Bank of Russia

DEMOGRAPHY AND SAVINGS: EVIDENCE FROM A RUSSIAN HOUSEHOLD SURVEY

No.135 / October 2024

WORKING PAPER SERIES

Evguenia Bessonova, Irina Denisova, Nadezhda Ivanova and Alexandra Moskaleva

Evguenia Bessonova
Bank of Russia and HSE University. Email: BessonovaEV@cbr.ru

Irina Denisova
NES and MSU. Email: idenisova@nes.ru

Nadezhda Ivanova
Bank of Russia and RANEPA. Email: IvanovaNS@mail.cbr.ru

Alexandra Moskaleva
Bank of Russia and MSU. Email: MoskalevaAA@cbr.ru

The Bank of Russia Working Paper Series is anonymously refereed by members of the Bank of Russia Research Advisory Board and by external reviewers.

Cover image: Shutterstock.com.

Address: 12 Neglinnaya street, Moscow, 107016
Tel.: +7 495 771-91-00, +7 495 621-64-65 (fax)
Website: www.cbr.ru

ABSTRACT

We utilise data from the biennial longitudinal survey Financial Behaviour of Russian Households (waves 2013–2022) to examine the saving patterns across Russian households. We find that female-headed households are less likely to save – this holds for all age groups and is especially pronounced among women aged over 40. Furthermore, single-person households in Russia are characterised by a lower probability of saving compared to other types of households – this finding is very consistent but differs from the estimates obtained for other countries. Since the demographic trends demonstrate a rising percentage of single-person households, behaviour patterns in this group may increasingly determine the saving behaviour of the population in the long term. At the same time, our analysis shows that the impact of individual time and risk preferences such as a saving horizon, future discounting and risk aversion on saving behaviour in the group of single-person households differs from the estimated effects for other types of households. Thus, standard policies to encourage savings may become less effective in the near future because they will have to deal with a large group of the population with a short planning horizon and high future discounting

Keywords: demographic trends, savings, single households, female-headed households.

JEL classification: D14, J10.

CONTENTS

ABSTRACT 3
1. INTRODUCTION 5
2. LITERATURE REVIEW 7
2.1. Gender 7
2.2. Singles 8
2.3. Time and risk preferences: gender aspect 9
2.4. Other specific factors 10
3. DATA AND KEY VARIABLES DESCRIPTION 10
3.1. Dependent variables: probability of savings 11
3.2. Household head definition 11
3.3. Household types 12
3.4. Time and risk preferences 12
4. MODEL SPECIFICATION 14
5. SAVINGS AND MAIN HOUSEHOLD CHARACTERISTICS 15
6. RESULTS 20
6.1 Baseline specifications 21
6.2. Interaction of demographic factors and personal preferences 26
7. CONCLUSION 31
REFERENCES 32

1. INTRODUCTION

Household savings are important for sustainable development as they provide funds to finance investments. In an open economy with free financial markets, however, this role is not necessarily crucial, unless there are restrictions on capital flows. Recent demographic trends, and population ageing in particular, again attract attention to the amount, structure and determinants of household savings. In the era of ageing populations, with expanding pension and healthcare spending, private funds – individual and family savings – may potentially add to public funds in financing the expenditures and smoothing consumption. Social externalities arising from households' decisions on saving suggest a need for an intervention through a proactive policy.

On top of the ageing trends, the demographics of a household have changed notably. In particular, the share of single-person households has been rising, just as that of female-headed households.

The rise in single-person households is a common pattern in developed countries (Lim, 2019). This trend is observed in Russia as well. The latest population census shows that households are becoming smaller (two-thirds consist of one or two members), while the proportion of single households increased from 25.7% in 2010 to 41.8% in 2021 (Prokofieva and Korchagina, 2023). In 2021, single-person households in urban areas became the predominant household type among the working-age population. The main reason for a rising share of single households among younger cohorts may be the separation of young people from parent families before creating their own families and among older cohorts – a relatively higher male mortality at young and middle ages (Timonin et al., 2017).

Theoretical studies suggest that the propensity to save in families and single households will differ since the partner's income in a family can be considered as insurance in case of an unfavourable situation in the labour market (Blundell et al., 2008, 2016; Ortigueira and Siassi, 2013; Fehr and Kindermann, 2021). Research based on data from developed economies predicts that single households will save more than married couples (Lim, 2019; Temel Nalın, 2013; Fehr et al., 2016). Furthermore, families' propensity to save significantly depends on the stages of a family's life cycle, since the motives for saving can considerably change over different periods of life (purchase of housing, education of children, etc.).

Research based on survey data shows that female-headed households are less likely to save and tend to save less than male-headed households (Sundén and Surette, 1998; Fisher et al., 2015). The economic literature identifies two sources of differences in the propensity to save between men and women. The first one is income differences, as a result of which female-headed households are simply less able to save. Secondly, recent studies point to an equally important role played by traditions of

financial decision-making in a particular family and psychological factors (Harris et al., 2002; Agunsoye et al., 2022; Guiso and Zaccaria, 2023).

Thus, the economics of saving decisions made by single-person and female-headed households tend to differ from those of traditional families. Hence, during a period of demographic changes, an effective policy to stimulate private savings would need to suggest a range of financial instruments reflecting the heterogeneity of incentives to save. This would require a better understanding of the saving patterns of different household types by analysing micro data rather than limiting the aggregate data.

Trends in the Russian economy and demographics have their own additional specifics, which also influence the saving behaviour of households. Since a large group of the population has low incomes, the ability to save of a significant proportion of families is lower, regardless of marital status. On the other hand, low pension levels relative to working-age incomes create strong incentives to save. In addition, a high male mortality in working ages leads to a greater vulnerability of single women in older ages if they have no savings.

This study, based on survey data, attempts to trace how recent demographic changes have been shaping the saving behaviour of Russian households with a focus on single and female-headed households and the underlying mechanisms of their financial decisions. We utilise data from the biannual longitudinal survey Financial Behaviour of Russian Households (waves 2013–2022) to examine the saving patterns (variations in the propensity to save) across Russian households. We focus on the role of household demographics – the type of a household (a single-person household vs other types) and the gender of the household head (a female- vs male-headed household) – and their interplay with individual time and risk preferences (the length of a planning horizon, degrees of risk aversion and future discounting, among others).

Our main findings are threefold. First, contrary to the literature, single-headed households are less likely to save compared to other household types. The result is very robust to different controls. Personal time and risk preferences – a shorter planning horizon for single males, (surprisingly) higher risk aversion for single females, and higher levels of future discounting for both single males and females – are associated with a lower probability of saving among single households as compared to other household types.

Second, female-headed households are less likely to save – this holds for all age groups and is especially pronounced among women aged over 40. Additionally, the age peak in the saving propensity for female-headed households is observed later than for male-headed ones, while no such difference is observed in the age profile of earnings.

Third, the age profile of savings in Russia is rather flat which is in line with the findings for developing countries.

This paper is organised as follows. The literature review is presented in Section 2. The data and key variables are described in Section 3. The methodology is discussed in Section 4. The summary statistics are analysed in Section 5, and the regression results are presented in Section 6. Section 7 concludes.

2. LITERATURE REVIEW

There are numerous economic studies on households' saving behaviour. Our research focuses on differences in the saving behaviour of households where the head is still of working age, depending on the type of the household and its head's time and risk preferences. Therefore, this section primarily focuses on papers that, firstly, study the influence of the gender on saving preferences, secondly, consider recent trends in the demographic structure of households in Russia and other countries, and thirdly, analyse the influence of personal characteristics and preferences on financial decisions in a family. Based on the results of those studies, we formulate our hypotheses which take into account the specifics of the demographic factors in Russia and make assumptions about their possible impact on saving behaviour.

2.1. Gender

The literature on gender differences in financial behaviour supposes that female-headed households tend to have lower incomes and lower wealth. At the same time, demographic trends and general psychological factors suggest that such households can be expected to have a greater propensity to save as women have longer life expectancies and are more risk-averse and more conservative in their investment choices (De Nardi, 2009). However, the empirical literature shows that women often save less than men (Sundén and Surette, 1998; Fisher et al., 2015; Agunsoye et al., 2022; Guiso and Zaccaria, 2023).

For example, Harris et al. (2002) explain higher savings among men by two facts: first, men save more for retirement and, second, they have better skills in managing family budgets. Men also set more ambitious savings goals than women (Agunsoye et al., 2022), which can be attributed to gender roles within households. Women are often assigned the responsibility to manage a daily budget and make short- and medium-term financial decisions, while men focus on long-term investments.

Differences in saving decisions between men and women can also be explained by gender norms that can influence household investment decisions through a number of channels (Guiso and Zaccaria, 2023). The first one is the mechanism of the household head's choice. According to this channel, more

egalitarian norms lead to the selection of the household head based on relevant skills rather than gender roles. The second channel is gender equality which is associated with collaboration between spouses. Furthermore, studies relying on more recent data suggest that, where the husband and the wife in a family are similar in age and have similar incomes and experience, the wife often becomes the main financial decision-maker (Bertocchi et al., 2014).

Thus, the economic literature identifies two sources of differences in the propensity to save between men and women. The first one is income differences, as a result of which female-headed households are simply less able to save. The second one is the traditional distribution of roles in a family when long-term financial decisions are often made by husbands, and wives are rather responsible for daily budgets. The second source of differences is increasingly blurred in advanced economies.

We assume that, given the Russian context, differences in incomes between men and women will play a greater role in determining the propensity to save than the second source. Historically, women's involvement in work since the Soviet period has been quite high and, as a result, they are more likely to take an active part in making financial decisions in households.

2.2. Singles

In recent decades, global demographic landscapes have been marked by a trend towards a decrease in family size and an increase in the proportion of single households in the population. These trends are especially pronounced in developed countries. In this sense, Russia is no different from the countries of Western Europe and North America. The latest population census in Russia showed that, for the first time among the urban population of working age, the share of single households was higher compared to other types of households.

These demographic trends can have a significant impact on saving behaviour, since the motives for saving among singles and married couples may differ substantially. The economic literature suggests that the family plays a risk insurance role for individuals (Fehr and Kindermann, 2021) based on two key saving motives: the life cycle and precautionary motives (Doepke and Tertilt, 2016). In addition, couples and single individuals have different decision-making processes (Kotlikoff and Spivak, 1981).

The literature on single households' saving behaviour often examines how the absence of additional insurance impacts their saving and financial decisions. Single-person households lack additional income from other family members that could act as insurance in the case of a temporary loss of income. This highlights the importance of intra-household risk sharing for savings and labour supply (Ortigueira and Siassi, 2013). Family labour supply plays a significant role in providing insurance against permanent shocks to the spouse's wage. Studies estimate that it accounts for 63% of total household consumption insurance (Blundell et al., 2008, 2016).

Furthermore, single households may be motivated to work more and save more to protect themselves against idiosyncratic risks (Lim, 2019). Singles have a higher propensity to save (Temel Nalın, 2013), and a decline in the probability of marriage at young ages leads to an increase in savings as insurance against life cycle risk (Fehr et al., 2016). Therefore, single households' saving behaviour differs from that of married couples. Two-person households are more likely to save compared to singles or families with children/pensioners due to the potential of two income earners (Beckmann et al., 2013). Savings for retirement is an important motive related to the life cycle hypothesis (Jantan, 2020). The choices made by couples and singles regarding retirement portfolios differ. Couples decrease their stock allocations after retirement, whereas singles do not (Addoum, 2017).

The literature also examines the saving behaviour of single female households. Single women are less likely to engage in financial behaviours compared to men, which is also typical of females in joint households but the trend is less pronounced (Wagner and Walstad, 2023): the study indicates that women in the sample are less inclined to manage personal finance, e.g., pay off credit cards in full each month, have an emergency fund, or save for retirement. In contrast, Lugilde et al. (2019) find that single women who do not expect to get married within the next three years have higher savings due to precautionary motives. However, in general, single female households are less likely to save compared to married households (Yuh and Hanna, 2010). The authors suggest that this may be linked to time preferences as married individuals may be more future-oriented.

Motivations for remaining singles may vary greatly across different social groups and cohorts. The presence of such diversity further complicates the a priori formulation of hypotheses about how marital status may influence household saving behaviour. Theoretical models predict that single households are likely to have a higher propensity to save for precautionary reasons.

2.3. Time and risk preferences: gender aspect

The literature studying differences in saving decisions preferred by men and women identifies individual time and risk preferences as significant factors. A long saving horizon is positively related with the likelihood of being a saver for both male- and female-headed households, while a medium saving horizon is positively related with being a saver for women only (Fisher et al., 2015). Additionally, more optimistic respondents who have a positive view of the future save more (Harris et al., 2002).

The phenomenon of the 'gender expectations gap' is based on systematic gender differences in beliefs about future economic and personal developments (Bjuggren and Elert, 2019). For example, women have higher inflation expectations than men (Armantier et al., 2013). This can lead to suboptimal consumption choices and, subsequently, suboptimal saving decisions, resulting in a lack of savings for their goals and retirement (D'Acunto et al., 2021).

Gender gaps in capital market participation among households may be influenced by differences in risk attitudes. The degree of individual risk aversion is highly related to the precautionary saving motive: risk-averse individuals tend to save more (Beckmann et al., 2013). However, the relationship between risk tolerance and savings differs for men and women. Fisher et al. (2015) conclude that high risk tolerance among men is associated with a higher probability of having savings, while this effect among women is insignificant. That said, this gender gap does not necessarily exist for single-person households, as noted by Fey et al. (2023).

2.4. Other specific factors

There are also other factors systematically influencing saving behaviour that are identified in the economic literature. The researchers point to the influence of education and a related factor – financial literacy – on the probability of having savings (Fonseca et al., 2012, Alessie et al. 2013). The role of financial literacy in saving decisions is examined by Beckmann et al., 2013; Semenova, 2011; Brounen et al., 2016. Individuals with higher financial literacy have larger and more diversified savings (Beckmann et al., 2013), as well as exhibit a greater propensity to save (Brounen et al., 2016). Furthermore, individuals with higher levels of financial literacy have greater financial security in retirement (Barbić et al., 2016).

The literature also explores how generational differences affect saving behaviour. There are studies showing that the propensity to save in a number of countries varies across generations, e.g., baby boomers are more inclined towards saving (Brounen et al., 2016).

3. DATA AND KEY VARIABLES DESCRIPTION

Our study is based on the survey Financial Behaviour of Russian Households. This is a biannual longitudinal study with a panel component (split-panel design) conducted in 2013, 2015, 2018, 2020 and 2022. This survey was carried out by the Demoscope company under a contract with the Ministry of Finance waves 1–4) and the Bank of Russia (wave 5). Approximately 6,000 households (12,000 individuals) were surveyed in each wave. The sample was constructed in such a way that the survey is representative of Russia as a whole.

The survey was conducted by professional interviewers using two questionnaires. The first one contained questions about a household as a whole – they related to such aspects as a household's living conditions, income, consumption, and savings. The second one included questions addressed to each adult member of the household separately. The questions in the individual questionnaire primarily focused on the main occupation and personal income of household members, their personal characteristics, financial assets and liabilities, expectations and preferences. The questionnaires were

modified to some extent between the waves. The most significant alteration was between waves 4 and 5; the other changes were minor.

3.1. Dependent variables: probability of savings

We examined the impact of various demographic characteristics of households on their likelihood of saving. The household questionnaire contains several questions about household savings. With regard to the simple question whether households have savings, the response rate is fairly high. As long as our study focuses on households' probability of saving, we created a dummy variable 'any savings' that equals one for an affirmative answer to the question in the household questionnaire 'Does your household have any savings, no matter how and where you keep them, whether in cash, accounts or securities?'.

In contrast, a considerably lower percentage of respondents gave answers to the next questions about the amount of savings, with a third of households choosing not to answer the questions at all. Therefore, in order to indirectly estimate the amount of savings, we used the answers to the question 'How long will you be able to live on your savings if the household loses all sources of income?'. Based on this question, we created a dummy variable 'sufficient savings' that equals one when a household claims that its savings will be sufficient for several months or longer. We assume that this variable captures the fact that there are long-term savings in a household, as opposed to savings for a rainy day.

3.2. Household head definition

One of the benefits of the survey data is that they can identify the head of a household, whereas the population census data cannot. This study defines the head of a family as the household member with the highest income who is also most likely to be the main financial decision-maker in the family. In addition, within the 2022 wave, there was a direct question formulated as 'Which member of your household is the main contributor to its financial well-being?'. Therefore, in the cases where we analyse data from the 2022 wave only, we identify the head of a household based on the said question. When we analyse data from several waves of the survey, we compare data on the income of all family members obtained from the individual questionnaire and, based on this information, define the head of a family as the highest income earner (see Table 1 for summary statistics).

For income-based identification of the household head, we calculate a household member's total permanent income using data from the individual questionnaire. Total permanent income consists of two parts: wage income and transfer income. The first part includes the basic wage and bonuses, and the second part means pensions, scholarships and other social benefits. All indicators are measured for the last 30 days before the survey. Relying on the information of the 2022 wave, we could compare

the results of the two approaches to identifying the head of a family, and they turn out to be quite similar.

3.3. Household types

As regards the demographic characteristics of a household, we first compare saving behaviour among male- and female-headed households. We also consider different types of households in our study – families with children, families without children, and single-member households – since we assume that these three groups may have different motives and opportunities for savings. The economic literature suggests that singles tend to save more due to the risk of a temporary income loss. Families with children may be motivated to save more to improve their living conditions or pay for their children's education.

We use the following algorithm to identify the household type. First, we identify households consisting of a single person according to the household questionnaire. Then, using data on the year of birth of all household members, we determine whether a family has children. Finally, we classify the remaining households as 'households without children'. It should be noted that this study does not consider households consisting only of pensioners because their saving motives may significantly differ from those of households with working-age members.

3.4. Time and risk preferences

Another aspect that we are interested in when analysing the probability of saving is the individual time and risk preferences of the household head, as well as her/his expectations regarding the financial situation of the household and the economic situation in the country. The pool of questions about individual time and risk preferences varied from wave to wave.

Questions about a saving horizon were asked in the questionnaires of all the waves. The answers to the question 'What period of time do you mainly take into account when you (your family) are planning how much money to save and how much to spend?' were grouped into four categories: 'up to several months', 'one year', 'five or more years', and 'do not plan at all'.

Table 1. Variables description and summary statistics

Variable	Waves	Description	Category	Observations	Percentage	Mean	St.dev.	Min	Max
HH SAVINGS									
Any savings	all	Binary, 1 if the respondent answered 'yes' to the question 'Does your household have any savings, no matter how and where you keep them?'		19 595		0,39	0,49	0	1
Sufficient savings	all	Binary, 1 if the respondent answered 'six months and more' or 'several months' to the question 'How long will your household be able to financially live the same way as you live now only at the expense of cash savings?'		19 474		0,28	0,45	0	1
HH TYPE AND HH HEAD'S DEMOGRAPHICS									
HH types	all	The household type determined based on its composition	Single	1 808	9%				
			Family without children	9 152	47%				
			Family with children	8 635	44%				
HH head's gender	all	Binary, 1 if the household head is female		19 595		0,49	0,5	0	1
HH head's age	all	Age of the household head		19 595		44,2	13,5	18	95
HH head's education	all	Binary, 1 if the education level of the household head is university degree or higher		19 595		0,33	0,47	0	1
HH GEORAPHY									
Types of settlement	all	The type of settlement where the household lives	Rural	4 682	24%				
			City less than 100 ths	4 493	23%				
			City 100 ths – 1 mln	6 338	32%				
			City more than 1 mln	4 082	21%				
HH INCOME POSITION									
HH income deciles	all	The income decile group calculated for total household money income per household member	1	2 639	13%				
			2	2 297	12%				
			3	1 981	10%				
			4	1 742	9%				
			5	1 644	8%				
			6	1 781	9%				
			7	1 606	8%				
			8	1 815	9%				
			9	2 050	10%				
			10	2 040	10%				
Share of working adults	all	Share of working household members		19 595		0,56	0,32	0	1
HH-owned housing	all	Binary, 1 if the household owns a house		19 595		0,76	0,43	0	1
HH HEAD'S PREFERENCES AND FINANCIAL LITERACY									
Saving horizon	all	The household head's answer to the question 'What period of time do you mainly take into account when planning how much money to save and how much to spend?'	Up to several month	13 790	70%				
			1 year	2 502	13%				
			5+ years	604	3%				
			Do not plan at all	2 699	14%				
Future discounting	2018, 2020, 2022	Binary, 1 if the household head answered 'completely agree' or 'rather agree' to the statement 'I live for the present rather than the future'		10 780		0,48	0,50	0	1
Financial literacy (self-assessed)	2018, 2020, 2022	The household head's answer to the question 'Do you consider yourself a financially literate person? How would you rate your knowledge and skills?'	1 (no knowledge)	1 378	13%				
			2	2 517	23%				
			3	5 041	47%				
			4	1 580	15%				
			5 (excellent)	264	2%				
Risk aversion	2018, 2020, 2022	Binary, 1 if the household head answered, that he/she was ready to take high risks to get high profits		10 780		0,38	0,49	0	1
HH FINANCIAL SITUATION SELF-ASSESSMENT									
Stable financial situation	2022	Binary, 1 if the answer 'stable' to the question 'Do you think that your financial situation is stable or it can easily be shaken or deteriorate?'		2 679		0,27	0,44	0	1
Econ. conditions in the country in the next 2 years	2022	Binary, 1 if the answer 'expect them to worsen' to the question 'If we talk about economic conditions in the country as a whole, do you think the next two years will be a good time for the country's economy, a bad time, or neither?'		2 679		0,43	0,49	0	1
HH financial situation next year	2022	Binary, 1 if the answer 'expect it to worsen' to the question 'How do you think the financial situation of your household will change next year?'		2 679		0,25	0,43	0	1
Econ. conditions in the country 2 years ago	2022	Binary, 1 if the answer 'were worse' to the question 'Were economic conditions in the country two years ago better, worse, or the same as they are now?'		2 679		0,14	0,35	0	1
HH financial situation last year	2022	Binary, 1 if the answer 'was worse' to the question 'How would you assess your household's financial situation last year?'		2 679		0,36	0,48	0	1

Questions about discounting the future, risk aversion and financial literacy were included in the questionnaires starting from wave 3, i.e., for the waves of 2018, 2020 and 2022. For future discounting, we construct a dummy variable that equals one if the respondent chooses 'agree' or 'completely agree' when evaluating the statement 'you live for today rather than the future'. Risk aversion is measured using a two-level scale. Persons with a low level of risk aversion answered 'I am ready to take considerable financial risks to get high profits', 'I am ready to take quite substantial financial risks to get substantial profits' or 'I am ready to take moderate financial risks to get moderate profits', and those with a high level – 'I am not ready to take any financial risks'. Financial literacy is measured based on the respondent's self-assessment using a five-point scale from one (no knowledge) to five (excellent knowledge).

Finally, questions about expectations regarding a person's financial situation and the economic situation in the country were first included in the questionnaire only in 2022. The assessments of a household's financial standing and the country's economic conditions as well as households' expectations are represented by five binary variables 'stable financial standing', 'economic conditions in the country in the next two years', 'a household's financial standing next year', 'economic conditions in the country two years ago' and 'a household's financial standing last year' (see Table 1 for summary statistics).

4. MODEL SPECIFICATION

The main variables of interest (the household head's gender and the household type) within households vary very little from wave to wave. Therefore, the regression analysis of the effects of various factors on the probability of saving is based on a standard pooled probit model in which we included fixed effects for the survey waves.

$$P(Y_{it} = 1) = F(\beta_1 + \beta_2 \cdot HH\_head\_gender_{it} + \beta_3 \cdot HH\_type_{it} + X_{it} \cdot \gamma + W_{it} \cdot \alpha),$$

where Y_{it} – the binary dependent variable indicating the presence of savings ; $F(*)$ – the function of the standard normal distribution; $HH\_head\_gender_{it}, HH\_type_{it}$ – the main variables of interest; X_{it} – the matrix of personal preferences and control variables; W_{it} – the matrix of fixed effects for the waves; β_1 – the constant; β_2, β_3 – the coefficients for the main variables of interest; and γ, α – the vectors of the coefficients.

As standard in the literature, we estimated probit models with standard errors clustered at the primary sampling unit (PSU) level. The questionnaires differed from wave to wave, therefore, not all model specifications could be estimated using data from all the waves. We estimated several model specifications on data from different waves that included different sets of explanatory variables describing the household head's time and risk preferences.

For the probit estimations, we used two alternative dependent variables. The first one is a dummy variable that equals one if the household has any savings. The second one is a dummy variable equalling one if the household has savings that are sufficient to live for several months or longer (sufficient savings).

In all the model specifications, we control for such basic characteristics as the age of the household head and her/his level of education, the household's income, and the type of a settlement. The age variable is included into the models in a quadratic form for life cycle control. Household heads with higher education can better assess wage risks and, accordingly, the need for savings, as well as better plan household income distribution between consumption and savings. Income per household member and the place of settlement determine the opportunities to save. The analysis also includes the share of working people among adult family members and a dummy for homeownership. The share of working household members shows the ratio between workers and dependents in a household and indirectly reflects its ability to save. If a household does not have to pay a rent, its ability to save improves – this is why we also control for home ownership. Table 1 provides a description of the variables and summary statistics.

Excluding pensioners-only households from the analysis reduces the sample to approximately 4,000 households in each wave. It is worth noting that the sample may include extended families where the head of the family is a pensioner, but there are other adult members of the household who are not of retirement age. The answers to the questions about the household head's preferences regarding risk aversion, a saving horizon, future discounting, and financial literacy are filled out quite well. However, including the questions about a household' expectations regarding its financial situation and the economic conditions in the country that have a lower response rate in the regression analysis reduces the sample size to approximately 2,300 observations in 2022.

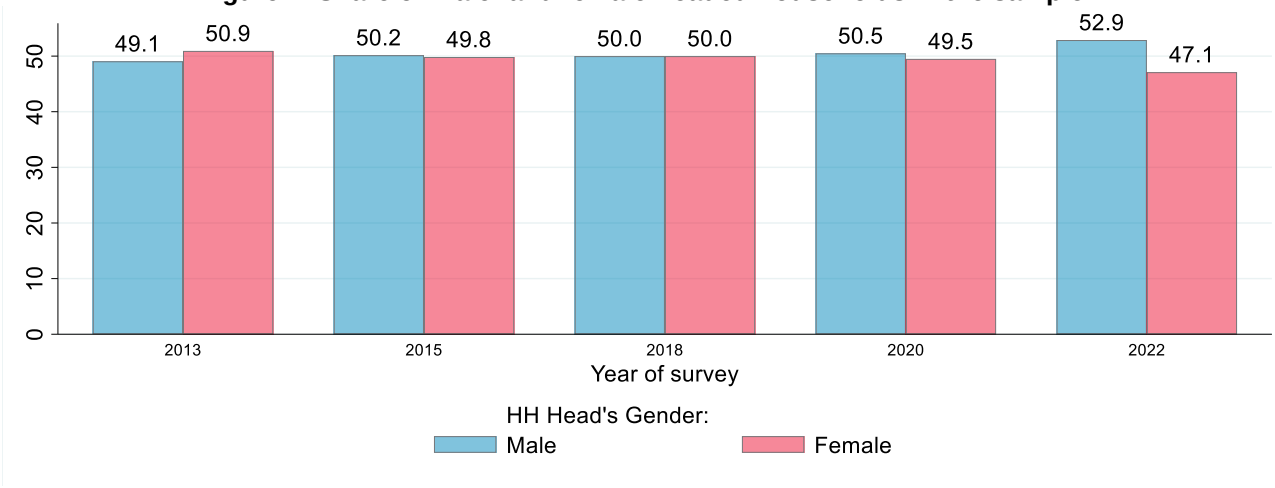
5. SAVINGS AND MAIN HOUSEHOLD CHARACTERISTICS

Given that women's labour force participation rate is high in Russia, male- and female-headed households are distributed approximately equally in the survey data. Figure 1 shows the shares of male- and female-headed households in the sample from which pensioners-only households are excluded: the percentages of families where the head is a man and where the head is a woman are almost equal. In the 2013 wave, there were slightly more families with a female head, whereas in the 2022 wave, families with a male head became slightly more prevalent.

The dominant types of households in the sample are families with or without children accounting for approximately 44% and 47%, respectively. In our sample, singles account for 9% of the households with working-age members. This share increased gradually from 9% in 2013 to 11% in 2022. This rise

is not as pronounced as in the census data (Prokofieva and Korchagina, 2023), but is also observed in our sample.

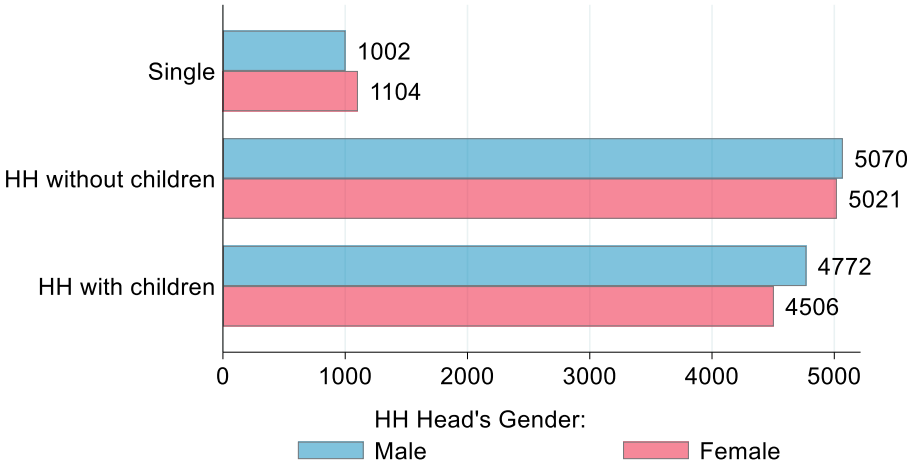
Figure 1. Share of male- and female-headed households in the sample.



Note. Excluding pensioners-only households.

Figure 2 shows the numbers of households by household type and gender of the family head in all the waves. The number of female-headed households is slightly higher among singles, whereas the number of male-headed households is higher in families with and without children.

Figure 2. Number of male- and female-headed households by household type.



Note. Excluding pensioners-only households.

During the period under review, the shares of single male and single female households both increased, specifically from 8% to 10% and from 10% to 12%, respectively. In the sample from which pensioners-only households are excluded, the proportion of single-person households is slightly higher among female-headed households than among male-headed households. The difference in the percentages of single households in our sample vs the census can be explained by two factors. Firstly, we do not consider families consisting only of pensioners, while this group in particular includes a fairly

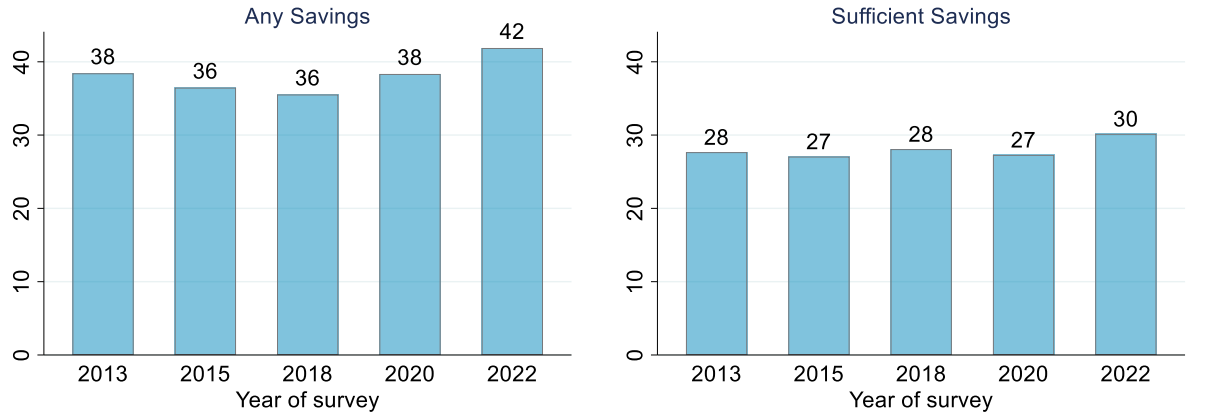
high proportion of single women who have lost their husbands. Secondly, when the census was conducted in 2021 (2020), its data were supplemented with administrative data when it was impossible to directly interview residents of certain apartments/houses, and these administrative data do not necessarily accurately reflect the composition of a household.

The survey data show that only 39% of households across all the waves had some savings. Furthermore, as little as 28% of the surveyed families believed that they would be able to live on their savings for several months or longer. Most households mentioned precautionary reasons as the motives for saving. In different waves, from 66% to 71% of households that had savings indicated unexpected expenses as a motive for saving. Other motives for saving, such as medical and education expenses, purchase of real estate, etc., were mentioned much less frequently. Even when households' savings were sufficient to live for several months, they could not always be considered as long-term savings – those could be precautionary savings, especially when households estimated the likelihood of medical expenses as high, etc.

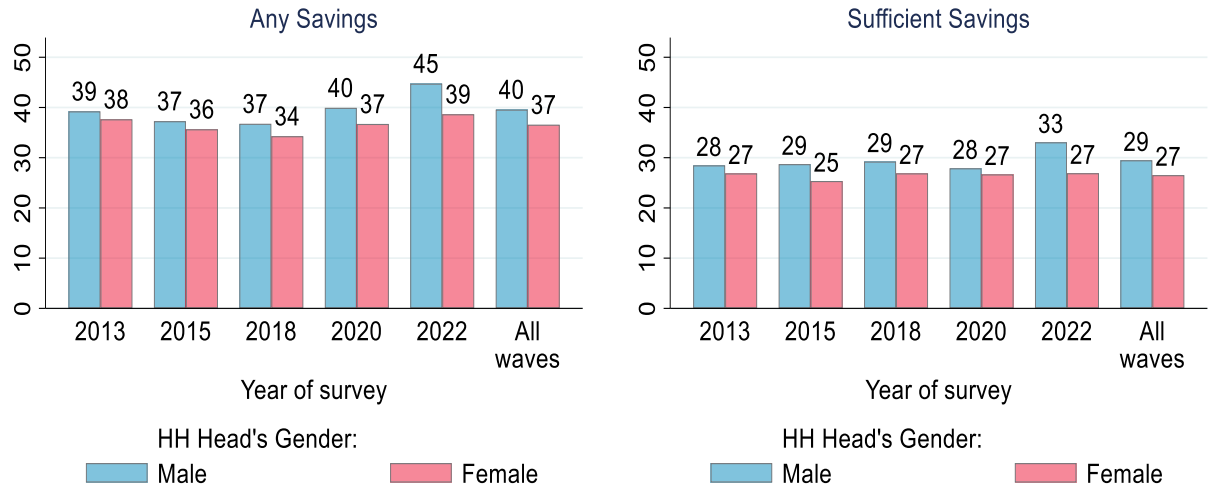
The share of households with any savings fluctuated over the period under review. Figure 3 (panel A, left graph) shows that this share was the lowest in 2018 – 36%, edged up to 38% in the 2020 pandemic year, and increased further in 2022, reaching 42%. The percentage of households that had savings sufficient for several months changed less notably, staying almost the same over 2013–2020, and increased only in 2022 compared to the previous waves (see Figure 3; panel A, right graph).

Figure 3. Probability of saving by gender and wave.

Panel A



Panel B



Note. Excluding pensioners-only households.

According to the percentages calculated on the basis of the data from all the waves, female-headed households are less likely to have savings (see Figure 3, panel B), which is consistent with the results obtained in the studies based on data from other countries. However, our data only show a relatively small difference between male- and female-headed households in terms of the likelihood of having any type of savings or savings sufficient for several months.

Nevertheless, the percentage of households with savings among female-headed households is consistently lower in all survey waves. With regard to any type of savings (see Figure 3; panel B, left graph), the gap between male- and female-headed households in the share of households with savings is not very large in the first four waves, but gradually widens to 6% by 2022. In addition, the proportion of households with savings is changing in a similar way in these two groups, decreasing by 2018 and then growing in 2020 and 2022. The dynamics in 2020 correspond to data for other countries over the said period when savings among the population increased, which was supported during the pandemic by government programmes, on the one hand, and sharply reduced spending in a number of sectors, e.g., the restaurant and tourism industries, on the other hand.

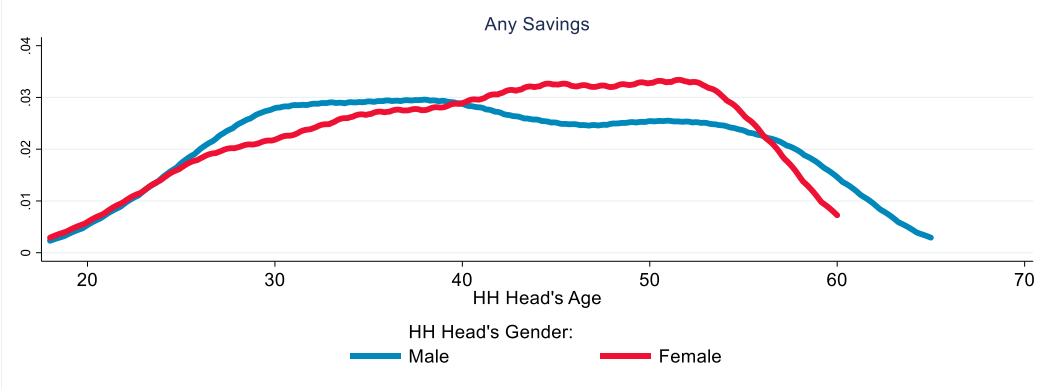
Having savings sufficient for several months (see Figure 3; panel B, right graph) is also slightly less common for female-headed households across all survey waves. Furthermore, similarly to any savings, there is a widening gap between female- and male-headed households in 2022.

Descriptive statistics show that the peaks in the age profiles of the likelihood of having savings do not coincide for male- and female-headed households (see Figure 4, Panels A and B), although studies for Russia show that the peaks in wages do coincide (with women's wage levels being lower in all age groups) (see Figure 4, Panel C; and Gimpelson, 2019 for discussion). The distribution of the probability

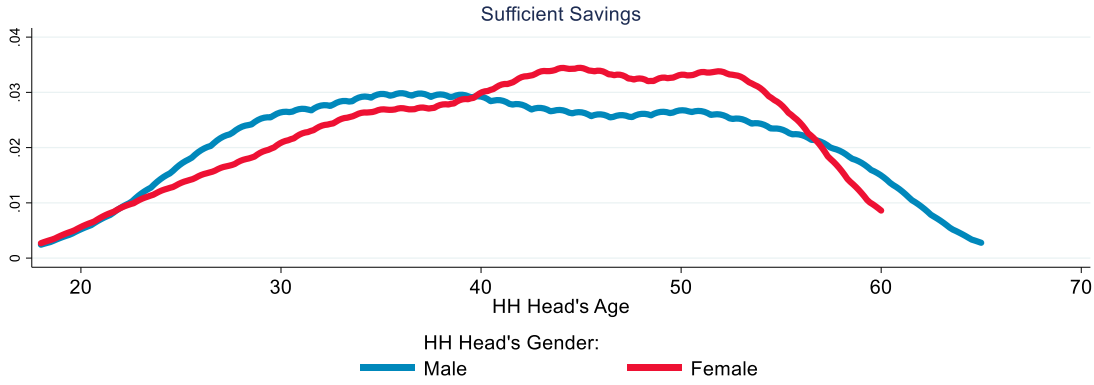
of being a saver for men peaks at the age of 35–40 and then shows an additional small peak at pre-retirement age. Contrastingly, there is no peak at working age among women – the probability of both measures of savings increases at pre-retirement age and even after this age.

Figure 4. Probability of saving and household income by gender and age (Kernel density estimations).

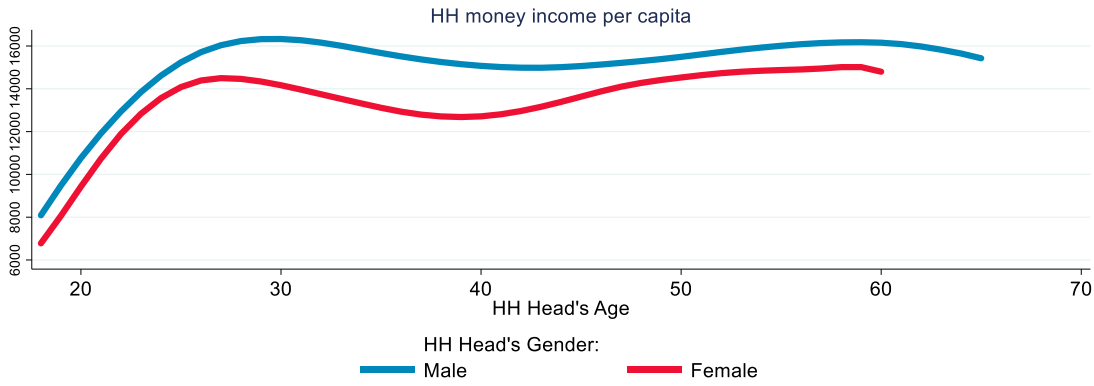
Panel A



Panel B



Panel C

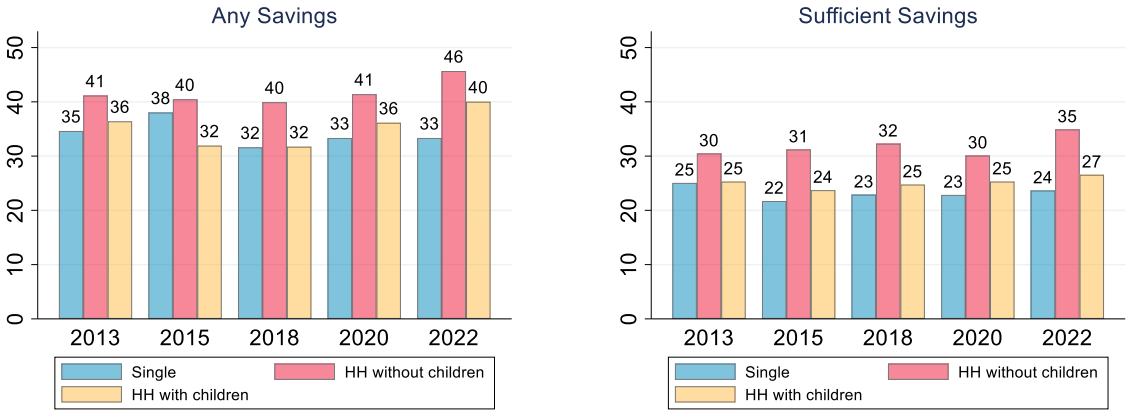


Note. Excluding pensioners-only households.

In terms of family types, single-person households and families with children are less likely to have any savings or savings sufficient for several months compared to families without children, which is typical of all survey waves (see Figure 5). The difference in the share of households with savings is not large between singles and families with children.

However, the difference in having any type of savings between single-person households and families with children is heterogeneous between the waves (see Figure 5, left graph). The gap is not very large in 2013, 2018 and 2020. In 2015, the likelihood of having any savings is higher among single-person households, whereas in 2022, to the contrary – among families with children. Thus, singles and families with children reacted differently to the crises of 2014 and 2020. During the pandemic, government measures to support the population were targeting families with children. Hence, these families' propensity to save did not decline, in contrast to 2015. The share of households with savings increases in the 2022 wave for families both with and without children. With regard to savings sufficient for several months, the last four waves show that families with children are a bit more likely to have such savings compared to single-person households (see Figure 5, right graph).

Figure 5. Probability of saving by household type and wave.



Note. Excluding pensioners-only households.

6. RESULTS

According to the life cycle theory, savings should be determined by a person's desire to smooth out the level of consumption throughout her/his life, in particular in anticipation of a decrease in income after retirement. The life cycle theory suggests that households tend to borrow more when they are younger and save more at pre-retirement age in order to smooth out fluctuations and shocks in their incomes over the life course. The differences in the likelihood of saving between male- and female-headed households and across household types, which we discussed in the previous section, suggest that households' motives for saving may vary. Thus, we will not necessarily observe the same peaks in the probability of saving among all types of households that the life cycle theory predicts. In addition,

the economic literature in recent years has increasingly paid attention to the influence of individual time and risk preferences on financial behaviour in general and saving decisions in particular.

Therefore, our study considers how combinations of demographic factors, such as the household head's gender and family composition, and individual time and risk preferences of the household head impact households' likelihood of saving. We first consider the baseline specification of the model where we simply control for the individual time and risk preferences of the household head. We then analyse the combined effects of demographic factors and the household head's preferences by including the interactions of various variables in the regression to estimate how differences in the individual time and risk preferences may affect the propensity to save in different groups of households.

6.1 Baseline specifications

We estimated the baseline regressions for three samples:

- all the waves;
- the waves of 2018, 2020 and 2022; and
- only the 2022 wave.

The results of the baseline regressions are shown in Table 2. In all regressions, we control for household income by including decile income groups in all specifications, since it is income that primarily determines a household's ability to save. The difference between the three specifications presented in the table is that we include different sets of variables capturing the individual time and risk preferences and expectations of household heads. Only one variable based on the answer to the question about a planning horizon for saving decisions among the individual characteristics of the household head is included in the regression estimated for all the waves of the survey. The regression specification estimated using the data for 2018, 2020 and 2022 comprises a wider range of variables, such as parameters of risk aversion, future discounting, and self-assessed financial literacy. The set of the variables for the regressions on the 2022 data also includes the variables constructed based on household heads' responses about expectations regarding the economic situation in the country and households' financial situation. These questions were only included in the last wave of the survey.

The regression analysis shows that female-headed households do have a lower probability of saving, although the descriptive statistics suggest that the difference in the likelihood of saving between male- and female-headed households is not very large. In most baseline specifications of the model, the dummy variable for the household head's gender turns out to be consistently significant. A female-headed household is 2.5–5.9% less likely to have savings than a male-headed householdBesides, there is no notable difference in the coefficient estimates for all types of savings or for savings sufficient for several months.

Only with regard to the estimates for all types of savings based on the 2022 data, the difference in male- and female-headed households' propensity to save is found to be insignificant. In this case, we control for the self-assessment of the household's financial stability and expectations regarding the economic situation in the country and the household's financial situation. Interestingly, the descriptive statistics show the largest gap in the percentages of households with savings in 2022 between male- and female-headed households. That is, we can assume that individual expectations can have a strong influence on differences in household saving behaviour, regardless of the household head's gender.

The estimates of the coefficients for different types of households show that the probability of saving among single-person households is significantly lower than among families without children. The likelihood of having savings in single-person households is 6–12% lower than in families without children. The estimates of the coefficients for a single-person household dummy vary depending on the waves included in the specification, but are very close for both all types of savings and sufficient savings. However, we do not observe a statistically significant difference in the propensity to save between families with and without children, although the descriptive statistics show that the gaps between families with and without children and between single-person households and families with children are very similar. This result may arise because these model specifications do not factor in different stages of the development of families with children. In the next section, we will try to take this into account by including the interaction of the household head's age and the household type in the analysis, thus trying to capture the differences in the motives for saving at different ages. Furthermore, to indirectly control for the stage of the family development, we included the share of adult working family members in the analysis. This indicator is often found to be insignificant or only significant at a 10% level. This coefficient has a negative sign in the specification for savings sufficient for several months. It can be assumed that if a household has more than one working member, the incentive to save as insurance against the loss of income of one of the family members decreases, which might have a weak impact on the likelihood of saving.

The income level has the expected effect on the propensity to save. Households in the bottom decile of income are 8.5–16% less likely to have savings than households in the middle of the distribution. Contrastingly, households in the top decile save significantly more often. Specifically, households in the top decile are 21–26% more likely to have some types of savings than those in the middle of the distribution. Households that own residential real estate are also more likely to have savings. At the same time, the type of a settlement in which a household is living does not have a significant impact on the probability of saving. Nevertheless, we control for this factor in all the specifications, since living in different settlements can considerably influence the level and variance of income. In some specifications, it appears that households living in rural areas are more likely to have savings sufficient

for several months. This apparently suggests that rural residents, even with small savings, expect to live on subsistence farming.

The economic literature has recently paid increased attention to the effects of individual time and risk preferences on households' financial behaviour. Individual preferences can influence both motives for saving and financial behaviour during periods of economic shocks, which can ultimately affect the likelihood of saving as well. Our regression analysis also shows that individual time and risk preferences indeed have a significant impact on the likelihood of saving. Thus, households whose head has a longer planning horizon have a higher probability of saving. If a planning horizon is more than a year, the likelihood of saving increases by 13–18% depending on the specification of the model. Conversely, where there is no planning horizon, the probability of making savings notably declines, namely by about 18–21% for all types of savings and 8–9% for savings sufficient for several months. The rate of future discounting also has a significant effect on the likelihood of saving. If the household head answers that she/he 'focuses on today', the probability that this household will have savings drops by 5–8%.

Interestingly, self-reported financial literacy does not have a statistically significant effect on the probability of saving. Nevertheless, households with a higher level of education, which often implies a higher level of financial literacy, save more frequently. Furthermore, the effect of risk aversion turns out to be statistically insignificant in the baseline specifications.

Generally, household heads' perceptions of the country's economic situation and households' financial standing have proven to influence the probability of saving. However, the estimates of the coefficients for the variables reflecting the subjective perception of the economic situation in the country and expectations about the future are not always significant. The effects of perceptions of a household's current or future financial situation are stronger than those of perceptions of the economic situation in the country as a whole.

If the head of a household expects the economic situation in the country to worsen, the likelihood of saving in such a household increases by 6%. However, the specification with savings sufficient for several months does not show statistically significant effects. There are also no statistically significant effects on the probability of saving when a household expects its financial situation to deteriorate. Possibly, a considerable number of households form their expectations based on their current financial situation. Accordingly, when it is already bad, households' potential to make savings is also limited.

Table 2. Pooled probit estimations. Baseline regressions. Marginal effects.

	Any savings All waves ME (1)	Sufficient savings All waves ME (2)	Any savings 2018 2020 2022 ME (3)	Sufficient savings 2018 2020 2022 ME (4)	Any savings 2022 ME (5)	Sufficient savings 2022 ME (6)
			HH TYPE			
HH types (REFERENCE – Families without children)						
Single-person HH	-0.061***	-0.060***	-0.071***	-0.064***	-0.125***	-0.099***
	(0.014)	(0.019)	(0.019)	(0.019)	(0.041)	(0.028)
Family with children	-0.002	-0.014	0.006	0.001	0.004	-0.006
	(0.010)	(0.015)	(0.016)	(0.013)	(0.020)	(0.024)
			HH HEAD'S GENDER			
HH head's gender – Female	-0.025***	-0.028***	-0.026**	-0.029**	-0.035	-0.059***
	(0.007)	(0.010)	(0.012)	(0.012)	(0.021)	(0.017)
			HH HEAD'S AGE AND EDUCATION			
HH head's age (quadratic form)	0.002***	0.001***	0.003***	0.002***	0.004***	0.002***
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
HH head's education – University degree or higher	0.072***	0.055***	0.063***	0.058***	0.055**	0.054***
	(0.010)	(0.010)	(0.014)	(0.012)	(0.023)	(0.020)
			HH GEORAPHY			
Types of settlement (REFERENCE – City less than 100 ths)						
Rural	-0.012	0.070***	-0.006	0.069**	0.009	0.085
	(0.036)	(0.027)	(0.037)	(0.032)	(0.042)	(0.056)
City 100 ths – 1 mln	0.054*	0.010	0.060	0.027	0.052	0.040
	(0.033)	(0.038)	(0.040)	(0.042)	(0.055)	(0.062)
City more than 1 mln	0.041	-0.031	0.049	-0.005	0.007	-0.021
	(0.034)	(0.029)	(0.044)	(0.036)	(0.054)	(0.058)
			HH INCOME POSITION			
Income deciles (REFERENCE – decile 5)						
Income deciles – 1	-0.142***	-0.085***	-0.141***	-0.126***	-0.134***	-0.162***
	(0.023)	(0.017)	(0.021)	(0.019)	(0.044)	(0.037)
Income deciles – 2	-0.091***	-0.065***	-0.088***	-0.078***	-0.074**	-0.096***
	(0.024)	(0.017)	(0.015)	(0.017)	(0.037)	(0.029)
Income deciles – 3	-0.070***	-0.052***	-0.040*	-0.067***	-0.090***	-0.108***
	(0.016)	(0.012)	(0.021)	(0.017)	(0.031)	(0.034)
Income deciles – 4	-0.042***	-0.024	-0.022	-0.034*	-0.005	-0.064*
	(0.015)	(0.017)	(0.022)	(0.018)	(0.046)	(0.035)
Income deciles – 6	0.046***	0.024*	0.074***	0.027	0.065	0.021
	(0.014)	(0.013)	(0.020)	(0.017)	(0.045)	(0.043)
Income deciles – 7	0.075***	0.048***	0.101***	0.050**	0.107**	0.015
	(0.019)	(0.017)	(0.023)	(0.020)	(0.053)	(0.042)
Income deciles – 8	0.113***	0.088***	0.123***	0.094***	0.093*	0.048
	(0.019)	(0.016)	(0.023)	(0.020)	(0.051)	(0.041)
Income deciles – 9	0.172***	0.124***	0.196***	0.142***	0.168***	0.132***
	(0.020)	(0.016)	(0.027)	(0.021)	(0.048)	(0.045)
Income deciles – 10	0.221***	0.214***	0.244***	0.229***	0.259***	0.246***
	(0.029)	(0.023)	(0.041)	(0.028)	(0.057)	(0.049)
Share of working adults	-0.024	-0.034*	-0.013	-0.034*	0.046	-0.005
	(0.032)	(0.018)	(0.034)	(0.019)	(0.049)	(0.031)
HH-owned housing	0.049***	0.050***	0.033**	0.045***	0.030	0.028
	(0.011)	(0.013)	(0.013)	(0.016)	(0.022)	(0.021)

Table 2 (continued). Pooled probit estimations. Baseline regressions. Marginal effects.

	Any Savings all waves ME (1)	Sufficient Savings all waves ME (2)	Any Savings 2018 2020 2022 ME (3)	Sufficient Savings 2018 2020 2022 ME (4)	Any Savings 2022 ME (5)	Sufficient Savings 2022 ME (6)
			HH HEAD PREFERENCES AND FINANCIAL LITERACY			
Saving horizon (REFERENCE - Up to several months)						
Savings horizon - 1 year	0.167***	0.136***	0.147***	0.136***	0.181***	0.151***
	(0.015)	(0.024)	(0.030)	(0.033)	(0.033)	(0.035)
Savings horizon - 5+ years	0.175***	0.087***	0.127***	0.107**	0.235***	0.181**
	(0.034)	(0.034)	(0.044)	(0.044)	(0.043)	(0.078)
Saving horizon - do not plan at all	-0.180***	-0.088***	-0.204***	-0.091***	-0.212***	-0.078**
	(0.016)	(0.014)	(0.023)	(0.018)	(0.047)	(0.037)
Future discounting - live for today			-0.081***	-0.045***	-0.076***	-0.047**
			(0.011)	(0.015)	(0.026)	(0.023)
Financial literacy (self-assessed, scale 1 (no knowledge) - 5(excellent))			0.002	-0.009	0.006	-0.021
			(0.010)	(0.015)	(0.020)	(0.018)
Risk aversion - Low (ready to take high risks to get high profits)			0.008	-0.003	0.010	-0.013
			(0.015)	(0.015)	(0.028)	(0.025)
			HH HEAD EXPECTATIONS			
Stable financial position - YES					0.072**	0.088**
					(0.033)	(0.034)
Econ. conditions country - expect bad times next 2 years					0.059***	0.024
					(0.017)	(0.018)
HH econ. conditions next year - expect to worsen					-0.003	-0.014
					(0.037)	(0.028)
Econ. conditions country 2 years ago - were worse					-0.025	0.041
					(0.054)	(0.060)
HH econ. conditions last year - were worse					-0.085***	-0.087***
					(0.025)	(0.026)
			ROUND FE			
Year 2013	0.050***	0.010				
	(0.017)	(0.023)				
Year 2015	0.011	-0.007				
	(0.012)	(0.015)				
Year 2020	0.030**	-0.009	0.028*	-0.006		
	(0.014)	(0.011)	(0.015)	(0.012)		
Year 2022	0.059***	0.019	0.056***	0.018		
	(0.016)	(0.014)	(0.017)	(0.014)		
Observations	19,595	19,474	10,781	10,756	2,669	2,674

Note: Pooled probit with year fixed effects. Marginal effects. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

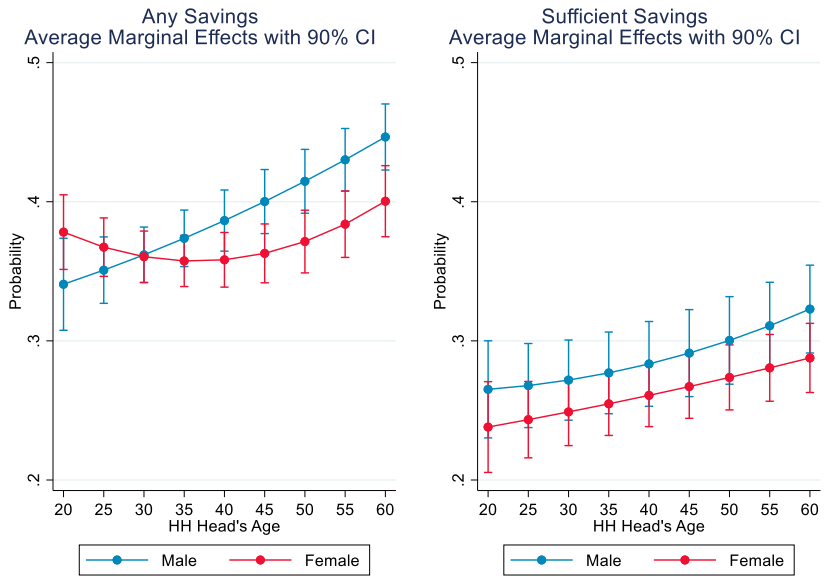
This assumption is confirmed by the estimates of the influence of a household's current financial situation on its probability of saving. If the household is facing a challenging period, the probability of having savings decreases by 8.5–8.7%. Conversely, if the household head assesses her/his financial situation as stable, the probability of making savings rises by 7.2–8.7%. Moreover, this effect is somewhat higher in relation to longer-term savings.

6.2. Interaction of demographic factors and personal preferences

In the next step, we sought to identify whether there are consistent differences in individual time and risk preferences among different types of households that might have additional effects on saving decisions. To do this, we included the interactions of the variables of interest in the estimates of the probit regressions, leaving the same set of the control variables as in the baseline regressions. For the most part, we considered triple interactions – the household head's gender, the family type, and the variable describing individual preferences. We also examined the influence of the household head's gender on the probability of saving depending on her/his age, in order to compare our results with the predictions of the life cycle theory. As the results of such regressions are difficult to interpret from the tables of the coefficient estimates, this section presents all the results in graphical form.

The results of including the interaction between the household head's gender and her/his age in the analysis show that female-headed households have a lower likelihood of saving at any age (see Figure 6). Nevertheless, this difference is not statistically significant for either all types of savings or savings sufficient for several months. For any savings, the gap between male- and female-headed households begins to widen after the age of 40.

Figure 6. Estimates of the probability of saving by household head's gender and age.



The data on different types of households suggest that single-person households are considerably less likely to save at any age (controlling for income level). However, compared to other types of families, differences between male- and female-headed households that can emerge at different ages are statistically significant (see Figure 7).

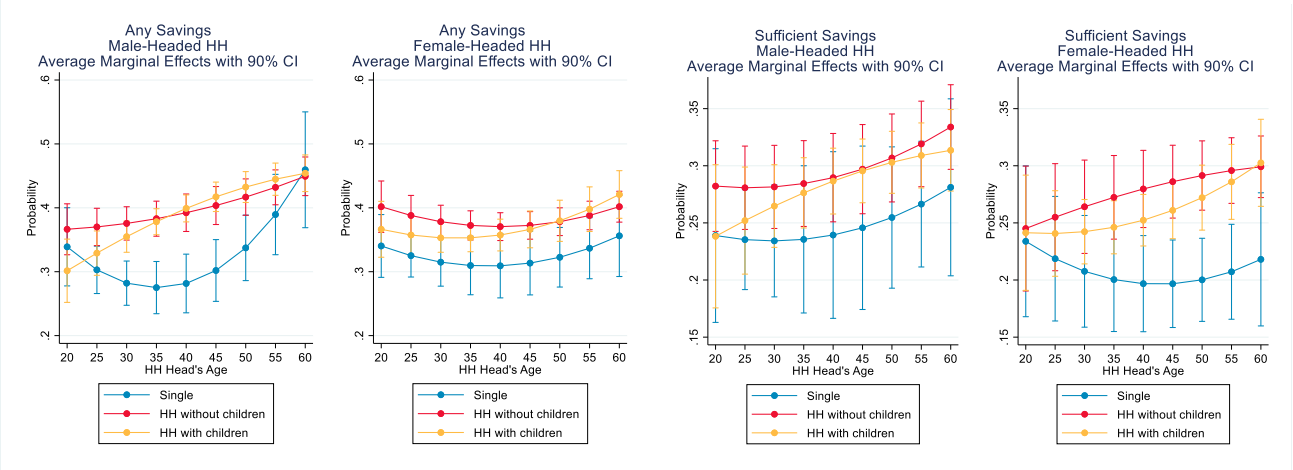
As regards male-headed households, differences in the propensity to save among single-person households are most pronounced when the household's head is aged 30–45 (see the left panel in Figure 7 for any savings). The probability of saving among single men surges at older ages, i.e., closer to retirement age. This trend may be more similar to the dynamics predicted by the life cycle theory. Contrastingly, the likelihood of having any savings in male-headed families with or without children changes less significantly with increasing age of household's head. Although this likelihood grows gradually, the rise is a little more notable in families with children.

With respect to female-headed households, the picture is more homogeneous (see the left panel in Figure 7 for any savings). The probability of saving is lower among single women, just as among single men, but this difference compared to other types of female-headed households remains the same across all ages. Furthermore, the likelihood of saving in all types of female-headed households does not change significantly with increasing age. It is possible to assume that these households have lower incomes and, accordingly, a lower potential to save, taking into account expected changes in their future incomes when they make financial decisions.

The picture is slightly different when we consider the estimation results of the regressions with the probability of having savings sufficient for several months as a dependent variable (see the right panel in Figure 7). In this case, the likelihood of saving among male-headed households is more homogeneous and, although single men tend to save less at any age than male-headed families of other types, the gap in the probability of having long-term savings between single men and other types of families remains constant. Conversely, the gap in the probability of having long-term savings between single women and other types of female-headed households begins to widen when the household's head is aged 40 or more.

Thus, in contrast to the baseline regressions showing, on average, a lower probability of having savings among single-person households, the analysis of the gender and age structure of the sample finds out that this low probability for different types of savings is explained by behaviour patterns in different groups of the population. With regard to any savings, the results showing that single households demonstrate a lower probability of having savings, obtained in the baseline regressions, are mostly accounted for by middle-aged single men, whereas the results related to savings sufficient for several months are driven by the saving behaviour of single women aged over 40.

Figure 7. Estimates of the probability of saving by household type, household head's gender and age (all waves).



In addition, we examined the differential impact of combinations of households' demographic characteristics and individual time and risk preferences, such as a saving horizon, future discounting, and risk aversion, on households' probability of saving. Including other individual preferences and expectations of the household head in the combination with demographic characteristics does not provide any additional insight into the impact of these preferences on the probability of saving.

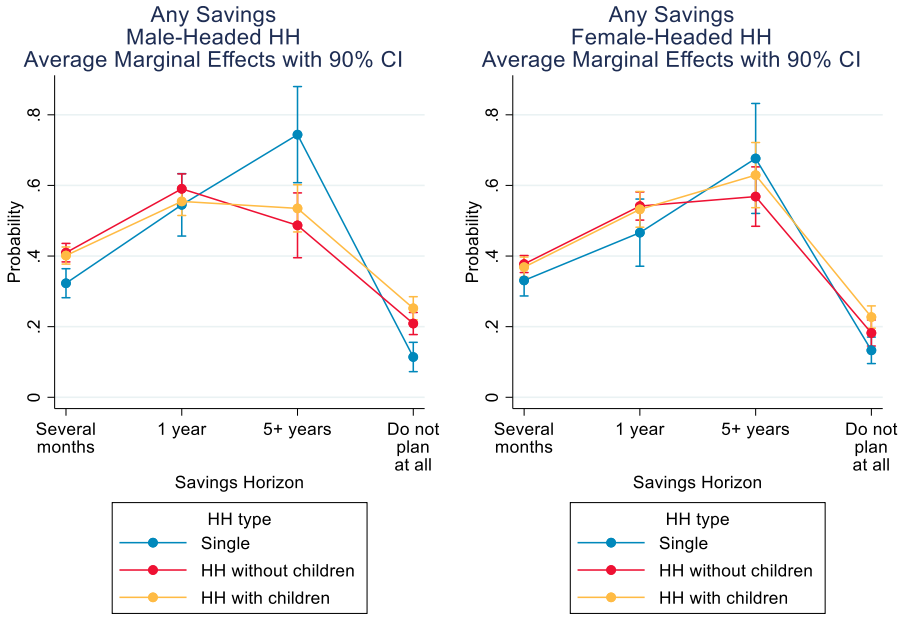
The majority of household heads (70%) in our sample plan to save for only a few months ahead. Extending the planning horizon to one or five years significantly increases the likelihood of saving among all types of households (see Figure 8), especially among male-headed households. Additionally, the probability of saving among single men with a shorter planning horizon is significantly lower than among other types of families, while the likelihood of saving increases among single men having a long planning horizon. This trend is also true for female-headed households, but the differences across household types are not statistically significant.

In our sample, excluding pensioners-only households, about 14% of households do not plan to save at all. Such households are the least likely to save across all groups of households, regardless of the type and gender.

Thus, the highest dispersion in the probability of saving depending on the planning horizon is observed among single men, while the difference in the probability of having any savings for a long planning horizon between single men and other types of families turns out to be statistically significant.

The dynamics are similar in relation to savings sufficient for several months, but the differences are statistically insignificant for both various types of households and the household head's gender; therefore, we do not report these results here.

Figure 8. Estimates of the probability of saving by household head's gender, household type and saving horizon (all waves).

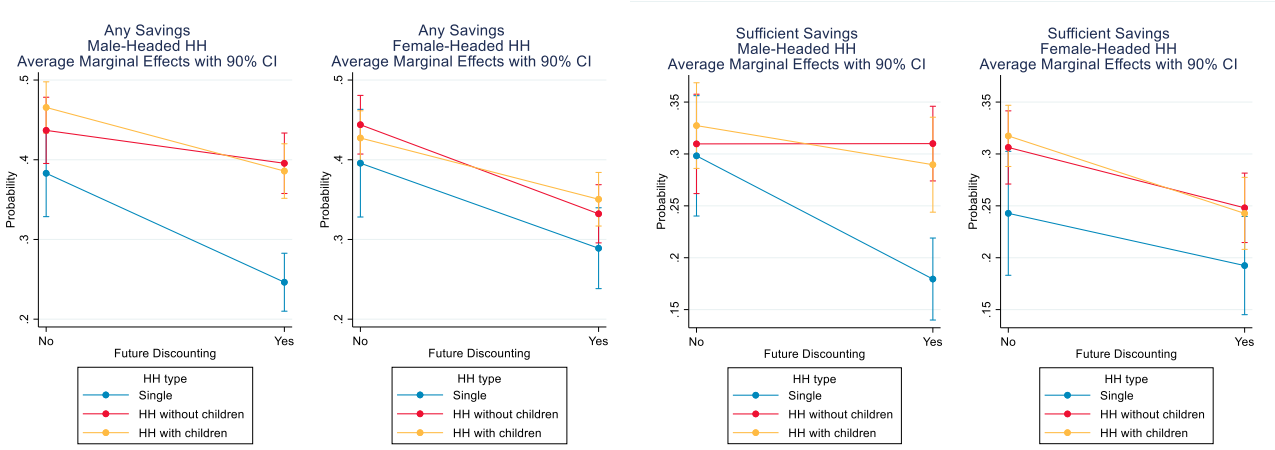


In our data, the percentages of households with low future discounting, by gender of the household head, are slightly higher for female-headed households (45% for males and 51% for females).

Households with low discounting of the future do not show significant differences in the probability of saving across family types. Contrastingly, the impact of high discounting of the future on the probability of saving varies among male- and female-headed households (see Figure 9). As regards male-headed households, single men demonstrate a more considerable decline in the likelihood of having savings if they focus on today rather than the future. Male-headed families with or without children are less likely to have savings when discounting of the future is high, but the decreases in the probabilities are not statistically significant.

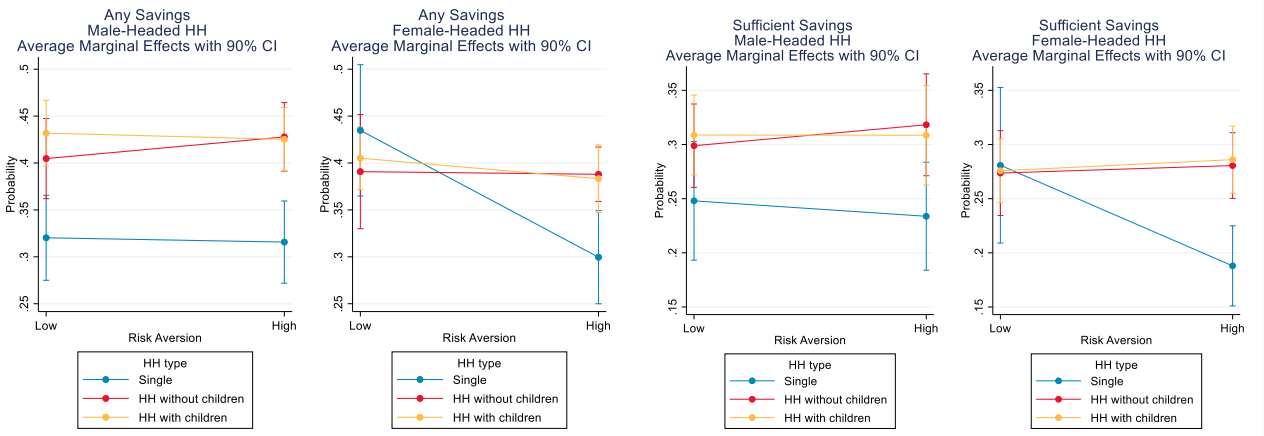
We do not see a significant difference in the saving behaviour of single women, who discount the future differently, although they save less in general. However, female-headed families with or without children reduce their savings rate if the household head has a high level of future discounting.

Figure 9. Estimates of the probability of saving by household head's gender, household type and saving horizon (all waves).



Interestingly, risk aversion does not influence the likelihood of saving across almost all types of households, although we expected that risk aversion should enhance the precautionary motive for saving. In our sample, 62% of respondents were not willing to take any risk to get higher profits and 38% were willing to take risks to get higher profits. Noteworthy, differences in saving behaviour with different risk appetite levels are only observed among single women (see Figure 10). Here, we can see the results that are opposite to our expectations. Single women with higher risk aversion tend to save considerably less than other types of female-headed households, which can be associated with two factors. Risk-averse women might choose a more stable, lower-paid type of employment and, consequently, they will be limited in the funds available for savings. Besides, they are likely to invest surplus funds in illiquid assets (such as durable goods) which we do not consider as savings.

Figure 10. Estimates of the probability of saving by household head's gender, household type and risk aversion (waves 2018, 2020 and 2022).



7. CONCLUSION

Our analysis shows that the demographic characteristics of households as well as individual time and risk preferences of the household head have a consistently significant impact on households' probability of saving and, along with economic factors, including such obvious ones as the income level, can determine households' financial behaviour.

We find that female-headed households save consistently less often, and this effect is primarily accounted for by households where the head is aged over 40. Furthermore, the peaks in the distribution of the probability of saving in male- and female-headed households do not coincide. The peaks for female-headed households are shifted closer to retirement age, possibly indicating lower incomes during working age and less ability to save.

Another result is that single-person households save significantly less than other types of households. This finding is inconsistent with the theoretical models predicting that single households are more likely to save due to their greater exposure to income fluctuations compared to married couples. However, it is very robust to different model specifications. This finding is due to two trends. For middle ages, it is associated with saving behaviour of single men who tend to save notably less frequently than any other types of households, whereas for older ages (after 40), this result is due to single female households as the gap in the propensity to save between this group and other types of households begins to expand.

In addition, a lower likelihood of having savings among singles in the low- and middle-income groups (that our sample mostly consists of) compared to joint households with similar income levels can be explained to a certain extent by the fact that singles cannot utilise economies of scale in expenditures for such basic necessities as housing rents, utilities, durables and even food. Moreover, singles are more likely to live for themselves and, accordingly, they tend to spend larger shares of their revenues on various entertainments and make smaller allocations for savings.

Since the demographic trends demonstrate a rising percentage of single households, behaviour patterns in this group may increasingly determine the saving behaviour of the population in the long term. In addition, our analysis shows that the impact of individual time and risk preferences on saving behaviour in the group of single households differs from the estimated effects for other types of households.

Thus, individual preferences regarding the planning horizon introduce large fluctuations in saving decisions among single men. High levels of future discounting also reduce the likelihood of savings more strongly for single men compared to single female households. Single women who are less risk-averse also differ in their saving behaviour from other types of households.

Hence, the proportion of households demonstrating a stronger dependence of the likelihood of saving on their individual time and risk preferences is increasing in the structure of the population. Accordingly, as the demographic composition of the population changes, the influence of purely economic factors on households' saving behaviour might decrease somewhat in the future. Single households have significant heterogeneity in the characteristics of their individual preferences. Therefore, financial market participants might need to tailor saving instruments for them to take into account an increasing proportion of single households with high risk aversion and a short planning horizon. Standard policies to encourage savings may become less effective because of a growing group of the population having a short planning horizon and high discounting of the future. In the near future, the design of monetary policy may have to deal with an increasing share of single households with a low propensity to save. In turn, this may become one of the factors determining a higher level of the long-term equilibrium interest rate.

In addition, the well-being of female-headed and single-person households, especially in low- and middle-income groups, turns out to be particularly vulnerable to negative income fluctuations, as long as households with little or no savings actually lack any buffers in case their financial situation worsens. Negative income shocks can be most severe for households that, on top of little or no savings, have liabilities in the form of loans from banks or microfinance institutions – those households may face the difficult dilemma of either servicing the debt with lower incomes or going into personal bankruptcy.

REFERENCES

1. Addoum, J. M. (2017). Household portfolio choice and retirement. Review of Economics and Statistics, 99(5), 870–883.
2. Agunsoye, A., Monne, J., Rutterford, J., & Sotiropoulos, D. P. (2022). How gender, marital status, and gender norms affect savings goals. Kyklos, 75(2), 157–183.
3. Alessie, R., Angelini, V., & Van Santen, P. (2013). Pension wealth and household savings in Europe: Evidence from SHARELIFE. European Economic Review, 63, 308–328.
4. Armantier, O., Bruine de Bruin, W., Potter, S., Topa, G., Van Der Klaauw, W., & Zafar, B. (2013). Measuring inflation expectations. Annu. Rev. Econ., 5(1), 273–301.
5. Barbić, D., Palić, I., & Bahovec, V. (2016). Logistic regression analysis of financial literacy implications for retirement planning in Croatia. Croatian Operational Research Review, 7(2), 319–331.
6. Beckmann, E., Hake, M. & Urvová, J. (2013). Determinants of Households' Savings in Central, Eastern and Southeastern Europe. Focus on European Economic Integration, Issue 3, 8–29.

7. Bertocchi, G., Brunetti, M., & Torricelli, C. (2014). Who holds the purse strings within the household? The determinants of intra-family decision making. Journal of Economic Behavior & Organization, 101, 65–86.
8. Bjuggren, C. M., & Elert, N. (2019). Gender differences in optimism. Applied Economics, 51(47), 5160–5173.
9. Blundell, R., Pistaferri, L., & Preston, I. (2008). Consumption inequality and partial insurance. American Economic Review, 98(5), 1887–1921.
10. Blundell, R., Pistaferri, L., & Saporta-Eksten, I. (2016). Consumption inequality and family labor supply. American Economic Review, 106(2), 387–435.
11. Brounen, D., Koedijk, K. G., & Pownall, R. A. (2016). Household financial planning and savings behavior. Journal of International Money and Finance, 69, 95–107.
12. D'Acunto, F., Malmendier, U., & Weber, M. (2021). Gender roles produce divergent economic expectations. Proceedings of the National Academy of Sciences, 118(21), e2008534118.
13. Doepke, M., & Tertilt, M. (2016). Families in macroeconomics. In Handbook of macroeconomics (Vol. 2, 1789–1891). Elsevier.
14. Fehr, H., & Kindermann, F. (2021). The Insurance Role of the Family. Handbook of Labor, Human Resources and Population Economics, 1–31.
15. Fehr, H., Kallweit, M., & Kindermann, F. (2016). Household formation, female labor supply, and savings. The Scandinavian Journal of Economics, 118(4), 868–911.
16. Fey, J. C., Hoeltken, C., & Weber, M. (2023). Gender effects in intra-couple investment decision-making: risk attitude and risk and return expectations. Available at SSRN 4628230.
17. Fisher, P. J., Hayhoe, C. R., & Lown, J. M. (2015). Gender differences in saving behaviors among low- to moderate-income households. Financial Services Review, 24(1), 1–13.
18. Fonseca, R., Mullen, K. J., Zamarro, G., & Zissimopoulos, J. (2012). What explains the gender gap in financial literacy? The role of household decision making. Journal of Consumer Affairs, 46(1), 90–106.
19. Gimpelson, V. (2019). Age and Wage: Stylized Facts and Russian Evidence. Higher School of Economics Economic Journal, 23(2), 185–237.
20. Greenwood, J., Guner, N., & Vandenbroucke, G. (2017). Family economics writ large. Journal of Economic Literature, 55(4), 1346–1434.
21. Guiso, L., & Zaccaria, L. (2023). From patriarchy to partnership: Gender equality and household finance. Journal of Financial Economics, 147(3), 573–595.
22. Harris, M. N., Loundes, J., & Webster, E. (2002). Determinants of household saving in Australia. Economic Record, 78(241), 207–223.
23. Jantan, M. S. (2020). The improvement in life expectancy: Systematic literature review of retirement saving. Available at SSRN 3582234.

24. Kotlikoff, L. J., & Spivak, A. (1981). The family as an incomplete annuities market. Journal of political economy, 89(2), 372–391.
25. Lim, T. (2019). The rise of single-person households and the macroeconomic consequences. Hitotsubashi Journal of Economics, 60(2), 189–198.
26. Lugilde, A., Bande, R., & Riveiro, D. (2019). Precautionary saving: a review of the empirical literature. Journal of Economic Surveys, 33(2), 481–515.
27. De Nardi, M., French, E., & Jones, J. B. (2009). Life expectancy and old age savings. American Economic Review, 99(2), 110–115.
28. Ortigueira, S., & Siassi, N. (2013). How important is intra-household risk sharing for savings and labor supply?. Journal of Monetary Economics, 60(6), 650–666.
29. Popova, E. (2018). The Relationship between Fertility & Female Labor Market Outcomes: Empirical Evidence from Russia. Available at SSRN 3209896.
30. Prokofieva L., & Korchagina I. (2023). The demographic structure of families and households in Russia, its dynamics according to population censuses. Demographic Review, 10(2), 4–17.
31. Semenova, M. (2011). Save or borrow – what determines Russian households' financial strategies?. BOFIT Discussion Paper No. 28/2011.
32. Sunden, A. E., & Surette, B. J. (1998). Gender differences in the allocation of assets in retirement savings plans. The American Economic Review, 88(2), 207–211.
33. Temel Nalın, H. (2013). Determinants of household saving and portfolio choice behaviour in Turkey. Acta Oeconomica, 63(3), 309–331.
34. Timonin, S., Danilova, I., Andreev, E., & Shkolnikov, V. M. (2017). Recent mortality trend reversal in Russia: are regions following the same tempo?. European Journal of Population, 33, 733–763.
35. Wagner, J., & Walstad, W. B. (2023). Gender differences in financial decision-making and behaviors in single and joint households. The American Economist, 68(1), 5–23.
36. Yuh, Y., & Hanna, S. D. (2010). Which households think they save?. Journal of Consumer Affairs, 44(1), 70–97.