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# Coping strategies for financial problems: Based on Hungarian data from the OECD 2022 annual report

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## Abstract

The aim of this study is to explore the role of demographic factors in strategies to address financial problems, based on data from the OECD Financial Literacy Survey 2022 in Hungary. The analysis focused on differences in age, gender, type of residence, income, and region. The research used multivariate statistical methods, such as canonical correlation analysis and Ridge regression, to identify associations between demographic factors and financial behavior. The results showed that region and age are the most significant determinants of financial strategy choice, while education and income have a smaller impact. Residents in Budapest showed higher financial awareness and more diversified strategies compared to a more traditional approach for rural residents. The results suggest the development of targeted financial education programs that take demographic and regional differences into account, thus supporting the enhancement of financial stability.

**Keywords:** Demographic factors, Financial behavior, Financial education, Financial strategies, Regional differences.

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## 1. Introduction

Managing financial problems and making financial decisions is a key determinant of the economic situation and quality of life for individuals. Demographic factors such as age, gender, income, and education play a significant role in shaping financial behavior. Data from the OECD's 2022 Hungarian Financial Literacy Survey 2023 will provide detailed insights into these contexts, allowing the analysis to highlight the different financial habits and coping strategies of various groups. International research shows that demographic factors influence not only financial awareness but also risk appetite and long-term planning. In Hungary, data from the Pénziránytű Foundation confirm that education and financial literacy play a key role in achieving financial stability.

The aim of this paper is to examine the strategies used to address financial problems in Hungary, with a particular focus on the impact of demographic factors. The analysis focuses on the role of age, gender, type of residence, and income, and the different patterns of coping that different groups adopt to address financial challenges. The research also highlights the extent to which regional differences influence financial behavior and the tools that can be used to support individuals' financial decisions more effectively. The findings will not only contribute to understanding the relationship between demographic factors and financial behavior, but may also help to develop practical recommendations, for example, to improve financial education and advice, in particular to reduce social and regional disparities. In this way, the research will support the development of financial literacy, which is essential for increasing the financial stability and well-being of the population.

## 2. Literature Review

Financial mindfulness and the choice of financial strategy are closely linked to demographic factors such as age, gender, income, and education. International research shows that these factors have a significant impact on individuals' financial decisions and behavior.

Age is one of the strongest determinants of financial habits. At younger ages, individuals focus less on long-term financial goals and more on meeting short-term needs, while at older ages, savings and retirement planning become more important [1]. In addition, low levels of financial awareness often lead to indebtedness, especially among younger generations who lack experience in budgeting. As individuals age, their financial priorities and strategies change. Young adults are often less experienced in financial planning, which can lead to lower savings rates and higher risk-taking. In contrast, older age groups tend to be more conservative in their financial strategies, favoring stable savings and retirement planning. Some research suggests that older investors are less inclined to risky investments, while younger investors are more open to higher-return but riskier options [2].

Gender differences are also a determinant of financial behavior. Studies have shown that women tend to be more cautious in financial decisions, less risk-averse, and more inclined to seek long-term financial stability [3]. In contrast, men are more likely to take risks in the hope of higher returns. Some research suggests that men's overconfidence can often lead to less favorable financial decisions, while women's more careful consideration can lead to more stable financial outcomes in the long run [4].

According to a 2019 study, higher educational attainment is significantly associated with financial awareness and long-term financial planning, while lower educational attainment focuses on short-term solutions [5]. People with higher incomes and higher educational attainment tend to be better informed about financial products and services, leading to more informed and strategic financial decisions. In contrast, lower-income and less educated individuals often face financial challenges and have less access to financial advice. They are more likely to opt for short-term solutions such as debt consolidation or quick loans [6]. These differences are often due to a lack of education and financial literacy. A lack of financial literacy can contribute to poor financial decisions and financial vulnerability [1].

In Hungary, financial literacy initiatives such as the programs of the Pénziránytű Foundation are of particular importance in developing the financial literacy of the population [7]. According to the Foundation's research, local culture and traditions also play a significant role in financial decisions. For example, in some cultures, family support and community values play a greater role in financial decisions, while in others, individual responsibility dominates. A study has shown that in the Hungarian retail government bond market, investors' decisions are influenced by demographic factors in addition to political, emotional, and informational backgrounds [3]. Differences between regions also have a significant impact on financial behavior. In some regions, the use of traditional financial instruments and cash predominates, while in others, digital solutions are becoming more prevalent [1]. This difference depends not only on the technological infrastructure but also on financial culture. For example, in some Asian countries, the role of the family dominates in solving financial problems, while in North American countries, individual responsibility predominates [8].

A number of international studies have examined the relationship between education and financial decisions, showing that higher levels of education have a significant impact on financial awareness and decision-making. A comprehensive analysis by Huston [1] shows that the level of financial literacy is strongly correlated with educational attainment. Individuals with higher education tend to have a better understanding of financial products and services, leading to more informed financial decisions. According to international research by Mitchell and Lusardi [9] Financial literacy levels are globally low, but individuals with higher educational attainment perform better in financial literacy. Education is therefore a determinant of financial decision-making at the international level. Education, therefore, plays a key role in the acquisition and use of financial literacy. Financial education and awareness-raising are key to improving financial behavior. Individuals who have received financial education are more likely to make more informed financial decisions, regardless of their demographic background. In Hungary, research by the Pénziránytű Foundation [7] shows that educational attainment has a significant impact on financial decisions. According to the Foundation's surveys, those with higher levels of education are more

financially aware and more willing to engage in long-term financial planning. This underlines the importance of education in developing financial literacy in Hungary.

In addition to these demographic characteristics, other factors such as life circumstances, for example, marital status, also have a significant impact. Married individuals tend to pursue longer-term financial goals, while single individuals are more prone to riskier decisions [3]. Among families with children, the degree of financial responsibility is more predominant, leading to tighter monitoring of expenditures. Family status, such as being married or single, has a significant impact on financial strategies. Single people tend to be more risk-averse, while married people tend to seek long-term financial stability. This is associated with an increase in family responsibilities and the costs of raising children [10].

The rise of digital financial tools has transformed financial behavior. The proliferation of digital technology offers new opportunities for financial planning [11]. Online banking services and applications are increasing financial awareness, especially among younger generations. However, older generations often struggle to use digital tools, which can put them at a disadvantage in the modern financial environment [12].

### *2.1. Hypotheses*

*$H_1$: There is a close, complex relationship between financial habits and demographic factors.*

(Decision: confirmed - The canonical correlation analysis showed that the interaction of region and age significantly influences whether the respondent prefers to postpone spending or look for extra work to solve their financial problems.

*$H_2$: There is a significant difference in financial mindfulness and problem-solving strategy choice between groups based on demographic characteristics.*

(Decision: partially justified - The analyses show that the differences between men's and women's financial strategies are not statistically significant. Although women pay more attention to details, such as bill payment deadlines and automatic transfers, and men pay more attention to budgeting, these differences are not systematic.

*$H_3$: Age and income are the main determinants of financial mindfulness and strategy choice.*

(Decision: Rejected - Ridge regression shows that several variables affect financial behavior simultaneously, but the strongest effect is due to the respondent's regional affiliation. The results do not support the hypothesis that age or income alone is sufficient to explain the dimensions of financial mindfulness.

## 3. Methodology

### *3.1. Data Used*

This study is based on data from the OECD's Financial Literacy Survey 2023, conducted in 2022 in 39 countries, with a mandatory representative sample of at least 1,000 adults in each country. This research uses the responses collected in the Hungarian survey. We thank the Financial Compass Foundation for providing the data. The 1,000 respondents were interviewed using a standard questionnaire completed by a survey officer based on the responses received from the respondents according to the OECD methodological guidelines. This method ensured both uniform completion and uniform interpretation of the questions. In addition to the above, the international relevance and the level of detail are further strengths of the database.

However, the method does not only have its strengths. Although the sample of 1000 respondents is representative, it provides limited detail for smaller subpopulations (e.g., young, elderly, regional variations). The presence of interviewers may, in addition to the advantages mentioned above, influence the honesty or behavior of respondents, especially for sensitive financial issues. The timing of data collection is also important, as the economic environment (e.g., crises, inflation) can have a significant impact on responses. The questionnaire is standardized, but may therefore not fully take into account the specificities of each country's financial system, culture, and habits. The subjectivity of respondents' knowledge and opinions, as well as the non-response rate, may also distort the data.

### *3.2. Data Cleaning and Encoding*

The actual work with the database is preceded by a review of the database. This involves an assessment of the type of data it contains, what values occur, and how these can be made suitable for answering research questions using statistical methods. Some of the questions are open-ended and can only be answered in the affirmative (1) or negative (0). Other questions can be answered on a Likert scale, where: 1 = strongly agree -...- 5 = strongly disagree. For some questions, however, the Likert scale is used in reverse by the questionnaire compilers, i.e., option 5 codes for total agreement. Therefore, for this study, a consistent scale can only be achieved by reversing the coding of some questions. The details of this are described later.

Responses containing values of -98, -97, or -99 are excluded as they are irrelevant or cannot be evaluated. Care also had to be taken to ensure that the missing values were handled correctly. If the proportion of missing values exceeded 70%, the variable was excluded from further analysis. This 70% rate is consensual rather than rule-based. While the basic work on the treatment of missing data [13-15] do not mention a specific rate, [16] set it at 50-80% and Coşgun [17] citing the Scikit-learn documentation, it is recommended to use an exclusion threshold of 70%. For missing values below this threshold, imputation was performed using the median of the variable by demographic group. After data cleaning, the dataset contained 788 valid observations.

*3.3. Test Methods*

*3.3.1. Descriptive Statistics*

Regardless of the sample on which statistical analysis is carried out, the first step is to get to know the sample itself. Descriptive statistics is a tool for this, showing the number of items, the grouping possibilities, the group averages, and the distribution of the sample averages. We also learn about missing values and their proportions, which is essential information for choosing how to deal with missing values. Descriptive statistics is also necessary for the selection of variables. In the present study, the demographic variables describing the sample are used as the independent variables. These are described in detail in the Variables subsection. The results of the descriptive statistics are summarised in Table 1.

**Table 1.**
Descriptive statistics for the sample.

| | No | Age | Region | Residence | Education | Workplace | Income |
|---|---|---|---|---|---|---|---|
| number of elements (count) | 1000 | 1000 | 1000 | 1000 | 998 | 1000 | 789 |
| number of unique values (unique) | | 63 | | | 6 | | 3 |
| most frequent value (top) | | 42 | | | 3 | | 1 |
| frequency of the most frequent value (freq) | | 39 | | | 459 | | 313 |
| average (mean) | 0.482 | | 4.095 | 2.734 | | 3.337 | |
| standard deviation (std) | 0.500 | | 2.283 | 1.436 | | 2.243 | |
| minimum value (min) | 0 | | 1 | 1 | | 1 | |
| 25% | 0 | | 2 | 1 | | 2 | |
| percentiles 50% | 0 | | 4 | 3 | | 2 | |
| 75% | 1 | | 6 | 4 | | 6 | |
| maximum value (max) | 1 | | 8 | 5 | | 10 | |

The distribution of sample means in each group was examined using the Shapiro-Wilk test [18]. For all groups, the test result indicated ($p<0.05$) that the normal distribution of sample means was not met; therefore, statistical tests can only be performed using non-parametric tests.

*3.4. Variables*

The questionnaire allows for a number of demographic groupings, such as age, gender, place of residence (type, region), household members, education, employment, or income. The coding of these is described in the methodological guide accompanying the questionnaire [19, 20]. The regional classification was left to each country to define itself; in Hungary, the country's regions formed the basis for the classification coding.

There are 3 categories for the income of the respondent: 1=low, 2=medium, 3=high.

The income categories were based on the median income, which in Hungary was HUF 400,000 in 2022 (rounded up to HUF 400,000 in 2022):

- 1=300e below (less than 75% of median income) - low income
- 2=300e - 500e (median +-25%) - medium or average income
- 3=above 500e (greater than 125% of median income) - high income

There are two groups of dependent variables: financial monitoring and goals, and financial strategy variables. Financial monitoring is generally examined in the OECD questionnaire QS1_5. On a five-point scale, responses 1 and 2 are considered "yes" answers (coded 1), while responses 3 to 5 are considered "no" answers (coded 0). The details of mindfulness are examined in question QF2. This question asks about budgeting, recording expenses, allocating funds to bills and spending, monitoring the due date for paying bills, using financial applications, and automatic transfers (yes-no questions). These were examined individually, and the level of attention was determined by the variable "Attention_at_all_times," which was created by summing the "yes" answers to each sub-question. The existence of financial goals is assessed by the yes-no question QF5, while long-term financial goals are assessed by the five-question QS1_8, where 1 represents a value of strongly agree.

Question QF12 lists possible strategies to solve financial problems. It lists 23 options in total. The options are grouped according to the resources the respondent uses. They could be existing own resources, new resources brought in with extra work, external help, or a loan. The options can be answered 'yes' or 'no', depending on whether the respondent uses the option. For each category, we also created a separate variable summarizing the 'yes' answers, named according to the schema 'category_name_long'.

*3.5. Examining Differences Between Groups*

The significance of the differences between groups is tested by the non-parametric Kruskal-Wallis test [21, 22]. The test itself shows whether there is a significant difference between groups for a given variable, but it does not tell us exactly which pairs of groups these differences are between. The post-hoc test helps to identify this through pairwise comparisons. For this, we used the Dunn test [23]. Where the Kruskal-Wallis test was not applicable due to many identical responses (variance of 0), in the case of income categories, we used ordinal logistic regression to determine whether there was a significant difference between groups [24].

Since conventional linear regression still showed significant multicollinearity, we used Ridge regression [25, 26]. Ridge regression helps to stabilize the model and prevent overfitting. It achieves this by applying a constraint in the optimization process and forcing the model to choose smaller coefficients for the predictors. By striking a balance between fitting the data appropriately and controlling the coefficients, ridge regression helps to improve the robustness and performance of linear regression models, especially in high multicollinearity situations. Ridge regression does not directly compute p-values as it is not designed for testing statistical significance but for regularization. Therefore, p-values are estimated using a bootstrap method. This is done by creating new samples from the original sample and computing statistical indicators from these. Also, the value of $R^2$ was calculated a posteriori. It is important to note that when ridge regression is used, the $R^2$ value may differ from that calculated in ordinary linear regression, as ridge regression uses smaller coefficient values due to regularization. This may reduce the accuracy of the fit to the sample but improves the generalizability.

*3.6. Examining Correlations between Groups*

The number of both independent and dependent variables is greater than 1. Therefore, the correlation between the two sets of variables was analysed using the canonical correlation analysis (CCA) [27]. This method analyzes whether there is a statistically significant relationship between the two sets of variables. To test this, we had to formulate the null hypothesis ($H_{(0(CCA)}$)): There is no relationship between the two sets of variables. CCA allows simultaneous analysis of several variables and is therefore suitable for the analysis of complex relationships between variables. It can be used to explore the relationship between different social factors (e.g., income, educational attainment, etc.) and outcomes (e.g., happiness, well-being, etc.) to understand social trends. It aims to identify patterns of association between two sets of variables. To this end, it looks for linear combinations (called canonical variables) of variables in each set that are maximally correlated with each other. Although it has limitations, the method can provide valuable insights into the structure of the data. It can reveal underlying relationships between two sets of variables, even if the variables within each set are highly correlated. It can also reduce the dimensionality of the data by identifying the most important linear combinations of variables. The method is statistically robust to violations of normality assumptions and can handle small sample sizes. Its main problem is that CCA assumes that the relationships between variables are linear, which is not always true for real data. It is also sensitive to outliers.

The interpretation of the CCA results is as follows. The Comp 1, Comp 2, ... Comp 6 are the canonical components resulting from the canonical correlation analysis. These components represent linear combinations of the relationship between two sets of variables, the degree of relationship between which is the canonical correlation. The best combination (highest correlation) is Comp 1. Comp 2, Comp 3, etc., represent the next best linear combinations, which do not include the relationships already explained. The Wilks' lambda reflects the ratio of the explained variance to the residual variance (not explained by the model). Its value ranges from 0 to 1. A lower value indicates a stronger relationship, i.e. better explained. The chi-square ($\chi^2$) and p-value calculated from Wilks' lambda test the significance of the relationship between the two sets of variables. If the component is significant ($p<0.005$), the null hypothesis (no relationship between the groups of variables) is rejected. The significant component is therefore significant and statistically valid. The non-significant ($p\geq 0.05$) component is not considered reliable; it could be due to chance.

The next step is to determine the weights of the variables associated with the significant canonical component (the weights associated with the canonical component), which indicate the extent to which and the direction (positive-negative) in which the variable contributes to the canonical component. The weights of the independent variables (demographic groups) indicate the strength of the role of each demographic variable in the choice of financial strategy. The weights of the dependent variables (possible strategy choices) help to identify the most important financial strategies that are most exposed to the influence of demographic factors.

*3.7. Sample Preparation for Statistical Tests*

To prepare the sample for ordinal logistic regression, we first excluded independent variables with all values set to 0, and income groups were treated as ordinal variables. In preparation for the analysis, the demographic variables had to be decomposed into dummy variables, and the interaction variables for the regression had to be created. This was followed by the optimization of the variables causing multicollinearity. This was done using VIF-based filtering [28], removing variables above 10 and NaN. Subsequently, the highest VIF values were also below 3, which is an acceptable level. Cleaning the data significantly improved the usability of the model. Country and year were not included in the demographic variables as they are constant variables (Hungary and 2022, respectively).

For canonical correlation analysis (CCA), the data must also be prepared. The sample size (1000 persons) is sufficient to perform CCA and normality is assumed based on the central limit theorem [29]. The elimination of irrelevant and missing data and the treatment of multicollinearity have been done previously. Due to the questionnaire's query method, outlier data were not included in the cleaned source database. The next step was therefore to standardize the variables to a common scale. This was done using the z-score procedure [30], resulting in a mean of 0 and a standard deviation of 1 for all variables.

## 4. Results

### *4.1. Monitoring the Finances of Different Demographic Groups*

The averages of financial attention by demographic group are shown in Figure 1.

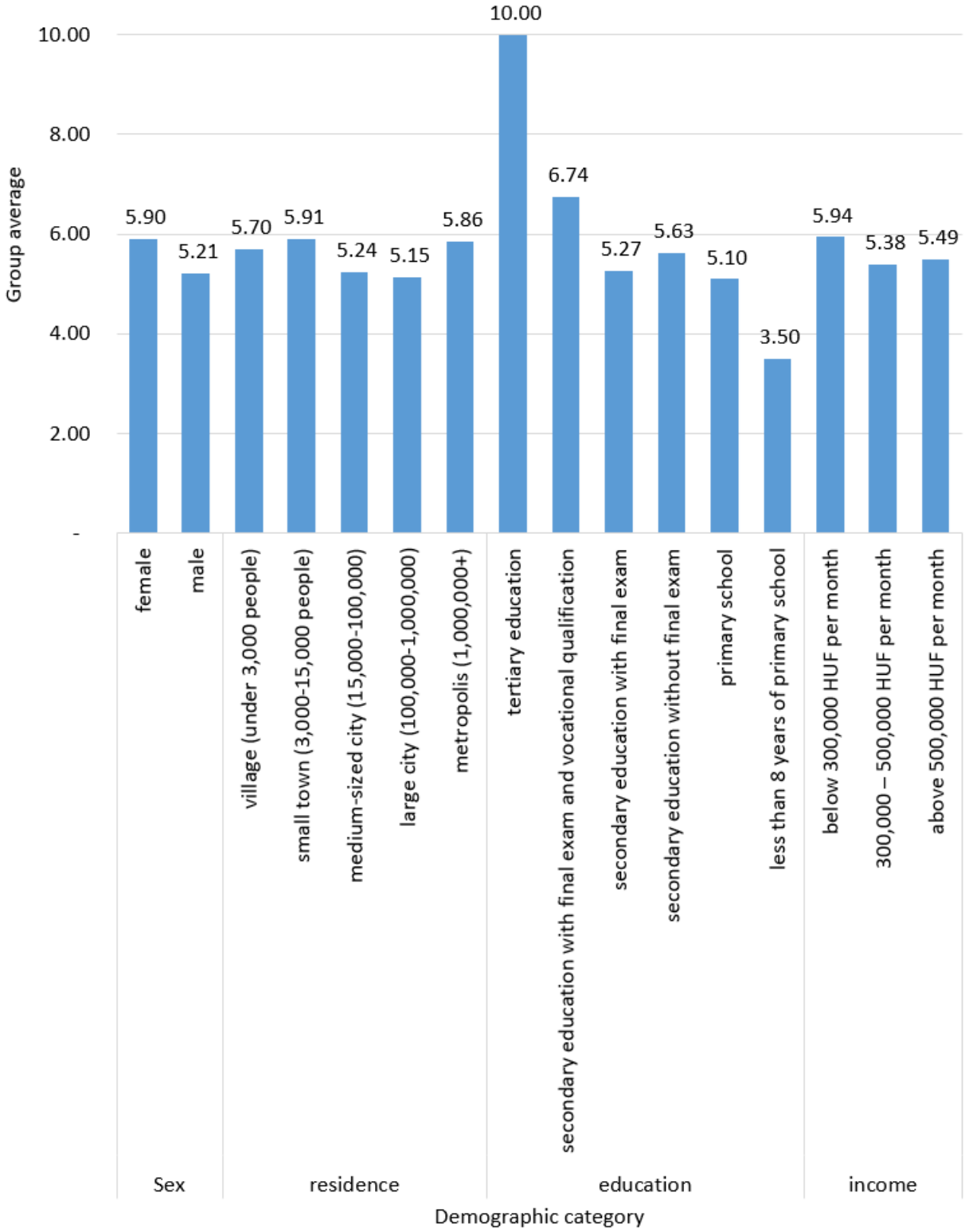


**Figure 1.**
Group averages for financial monitoring (Source: own calculations).

### *4.2. Regression Model*

We looked at how demographic variables determine the extent to which people pay attention to their finances. The results of the Ridge regression are summarised in Table 2.

**Table 2.**
Results of the Ridge regression.

| Changing | Contact | p |
|---|---|---|
| Intercept | 0 | 0 |
| Number of persons living in a household | 0.00022262 | 0.024 |
| Setting financial targets | 0.00018416 | 0.002 |
| Knowledge of credit facilities | 0.000173939 | 0.032 |
| Internet access | 0.0001273 | 0.044 |
| Age group | -0.000157556 | 0.032 |
| Education | -0.000162193 | 0.014 |
| Region | -0.000190712 | 0.01 |

The value of $R^2$ on both the training and test datasets is 0.999, indicating that the Ridge model performs very well on the data, minimizing the possibility of overfitting. The results suggest that the model has a strong generalization ability. Demographic factors, such as household size, age, education, and region, have an impact on financial mindfulness, but their effect is moderate. Household size has a positive effect, while education, age group, and region have a negative effect. The results suggest that it is important to take demographic differences into account when examining financial behavior. As the number of people living in a household increases, attention to finances increases. This may be due to the need to share responsibilities. The negative coefficient for age group indicates that older age groups are less attentive to their finances, i.e., financial activity decreases with age. The coefficients for education and region are also negative. The former implies that with higher education, attention to finances may decrease, probably due to greater financial stability. The latter indicates that people living in certain regions pay less attention to their finances. This is likely to be explained by cultural or economic factors.

### *4.3. Trends in Attention to Finances Across Demographic Groups*

#### *4.3.1. Gender*

Analysis of descriptive statistics shows that men are more likely to manage their finances globally. This means they track their spending more often and use automated solutions. Women pay more attention to details such as bill payment deadlines and setting aside spending money. They are more likely to plan in detail and pay attention to their commitments. Women are significantly more likely (Mann-Whitney p=0.016) than men to keep track of their finances (1.13 methods on average) and more likely (38%) than men (36%) to set financial goals.

Both sexes have similar attitudes towards long-term financial goals (Mann-Whitney p=0.892), tending to agree less that they have long-term plans (average score of 3.9 on a scale of 5, where 5 means disagree). The results show that women prefer to "manage" all the details of their finances, while men are more inclined to leave certain tasks to automated tools.

The Shapiro and Wilk [18] test is significant ($p < 0.05$) for all financial habits for both men and women. This means that the data are not normally distributed. Therefore, the non-parametric Mann-Whitney U-test was used to test the differences found. This has the additional advantage that it can be used even if the data are skewed or there are many missing values. In the case of categorical variables (e.g., "Do you use automatic referrals? Yes/No"), a chi-square test was used to analyze gender differences.

There are small gender differences in the means of the numerical variables (budgeting, setting aside money to pay bills or spending money, and paying attention to the deadline for paying bills) based on the U-test, but these are not statistically significant based on the current data. The differences are still interpretable visually and based on descriptive statistics, but the test suggests that they are likely to be random differences rather than systematic differences. For the categorical variables, there are significant gender differences in general attention to finances and the use of automatic transfers. The former is more specific to women, and the latter to men.

#### *4.3.2. Regions*

Significant differences are mainly found between Budapest (1) and the other regions, as well as between West Transdanubia (7) and Central Hungary (5). This may suggest that people in these regions track their finances differently, possibly due to economic, cultural, or infrastructural differences between regions.

#### *4.3.3. Residence*

Cities with a population of more than one million (Budapest only) have higher average levels of financial awareness in several aspects (e.g. budgeting, setting aside money for spending), while other types of municipalities (e.g. larger cities) have lower levels. There are differences in financial goals and long-term plans, but these do not necessarily point in the same direction in all aspects. There are significant differences ($p < 0.01$) between several dwellings in budgeting or in the extent to which they have a spending budget, and in some aspects of automatic transfers and financial goals. Pairwise comparisons confirmed the results of the Kruskal-Wallis test, for example:

Between the smallest villages and medium-sized towns, and between the latter and the capital, there were significant differences in budget monitoring and other financial practices. Some regions, such as small towns and larger cities, showed significant differences in the allocation of earmarked spending funds and in the monitoring of account periods.

*4.3.4. Income*

The Mann-Whitney U-test of the income group test shows significant differences between the lower and middle categories. In general, higher income groups are more careful about their finances and budget more often than lower income groups. Higher income levels have a higher proportion of people who keep separate spending money and separate accounts, and also monitor account deadlines and spending. Higher income earners are more likely than lower income earners to keep track of their finances and are more likely to set long-term financial goals and agree on their importance.

*4.3.5. Workplace*

The Kruskal-Wallis test of job categories indicates significant differences between groups. The post-hoc (Dunn) test shows that householders monitor their finances more frequently. They are also the most likely to set aside money for paying bills and for everyday spending. The use of budgeting or automatic transfers is less dependent on the job category, with no significant differences being found.

*4.4. Choice of Financial Strategy In Each Demographic Group*

*4.4.1. Age Group*

The strategy choices of each age group are summarised in Figure 2.

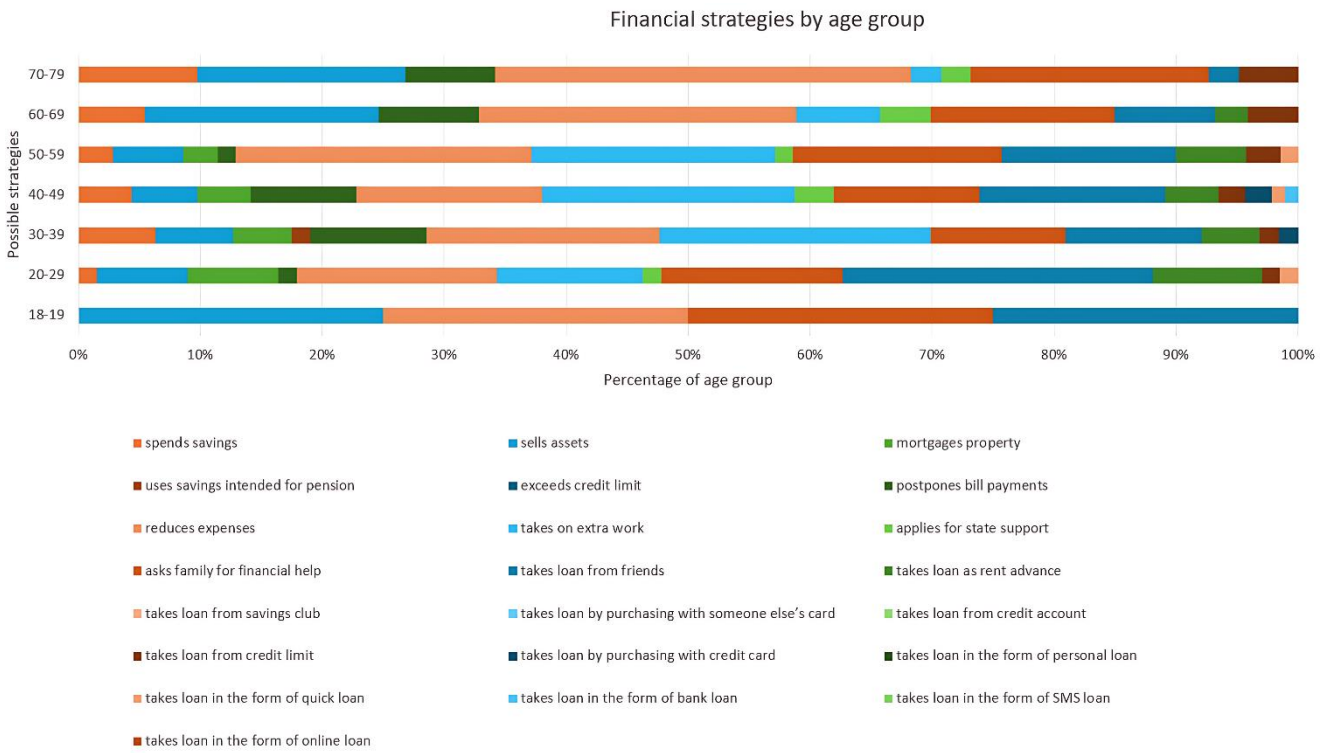


**Figure 2.**
Financial strategies by age group.

Significant results comparing age groups can be summarized as follows: between 30-60 years, the three most common strategies are extra work, asking friends for help, and cutting expenditure. The younger the respondent, the more likely they are to turn to friends for help. Over the age of 60, there are fewer friends living, and it becomes more difficult to do extra work, so the importance of cutting back on family help increases. Younger generations, on the other hand, are the least likely to restrict their spending. The 20-60 age group still tends to hold on to their existing values. They are reluctant to sell them and will only pawn them in emergencies. All generations tend to rely more on their own resources. They also tend to rely more on friends and family as external sources and are less inclined to take out loans.

*4.5. Residence*

The results for the groups by type of residence are shown in Figure 3.

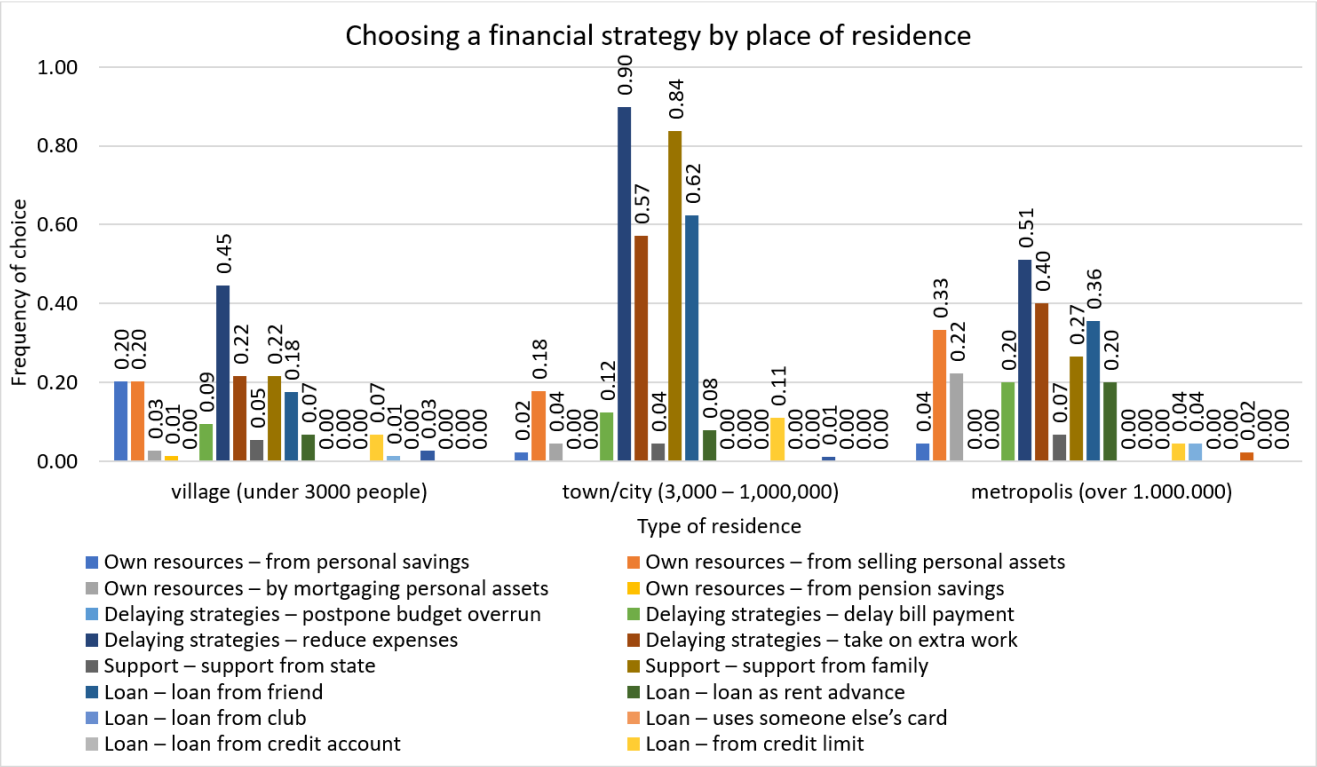


**Figure 3.**
Financial strategies by type of residence.

At the national level, the four most common strategies chosen are cutting expenditure, family support, borrowing from friends, and taking on extra work. These four options are the same in all types of municipalities. The differences lie in the use of other options. Respondents in large cities (Budapest) more often choose to sell their belongings and take a rent advance, while among those in villages, the use of savings is more common. Credit card purchases and the use of credit lines are not common in villages.

*4.6. Education*

The analysis by education could not be carried out due to the high number of missing and irrelevant data.

*4.7. Income*

We used ordinal regression to examine the financial behaviour of income groups Table 3.

**Table 3.**
Strategy choices of income groups (Ordinal regression results).

| Changing | Contact | St. failure | z-value | p-value |
|---|---|---|---|---|
| 2,0/3,0 | 0.790 | 0.110 | 7.175 | 0.000 |
| Sajat_forras_elzalogosit | 1.422 | 0.636 | 2.237 | 0.025 |
| Sajat_forras_eladasbol | -0.961 | 0.442 | -2.175 | 0.030 |
| Tamogatas_allam | -2.305 | 1.141 | -2.021 | 0.043 |
| Sajat_forras_megtakaritasbol | 1.217 | 0.675 | 1.802 | 0.072 |

The results of ordinal regression show that the middle- and high-income groups differ in their choice of four strategies. High-income respondents are more likely to access their savings or pledge their property. Middle-income earners are more likely to use public subsidies or sell their own belongings to cover the costs.

*4.8. Results of the Canonical Correlation Analysis*

The CCA results are summarised in the Table 4.

**Table 4.**
Results of the CCA.

| Canonical component | Canonical correlation | Wilks' Lambda | khi-square | p-value |
|---|---|---|---|---|
| Comp 1 | 0.525 | 0.725 | 78.562 | 0.001 |
| Comp 2 | 0.376 | 0.859 | 37.177 | 0.172 |
| Comp 3 | 0.237 | 0.944 | 14.069 | 0.827 |
| Comp 4 | 0.170 | 0.971 | 7.139 | 0.848 |
| Comp 5 | 0.092 | 0.992 | 2.055 | 0.915 |
| Comp 6 | 0.032 | 0.999 | 0.247 | 0.884 |

The first component is statistically significant (p=0.001) and shows a medium (0.525) relationship between the two sets of variables. The residual variance is relatively high (λ=0.725) but does not dominate the explained variance. The other components indicate a weaker and weaker relationship and are not significant, so they do not play a meaningful role in interpreting the relationship between the two groups. The composition of significant Comp 1 is shown in Table 5. Only the weights of the independent variables have been included in the table.

**Table 5.**
Variable weights for Comp 1.

| Changing | Weight in Comp 1 |
|---|---|
| Region | 0.931 |
| Age group | 0.247 |
| Residence | 0.213 |
| Workplace | 0.140 |
| Education | 0.041 |
| No | -0.004 |
| ... | ... |
| Reducing expenditure | -0.778 |

Based on the weights, the region is the most important factor in the choice of financial strategy. This is followed by age group and type of municipality of residence, but both play only a quarter as important a role as the region. The role of educational attainment is almost negligible, but it should be borne in mind that after data cleaning and missing data treatment, there were so few respondents left in certain educational attainment groups that a correct analysis by educational attainment was not possible. A negative value for the variable "No" indicates that a man (value 1) results in lower scores in the first component than a woman (value 0). However, this relationship is very weak (-0.004), i.e., the difference between men and women does not significantly affect the results.

Based on the weights of the dependent variables (of which the table shows only the most negative ones), where there is a strong demographic effect, the strategy of reducing expenditure is the least preferred, followed by borrowing and taking on extra work. A 'strong demographic effect' means that the values of certain demographic groups (e.g., those living in particular regions) significantly determine the pattern of the first component. The strong impact of demographic factors creates a pattern in which expenditure cuts are not the preferred strategy. That is, people living in a given region prefer to look for other solutions (e.g., credit, subsidies, extra work) rather than to reduce their expenditure further. Reducing spending is therefore a necessary solution that these groups will only use as a last resort. This link can be important, for example, in financial advice or in the design of support programs. For groups with a strong demographic impact, it may therefore be worth promoting strategies such as improving access to credit or creating additional income opportunities.

## 5. Discussion

Our results show that age plays a crucial role in financial mindfulness. Older age groups are less attentive to their finances, which is explained by a decrease in financial activity. This is in line with the results of Huston [1] which shows that older people tend to follow more stable saving strategies. However, we demonstrate that age alone is not sufficient to explain the dimensions of financial behavior, in contrast to the results of Bechly [2] who found age to be one of the most influential factors in financial decisions.

We found that women pay more attention to the details of finances, such as when bills are due, while men focus more on budgeting strategies. This confirms the findings of Barber and Odean [4] who attribute gender differences to differences in prudence and risk-taking, however, the lack of statistical significance of our results suggests that these differences are not systemic.

In our research, we found a moderate effect of income and education and could not detect a significant relationship with the dimensions of financial mindfulness. This differs from the results of Lusardi et al. [5] which highlights better financial awareness and strategies among those with higher education. Studies on the relationship between educational attainment and financial mindfulness (e.g., Money Compass [11]) show that those with higher educational attainment pursue more conscious and long-term strategies.

Our study highlights that the region and type of residence have a significant impact on financial behavior. For example, residents of Budapest show higher financial awareness, while residents of smaller municipalities tend to use more traditional

financial solutions. This is consistent with Hofstede [8] findings that emphasize cultural and regional differences in financial decision-making. At the same time, studies based on OECD data (e.g. Demirgüç-Kunt et al. [12]) suggest that the uptake of digital financial tools can reduce regional differences.

One of our key findings is that regional affiliation plays the most important role in the choice of financial strategy, while age group and type of residence have only a moderate impact. This is in contrast to studies that emphasize age and income [5]. The role of family and community norms are also an important factor in international research, but this was not explored in detail in our study.

## 6. Conclusion

Demographic factors play a significant role in the financial awareness and strategic choices of individuals. Age, gender, income, education, cultural, and regional differences all influence financial behavior. However, by increasing financial education and awareness, it is possible to reduce these differences and strengthen financial stability. This paper explores the relationship between demographic factors and strategies for solving financial problems using OECD data from Hungary. The results confirm that financial behavior is closely related to age, gender, income, and region, although the impact of these factors varies. The canonical correlation analysis shows that region and age play a significant role in the choice of financial strategies, while the effects of education and income are more moderate. The research revealed regional differences in the development of financial culture in Hungary, with residents of Budapest showing higher financial awareness and more diversified strategies, while more traditional approaches predominate in rural areas.

The results suggest the development of targeted financial education programs and regional initiatives that take into account demographic factors. Further research is needed to explore in more detail the smaller demographic groups and technological factors that can contribute to increasing the financial stability of the Hungarian population.

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