

Ildikó Ritzl – Anikó Száraz – Anikó Bódi-Schubert

## Analysis of savings reflections and decisions based on focus group interviews conducted in the Hungarian population

Ildikó Ritzl, MNB, senior cash policy expert

Email: [ritzlnekazii@mnb.hu](mailto:ritzlnekazii@mnb.hu)

Anikó Száraz, MNB, senior cash policy expert

Email: [szaraza@mnb.hu](mailto:szaraza@mnb.hu)

Anikó Bódi-Schubert, MNB, head of Cash Issuance and Strategic Management Department

Email: [schuberta@mnb.hu](mailto:schuberta@mnb.hu)

According to Hungarian and international research, the current expansion of cash in circulation is largely due to cash holdings for the purpose of accumulation. While the driving forces behind this seemingly irrational behaviour can be analysed to a limited extent with macro-focused research, it has been shown that cash holdings also depend on uncertainty and the price of financial services, in addition to traditional variables. This study examines individual perceptions and decision-making mechanisms in the framework of an exploratory analysis, using focus group interviews. According to the results, people's accumulation decisions can be categorised based on the savings needs pyramid. After satisfying everyday needs, the most basic need is the pursuit of security, which is embodied in the accumulation of a safety reserve. Savings, the purpose and time horizon of which also vary, exceed this, while amounts that are non-essential in the long term are invested. The emotional attitudes of the participants and their reflections on the development of the environment shape the levels of the savings needs pyramid through numerous decision heuristics and cognitive biases.

Key words: focus group, savings, cash

Aside from a 7-month period in 2022, cash in circulation in Hungary has been continuously increasing since 2013, while the role of cash in everyday payment transactions has been decreasing. This duality was examined in a previous study by *Bódi-Schubert and Ritzlné Kazimir (2023)*, which concluded that the drivers of cash demand are changing, and in the course of this the role of cash holding for savings purposes is becoming increasingly significant in the development of cash demand. However, the macro-level approach does not address the motivations and decision-making patterns which are behind cash accumulation from the

perspective of individuals and which result in them making apparently non-rational decisions.

In this study, we examine the process of accumulation in the light of individual decision models, based on a qualitative analysis of focus group interviews from a population-based survey examining cash usage habits. The aim of the research was to understand why, despite a high interest rate environment and inflation, individuals do not permanently and significantly reduce the amount of cash they hold, which thus reacts inelastically to changes in interest rates and inflation.

In analysing the focus group interviews, we focused on identifying the decision-making process and reflections through which individual accumulation decisions are formed, and when and what role cash may play in this process. How does the individual evaluate the amount they accumulate; over what time horizon do they decide on its use; and under what circumstances and how does a possible future re-evaluation of the accumulated amount take place?

Our research is clearly exploratory in nature: our goal was to identify the individual attitudes and decision biases that encourage individuals to use cash or accumulate cash. Given the specifics of this research method, the results can only be generalised to a limited extent, but at the same time their validity is high, since during the processing of the interviews we gained a complex understanding of how the internal and external environment results in specific decision-making techniques through reflections. Supported by their explanations, emotional attitudes and experiences, the focus group participants linked the decision outcomes with the prevailing external and internal circumstances, through information processing, reflections and the decision-making process.

## **1. Literature review – factors affecting an individual's saving decision**

Savings are the part of income that exceeds consumption (*Keynes, 1936*). The driving forces behind the formation of savings have been analysed in many economic and psychological studies in recent decades. These studies typically examine savings decisions from two perspectives: on the one hand, they focus on the individual, and analyse his or her personal control capacity, risk-taking, sociodemographic characteristics, learned behaviour and the social norms of his or her environment. On the other hand, a significant part of the studies and theoretical models maps the impact on savings of the financial, economic and

institutional environment surrounding the individual; we also include studies with a macro approach here.

The focus group interview technique used in our research is less suitable for illuminating the relationships between the external and internal environment and the output of the process, but it is a good tool for clarifying the subjective impact of circumstances in the output of the process, through reflections and the decision-making process. For this reason, in the literature review section of this study, we aimed to synthesise theories that focus less on circumstances related to savings and more on the decision-making process and the individual attitudes influencing such.

*Simon's (1959)* important criticism of the classical rational decision-making approach is that decision-makers are most often not in possession of the full set of information when making their decisions, and the receptive capacity of the human brain does not allow for the rational evaluation of all possible decision alternatives in every situation. In this context, *Marsh (2002)* explains that an individual's decisions are limited by cognitive constraints, such as attention, memory, understanding and communication. Situationally varying combinations of these constraints cannot be eliminated during the decision-making process, and typically, coupled with the individual's personality traits, they encourage decision-makers to make simplified decisions that are not maximally useful in the given situation, but rather satisfactory and acceptable.

One important factor influencing attention as a cognitive constraint may also be stress. Stress is a reaction of the human body, which is an adaptation process to any stimulus that burdens it and throws it out of balance. Under the influence of stress, an individual may tend to rush and not consider carefully. In addition, *Shah et al. (2012)* pointed out that poverty, as a set of socio-demographic circumstances, also affects savings through deprivation, as a spillover effect of stress, and basic deprivation is a strong motivation to overcome current problems and is associated with a constantly high level of stress. The desire to overcome problems and the mental fatigue caused by stress often lead to suboptimal solutions.

Uncertainty also plays a prominent role in making individual decisions, since the outcomes cannot be predicted by the decision-maker (*Zoltayné, 2002*). Keynes distinguished different degrees of uncertainty (*Keynes, 1921*), in which the probability of the outcomes of events differs (*Zéman, 2020*). According to Keynes's liquidity preference theory, in the case of uncertainty, decision-makers prefer liquid assets (*Keynes, 1936*). High inflation itself can increase uncertainty due to the greater variance caused by the high inflation path, the variability of relative prices and the increasing unpredictability of economic policy (*Ball–Cecchetti, 1990*).

The motivations for savings were already formulated by *Fisher (1930)* and *Keynes (1936)*. *Fisher* identified six factors that can encourage or inhibit saving: foresight, self-control, habits, life prospects and certainty, love of offsprings and

posterity, and the fashion (*Fisher 1930:504*). While *Keynes* distinguished eight motivations: precaution, foresight, calculation, improvement, independence, enterprise, pride/bequest and avarice. However, motivations do not exist independently or side by side; the incentive to satisfy some motivations is stronger than for than others.

*Lindqvist (1981)* organised the reasons for saving into a hierarchical structure based on Maslow's hierarchy of needs (*Maslow, 1954*) and created a structure in which higher needs are subordinate to lower ones, the levels also determine the order of need satisfaction, and a different motivation can be assigned to each level. The lowest level is the amount of money needed to achieve short-term financial goals; the second level is the need to reserve money as a precaution. The third level involves the accumulation of a large amount of money to buy something expensive, and the top level is accumulated wealth. *Xiao and Noring (1994)* developed a similar structure, the lowest level of need is survival, followed by the need for security, and finally the pursuit of growth. According to *Xiao and Anderson (1997)*, the savings need pyramid is also reflected in the composition of financial assets held by households: consumers with limited resources can only afford low-risk liquid assets, and then moving up the needs pyramid, the proportion of higher-risk assets offering higher returns increases.

The length of the planning horizon is positively related to the level of savings. Savings represent a decision situation for different purposes and at different time horizons from a psychological point of view (*Fisher – Montalto, 2010*). *DeVaney et al. (2007)* drew attention to the fact that households planning for the longer term move towards higher levels of the savings hierarchy. According to *Muller (2001)*, age determines the financial planning period through life expectancy, which may also contribute to the fact that investments are less important for elderly people.

*Buccioli and Trucchi (2021)* examined savings in terms of "locus of control". Locus of control can be internal and external; in the case of internal, the individual believes that his or her decisions determine his or her future situation, while in the case of external, the role of one's own decisions is smaller and the outcome depends on external factors. In the case of internal locus of control, the decision is based on market factors, such as yield and income, rather than individual-specific factors. External locus of control, by not having an impact on the outcome due to individual decisions, acts through worry and anxiety towards increasing precautionary savings, which increases the relative weight of the lower levels of the pyramid of needs.

*Thaler and Shefrin (1981)* explained non-rational decision-making processes in terms of the role of self-control. According to their theory, an individual's actions are inconsistent, and long-term and short-term utility maximisation cause a conflict, which the individual resolves with the help of techniques which,

although seemingly irrational, are actually rational, since the costs of losing self-control also represent real costs. These techniques can be grouped as follows:

- Choosing incentives.
- Rules, such as saving a fixed amount each month.
- Mental accounting: based on the decomposition of assets. The simplest of these are: current disposable income (I), current assets (A) and future income (F) (*Shefrin–Thaler, 2004*).
- Framing: each source of income is treated differently depending on the amount involved and whether the given income can be calculated, so each income is practically assigned to asset categories and decisions are made about its use accordingly. In the case of each asset category, the marginal propensity to consume is systematically different both overall and in terms of durability. It is the largest in the case of disposable income, smaller in the case of current assets, and zero in the case of future income (*Shefrin–Thaler, 2004*).

Attitudes arising from mental accounting can also have an impact on short-term savings practices, when the individual “collects his money” in cash for a set, short-to medium-term goal. *Raghubir and Srivastava (2008)* demonstrated that when using cash, consumers are more likely to see and control their spending, while when choosing electronic payment methods, the probability of so-called overspending is higher, because they perceive the real value of their payment transactions less. The same result was reached in the study of *Broekhoff and Cruisjen (2022)*, who found that using cash in payment transactions is the most “painful” for the individual. Thus, cash is the payment method that provides the greatest aid in controlling costs, while contactless payments (such as mobile payments with Google Pay, Apple Pay applications) support self-control the least. Self-control can also be supported if the money saved consists of larger denominations of banknotes, because most people find them more difficult to spend, which is why they tend to accumulate higher denomination banknotes (*Raghubir – Srivastava, 2009*).

According to prospect theory, people use so-called heuristics, i.e. simplifying mechanisms, in their decisions (*Kahneman–Tversky, 1974, 1983, 1984*), which help them deal with the complexity of decision-making situations (*Hámori, 2003*). Similar behaviour, which differs from rationality, is described by the Allais paradox, which states that people often prefer certain outcomes over uncertain ones even if their expected value is lower than that of the uncertain ones (*Vajda, 2012*).

The following heuristics and cognitive biases can be identified for decisions related to savings, which can influence an individual’s decisions depending on uncertainty and missed returns:

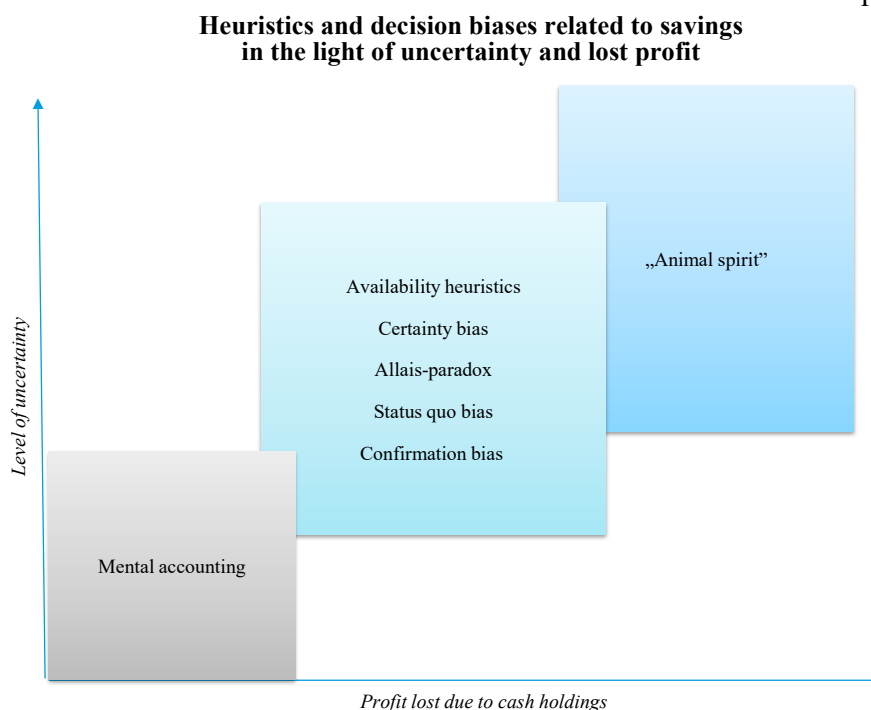
- *Availability heuristic*. Decisions about savings can be fundamentally influenced by returns or losses on previous investment decisions, as well as

- memories of them. Furthermore, in this context, an individual's prior experiences with financial institutions, as well as the perceived trustworthiness and reputation of these institutions, may exert a particularly strong influence. The availability heuristic may be largely related to the reputation of financial institutions. A single negative piece of news or even a direct/indirect personal experience (bank failure) can undermine trust in financial institutions for years, thus encouraging people to hold onto cash.
- *Status quo bias*. Its essence is the adherence to well-established practices and the logic of “we’ve always done it this way”. Another decisive incentive for cash holding may be the long-term maintenance of previous habits, the fear of change, as people consider deviation from the status quo to be risky (*Samuelson–Zeckhauser, 1988*). Thus, individuals may easily conclude that if, for example, there has always been some cash in their household, they will only feel safe in the future if they do not change this practice.
  - *Confirmation bias, overconfidence*. People tend to ignore information that would prove that their assumptions are incorrect (*McGrath, 1999*), or overestimate their own abilities in decision-making, considering themselves more competent than professionals. Confirmation bias can also be associated with overconfidence, when an individual considers himself more prepared and knowledgeable than his peers or even experts. This cognitive bias can prevent people from making objective decisions about the choice of certain forms of savings, considering the actual situation.
  - *Certainty bias*. Immediate accessibility and tangibility are generally highly valued, while a return realised in the future is distant, and the lack of such is not necessarily felt by decision-makers as a great loss. In addition, certain decision-makers may tend to assess the risks associated with certain investments as greater than they really are, possibly due to distortions resulting from lack of information and the related recall heuristics. The certainty bias can also be enhanced by the phenomenon of the Allais paradox, i.e. individuals often consider cash kept risk-free in their own homes to be more valuable even if they are aware of the loss suffered in this way. It is also important to note that people may overestimate the benefits of immediate, unlimited access to cash compared to the fact that other savings are only available in a relatively limited time/space (e.g. during bank opening hours, if an internet connection is available). It should be added that placing cash savings in a bank account or choosing another alternative in itself increases the mentally perceived cost of the investment (*Spantig, 2021*).
  - “*Animal spirit*”. The highest degree of uncertainty scaled by *Keynes (1936)*, when the events surrounding the individual suddenly become completely unpredictable and beyond the individual's control (e.g. in the event of a

natural disaster, epidemic, bank panic, war). In the case of such a high degree of elementary uncertainty, the need for cash can be described as an instinctive desire for possession, during which decision-makers do not act consciously or thoughtfully, but try to survive the flow of negative event(s) they have experienced by following community patterns, and decide to hold cash even if they are aware that they are giving up future returns or that this generates high transaction costs for them (e.g. breaking up deposits and investments in order to obtain immediate cash).

The “animal spirit” phenomenon can be described as “herd mentality” or “going with the flow”, and other heuristics and distortions also play a role in its development, such as access or false connection heuristics. This situation differs from the cases presented earlier in that an extremely high level of uncertainty occurs suddenly, without any prior warning, and is accompanied by an immediate, large demand for cash. *Fischer et al. (2004)* and *Rösl and Seitz (2021)* highlight that in the case of very significant levels of uncertainty, a sudden increase in cash demand promotes stabilisation, because the immediate possession of cash reduces panic reactions among the population (Figure 1).

Figure 1



Source: Authors' compilation.

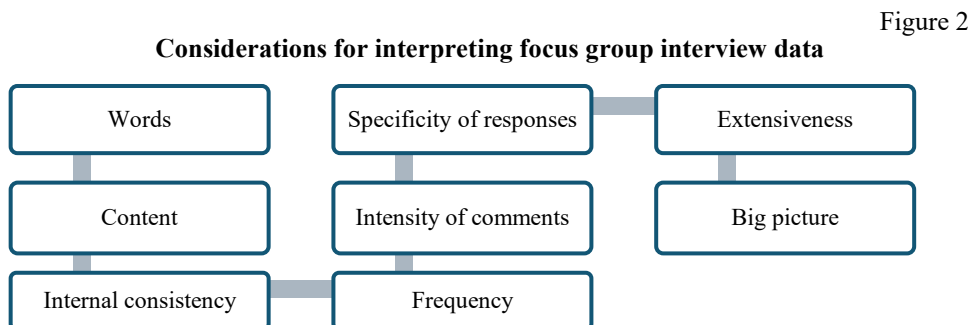
## 2. Methodology

A comprehensive survey of the public's cash usage habits was conducted in the first quarter of 2025 on behalf of the Magyar Nemzeti Bank (MNB), the central bank of Hungary. In this survey, the cash usage habits and attitudes of the public were mapped using focus group interviews and a questionnaire on a representative sample of 1,500 people. As part of the research, six focus group interviews lasting 90 minutes were conducted in January 2025, two of which took place in Budapest and the others in different towns. Ten participants held discussions in each focus group (60 people in total), with the composition of the adult population according to gender, age and educational level considered in the selection of participants.

The focus group discussions were organised, conducted and the results were analysed following the sequence defined by Nyumba et al. (2018).

The focus group outline included four main topics: shopping habits, access to cash, savings and banking. In this study, we only analyse the discussions related to savings. The focus groups were videotaped, and the conversations were transcribed using Alrite software.

The transcripts of the focus group discussions were processed based on the analysis criteria shown in Figure 2.



Source: Authors' work, based on Rabiee (2004).

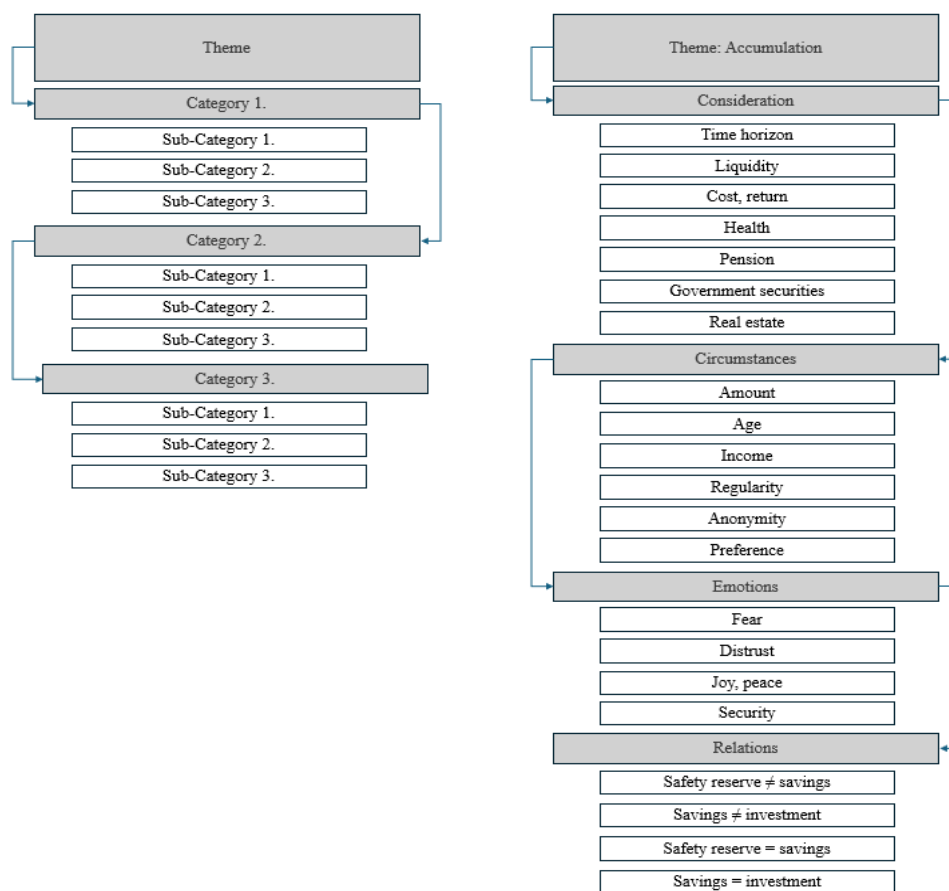
The parts of the focus group discussions related to savings, and the participants' answers and comments were subjected to a multi-round classification according to the participants' different interpretations of the concept of savings. The concept of safety reserve also arose, and it became obvious that safety reserve and savings, as well as savings and investment, have different contents for many participants, and their emotional attitudes towards these concepts are also different.

In the first round, we classified the comments according to whether they refer to safety reserve, savings or investment. In the second round, we classified the

comments using the category system presented in Figure 3. We created four main categories, within which we created sub-categories; example quotes classified into each category can be found in the Appendix. Many statements had multiple meanings, and thus in the third round we recategorised them according to secondary content. Finally, we identified those comments that showed some cognitive bias.

Figure 3

### Formation of categories specific to the topic



Source: Authors' work, based on *Lochmiller (2021)*.

Our analysis focuses on examining the frequency of occurrence of the categories created, based on text of the transcripts. This is the backbone of the analysis. The aforementioned categorisation served to reveal the emotional intensity hidden in the comments, when we tried to capture the deeper emotions and attitudes contained in the text.

While processing what was said in the focus group, we also performed an analysis of internal consistency. We also placed emphasis on revealing those cases when the respondents gave contradictory answers to questions, i.e. they did not approach the topic in a consistent way or changed their previous position during the conversation.

When examining the specificity of the answers, we tried to reveal whether the respondents shared their own experiences during the interview or talked about events they had heard from others, happened to others, or learned about from the media. The analysis of availability heuristics was the primary basis for this.

The examination of the extensiveness meant whether a certain type of response occurred in all focus group interviews or was mentioned by the respondents only in a few cases. The big ideas for us meant drawing conclusions and creating a comprehensive picture based on the focus group interviews about attitudes related to savings, the relationship between the concepts of savings, safety reserve and investment.

### **3. RESULTS**

In the analysis of focus group interviews, we explored the relationship between wealth accumulation types, their value, the planning horizon and the patterns of habits related to the amounts accumulated in cash.

#### **3.1. The role and interpretation of accumulation – safety reserve, savings, investment**

As a result of accumulation, the amounts of money not planned to be spent in a given month and the different elements of financial wealth are separated and have different functions, and the attitudes related to such are generally different, based on what was experienced in the focus group.

In general, the concept of accumulation was broken down into well-defined categories of safety reserve / savings / investment for the majority of the focus group participants. However, safety reserve and savings were the same for some of the participants, because “they are used to it, they manage it together”, or their low income did not allow for differentiation. They are the ones who at most differentiate between current expenses and money set aside.

*“Well, actually, the safety reserve is the same for me as savings, because I don’t have any separate savings, but the two are the same, precisely because I need to be able to access them at any time. So, I don’t have any savings that I can’t access right away, because unfortunately we can’t talk about such a large amount compared to the salaries that we have here in our small country.”*

*“It’s the amount of money [the safety reserve] that we put aside for unexpected expenses so that we don’t run out of money, and for me, these two [safety reserve and savings] are not separated from each other.”*

The participants generally defined the safety reserve as the minimum amount needed for unexpected expenses. Its most important characteristic is liquidity, and in its formation, a return on it and, at the same time, its stability of value do not play any role at all. The attitudes associated with it are safety and calmness. Its purpose is to deal with unexpected situations, such as covering major repairs in the household and handling individual emergencies. Interestingly, several people also used the concept of safety reserve to deal with situations that pose existential problems, such as health emergencies or temporary unemployment.

The interviewees distinguished savings from a safety reserve in that savings are usually used to achieve some goal, and a longer-term perspective emerges in the consideration of savings. Savings for retirement or the purchase of real estate were often mentioned as examples. In the case of savings, regularity is valued more, and stability of value, yield and costs are also important.

*“No, you always need savings that. You always need to put away 10 percent of your salary.”*

*“For me, savings is the amount that’s left over until my next paycheck, I’ve saved it, so to speak, but I know I can put it away for later or maybe spend it on something I want. Something bigger than I need, or a trip or painting or home renovation or a car. I don’t know. What is certain is that it is not necessary to spend it on food or my daily needs. For me, that’s savings.”*

The attitude related to savings was mainly about well-being and increasing well-being:

*“Savings is about securing the future, a peaceful life and balance.”*

According to most respondents, investment can be made in a life situation when a larger amount has been accumulated and its use is not planned in the near future; in this category, a return on the amount becomes even more important. The majority of respondents considered real estate to be a good investment:

*“Anyone who has a lot of savings should invest in something that they can possibly benefit from or create a benefit for themselves.”*

The investment is clearly long-term and less deep personal emotions are attached to it.

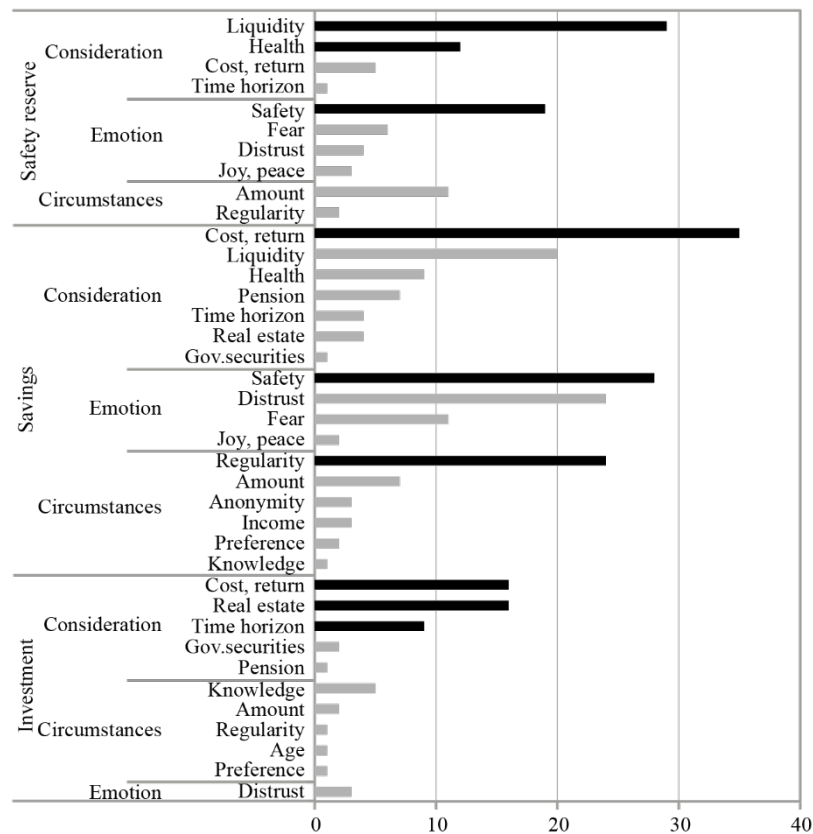
*“So I see that there is an amount that is likely not to be used in the near future, then you can think about investing it (...) to have more of it.”*

### 3.2. Content grouping of the text and frequencies

Using the categories in Figure 3, the parts of the focus group interview transcripts related to accumulation were classified (Figure 4).

Figure 4

#### Primary grouping of attitudes according to accumulation forms, number of occurrences



Source: Authors' work.

The most common attitude about the safety reserve is prioritising liquidity and the pursuit of safety. In this case, safety means the individual's subjective sense of safety, that if they need money due to some sudden event, it will be immediately available. Its accumulation depends less on the individual's circumstances, knowledge, and skills, since the main motivation is "need it", "must have it". The safety reserve is determined by the individual and adjusted to his or her income, and its lack causes tension and negative feelings, which disappear when the given amount is reached and reappear when it is used. This may be related to the fact that regularity was not mentioned in relation to the safety reserve, as it "must be there".

*"The safety reserve is more like a fixed amount, right?"*

One interesting experience of the interviews was that the healthcare provision expenses was emphasised in the safety reserve. Participants often mentioned the health risks that increase with age, the vulnerability that comes with it, and highlighted the fact that instead of public healthcare, they are forced to use private healthcare in urgent cases, which entails a significant financial burden. One explanation for the unmobilisable money stock of households may be that, due to the population's mental accounting, these amounts fall more into the category of safety reserve rather than savings. Since the deterioration of their health or the fear of it caused marked anxiety among the interviewees, keeping the amount intended for this in liquid form can also alleviate the fears about possible healthcare expenses in the future. However, of course this does not mean that the population only keeps short-term, non-interest-bearing reserves to cover healthcare expenses.

In the case of savings, cost-benefit and security are the most common attitudes, but here the focus of security is less on the individual himself, but rather on the individuals' desire to keep their money safe. Security and stability of value are the key phrases.

*"Yes, so I'm not that good at this, but I'm also trying something like this so that I don't know if it will earn interest, or at least not lose value."*

Regularity is a particularly important aspect when it comes to savings. Usually, participants regularly set aside a given amount or a given percentage of their income, or at least strive for regularity.

*"I usually save about 10 percent [of my income] on a monthly basis."*

The attitude in relation to savings is more diverse, and budgeting for healthcare costs here also appear, while government securities were mentioned as a safe form, as well as savings for retirement. Since returns and costs are important aspects of savings and participants generally do not trust that the bank will have their best

interests in mind, the general distrust of banks and the lack of trust in them is the strongest here, which results in a reduction in the planning time horizon.

*“So, starting with insurance, you have to look at it very, very carefully and monitor it, and if there is a way to do it, then you really cannot commit yourself for the long term, because in the end you may not see what you want, you may not get what you were promised, what you would have liked. And then you have paid for it for 10 years, you have invested in it and you do not get that money back. This is difficult now.”*

*“Savings are not long-term, even if they offer more interest, you cannot think in terms of greater value now, like our parents. (...) So, I think this is what the country or the situation here has brought about, that people think more in the short term.”*

Within the investment category, cost-benefit and real estate are the most frequently mentioned, with participants considering financial literacy and awareness important in decision-making. Real estate is also considered as the safest and most valuable form of investment.

*“Investment regularly brings results. You have already spent the investment. Savings are what you still have.”*

*“This is always worth the most, real estate and land. They are the ones that increase the most.”*

### 3.2.1. Amount of the safety reserve

Talking about the safety reserve, the participants also named amounts, which ranged from a few hundred thousand forints to 2–3 million forints.<sup>1</sup>

*“I would actually quantify this for me, a safety reserve, let’s say a million forints, because I could be fired, because I might have some health problem.”*

*“Well, I don’t keep more than a million at home.”*

Other participants defined the safety reserve as an amount that would provide for 3–12 months of living for them. When mentioning the amount of the safety reserve, almost half of the participants emphasised that they keep it at home in cash. If we use the earnings statistics of the Hungarian Central Statistical Office, then based on

<sup>1</sup> On 30 December 2025, the EUR/HUF exchange rate was 387.39 (<https://www.mnb.hu/en/arfolyamok>). Thus, 100,000 forints was equivalent to 258 euros, and 2–3 million forints was equivalent to 5,200–7,700 euros.

the above, we can estimate the starting amount of the safety reserves to be around 1 million forints (2,600 euros) for those with a median income (Table 1).

Table 1

**Hypothetical value of the safety reserve, 2024, HUF**

Time horizon	Safety reserve based on the net median income, forints	Safety reserve based on the net median income, euros
3 months	1 067 203	2 755
6 months	2 134 406	5 510
12 months	4 268 812	11 019

Source: Authors' work, based on KSH (2025).

### 3.2.2. The role of cash in accumulation

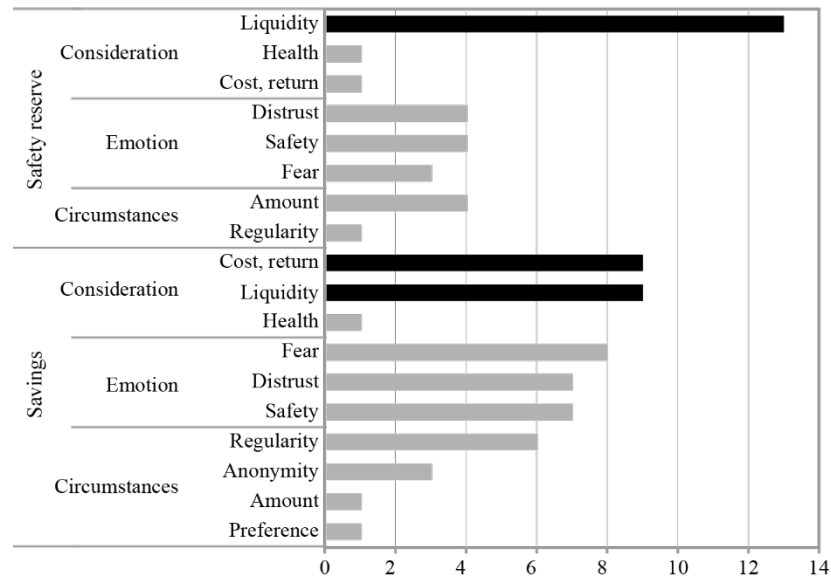
Cash was mentioned in the focus group interviews in connection with safety reserves and savings. In the case of safety reserves, cash was most often mentioned in the comments in connection with liquidity, while in the case of savings, it was most often mentioned in connection with cost, return and liquidity (Figure 5).

*“Cash. We know it’s there. So, there is no problem that the bank may not be able to [pay it out].”*

According to many participants, it is better to keep cash because it does not involve additional costs and is easier to use in an individual emergency. One important lesson is that the focus group participants were aware of the depreciation of the value of cash due to inflation, meaning that cash holding cannot be attributed only to a lack of financial education. Since safety reserves increase in value with increasing uncertainty in economic or existential situations, there is little chance that these amounts will be channeled into less liquid forms.

*“[Why is it worth keeping cash at home?] – You phrased it wrong, it’s worth it or it’s not worth it. It’s not worth it, it’s not worth it. Some money should be kept [in cash], but it’s not worth it. It’s necessary, it’s necessary.”*

Figure 5

**Grouping of attitudes related to forint cash, number of occurrences**

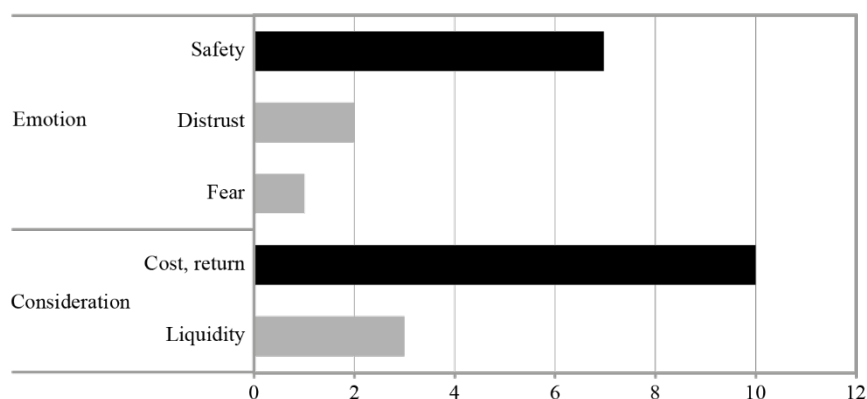
Source: Authors' work.

In relation to savings, cash was mentioned together with the attitudes of fear, trust and uncertainty. Cash savings also represent a means of resolving general uncertainty, lack of social security and uncertainty towards banks. Fear was more related to the safety of holding cash, as well as whether cash remains valuable under all circumstances.

*“I think it is not worth going above 100,000–200,000 forints, because approximately 100,000–200,000... a fire can start. A thief will come, a moth will eat it, or a mouse.”*

Within cash accumulation, a special subset is the formation of reserves in foreign currency, which also appeared in the comments. Evaluating what was said, accumulation in foreign currency was able to relieve internal anxiety related to inflation and the depreciation of the forint; therefore the participants value the security it provides and think of foreign currency as valuable. Participants primarily hold euros, but also US dollars (Figure 6).

Figure 6  
**Grouping of attitudes related to foreign currency, number of occurrences**



Source: Authors' work.

### 3.2.3. Cognitive biases in savings decisions

We were able to identify several cognitive biases and decision heuristics in the statements made in the focus groups (Figure 7). The participants most often made statements containing a certainty bias, and within this they emphasised the importance of immediate access. In the absence of immediate access, the sense of danger increases, which is not offset by the lost benefit; this is the most important characteristic of a safety reserve.

*“For me, its definition is that I can access it as easily, quickly and simply as possible. So, nothing should prevent me from having access to that amount set aside... because my life depends on it, I must access it immediately.”*

The attitude of “family members may need a loan at any time” is related to immediate access, which prioritises liquidity. This is likely to be mutual assistance, because during the discussions, when moderators asked how people usually solve financial difficulties, the most common answer was a loan from family members.

The second most common statement within the certainty bias was “it’s not worth putting money in the bank.” These statements expressed a high level of distrust of banks, but not because of a fear of bank failure, but rather because they did not feel that the low deposit rates were fair or equitable. Several people complained that the bank, due to its dominant position, could not pay as much interest on the amounts deposited as the participants would consider fair and proportionate to the loan rates.

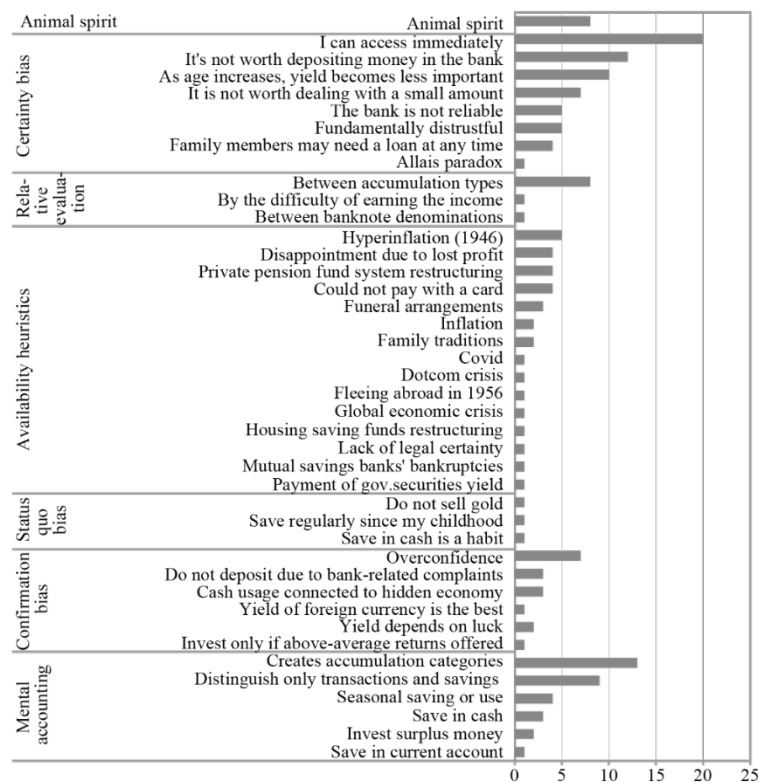
Statements such as “it’s not worth dealing with a small amount” also belong here. Participants believe that the costs are too high and the return on a smaller amount is insignificant. Stronger than these statements, but also rarer, are the comments where the fear of bankruptcy appears. The highest level of distrust is expressed by the “generally distrustful” category, which also includes a lack of trust in institutions and economic uncertainty.

*“The euro is good. It won’t be lost in the event of a bank failure.”*

Distrust and certainty bias are related insofar as when distrust of the institutional system increases, easy access to money becomes more valuable, and this is explained by the nature and level of distrust, e.g. it’s not worth it, it’s going to go bankrupt, there is no legal certainty, etc. Distrust can be neutralised with immediate access.

Figure 7

**Frequency of cognitive biases, number of occurrences**



Source: Authors' work.

In the focus group interviews, retired participants repeatedly stated that return is less important to them, while availability is important. In this context, retired participants often interpreted retirement as using up their previous savings, justifying that return and savings based on their pension are no longer a goal for them.

Relative valuation only occurred a few times in the focus groups, but these comments revealed that relative valuation can also be found between savings categories, denominations and income categories. It is “harder” to let go of a 20,000-forint banknote than four 5,000-forint banknotes, or we never use up our safety reserve, but we can do it with our savings, or the money that has been collected with difficulty is valued higher, or participants often allocate irregular or supplemental income to save.

The availability heuristic appeared extremely frequently in the focus group discussions. Interestingly, the pengő hyperinflation in 1946 was the most frequently mentioned event, which participants could not have had personal experience of (Figure 7). Among contemporary events, they mentioned the inflation of 2022–2023, the 2011 restructuring of the private pension fund system, mutual savings banks’ bankruptcies, Covid and the termination of state support for housing savings fund payments as negative experiences that affected their savings decisions, but it should be noted that the number of occurrences was low. They also recalled many stories from personal experiences, a surprising number of which were related to the cash requirements and difficulties of arranging funerals. The recall of lost profits includes cases where the participant did not receive the return at the end of the investment term that they felt they were promised when signing the contract. In addition, technical problems with card use, which prevented them from withdrawing cash or paying with a card, also frequently arose.

The most common occurrence of mental accounting was in the mention of the formation of savings categories. Accumulation for different purposes supports the idea that there are hierarchically arranged layers of accumulation. In the case of those who categorise into transactions and savings, savings are not a “leftover” amount after consumption, but a predetermined part of income. We also included in mental accounting the accumulation technique when the accumulation and use periods are separated and defined within a year. For example, in the summer there are fewer expenses, then you can save for winter firewood, or in the winter we start saving for a vacation. We also included in mental accounting the methods in which the individual puts cash away as savings (“envelope”) and uses a card in transactions, or vice versa, covers daily expenses in cash and saves in electronic form. It can also be considered mental accounting when someone invests the accumulated amount for which they cannot find a consumption goal that can be satisfied in the short term.

In confirmation bias, we most often encountered excessive self-confidence, when individuals support their behavior with reasons that are based on incomplete information and beliefs, and consider facts that contradict their statements to simply not exist. Some people explained why they do not invest their money in a bank with a generalised negative opinion about banking or with a belief about low returns.

### 3.3. Extensiveness

In the analysis, we also examined whether the findings detailed in the previous subsections were valid for all six focus groups (6/6, if mentioned in all six focus groups). According to our data, liquidity (6/6) and personal security of existence (5/6) were emphasised in relation to the safety reserve. In the case of savings, the importance of costs and benefits (5/6), liquidity (5/6), the safety of the saved amounts (6/6), and regularity (5/6) appeared. In relation to investments, the importance of costs and benefits (5/6), real estate as a good investment (5/6) and duration (5/6) also arose in most of the groups.

### 3.4. Intensity of comments

Among the forms of wealth accumulation, the most intense emotions are related to the safety reserve. The safety reserve relieves anxiety stemming from uncertainty and fear due to a perceived reality, and its existence provides a subjective sense of security for the individual. The safety reserve is used in the event of “catastrophes” experienced in individual life situations, and the participants spoke about it with much greater intensity and significant emotional charge.

*“It gives me peace of mind. Now, if I didn’t have a safety reserve, I would always worry, and my family would worry, what if there was a problem, ... so, it must be there. The way we achieve it, how much safety reserve each family has, varies from family to family.”*

*“I want to access [the safety reserve] as easily, quickly and simply as possible. So, nothing should prevent me from having access to that set aside amount (...) because my life depends on it, I need to access it immediately.”*

Savings have a different purpose. Their accumulation increases well-being, it is useful, and many mentioned savings as a means of achieving happiness. Many people collect savings with a purpose: the purpose is to increase well-being, to

improve the quality of life in some way, for example, by buying a new laptop, going on a vacation or renovating their home.

*“I think there should be at least one million forints in the bank account, and then I am calm, and if there is more than that, then I am very happy, and that is part of the savings, but that one million forints, that it should be accessible, so that if there is anything, it can be reached.”*

Participants had less emotions attached to an investment, mainly because it is more emotionally removed, since it is no longer related to direct daily security of existence. Mentally, this is “extra money” that they want to use to generate income, and therefore it is considered more distant than the amounts serving to meet direct needs.

*“If it is an investment, then I am cautious.”*

It can also be deduced from the interviews that the participants are informed about costs and returns. The importance of knowledge, i.e. financial awareness, was already evident in savings, but was more pronounced with regard to investments. In the case of investments, anxiety and tension are caused by the loss of value due to inflation, as well as a lack of financial knowledge and distrust of banks. The participants are uncertain about what to do with their money and consider real estate investment to be safer than others, so they often choose the most obvious solution: they buy real estate (or would consider buying real estate to be the best solution).

*“At the moment, I don’t know what I would choose as an investment. If I were to receive a million forints, I swear I wouldn’t know where to put it... and I would probably spend it, and that would make me nervous. So that would make me even more nervous.”*

*“I always thought that I like to save a small amount, but when a larger [amount] accumulates, for example, I did this, and I was really nervous that I should invest it now, because I feel that there’s inflation, and it would really hurt if I lost the amount for something, so I am also pro-real estate. I bought myself a small apartment, and since then I have no money, but I am also calm, because I actually have it.”*

### 3.5. Specificity and internal consistency of responses

In the focus groups, statements that did not refer to events that happened to the respondent and that were classified as availability heuristics were common. In these cases, the statement was often emotionally charged, with distrust being the most common, followed by fear. In the few cases where we found security to be the dominant emotion, the role of cash and gold in mitigating risk was emphasised. In the case of non-individual-specific statements, participants often emphasised their point with the recalled event to the extreme:

*“All I can think of is when they swept the pengő on the street like that.”*

*“There is a huge advantage of cash or things that are tangible and portable, which can happen at any time, no matter how much someone thinks it is fiction, if you ever have to flee, then what you can pick up and take with you. Because there have been examples of this throughout history, and we live in a rather turbulent world, we never know when we will find ourselves in such a situation, and then there is only what you can pick up and put away. And this gives a kind of security that you have such a large nugget of gold under your arm, that it can be hidden, for example, hidden, taken away, turned into money, because at that point it doesn't matter that you have three apartments, say around Lake Balaton, or wherever, right?”*

The extreme expressions contributed to the intense presentation of old events that could not have been real, lived experiences in the lives of the focus group participants. The extreme images indicate that the events of the past have risen to the world of myths and legends, becoming a system of social norms that influence the individual's worldview, values and belief system, thus also affecting present-day behaviour through distrust and fear.

Individual-specific statements can be divided into two groups. In one group, the individual's opinion is stated as a statement of fact; in the other case, the participant supplements and reinforces the opinion with his or her own experience.

*“I have savings that I can access immediately. I don't tie it down. I don't tie it down, we're talking about money now, not real estate, I don't tie these savings down with any bank, I don't know, for ten years, or five, or three, because that's how it is in today's world. If something comes to mind and I want to buy something, then let it be. So don't let it sit in a bank, because that's only good for the bank, believe me. It will never be good for you.”*

*“Well, what if they don't want to tie it down, like I did, that I tied it down, and when I bought my apartment, I took out the money and got less back, because that's when I found the apartment, and of course I took it out two months early.”*

We consider two phenomena to be important in relation to internal consistency. The moderator's question about keeping cash at home received an extremely negative answer only a few times:

*“Well, I don't think we should bury it in the garden anymore, like we used to, or sew it into the pillow”*

*“Should we keep the cash in the pillowcase?”*

Participants who initially showed an extremely negative, stereotypical attitude towards cash later revealed during the conversation that they use cash and think it is reasonable to have some amount of cash at home. The initial extremely negative expression was more an expression of agreement with some kind of external expectation, not the individual's actual attitude.

We should also highlight that at the end of the focus groups, a good number of participants expressed that the conversation was personally useful to them and that they learned a lot. Talking about financial topics is usually considered taboo, especially in cases where the individual's financial situation becomes known. During the discussions, it became apparent that due to low institutional trust, people treat information published by credit institutions and other organisations with suspicion. However, personal experiences aroused the interest of the participants.

*“This was a longer term, this was a 10-year savings, and I didn't really get that much information, and ten years passed, and I was surprised to find that I got back almost what I had paid in over the years.”*

*“In any case, the more they force the public to invest their money, the greater the resistance, because anyone who is even a little familiar with it will say that if they want it that much, it's a bit suspicious.”*

Increasing trust seems necessary for financial awareness and the widespread use of savings and investment opportunities, because only in this case can individuals be expected to rely more on the information they receive from credit institutions and other institutions in their decisions.

*“[How to encourage people not to hold cash] We need financial awareness. Not to abolish the private pension funds, but to restore it in the same way. So, to have something, something that is a sure thing, that it exists then, and that it doesn't disappear in five minutes, because the state budget needs 3,000 billion. Yes, yes, I'll figure it out at midnight and introduce it in the morning.”*

## 4. Evaluation of research results

The focus group discussions show that in the case of wealth accumulation, individuals make a significant mental distinction between safety reserves, savings and investments. During the accumulation process, the primary goal is to form a safety reserve and amounts exceeding this are called savings. Investments are made when a larger amount of savings has been accumulated and short-term consumption goals within a year have been achieved. Attitudes also change between the categories, while in the case of safety reserves the goal is to increase the individual's subjective sense of security and liquidity is the main value measure, while in the case of savings, goals and feelings that increase well-being prevail. The goal of investment is clearly to make a profit and to ensure additional income from this in the long term.

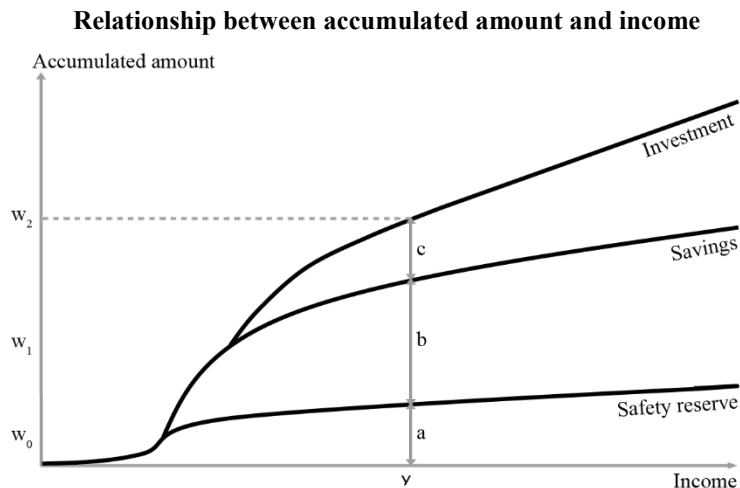
The participants mentioned several times that the safety reserve is a well-defined, specific amount for them, which they must have, but this also represents the upper limit of the safety reserve, which only changes if internal and external circumstances change. Savings, on the other hand, are characterised by regular collection and continuous increase of the money set aside, so it is not capped: the larger it is, the higher the individual's satisfaction. In terms of the planning horizon, the safety reserve is clearly short-term, while savings are short- and medium-term, and investment is tied to a long-term planning time horizon.

The emotional attitude also changes between the categories. People are most intensely attached to the safety reserve, and moving up the hierarchy of needs, the intensity of emotions decreases, as they emotionally distance themselves from the higher categories. Due to the different intensity of emotional charge, the use of each form of accumulation follows a specific logic. In the case of a sudden negative event that causes the safety reserve to be depleted, the need to replenish the safety reserve becomes an urgent compulsion, resulting in recategorisation of the accumulation. Often, a portion of savings is relabelled as a safety reserve through mental accounting.

Risk tolerance is lowest in the case of safety reserves. The need for liquidity and immediate and unhindered access overrides any promising yield offers that would involve tying down the money, which is why cash plays a prominent role in this category due to its unlimited liquidity. When it comes to savings, most participants expect a combination of low risk and stability of value. In the case of savings, the concept of security is revalued and focuses on individuals wanting to keep their money safe. Cash is less relevant in the case of savings, but in several cases the behaviour emerged that individuals collect the amount in cash over a longer period that they consider as savings and only turn to the financial institution after reaching a certain amount. Security is also emphasised in investment, and the

participants considered the purchase of real estate to be the least risky investment. However, they are willing to take on greater risk if the yield offered is sufficiently high for them, and cash no longer plays a role in this category.

Figure 8



Source: Authors' work.

For those with low incomes, savings are unattainable; they can only think in terms of a safety reserve. In fact, for some participants, saving only means economising, when they try to strictly allocate their monthly income to achieve the highest possible standard of living through proper management. Based on what the participants said, the different forms of accumulation are built on each other in the way shown in Figure 8. The primary goal of accumulation is to build a safety reserve, which is not possible for those with very low incomes. As income increases, they reach their ideal safety reserve level ( $w_0$ ), above which they treat the accumulated amounts as savings. Investments only come into consideration after the savings goals and amounts have been reached ( $w_1$ ).

Pursuant to their labour market status, entrepreneurs have a higher safety reserve due to risk. Students do not yet think about savings, only about a safety reserve. Retired participants generally mentioned that savings are no longer a priority for them, since retirement is the use of previously accumulated money, but at the same time a safety reserve is extremely important.

Table 2

**Systematisation of accumulation forms based on individuals' cognitive evaluation**

Accumulation types/characteristics	Safety reserve	Savings	Investment
Time horizon	short-term	medium- and long-term	only long-term
Accumulation "place"	at home and/or on current account	typically in a financial institution, but it is common to "hoard" the amount intended for savings at home	in financial institution, real estate
Accumulation goal	to achieve and increase a subjective sense of security	to ensure value stability and realise moderate profits	to achieve long-term, significant benefits
Cost-yield evaluation	consciously risks losing returns for the sake of a sense of security and the liquidity that ensures it	the role of liquidity decreases, the motive of profit maximisation appears	conscious decision to achieve maximum return
Frequency by income status	everyone strives for it, yet those with the lowest incomes are unable to accumulate it due to their limited living situation	requires a higher monthly income to exceed the level of safety reserve	to reach this level, the highest income is required, and this is only possible for a narrow group
Role of cash	significant role	it primarily plays a role in accumulating the amount intended for savings, which decreases over time	no role at all

Source: Authors' work.

## 5. Conclusion

In this study, we tried to answer the question of what could be the individual motivations for holding cash for the purpose of accumulation, which is becoming increasingly prominent in the incentives for cash demand, and what decision-making patterns lead an individual to conclude that a certain amount of cash should be accumulated in their household. Since our research objective is clearly exploratory, we examined individual accumulation decisions through the factors influencing them using focus group interviews.

We consider one of the most important conclusions of our research to be that we have proven that individuals think about accumulation in a complex way, and we can distinguish three main accumulation categories: safety reserve, savings and investments. These accumulation categories expand depending on the individual's income situation and are hierarchically structured according to a pyramid of needs. The safety reserve represents the lowest level, the purpose of which is clearly to guarantee the individual's subjective sense of security, and from here the individual moves – if their income allows it – towards longer-term, interest-bearing savings and investments with a clear profit-making purpose. The characteristic of the accumulation categories is that those who reach higher-level categories make their decisions with an increasingly longer planning horizon.

The role of cash is clearly relevant in the safety reserve category, as liquidity and continuous availability are what serve the sense of safety. To achieve this, individuals consciously accept the loss of return from holding cash (Allais paradox). The category called savings includes a wide range of accumulation for consumer goods, where stability of value is important, but the return is even less decisive. Cash plays an increasingly smaller role in this category, but an important pattern emerging from the interviews is that more people collect their savings in cash and only turn to financial institutions after reaching a certain amount, and thus cash can temporarily have relevance in this category as well. In the case of investment, we are talking about a more significant value, the management of which clearly requires awareness and the pursuit of maximising returns. The investment decision is made by participants over a long-term time horizon, and cash is completely excluded from this category.

Our essential conclusion is that even in cash holdings, which are considered irrational according to the general economic approach, individual decision-makers' consideration and striving for rationality appear, but at the same time the decision-making process is simplified by a wide range of heuristics and cognitive biases. The most characteristic ones are the certainty bias, which overvalues the accessibility of cash (it may be needed at any time, for example, because a mechanic needs to be

called), as well as mental accounting (cash provides tighter control over income, thus creating reserves, but it is not worth putting small amounts in the bank) and the availability heuristic (mutual savings banks' bankruptcies, decreasing sense of security caused by inflation, hoarding experienced during the Covid pandemic).

Based on the above, the main driving force behind cash holding for accumulation purposes can clearly be the creation of safety reserves, the amount of which respondents indicated as ranging from a few hundred thousand forints to one million forints. It is also important that the value of cash accumulated at home depends on the individual's income level, but also on the level of uncertainty he or she perceives. Thus, the higher the level of uncertainty perceived by an individual, the more likely it is that he or she will increase his or her safety reserve or create a certain amount of reserve if he or she has not done so yet. Our research results thus confirm the previous analysis based on the error correction model of macro data, which demonstrated that an increase in the level of uncertainty increases the amount of cash in circulation.

## APPENDIX

The category system serves to group the comments and statements made in the focus group. In the list below, each sub-category is characterised by a typical sentence:

- Consideration: this category serves to classify answers and comments that emphasised the characteristics and form of savings/safety reserve/investment:
  - Time horizon: *"In my opinion, an investment is the amount that you can foreseeably do without in the long term."*
  - Liquidity: *"I somehow associated it with the idea of accessing it as easily, quickly and simply as possible. So nothing should prevent me from accessing the amount set aside."*
  - Cost, yield: *"For me, saving is about earning interest, so it doesn't matter to me in what form."*
  - Health: *"We are retired... but in our case, this so-called saving is due to health problems."*
  - Pension: *"Pension accounts, pension insurance are a kind of advance provision."*
  - Government securities: *"Easy to deposit, easy to withdraw, you can also do it at post offices, so even someone who doesn't have many digital, IT or computer skills can do it."*
  - Real estate: *"An investment is an investment in something that is profitable. It could be a property that can be rented out, and then the person would*

*have a monthly income from that, for example. For me, that would be an investment.*

- Life situation: this category is used to classify answers and comments that highlight the respondent's individual life situation and habits:
  - Amount: *"I formulated this a little more specifically, for me it is the amount that provides a living for a year without income."*
  - Age: *"Really nothing. I am no longer interested in such things [investing]."*
  - Income: *"I have four children, and the concept of saving unfortunately does not exist for me, since my salary and expenses do not cover the increase in inflation."*
  - Regularity: *"For me, savings are 10% of my salary, and then I live on the rest, so it is the money that I do not spend."*
  - Anonymity: *"[Why do they keep cash at home?] – Because they do not want it to be visible."*
  - Preference: *"Yes, so this is a bad thing, it would really upset me, I know about myself, but the fact that the yield, the official one, doesn't even reach inflation, I don't like that either. So, neither the excessive risk, nor the fact that there is no yield at all."*
  - Knowledge: *"At the moment I don't know what I would do as an investment. If, say, I were to receive a million forints right now, I swear I wouldn't know where to put it... and I would probably spend it, and that would upset me. So that would upset me even more"*
- Emotional attitude: this category includes those responses and comments that spoke emotionally about savings:
  - Fear: *"Now, if there were no safety reserve, I would always worry, my family would worry, what if there was a problem, so there has to be one."*
  - Distrust: *"Also distrust. I have seen so many bad things in my environment. Recently, an acquaintance of mine had a fixed-term deposit ... and he was complaining that the bank had invested his savings in some shares, and that he was getting 20,000 less because the share he had bought was discontinued or went down in value..."*
  - Joy, peace: *"[Savings] are about securing the future, a peaceful life and balance."*
  - Security: *"Savings for me only mean security of existence. More than that. Now you could say that it means securing living conditions."*
- Relations: here we have listed the answers and comments that highlighted the similarities or differences between the concepts of savings, safety reserve, and investment:
  - Safety reserve  $\neq$  savings: *"After savings comes safety reserve, it is well hidden, the last resource, in case the previous one runs out."*

- Savings  $\neq$  investment: *“Savings and investment. Two separate things.”*
  - Safety reserve = savings: *“I also think that safety reserve is roughly equal to savings.”*
  - Savings = investment: *“If I save, I also try to invest.”*
- 
- In the focus group discussions, we also tried to identify various cognitive biases, and in the following list, we highlighted typical statements belonging to each type of cognitive bias:
    - Animal spirit: *“I wanted to have all my money in cash, in euros, with me [at the outbreak of the Ukrainian-Russian war].”*
    - Certainty bias: *“[The bank] could go bankrupt at any time. What you have in cash is certain. Now we ignore the burglar, it has very little chance, but anything could happen at the bank, and then what would I do?”*
    - Availability heuristic: *“If the banking system is in such a mess, then the forint as a means of payment will also be in such a mess, so they will throw it away with a pitchfork, but there was a time in Hungary when they got their paycheck and by the time they got to the store with the pengő, it was worth much less, it was almost worth throwing it away because of the inflation. It was a world record [inflation] back then, and that is on the cards at any time.”*
    - Confirmation bias: *“... I think that I would invest it in something, that would be my investment, that would yield more than the average return. Let’s say at the bank, or wherever.”*
    - Mental accounting: *“Savings are the amount of money that I put aside and don’t touch, and it can have two functions, either I put it for some purpose or in case of need.”*
    - Relative valuation: *“This is exactly like a 20,000-forint banknote, which is harder to spend than, say, four 5,000 bills.”*
    - Status quo: *“I’ve been doing this [regular savings] since I was a kid.”*

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