

Financial Stability of Romanian Households in Light of the COVID-19 Pandemic Shocks

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Abstract

The present paper examines the effects of the Covid-19 pandemic on the financial situation of Romanian Households, using a simple random sampling without replacement. For a larger investigation of the survey results, that offers a new perception in looking at issues of financial stability, a binary logistic regression model was applied in order to econometrically quantify the relationship between determinants and respondents' behavior regarding the use of savings to pay bills and credits commitment during the coronavirus pandemic. The results of the model show that the respondents' household with four members and over used 2.75 times more savings to pay bills and credits commitment than those consisting of three or fewer members. It should be mention that, among the respondents participating in the research, slightly over 28 percent of the respondents have no emergency savings at all. In addition, less than a quarter of the responses (16.5 percent) indicate that staple foods were purchased with borrowed money in order to meet the basic consumption needs. The analysis of households' resilience to shocks is significant in the epidemic context, as the ability of households to cope with the shock determines how much consumption will decrease and whether debtors will register outstanding debts.

Keywords

COVID-19, survey, logistic regression model, financial stability.

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Introduction

Among the sources of statistical information (such as census, statistical reports, monographs), statistical surveys are currently a booming variant. The survey method is among the preferred procedures of obtaining data, due to the efficiency, the economy of obtaining data. The survey is a procedure by which a population is characterized, based on the research of a part of it, i.e. a sample, taken from the population of origin. The advantage of the method lies not so much in eliminating errors, but especially in pre-dimensioning errors and fixing the probability of statements (Isaic-Maniu, Mitrut and Voineagu, 1999).

The type of survey used in the study of socio-economic phenomena is established according to the degree of homogeneity of the studied community, as well as the form of community organization which is the subject of the research (Vatui et al., 2009).

To ensure that selective research achieves its objective, it is necessary to prepare it thoroughly, on the basis of a plan which makes it possible to obtain the most truthful information (Biji et al., 1999).

In the present paper, I propose to examine the effects of the Covid-19 pandemic on the financial stability of Romanian Households, using a simple random sampling without replacement. The research questions are: How has the COVID-19 pandemic affected households' finances? How has the Covid-19 pandemic affected households' consumption?

Studying the impact of the sanitary crisis on the financial situation of households is very important in terms of micro- and macro-prudential measures, given that the effects of the shocks induced by the coronavirus pandemic are visible in the balance sheets of credit institutions.

The study has the following structure. After the introduction, section 2 provides a brief overview of the related literature. Section 3 presents the research methodology and section 4 discusses the results of the model and the last section is dedicated to conclusions.

Review of the scientific literature

Currently, the impact of the COVID-19 pandemic on the financial situation of households is being investigated in an increasing number of scientific studies.

For example, Barrafrem Västfjäll and Tinghög (2020) investigated the role of pandemics in personal finance, concluding that individuals with a less pessimistic perception of the effect of COVID-19 on their private economic situation have greater financial well-being.

In another study, Szustak, Grado and Szewczyk (2021) investigated the effects of the pandemic on the finances of households in Poland, compared to other CEE countries (including Czech Republic, Slovakia and Hungary). Using the multiple linear regression method, the authors found that in Poland, in the period Q3 2018–Q1 2021, the gross domestic product, the level of unemployment and disposable income have the highest impact on the level of household savings.

In addition, Albacete et al. (2021) analysed the impact of COVID-19 on Austrian households, using data from the Austrian Corona Panel Project (ACPP) carried out by the University of Vienna. The authors noted that those households who had already found themselves in a difficult social, economic and financial situation before the COVID-19 crisis were the ones suffering the largest income losses (e.g. low-income households or households with an unemployed reference person).

Additionally, Azhgaliyeva et al. (2022) studied the impacts of the COVID-19 pandemic on household income in 10 out of 11 CAREC member countries: Afghanistan, Azerbaijan, Georgia, Kazakhstan, the Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan. The authors found that households in the lowest socioeconomic class, SEC1 (i.e., the poorest group), were more likely to get into financial difficulty than those households in the highest socio-economic class. On average, households with income from household businesses and/or self-employment were more likely to suffer from financial difficulty while there was no difference between households with and without income from agricultural production and from wages.

In completing the picture, Gopal and Malliasamy (2022) studied the transformation of savings and spending of rural households during COVID-19 in Tamil Nadu during May 2020. The results showed that all types of savings had a positive and significant relationship with the savings motive of rural households during COVID-19. Further, customary and spontaneous spending had a positive and significant relationship spending pattern of rural households. Rural inhabitants were interested in compromising their spending and other forms of savings to have more emergency savings.

Research methodology

Next, I set out to investigate the effects of the COVID-19 pandemic on the household financial situation, using a simple random sampling without replacement. In this regard, I used Survio, a tool for creating questionnaires and collecting responses. The online survey was distributed through social media platforms (i.e., Facebook, Twitter). The questionnaire was based on the "funnel" principle, starting with general questions and continuing with specific questions. The data were collected between Sunday, November 28, 2021 and Friday, December 31, 2021. A total of 109 people completed the questionnaire voluntarily. The data collected for this paper were anonymous. Once the data collection was completed, I checked the correctness of filling out the questionnaires. Then I entered the data into the computer. The database was created in Microsoft Excel and was the starting point for all further processing and analysis.

Results and discussions

- *Sample structure according to segmentation variables*

The questionnaire survey was completed by 42 men and 67 women (Table no. 1).

Table no. 1. Distribution of respondents by gender

Gender	Frequency	Percentage
Male	42	38.5
Female	67	61.5
Total	109	100

Out of the total number of respondents, 73.4 percent lived in urban areas (Figure no. 1). The highest weights of respondents who completed the survey belonged to the age groups 22-28 years (71.6 percent of the respondents) and 36-42 years (11.9 percent). Those aged 50 years and over accounted for a total of 1.8 percent (Figure no. 2).

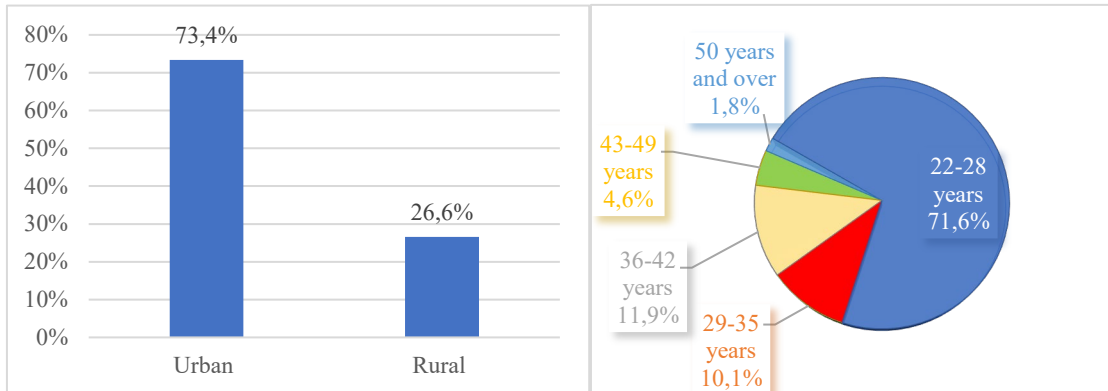


Figure no. 1. Structure of respondents by urban/rural area

Figure no. 2. Structure of respondents by groups of age

About 73 percent of the respondents in the sample stated that they have a job, 43.1 percent of them working in the private system (Table no. 2), mainly in the following activities of the national economy: wholesale and retail, repair of motors vehicles and motorcycles; transport and storage; information and communications.

Table no. 2. Distribution of respondents by labour status

Labour status	Frequency	Percentage
Farmer	2	1.8
Self-employed in non-agricultural activities	2	1.8
Employer	3	2.8
Employee in the public system	26	23.9
Employee in the private system	47	43.1
Unemployed (only studying)	29	26.6
Total	109	100

Table no. 3 indicates that most of the respondents have three and two family members (34.0 percent, respectively 24.8 percent), while only 4.5 percent of them have five or more family members. In addition, only 30 of the respondents, representing 27.5 percent of the total respondents who participated in the survey, have one or two children under 18 years of age upheld by their families (Figure no. 3).

Table no. 3. Distribution of the respondents according to their family sizes

Number of members in the family	Frequency	Percentage
1	16	14.7
2	27	24.8
3	37	34.0
4	24	22.0
5	1	0.9
6	2	1.8
7	2	1.8
Total	109	100

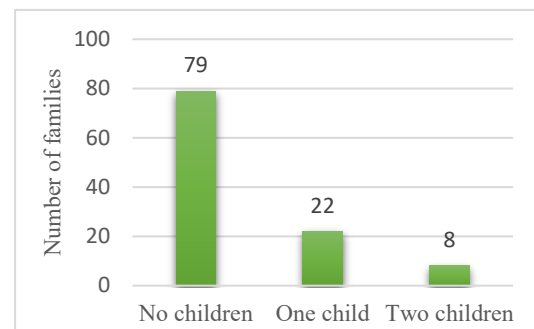


Figure no. 3. Numbers of children under 18 years in the families of the respondents

Figure no. 4 reflects that 34.9 percent of the respondents' families earned between lei 2,501 and lei 5,000 per month. The average income of families with 1 child and 2 children exceeded the average income of the families without children by 25.5 percent and 47.5 percent, respectively (Figure no. 5).

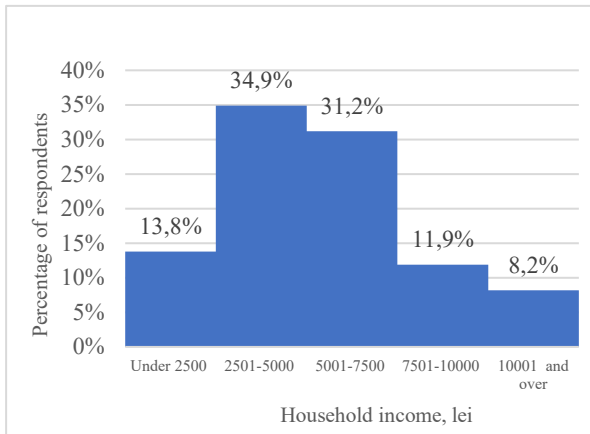


Figure no. 4. Structure of the respondents by household income

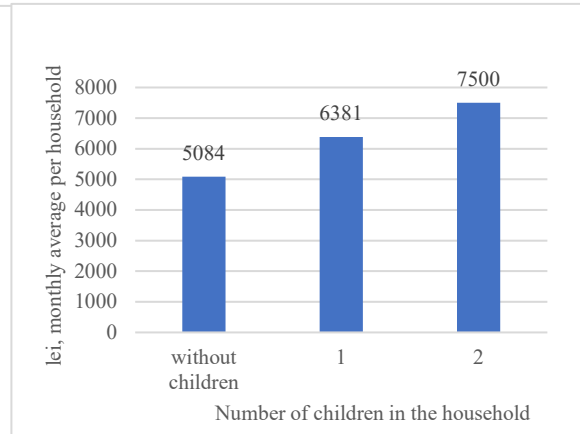


Figure no. 5. Distribution of the respondents by household income and by number of children under 18 years

• *Analysis of the impact of Covid-19 on households' financial situation and consumption*

As can be seen in figure no. 6, over 65 percent of the respondents surveyed said that the coronavirus SARS-CoV-2 led them to increase their purchase expenses for medical products, equipment and medicines, products for current household cleaning and up-keeping and food products, in the context in which the educational activity was performed online. Instead, the biggest drop in spending was on hotels, restaurants and cafes.

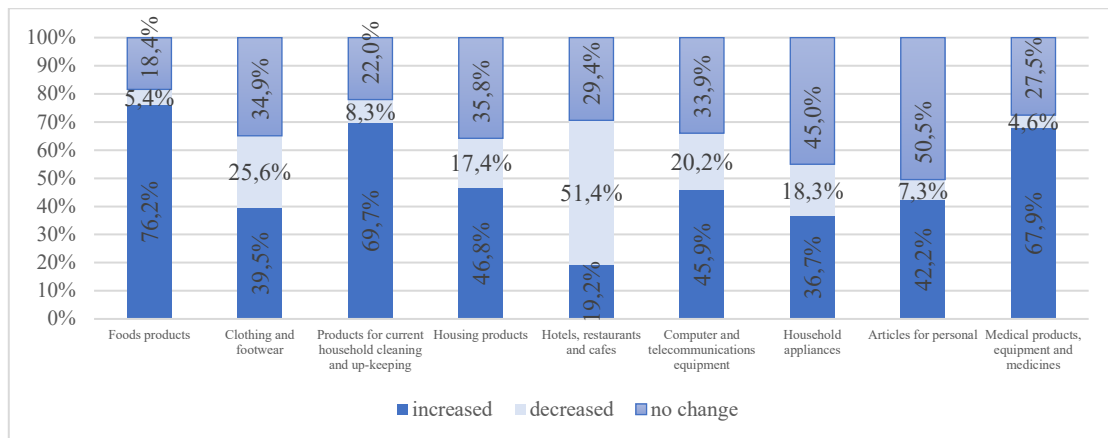


Figure no. 6. Structure of the respondents according to changes in spending patterns since the coronavirus pandemic began

Among the respondents participating in the research, 34.9 percent affirmed that in their households' amounts were withdrawn from the savings to pay bills and credits commitment. It should be pointed out that slightly over 28 percent of the respondents have no emergency savings at all (Table no. 4).

Table no. 4. Distribution of respondents according to the responses to the following question: *In the last four weeks, in your household, have the savings been used to pay bills and credits commitment?*

	Frequency	Percentage	Cumulative percentage
Yes, I used savings	38	34.9	34.9
I have no savings	31	28.4	63.3
No, but I have savings	40	36.7	100
Total	109	100.0	

Table no. 5. Distribution of the respondents according to the responses to the following question: *In the last four weeks, have credit cards, an overdraft or money borrowed from family and friends been used in your household to buy staple foods (bread, sugar, oil, fruits, etc.)?*

	Frequency	Percentage	Cumulative percentage
Yes	18	16.5	16.5
No	87	79.8	96.3
I don't know/I don't answer	4	3.7	100
Total	109	100	

Less than a quarter of the responses (18, respectively 16.5 percent) indicate that staple foods were purchased with borrowed money in order to meet the basic consumption needs (Table no. 5).

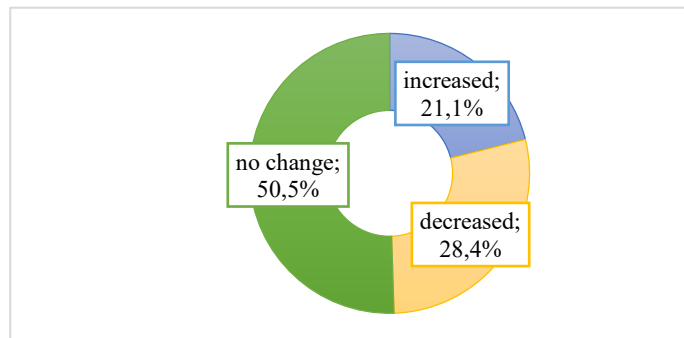


Figure no. 8. Structure of the respondents according to the responses to the following question: *How has your income changed since the beginning of the pandemic?*

Figure no. 8 shows that a little over half (50.5 percent) of respondents' incomes have not changed since the beginning of the pandemic.

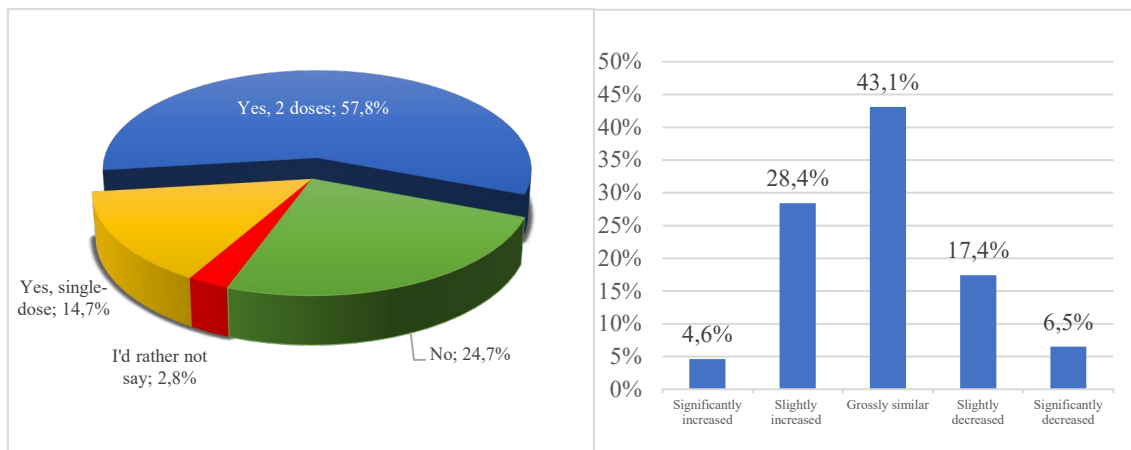


Figure no. 9. Structure of the respondents according to the responses to the following question: *Have you been vaccinated against COVID-19?*

Figure no. 10. Structure of the respondents according to the responses to the following question: *How do you think the financial stability of your household will improve in the next 3 months?*

Almost three quarters of the respondents (72.5 percent) included in the survey were vaccinated against COVID-19, of which 57.8 percent received 2 doses (Figure no. 9). It should be noted that 23.9 percent of respondents were pessimistic about resilience to shocks in terms of financial stability over the next 3 months, given the prolonged health crisis (Figure no. 10).

• *Data analysis using a binary logistics regression model*

Going further with the analysis, for a larger investigation of the survey results, I utilized a binary logistic regression model in order to examine the relationship between determinants and respondents' behaviour regarding the use of savings to pay bills and credits commitment during the COVID-19 pandemic. It should be noted that the model is similar to that applied by Wilson and Lorenz (2015). The variables that were considered are presented in Table no. 6.

Table no. 6. The variables of the regression model

Indicator	Description	Types of Variables
SBC	Respondent's household that used savings to pay bills and credits commitment	Dichotomous, nominal
GR	Gender of the respondent	Dichotomous, nominal
MHI	Monthly average net respondent's household income	Ordered polytomous
HSR	Size of the respondent's household	Dichotomous, nominal

The variable *respondent's household that used savings to pay bills and credits commitment* (SBC) took the value 0 if the respondent's household did not use amounts withdrawn from the savings in view to cover the expenditure or the value 1 if the respondent's household used. The variable *gender of respondent* (GR) was measured with 0 if the respondent is female and 1 if the respondent is male. The variable *monthly average net respondent's household income* was measured from 1 if the respondents' household earned under lei 2,500 per month to 5 if the respondents' household earned lei 10,001 and over per month. The variable *size of the respondent's household* (HSR) recorded the value 0 if the respondent's household contains three or less members and 1 if the respondent's household has four members and over.

Table no. 7 shows the results of binary logistic regression model.

Table no. 7. Results of binary logistic regression model

	B	S.E.	Wald	df	Sig.	Exp (B)
GR	.526	.446	1.394	1	.238	1.692
MHI	-.519	.206	6.335	1	.012	.595
HSR	1.012	.454	4.968	1	.026	2.751
Constant	-1.675	1.051	2.538	1	.111	.187

In the context of the COVID-19 pandemic, the coefficient of the variable MHI is statistically significant, p-value is less than the significance level ($\alpha = 0.05$). The inverse relationship between SBC and MHI is in line with economic theory, the shortage of financial resources has led to a fairly large share of respondents' households in the sample to use savings to pay the bills on time, especially services related to housing and credits commitment. In addition, HSR significantly influences GR. The direct relationship between them suggests that the respondents' household with four members and over used 2.75 times more savings to pay bills and credits commitment than those consisting of three or fewer members. Instead, the coefficient of the variable GR is not statistically significant, in the context in which, based on GEO No. 37/2020, the debtors who have encountered temporary financial difficulties had the possibility of deferring the payment of instalments for a determined period. Moreover, companies that suspended their activity received technical unemployment benefits for employees.

Table no. 8. Diagnostic tests of the binary logistic regression model

Omnibus Tests of Model Coefficients			
	Chi-square	df	Sig.
Step	12.900	3	.00
Block	12.900	3	.00
Model	12.900	3	.00
Model Summary			
-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square	
130.397 ^a	.112	.153	

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Next, we applied the Omnibus tests of model coefficients → Chi-square values: 12.9 (df = 3; Sig = 0.00; n = 109). The model explained between 11.2 percent (Cox & Snell R-squared) and 15.3 percent (Nagelkerke R square) of the variance in respondents' behaviour regarding the use of savings to pay bills and credits

commitment during the COVID-19 pandemic and correctly classified 68.8 percent of the cases (Table no. 8).

Conclusions

In the present paper, I investigated the effect of the COVID-19 pandemic on the financial situation of Romanian households, using a simple random sampling without replacement. The results of the survey showed that 28.4 percent of respondents have no emergency savings at all. It is worrying that 16.5 percent of respondents indicated that staple foods were purchased with borrowed money in order to meet the basic consumption needs. It should be noted that only 4.6 percent of respondents were very optimistic about resilience to shocks in terms of financial stability in the next 3 months after completing the questionnaire, given the prolonged health crisis. In addition, the results of the binary logistic regression model show that the respondents' household with four members and over used 2.75 times more savings to pay bills and credits commitment than those consisting of three or fewer members.

I believe that the extension of this study will contribute to a better understanding of the factors influencing the evolution of households' net wealth since the onset of the pandemic.

References

- Albacete, N., Fessler, P., Kalleitner, F. and Lindner, P., 2021. How has COVID-19 affected the financial situation of households in Austria? *Monetary Policy and the Economy*, Oesterreichische National Bank (Austrian Central Bank), Q4/20-Q1, pp.111-130.
- Azhgaliyeva, D., Mishra, D., Long, T. and Morgan, P., 2022. Impacts of COVID-19 on households in CAREC Countries. *ADB Working Papers No. 1298*, Asian Development Bank Institute.
- Barrafrem K., Västfjäll, D. and Tinghög, G., 2020. Financial well-being, COVID-19, and the financial better-than-average-effect. *Journal of Behavioral and Experimental Finance*, 28, 2020, 100410. <https://doi.org/10.1016/j.jbef.2020.100410>
- Biji, E.M., Wagner, P., Lilea, E., Petcu, N. and Vatui, M., 1999. *Statistica*, Bucharest: Didactica si Pedagogica.
- Cox, D.R. and Snell, E.J., 1989. *Analysis of Binary Data, 2nd ed.* London: Chapman and Hall/CRC.
- Gopal, S. and Malliasamy, P., 2022. Transformational Impact of COVID-19 on Savings and Spending Patterns of Indian Rural Households. *SAGE Open*, 12(1). <https://doi.org/10.1177/21582440221079885>
- Isaic-Maniu, A., Mitrut, C. and Voineagu, V., 1999. *Statistica pentru managementul afacerilor*. Bucharest: Economica.
- Nagelkerke, N. J. D., 1991. A note on a general definition of the coefficient of determination. *Biometrika*, 78, pp. 691–692.
- Szustak, G., Grado, W. and Szewczyk, L., 2021. Household financial situation during the COVID-19 pandemic with particular emphasis on savings — An evidence from Poland compared to other CEE states. *Risks*, 9(9), 166. <https://www.mdpi.com/2227-9091/9/9/166>
- Vatui, M., Lilea, E., Goschin, Z. and Voineagu, V., 2009. *Statistica*. Bucharest: ASE.
- Wilson, J.R. and Lorenz, K.A., 2015. *Modeling Binary Correlated Responses using SAS, SPSS and R*. Switzerland: Springer.