly) and the willingness to take above-average financial risk tend to fall with age. We observe some improvements in financial literacy and risk-taking attitudes across almost all age categories between 2021 and 2023. Surprisingly, younger households showed little progress in these areas.

[13] The HFCS employs a similar set of financial literacy questions to those commonly used in the literature (e.g., Lusardi & Mitchell 2014). Specifically, it asks questions about understanding of inflation, interest rates, portfolio diversification, and risk. For the exact wording of questions, see Cupak et al. (2019).

[14] For example, the share of households who can correctly answer all financial literacy questions in the corresponding national survey reaches up to 50% in Germany, the Netherlands, or Switzerland (Cupak et al. 2019).

[15] The HFCS includes the attitude of households towards risk-taking as a key behavioural variable. The specific question asks respondents to choose the statement that best describes the amount of financial risk they are willing to take: (1) Not willing to take any financial risk; (2) Take average financial risks and expect to earn average returns; (3) Take above-average financial risks and expect to earn above-average returns; (4) Take significant financial risks and expect to earn significant returns.

Figure 10: Evolution of financial literacy



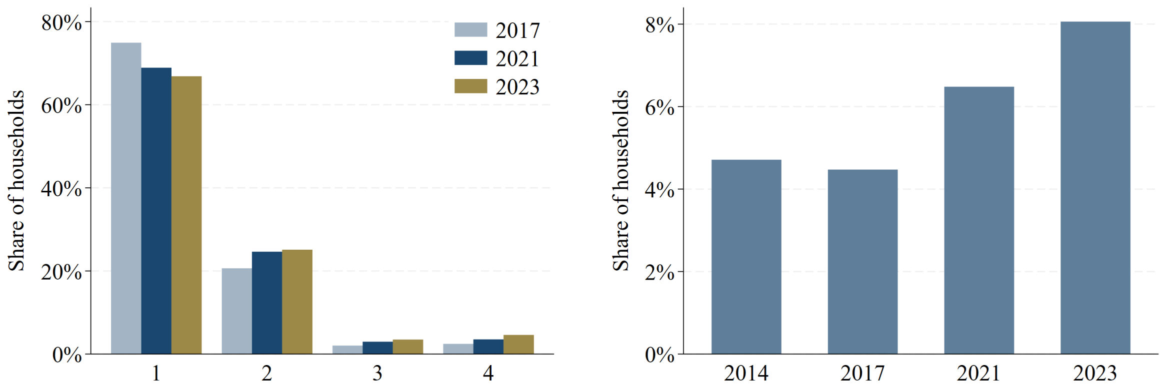
Notes: Statistics computed using survey weights. The financial literacy score is constructed by summing the correct answers to four financial knowledge questions, producing a score from 0 to 4. The questions cover interest rates (FL1), inflation (FL2), diversification (FL3), and riskiness (FL4). The values in the financial literacy variables were not imputed, i.e., the options "don't know" and "no answer" were considered incorrect.

Higher financial literacy and a greater willingness to take risks are associated with higher engagement in investment activities. In particular, households with stronger financial knowledge and more risk-loving attitudes are more likely to hold investment assets such as shares, bonds, or mutual funds (see Figure 13).[16] These relationships became even stronger between 2021 and 2023.

[16]This pattern is well documented in the literature on financial literacy and households' participation in financial markets (see, e.g., Cupak et al. 2022).

Figure 11: Evolution of risk-taking attitudes

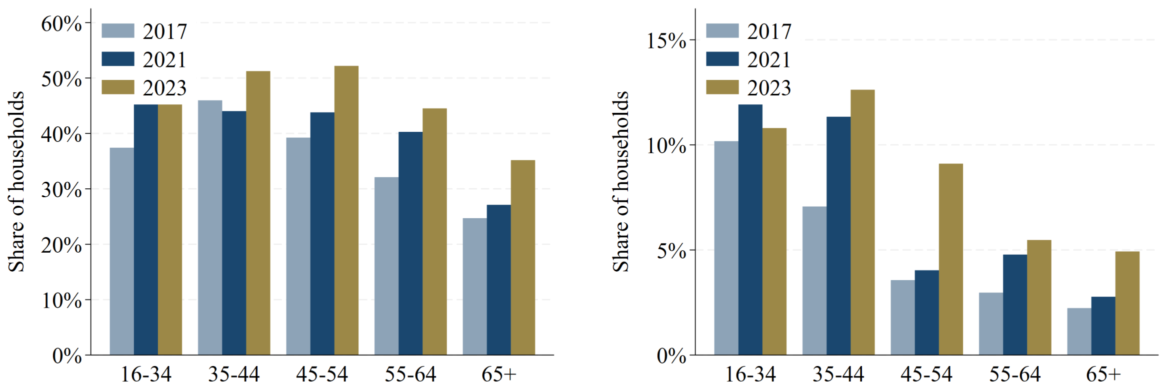
(a) Distribution of risk-taking attitudes score (b) Share of households with above-average risk-taking



Notes: Statistics computed using survey weights and multiple imputed data. The risk-taking score ranges from 1 (indicating no willingness to take risks) to 4 (indicating willingness to take substantial risks).

Figure 12: Evolution of financial literacy and risk-taking attitudes by age

(a) Share of households with 3 or 4 correct answers (b) Share of households with above-average risk

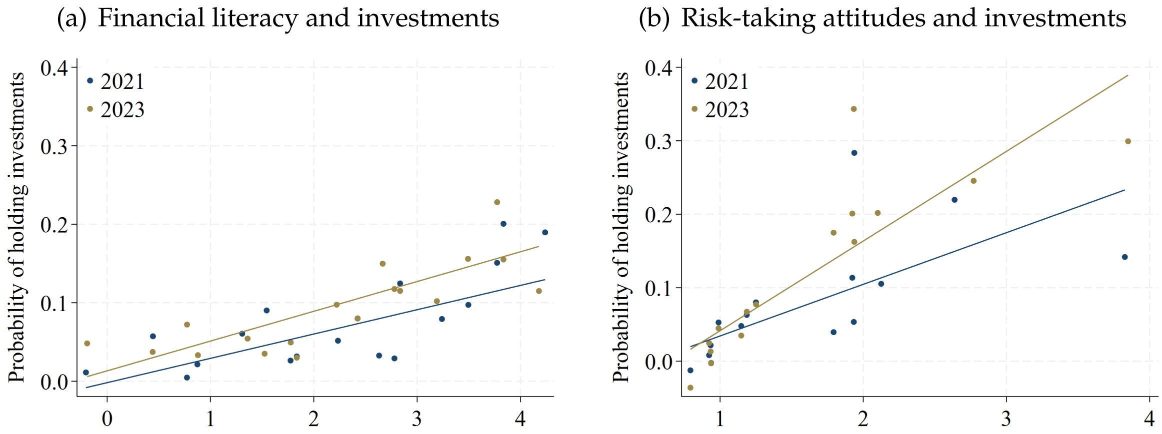


Notes: Statistics computed using survey weights and multiple imputed data. The values in the financial literacy variables were not imputed.

3.2. Hand-to-mouth households

Many Slovak households live from "paycheck to paycheck" because they have little or no money readily available for unexpected expenses. These hand-to-mouth (HtM) households find it difficult to smooth their consumption when income fluctuates and therefore tend to spend most of what they earn. However, being a HtM does not necessarily mean being poor. Some of these households own property or pension assets, yet they have limited cash for their day-to-day needs. The share of HtM households in Slovakia is estimated, distinguishing between asset-poor and asset-rich groups. A household is first classified as HtM if it holds very limited liquid wealth – that is, funds in deposits, mutual funds, stocks, or bonds, net of credit card and overdraft debt

Figure 13: Financial literacy, risk-taking attitudes and investments holding



Notes: Statistics computed using survey weights and multiple imputed data. The values in financial literacy variables were not imputed. The relationships take into account financial self-confidence. "Investments" include ownership of shares, bonds, or mutual funds.

– amounting to no more than half of the household's monthly gross income. An HtM household is further classified as *asset-rich* if it possesses positive illiquid wealth, such as real assets (housing) net of mortgages, or savings in pension plans or term deposits. The remaining HtM households, with little or no wealth in either liquid or illiquid form, are classified as *asset-poor*.[17]

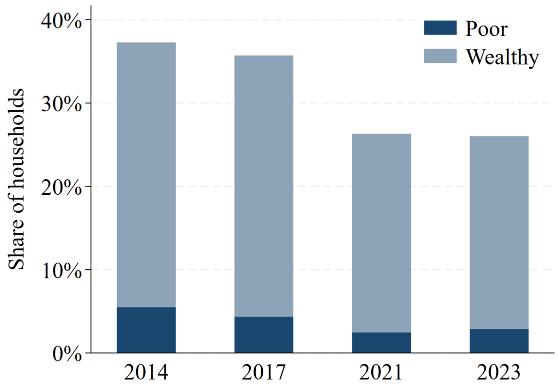
The share of liquidity-constrained Slovak households has declined over the past decade, though this trend may have recently stabilised. The results for the period 2014–2023 are presented in Figure 14. In 2023, just over a quarter of Slovak households had very limited liquid wealth, compared to more than 35% in earlier waves. However, most of these households possessed positive illiquid wealth, primarily in the form of housing. Asset-poor HtM households accounted for less than 3% of all households, down from nearly 6% in the first wave, while asset-rich HtM made up roughly 23%, compared with more than 30 percent in previous waves (Figure 14a). An alternative classification, in which vehicles are treated as illiquid assets, reduces the estimated share of asset-poor HtM households from around 4% to 1.5% in 2023 (Figure 14b). The total share of HtM households remains the same in this specification, since it is determined solely by liquid wealth. The 2023 results also suggest that the previously declining trend in HtM households may have levelled off. Overall, these patterns are broadly consistent with international evidence.[18]

[17] The definition of HtM households is based on Kaplan et al. (2014).

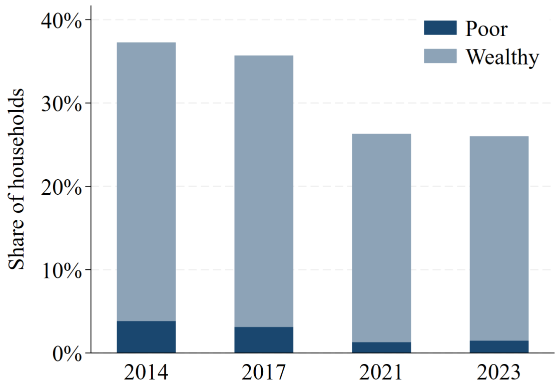
[18] For example, Cherchye et al. (2024) estimate that in Belgium about one-fourth of households are HtM, with around 5–6% classified as poor. According to Kaplan et al. (2014), approximately 7% of households in Germany are poor HtM and 25% are wealthy HtM. The somewhat lower share of poor HtM households in Slovakia may reflect the country's higher home ownership rate compared to Belgium and Germany.

Figure 14: Evolution of hand-to-mouth households

(a) Based on gross income (baseline)



(b) Based on gross income, vehicles in illiquid wealth



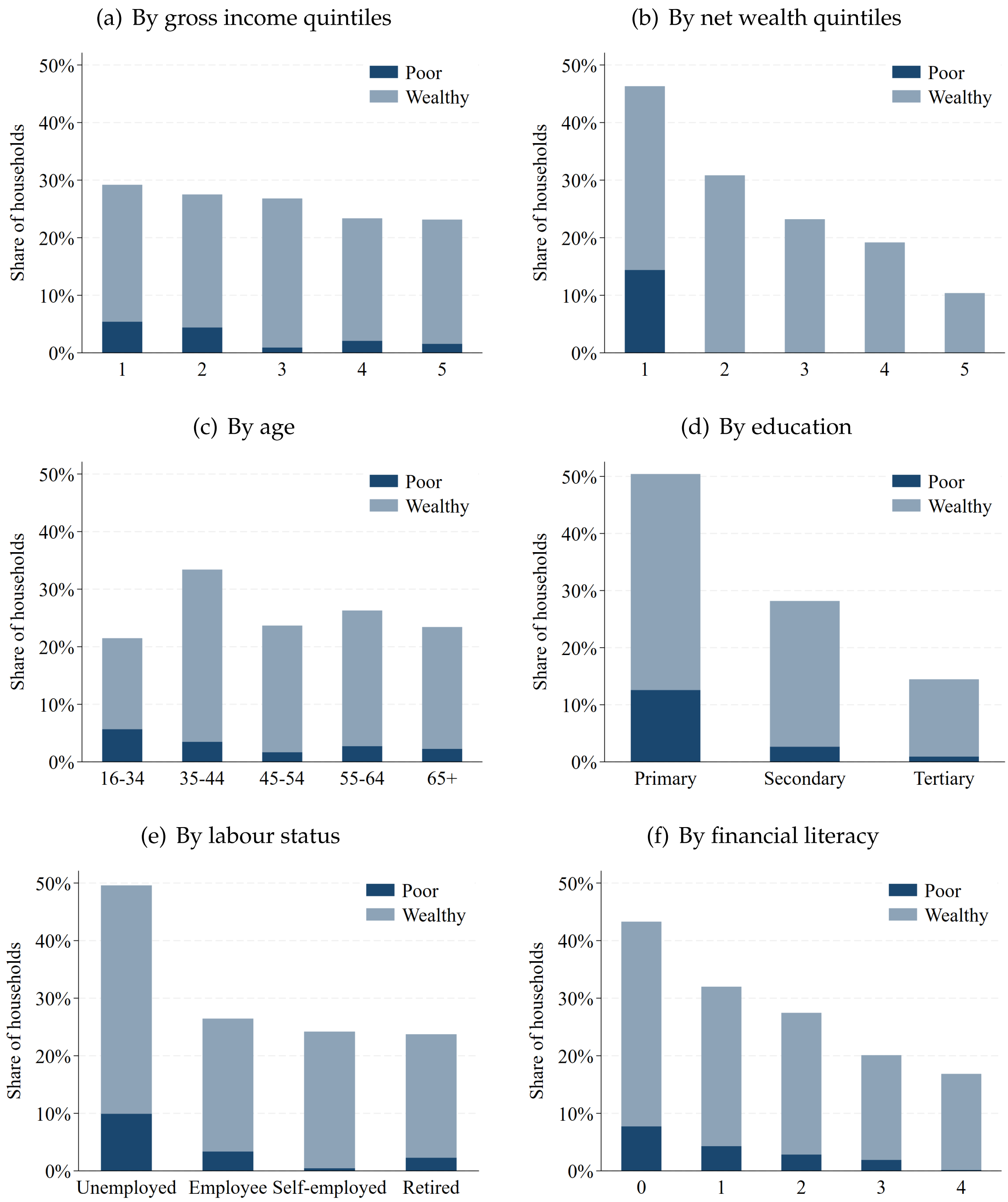
Notes: Statistics computed using survey weights and multiple imputed data.

Socio-economic characteristics show clear differences between asset-poor and asset-rich hand-to-mouth households. Asset-poor HtM households are concentrated mainly among lower-income and lower-wealth groups (Figure 15a,b), as well as among younger and less-educated households (Figure 15c,d). In contrast, wealthy HtM households are distributed more evenly across income and age categories.

Labour market position is a strong predictor of whether a household is hand-to-mouth. Figure 15e suggests that the share of HtM households is highest among the unemployed, at around 50%. The share of asset-poor HtM households also declines across these groups, falling from about 10% among the unemployed to about 2% among the retired and less than 1% percent among the self-employed.

The likelihood of being hand-to-mouth is much lower among households with higher financial literacy. Figure 15f shows the relationship between HtM status and financial literacy, measured by a score from 0 (lowest) to 4 (highest). As financial literacy increases, the share of HtM households becomes progressively smaller, ranging from 43% among those with the lowest score to 17% among those with the highest. The share of asset-poor HtM households follows the same pattern, dropping from around 8% to below 1%. These results point to a strong association between higher financial literacy and a lower probability of being classified as either HtM or asset-poor HtM.

Figure 15: Hand-to-mouth households by socio-demographic characteristics (HFCS 2023)



Notes: Statistics computed using survey weights and multiple imputed data. Age, working status and education follow the UN/Canberra definition of the household reference person.

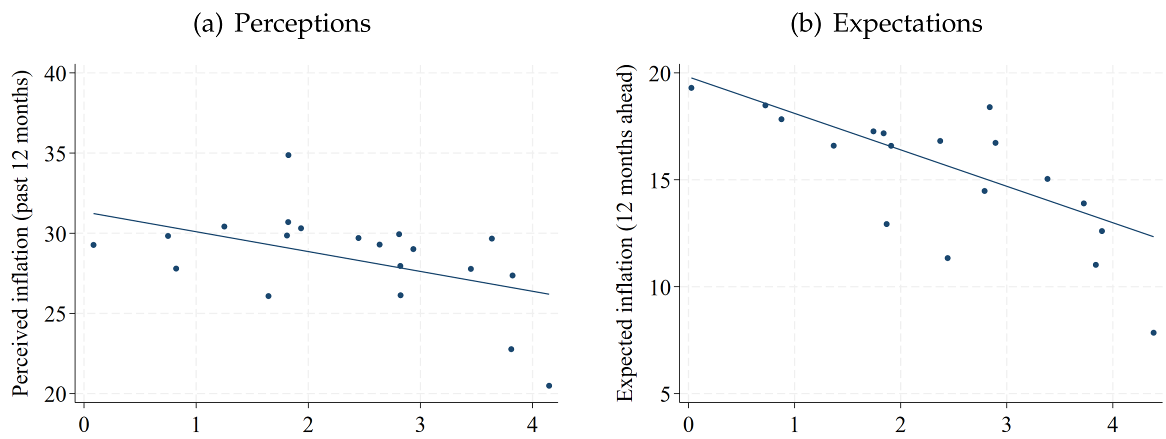
3.3. Macroeconomic expectations

3.3.1. Inflation expectations

Inflation expectations are an important factor in monetary policy transmission and in the financial decisions of households. Leveraging novel data from the HFCS 2023 wave, this section explores how Slovak households form inflation expectations. More specifically, the HFCS 2023 wave included questions on short term inflation expectations for the next 12 months and on perceived inflation over the past 12 months. This new module makes it possible, for the first time in Slovakia, to analyse how financial literacy, asset ownership, household wealth, mortgage status, and risk attitudes are linked to both inflation expectations and perceived inflation.

Inflation expectations vary systematically across education and age groups in Slovakia. Earlier Slovak studies show that younger and more educated households tend to report lower expected inflation, and that expected inflation is lower among households with higher levels of education.[19] The granularity of the HFCS data makes it possible to examine this relationship more closely, including the role of financial literacy in shaping how households form inflation expectations.

Figure 16: Inflation perceptions and expectations by financial literacy (HFCS 2023)



Notes: Statistics computed using survey weights. The values in the perceptions, expectations, and financial literacy variables were not imputed. The relationships take into account financial self-confidence.

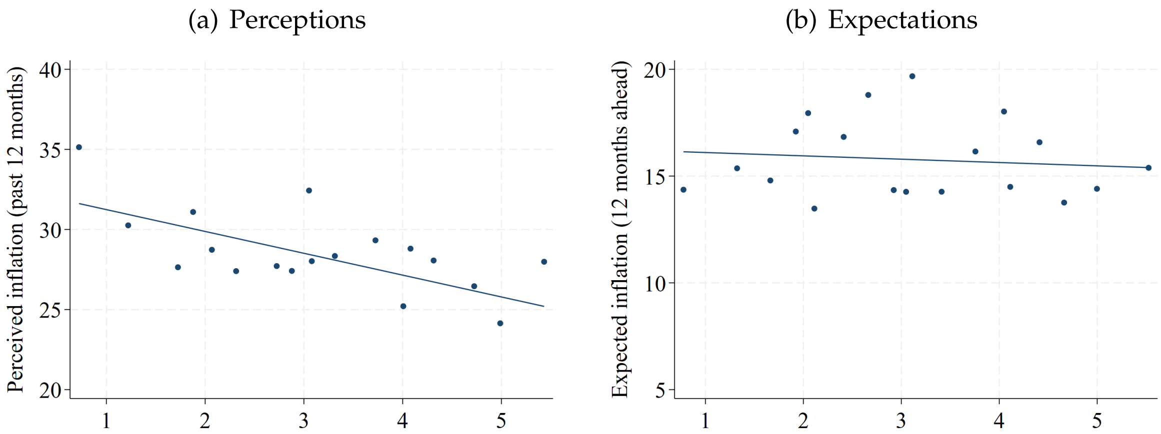
Higher financial literacy is associated with lower and better-anchored inflation expectations and perceptions. New HFCS data show a significant negative association between financial literacy and both inflation expectations and inflation perceptions (Figure 16). This aligns with international evidence that more financially informed households form lower and better-anchored beliefs,[20] reinforcing the credi-

[19] See Marenčák (2023).

[20] See, for example, Bruine de Bruin et al. (2010).

bility of these patterns and suggesting broader behavioral consistency in household inflation expectations. Although financial literacy is correlated with formal education, it exhibits distinct explanatory power, being more strongly associated with inflation expectations, whereas education is more closely linked to inflation perceptions.

Figure 17: Inflation perceptions and expectations by net wealth quintiles (HFCS 2023)



Notes: Statistics computed using survey weights and multiple imputed data. The values in the perceptions and expectations variables were not imputed. The relationships take into account income levels.

Wealth and asset ownership are strongly linked to lower inflation expectations and perceptions. Beyond financial literacy, other household characteristics also shape inflation beliefs. Notably, wealth and asset ownership reveal strong associations with inflation perceptions. In Slovakia, across the total wealth distribution, both inflation expectations and perceptions decline with wealth after controlling for household income, with the relationship being notably stronger for perceptions (see Figure 17). In terms of portfolio composition, households holding market-linked financial assets (stocks, bonds, or mutual funds) report significantly lower expectations and perceptions than otherwise similar households without such assets. This is consistent with greater exposure to market information and macroeconomic news among asset holders.

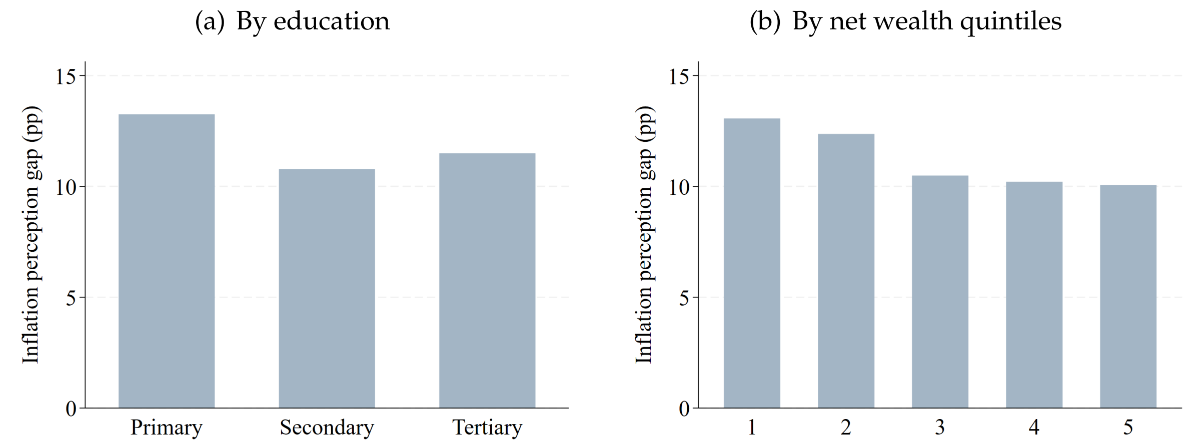
HFCS inflation measures closely track other surveys and confirm that households substantially overestimate both current and future inflation. The survey fieldwork, conducted from October 2023 to February 2024, followed the year-on-year headline inflation peak of 15.4% in February 2023. Over this period, a notable decoupling between perceived and expected inflation was observed in Slovakia as well as across the whole Europe.[21] The HFCS mirrors this pattern. Average expected inflation for one-year-ahead is 16.2%, far above the average yearly headline inflation of 5.9% over the same window and close to the European Commission's Harmonised Consumer Survey figure (15.8%). Meanwhile, average perceived inflation reaches 28.6% in the HFCS, compared with 26.3% in the Commission survey. This close alignment provides strong

[21]More details in Marenčák (2024).

external validity for the HFCS measures of inflation expectations and perceptions, confirming that households systematically overestimate inflation.

The gap between perceived and expected inflation varies systematically across education, age, and wealth groups. Heterogeneity in the perception-expectation gap reveals several patterns. The gap is broadly similar across the distribution of financial literacy but is larger among households with only primary education (Figure 18a) and older households. Interestingly, the gap narrows with wealth (Figure 18b), not because richer households' expectations are better anchored to actual inflation, but because their expectations remain relatively high and closer to their already elevated perceptions. In other words, wealthier households perceive somewhat less extreme inflation but expect comparably higher future inflation, leading to a smaller perception–expectation difference overall.

Figure 18: The perception-expectation gap by education and wealth (HFCS 2023)



Notes: Statistics computed using survey weights and multiple imputed data. The values in the perceptions and expectations variables were not imputed. Education follows the UN/Canberra definition of the household reference person.

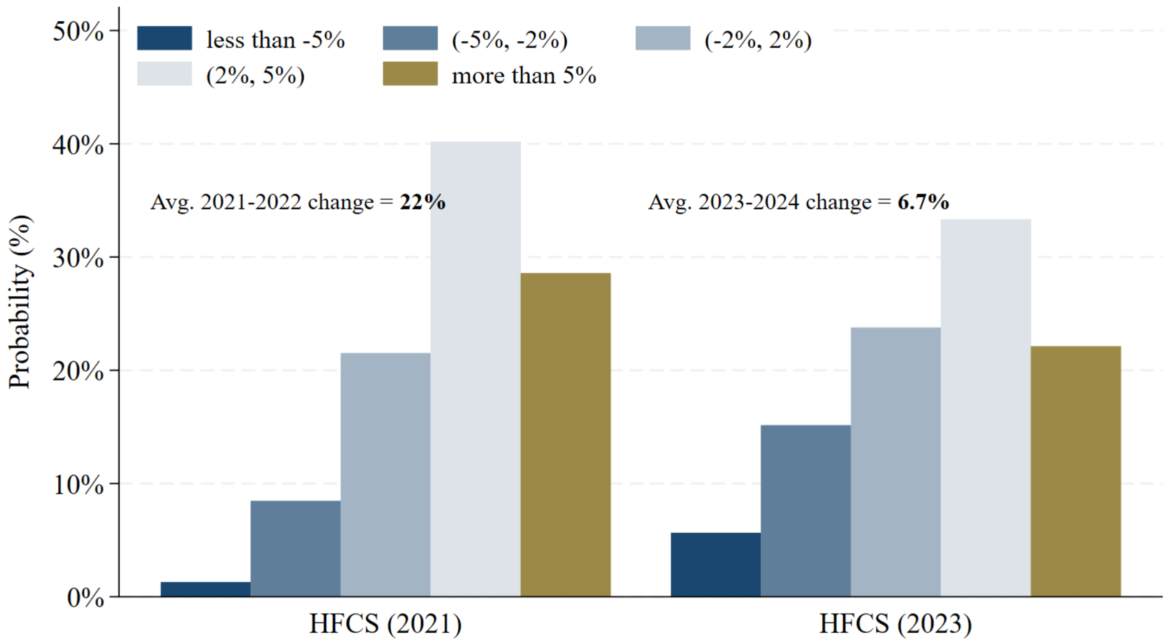
Overall, the HFCS extension provides the first comprehensive evidence on how financial literacy and balance-sheet characteristics shape inflation beliefs in Slovakia. By linking subjective inflation expectations to detailed household balance sheet data, the HFCS extension offers a unique view of expectation formation across the wealth and literacy distribution. The close alignment with the European Commission Consumer Survey further validates the HFCS as a reliable source for studying household inflation expectations. These findings underscore the value of integrating financial literacy and asset participation into monetary policy considerations.

3.3.2. House price expectations

As the Slovak housing market cooled in 2023, households became much more pessimistic than in 2021, shifting their expectations from home price increases to price

declines. Since the HFSC 2017 wave, households have been asked about their expectations about the price development of their main residence over the next 12 months. They report these expectations by assigning probabilities to a set of scenarios.[22] Overall, it seems that households downgraded their one-year-ahead expectations as compared to 2021, as can be seen in Figure 19. The mass of the distribution shifted from the part with price increase categories to the part with price decrease categories. Although it is believed that ordinary households are inattentive to price developments[23], it appears that their expectations are state-dependent, as the Slovak real estate market cooled down in 2023.

Figure 19: Evolution of one-year-ahead expectations for house prices



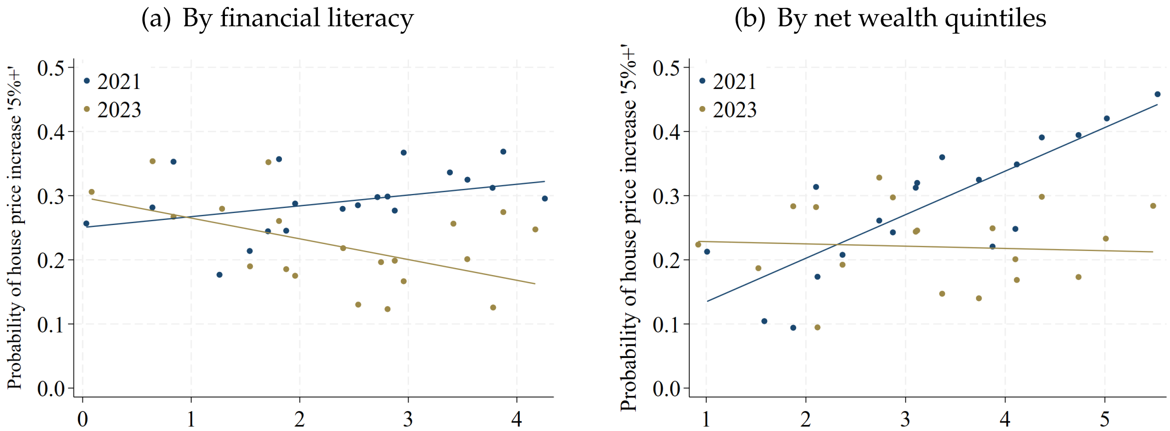
Notes: Statistics computed using survey weights. The values in the house price expectations variable were not imputed.

In 2021, more financially literate and wealthier households were more likely to expect house price growth, but in 2023 they were more likely to expect stagnation. Interestingly, financial literacy and household wealth strongly correlate with realistic house price expectations (albeit not perfectly aligned with reality), similar to the relationship with inflation expectations discussed above. While the probability of expecting house price growth rose with higher financial literacy/wealth in 2021, the exact opposite relationship emerged in 2023 (see Figure 20).

[22]Specifically, they had to assign probabilities to the following outcomes: "Prices would fall by more than 5%; prices would fall by between 5% and 2%; prices would change by between -2% and 2%; prices would rise by between 2% and 5%; and prices would rise by more than 5%."

[23]See Maćkowiak et al. (2023).

Figure 20: House price expectations by financial literacy and wealth quintiles



Notes: Statistics computed using survey weights and multiple imputed data. The values in the house price expectations and financial literacy variables were not imputed. Vertical axis presents the probability of expecting house price increase by more than 5% in the next 12 months. Panel (a) controls for self-confidence, while panel (b) controls for income levels.

3.4. Preferences for redistribution and perceptions of economic fairness[24]

Preferences for redistribution[25] offer an important window into how households understand inequality and the role of public policy. They capture both material interests and broader views on fairness and social mobility. The 2023 HFCS wave introduced two new questions: one measuring preferences for redistribution[26] and another one capturing perceptions of fairness[27] in the economic system, defined as equality of opportunity. These provide a novel perspective on how Slovak households perceive inequality and form attitudes toward redistributive policies.[28]

Responses indicate broad support for income redistribution. As shown in Figure 21a, the majority of respondents agree that income should be redistributed from the wealthy to the poor. This places Slovakia in line with other Central and Eastern European coun-

[24]This chapter presents a small excerpt from the preliminary results of Novák, V. (forthcoming) – "The Slovak Illusion: Unravelling the Gap Between Believed and True Intergenerational Mobility".

[25]Preferences for redistribution refer to individuals' attitudes toward government policies that reduce income inequality by transferring resources from higher-income to lower-income groups.

[26]The redistribution question asked the HFCS responding households (represented by their reference persons) the following: "The government should be concerned with redistributing income from high-income earners to low-income earners. To what extent do you agree with this statement? 1 (disagree) to 7 (agree)."

[27]The fairness question asked the HFCS respondents to what extent they agreed that: "Do you think that the economic system in Slovakia is: 1) Fair, as all Slovak citizens have equal opportunities to succeed; 2) Neutral, the Slovak economic system is neither fair nor unfair; 3) Unfair, as all Slovak citizens do not have the same opportunities to succeed".

[28]The module also included questions on perceptions of social mobility, which are analysed in ongoing research.

tries, where redistributive preferences remain strong, reflecting both post-transition legacies and moderate levels of inequality.[29] Support, however, tends to be lower with income (Figure 21c). This pattern confirms that material position remains a key determinant of redistributive preferences.

Figure 21: Preferences for redistribution

Notes: Statistics computed using survey weights and multiple imputed data. The values in the preferences for redistribution variable were not imputed.

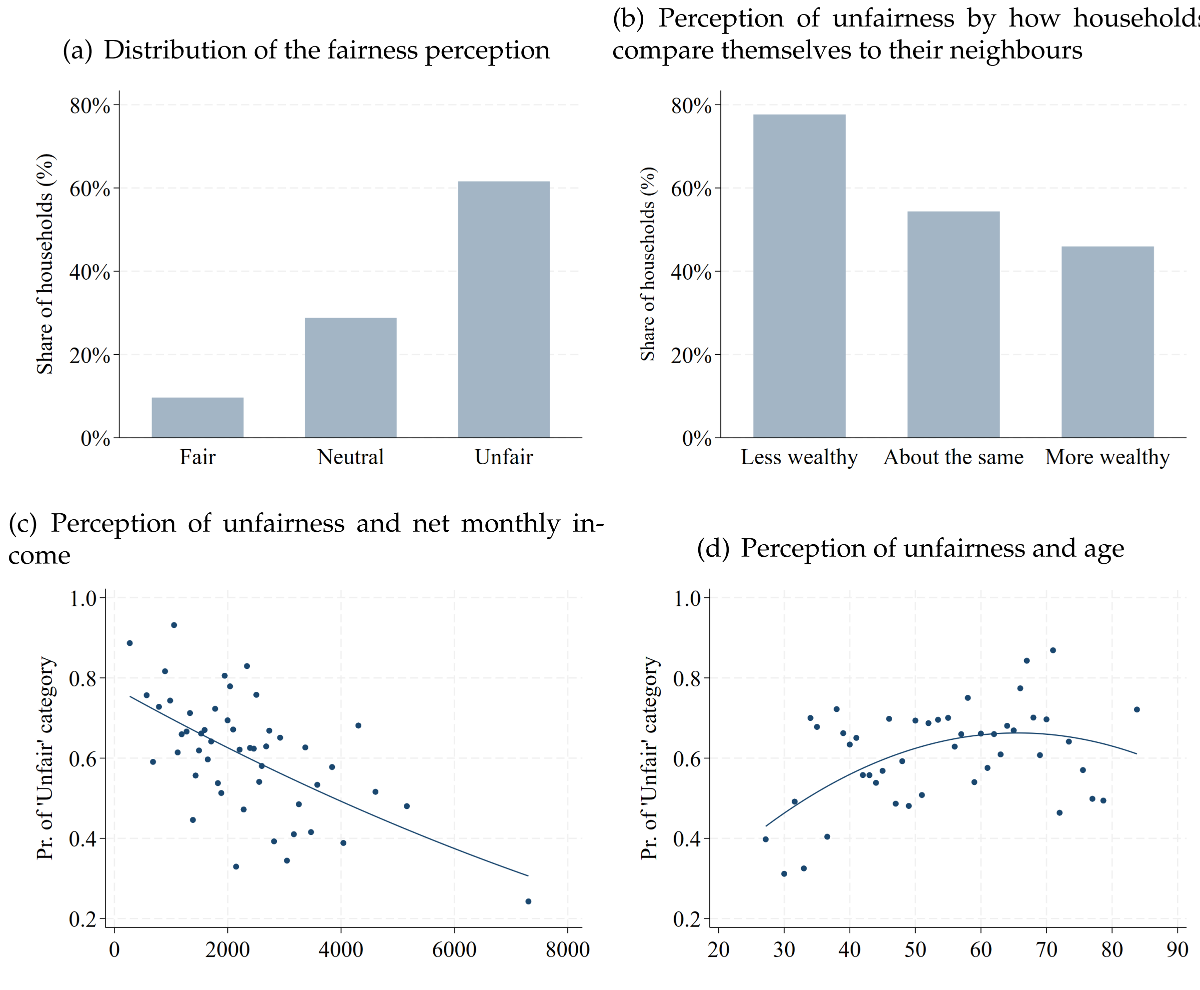
Support for redistribution tends to be stronger with age and is shaped by social comparison. Older respondents express stronger support (Figure 21d), likely reflecting higher income risk, greater reliance on public transfers, and cohort-specific experiences of economic transition. In addition, respondents who view themselves as less wealthy than their neighbours show higher support for redistribution (Figure 21b). This suggests that local social comparisons heighten awareness of inequality, consistent with behavioural evidence that attitudes are shaped by relative position.[30]

[29]See Bonnet et al. (2024).

[30]This finding is consistent with evidence that neighbourhood inequality raises perceived aggregate inequality (Domènech-Arumí 2025) and that perceived relative position in the income distribution affects redistributive preferences (e.g., Cruces et al. 2013, Fehr et al. 2022).

Perceptions of fairness vary strongly across income, age, and social context and thus follow patterns similar to those for redistribution. Over 60% of households consider the Slovak economic system *unfair* in terms of equal opportunities (Figure 22a). Perceived unfairness declines with income (Figure 22c), echoing international findings that material advantage reinforces meritocratic beliefs.[31] The relationship between age and perceived unfairness is concave, peaking around 65 years (Figure 22d), possibly reflecting both life-cycle effects and cohort experiences. In addition, respondents who see themselves as less wealthy compared to their neighbours are also more likely to view the system as unfair (Figure 22b), indicating that fairness judgments arise from social comparison and local context.[32]

Figure 22: Perception of fairness



(a) Distribution of the fairness perception

(b) Perception of unfairness by how households compare themselves to their neighbours

(c) Perception of unfairness and net monthly income

(d) Perception of unfairness and age

Notes: Statistics computed using survey weights and multiple imputed data. The values in the fairness perception variable were not imputed.

Overall, the evidence highlights a strong link between fairness beliefs and redistributive preferences. This relationship fits well with existing research highlighting

[31] See Bonnet et al. (2024).

[32] See Brokešová et al. (2025) for showing a similar result of social comparisons in subjective well-being.

that fairness perceptions form a cognitive link between perceived inequality and policy preferences.[33]

4. Conclusions

This report presents the main results of the 2023 wave of the Household Finance and Consumption Survey in Slovakia. The main finding suggests that the median household's net wealth increased significantly in nominal terms from €97,000 in 2021 to €125,400 in 2023, yet real gains were modest once adjusted for high inflation over the period. Wealth inequality increased only slightly and remains low compared to other countries. Real estate dynamics predominantly shaped wealth developments, from which mortgage holders, middle-aged and older households, and the self-employed benefited the most. Meanwhile, renters experienced a decline in their net wealth.

Household portfolios remain dominated by real assets, though participation in financial assets is gradually increasing. Ownership of the main residence and deposits stayed broadly stable, and both continue to form the foundation of household balance sheets. Conversely, participation in more sophisticated financial products increased from around 6% in 2021 to 10% in 2023.

Many households continue to face liquidity constraints and, despite rising net wealth, live from "paycheck to paycheck". Around one quarter of households can be classified as hand-to-mouth, largely because their wealth is locked in illiquid housing assets. Only a small share, less than 3%, hold neither liquid nor illiquid assets. Higher education and stronger financial literacy are linked to a much lower likelihood of being liquidity constrained.

The 2023 HFCS wave provides new insights into macroeconomic expectations, perceptions of fairness, and preferences for redistribution in Slovakia. Higher educated and financially aware households form more realistic views of inflation, while more than 60% of households perceive the economic system as unfair. These perceptions vary with income, age, and neighbourhood comparisons, and are closely related to preferences for redistribution.

The 2023 HFCS microdata are now available for further research. Researchers may request the dataset by following the instructions provided on the NBS website. Finally, we would like to express our gratitude to the households that participated in the survey, as well as to the Statistical Office of the Slovak Republic, and the interviewers whose professionalism and dedication made collecting these complex data possible.

[33] Examples of such studies include Alesina & Angeletos (2005) or Benabou & Tirole (2006).

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Technical appendix

A. Questionnaire and survey procedures

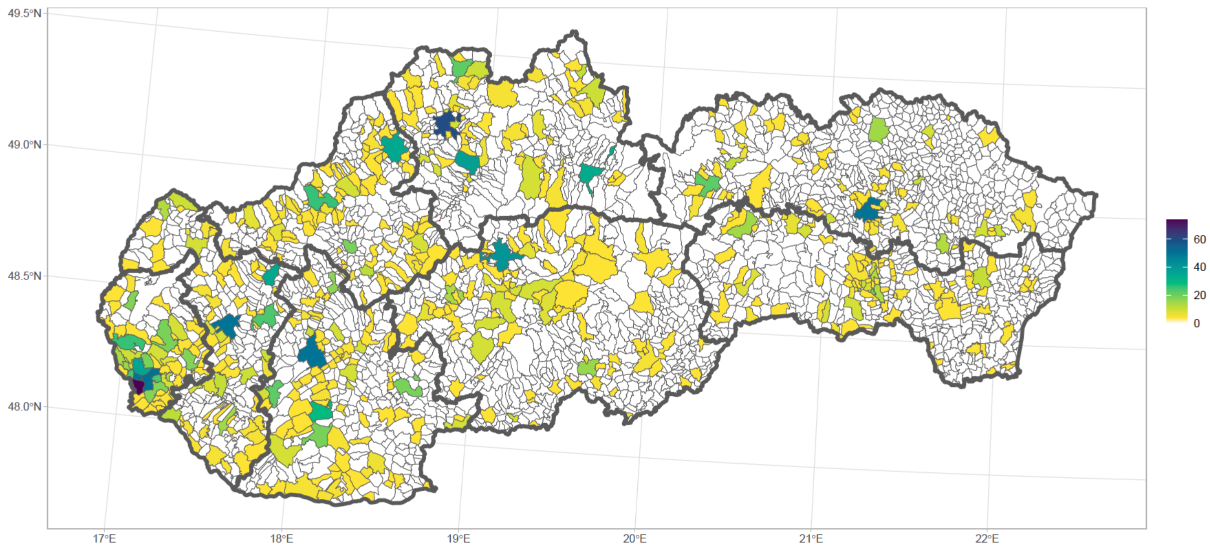
Questionnaire: The core of the questions come from the ECB's HFCS manual, extended by the non-core questions and country specific modules. The core questionnaire is translated into the Slovak language and, prior to the fieldwork, it is cognitively tested by the Statistical Office of the Slovak Republic to make it as understandable as possible for the survey respondents. The questionnaire is answered by the household member who is the most knowledgeable person about financial matters in the family.

The first part of the questionnaire covers demographic information about each household member (age, gender, marital status, relationship to other household members, country of birth for the foreign born, etc.). The next sections deal with information collected at the household level. These questions cover the ownership of real assets (notably real estate property) and their (mortgage) financing, other liabilities, credit constraints, private business, financial assets, consumption and savings, intergenerational transfers, and gifts. Questions in the third section of the questionnaire focus on individual household members aged 16 and older. They cover information about education, employment status, income sources, future pension plans and insurance policies.

The HFCS also collects information on various topics ranging from financial literacy, risk aversion, or subjective well-being. In addition, while the 2023 HFCS questionnaire no longer asks questions related to the Covid-19 pandemics, this wave includes special module on inflation expectations and intergenerational mobility and attitudes towards fairness and redistribution. Full questionnaire is available upon a request at: `hfcs@nbs.sk`.

Sampling and weighting: Households were selected using a two-stage stratified random probability sampling to ensure that the sample is representative not only at the country level but also at the regional level. In the first stage 606 geographical areas (municipalities) were randomly chosen and then within each such unit, addresses of residing households based on the 2021 Census were randomly sampled, resulting in a gross sample of 4,035 private households (see Figure A.1). Around a third of them were panel households that were re-contacted from the 2021 HFCS wave. In the end, 2,128 households successfully completed the interviews via CAPI (Computer-Assisted Personal Interviewing) mode through October 2023 to February 2024. The response rate in the Slovak 2023 HFCS stood above 50%. For further details and comparison with the previous waves, see Table A.1.

Figure A.1: HFCS 2023 sampled units



Note: Colour intensity shows the number of sampled households (addresses) within each municipality.

Table A.1: Main features of the HFCS in Slovakia

	2014	2017	2021	2023
Reference year for income	2013	2016	2020	2022
Gross sample	4202	4017	4017	4035
Net sample	2136	2179	2174	2128
Probabilistic sampling	Yes	Yes	Yes	Yes
Oversampling of the wealthy	Yes	Yes	Yes	Yes
Inflation adjustment factor (w.r.t. the previous wave)	1.094	1.005	1.105	1.244
Panel component	No	Yes	Yes	Yes
Panel design	-	Pure panel	Pure panel	Pure panel

Note: The reference time for asset and liability values is the time of the interview.

Sources: Household Finance and Consumption Survey, NBS.

An important feature of the HFCS is the intentional oversampling of potentially high-wealth households. In the absence of tax register data, the only option is to use heuristic approaches based on ad-hoc criteria to identify dimensions that correlate with high wealth levels. The 2023 HFCS wave in Slovakia considered the following household criteria:

- Family houses with floor area above 180 m2, with year of construction 2001 or later.
- Age of the household main member above 40.
- Occupation status of the household main member among the list of highest earning occupations.
- Household address in a list of streets with the incidence of top 10% income earners in Slovakia.

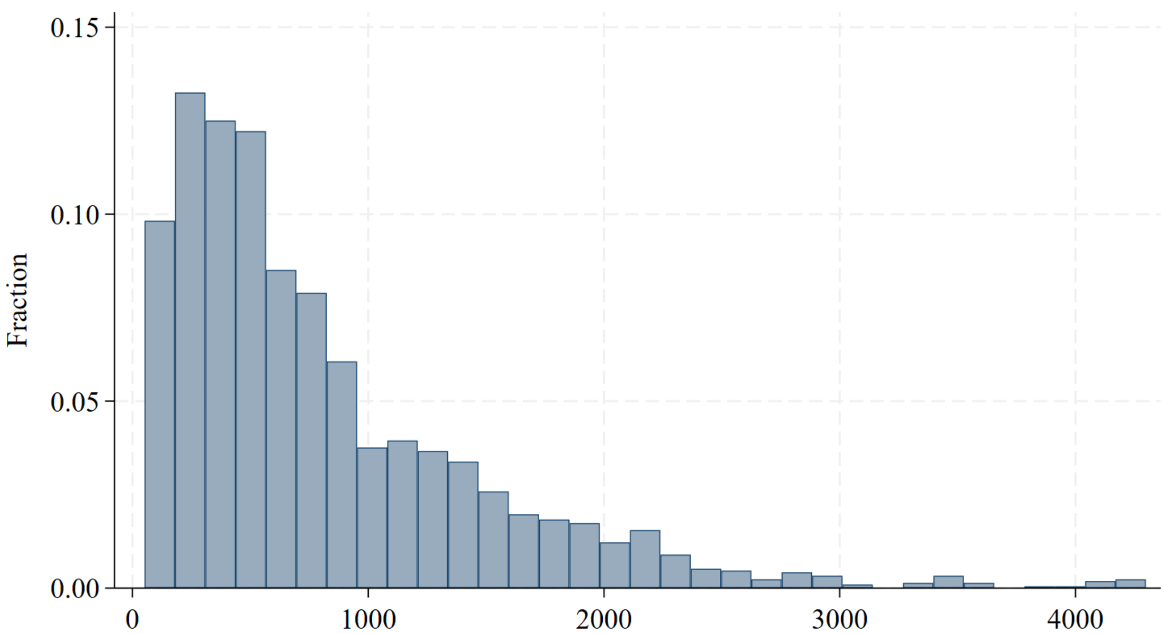
To encourage households to participate in the survey, shopping vouchers were offered as incentives to all sampled households. In addition, commemorative coins were offered as incentives in the oversampled group of households.

Any deviations in the distribution of main household socio-demographic characteristics from the official target population (the 2021 Census, in this case) were corrected by applying calibration procedure to weights by using the Calif 4.0 software. The calibration tool is freely available at the GitHub repository. The following calibration criteria were considered:

- The number of households in each region.
- The number of men and women within different (six) age brackets in each region.
- The breakdown of the population by economic activity (number of employed, self-employed, unemployed, and retired persons) in each region.
- The number of households in the top two employment wage income deciles (p80 – p100) in each region. This criterion is included to account for the oversampling described above.

The histogram of the calibrated survey weights is shown in Figure A.2.

Figure A.2: Distribution of calibrated survey weights (HFCS 2023)



Data processing and imputations: After completion of the fieldwork, the data were processed and edited to remove any errors and inconsistencies. There are situations where survey participants may not know the answer or do not want to provide information on difficult or sensitive questions, such as the value of assets. Correction for missing answers (item non-response) for key variables related to assets, liabilities, consumption, and income is made by imputing the missing values. HFCS imputes missing values using Multiple Imputations by Chained Equations (MICE) approach (HFCN 2023). As a result, the final dataset contains data with five implicates and, importantly, also a set of shadow variables (flag variables) indicating whether an individual observation was recorded as collected, edited, estimated, or imputed. Note that the multiple imputed nature of data (Little & Rubin 2019) should be considered in any empirical analysis using the HFCS dataset.

Variance estimation: Since the HFCS is a sample-based survey, any statistical inference is subject to sampling errors. In order to accurately estimate these sampling errors, it is advised to users to apply 1,000 replicate weights that are part of the HFCS data. Details about all the caveats and techniques to be considered in order to properly analyse the HFCS data are presented in the ECB's HFCS Methodological Report (HFCN 2023, Chapter 7).

B. Detailed statistical tables

Further, detailed results (presented beyond ones in this report) are provided in the Online appendix. The appendix tables include further breakdowns by various categories, such as region, household size, tenure status, income and wealth quintiles, age groups, employment status, and educational attainment. These tables include participation rates in particular asset classes, their median and mean values (conditional on participation), and the share of each category in the total value, thus allowing for a more nuanced understanding of the data. The appendix tables are a valuable resource for those seeking a deeper understanding of the information presented in the main sections.

These are the main concepts / definitions that are mostly used through the report as well as the statistical tables.

Key components of household portfolios:

- **Net wealth:** The value (in EUR) of difference between total real and financial assets and total liabilities (debt) held.
- **Real assets:** Total value (in EUR) of all household real assets including household's main residence, other real estate property, vehicles (not including leased vehicles), valuables, and self-employed business wealth. Reference period for reporting the real asset values is the time of the fieldwork, hence 2023.

- **Financial assets**: Total value (in EUR) of the following financial asset classes: deposits (sight accounts and savings accounts); mutual funds; voluntary private pension plans and whole life insurance policies; bonds; publicly traded shares; assets in managed accounts; money owed to the household as a private loan; private non-self-employed business; and other financial assets. Note that the survey does not cover cash held by households. Investments in the third and second pension pillars are defined as investments in occupational pension schemes. Reference period for reporting the financial asset values is the time of the fieldwork, hence 2023.
- **Liabilities (debt):** Total value (in EUR) of the following debt components: the outstanding amount of the mortgage on household main residence and mortgages on other real estate property; the outstanding amount of debt on credit cards, credit lines and bank overdrafts; and the outstanding amounts of unsecured loans (covering loans from commercial providers and private loans). The HFCS does not cover households' liabilities for car leases. Reference period for reporting the values of the liabilities is the time of the fieldwork, hence 2023.
- **Gross income:** Total gross annual income (in EUR) received in 2022, comprising the following: employee income; self-employment income; income from public pensions; income from private and occupational pensions; income from unemployment benefits; rental income; income from financial investments; income from social transfers other than unemployment benefits; regular private transfers; and regular income from other sources.
- **Consumption:** Total amount (in EUR) spent in the last 12 months on the following items: food (at home or outside the home); utilities; holidays; and consumer goods and services.
- **Savings/dis-savings:** Total monthly amount (in EUR) that the household can put aside (in a typical month over the last six months) or the amount that the household lacks to cover monthly expenditure.

Short glossary of definition used:

- **Participation rate:** The rate shows the percentage of households that own a particular item (of assets, liabilities, etc.) out of the total population.
- **Conditional mean/median:** The mean is obtained by summing up values of a given variable and dividing it by the number of participating households. The median is the middle value of a given (sorted) variable such that half of the participating households owns less and half owns more than the middle. The median (unlike the mean) is not affected by extreme values and is therefore a better

indicator of the value for a "typical" household.

- **Income/wealth quantile:** The five equally numerous groups into which the ordered observations of the respective variable (e.g., income, wealth) are divided. Each quintile represents 20% of the observations.
- **UN/Canberra definition of the reference person:** UN/Canberra definition is applied to HFCS results, especially for breakdowns based on age, gender, education, and working status. The household reference person is uniquely determined by applying sequentially the following steps: household type (one of the partners in a de facto or registered marriage with, then without dependent children, lone parent with children, the person with the highest income, and finally the eldest person).
- **Debt-to-income (DTI):** The ratio between total liabilities and household gross annual income.
- **Debt service-to-income (DSTI)**: The ratio between total monthly debt payments and household gross monthly income
- **Loan-to-value (LTV)**: The ratio of the outstanding amount of the household's main residence mortgage to its current value.