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THE IMPACT OF THE COVID-19 PANDEMIC ON THE PERSONAL FINANCE - A COMPARATIVE ANALYSIS OF POLES AND SLOVAKS

Krzysztof Waliszewski [1]

Abstract

The COVID-19 pandemic, due to its prevalence, has affected all spheres of socio-economic life, in particular household finances. The aim of the article is to present the impact of the pandemic on the financial situation of Poles and Slovaks who use robo-advisory services, including their financial behaviour and investments. The methodology of the article involves literature analysis, statistical data and the author's own empirical survey. The empirical study aims to verify the research hypothesis: the COVID-19 pandemic influenced the personal finances of Poles and Slovaks who use robo-advice, although this impact was not the same in all areas of personal finance, nor in relation to investment plans after the pandemic. During the pandemic, most of the respondents had lower expenses, but in the future more than half of the respondents did not plan to change the amount of their expenses. Most of the surveyed people increased their savings during the pandemic. Poles more often admitted that they invested more during the pandemic, while more Slovaks than Poles invested the same amount during the pandemic. On the other hand, the Slovak respondents declared that after the pandemic they intend to invest greater sums than Poles indicated.

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Introduction

As a sudden event that one might classify as a black swan, the COVID-19 pandemic has affected all institutional sectors of the national economy due to its universality, including the household sector in particular (Solarz & Waliszewski, 2021). The closure of individual industries related to large-format trade, tourism and recreation, gastronomy, culture and entertainment, as well as lockdown and recommendations to stay at home which resulted in lower incomes and reduced savings in some cases, while others maintained the same level of income but cut expenses by performing activities related to purchasing, entertainment and culture at home. Growing uncertainty about the future meant that banks raised their creditworthiness requirements and households were less inclined to borrow, especially in the form of long-term mortgage loans.

The COVID-19 pandemic has tested personal finance management skills and confirmed the validity of financial planning in times of prosperity. Pre-pandemic savers had a certain level of financial security during the pandemic period. In order to deal with a crisis situation, it is necessary to have specific knowledge and financial skills that can be put to use should the need arise. In this context, two concepts emerge: household financial security and household financial resilience. Financial resilience is the declared, probable capability of households to withstand financial shocks and their ability to obtain funds for unforeseen expenses. This mainly refers to unforeseen events that generate a sudden and immediate financial burden – e.g., accident, illness, theft, or temporary loss of income. On the other hand, financial security is the ability to deal with financial problems of a medium and long-term nature caused by circumstances such as job loss, disability, house fire or retirement (Solarz, 2015). When it comes to the financial problems that face households as a result of a pandemic, the literature refers to a concept known as financial fragility. The concept of household financial fragility emerged in the United States immediately after the 2007–2008 financial crisis. It grew out of the need to understand whether the lack of capacity of households to face shocks could itself become a source of financial instability, in addition to risks to the stability of banks and the greater financial system (Demertzis et al., 2020). There are large and similar shares of the population across European countries that are likely to suffer from the economic fallout of containment measures – albeit through different channels (Gambacorta et al., 2021). Another study indicated that during the pandemic many households have seen a reduction in discretionary spending; a significant portion of the middle income cohorts observed a considerable rise in their overall savings during the period of the pandemic and have channeled their extra cash towards investments of different kinds (Chiplunkar et al., 2021).

Analysis of the literature reveals a research gap in terms of the impact of the pandemic on the personal finances of robo-advice users. Due to the purpose of this article, special attention will be paid to the financial behaviour of robo-advice users and their predicted investment plans for the post-pandemic period.
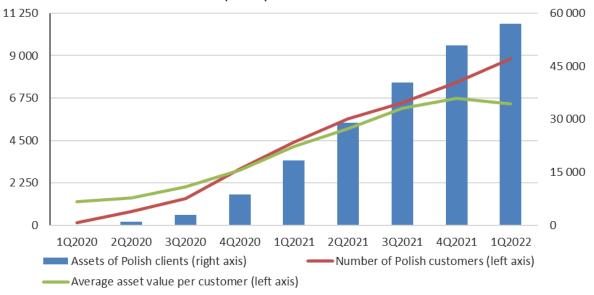
Literature review

Financial advice in the wealth management domain is based on human interactions and trust between the advisor and the customer, which is a time-consuming and costly process and has led to mostly high net worth individuals using these services (Torno et al., 2021). One particularly dominant phenomenon among digitally enabled financial technologies (FinTech) is robo-advice (RA) (Gomber et al., 2017). Robo-advice marks digital transformation of wealth management for retail investors. Robo advisors (RAs) guide investors through an automated financial advice process, recommend personalised portfolio assignments based on their risk-affinity and financial goals, and monitor as well as re-balance their portfolios automatically over time (Jung et al., 2018; Sironi, 2016). Therefore, RAs aim to democratise advisory services by giving more people access at a low price and with low entry requirements. Robo-advisors are algorithmic wealth management tools. These technical innovations rely on AI to efficiently allocate investments using exchange-traded funds (ETF) and index funds due to their simple cost structure and passive approach to portfolio management (Abraham et al., 2019). Their algorithms conceptualise Markowitz's portfolio theory and quantify priors based on online investment questionnaires, covering financial goals, risk preferences, investment knowledge, demographics, as well as firm-specific items (e.g., faith-based investments) (Piehlmaier, 2022). Robo-advisors can help users to make better informed and less biased decisions. However, Robo-advisors activate the investors' automatic system processes. The resulting passive investment approach could end up alienating investors from the stock market, muddying their understanding of the investment process, which could widen a gap between different clusters of investors (Lisauskiene & Darskuviene, 2021). Types of robo-advice at Narodna Banka Slovenska are the following: investment advice (including, for example, investment advice by means of signalling); portfolio

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management services provided, for example, by means of automated portfolio management (signal trading, social trading, PAMM).

The first entity in Poland to offer a robo-advisory service was the Slovak brokerage house Finax, operating since April 2017 in Slovakia, which has been operating a branch in Poland since April 2022 and is supervised by the Polish Financial Supervision Authority. Figure 1 below presents the most important statistics re-garding the number of clients in Poland and assets under management. These data confirm the rapid development of interest in the robo-advice service offered by Finax, as evidenced by a growth in assets under management from approximately EUR 160 thousand to around EUR 57 million, an increase in the number of customers from 126 to nearly 9 thousand, as well as the average value of assets per customer from about EUR 1,250 to EUR 6,450 during 1Q 2020–Q1 2022.

Figure 1: Number of clients, assets under client management (in thousand EUR) and average assets per client (in EUR) Finax in Poland

Source: Own study based on data from Finax.

A previous study of Finax customers (Warchlewska & Waliszewski, 2021) revealed the key robo-advice benefits for users and a typical Finax customer profile emerged. As many as 86% of clients considered the advantage to be the opportunity to make passive investments; low costs were mentioned by 74%, low investment amounts by 68%, removal of emotion from investment decisions by 47%, and wide availability of services by 30%. A typical user of robo-advisory services is 35.5 years old; 81% are men, 19% women, whose average portfolio consists of 71% shares and 29% bonds with an average investment period of 16 years, and their investments have various purposes: 66% for building wealth, 19% for retirement, 14% for their children's future, 13% to create some financial reserves, and 5% for real estate purchases. Furthermore, based on the data analysis in previous research it was concluded that technological sophistication in personal finance in the studied countries of Eastern and Central Europe was at a high level, as evidenced by the high concentration of assets and the growing number of robo-advice users (Waliszewski & Warchlewska, 2021). One of the reasons for the differences in the financial behavior of Poles and Slovaks may be the level of financial literacy. As Cwynar (2021) proved, the countries of Eastern Europe differ in terms of political, social, economic, and culture-related determinants.

Figure 2 presents the same data for Slovakia as for Poland. Due to the longer history of robo-advice in Slovakia, the value of accumulated assets, the number of clients and the average value of assets per client are higher than in Poland and show an upward trend. Between Q4 2020 and Q4 2021, growth was observed for assets under management from EUR 79 to 285 million, an increase in the number of clients from approximately 14 thousand to 31.7 thousand and a rise in assets per customer from EUR 5.7 thousand to EUR 9 thousand.
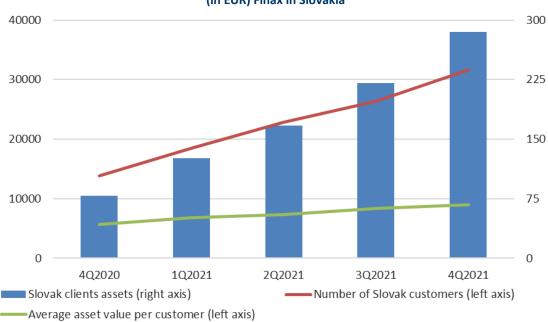
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Figure 2: Number of clients, assets under client management (in million EUR) and average assets per client (in EUR) Finax in Slovakia

Source: Own study based on data from Finax.

There has been a fall in expenditure compared to the period before the pandemic, which may be explained by a lack of opportunity to spend money, fall in revenue and freezing of expenditure for fear of an uncertain future. There has also been a change in the way payments are made. Payment cards and purchases made over the Internet are increasingly popular. In the face of the COVID-19 pandemic, consumers are trying to save more, but not everyone can afford to do so. The long-term added value of this paper is its international comparison of change in the model of financial behaviour of households caused by the shock of the pandemic (Waliszewski & Warchlewska, 2021). There is no doubt that the pandemic had an impact on household circumstances, which is mainly visible in the labour market (rising unemployment), and thus the question arises of the extent to which households' approaches to financial decisions have changed because of this situation. The propensity to save was taken into account as a main aspect of this problem, because it has, among others, a big impact on financial well-being in a broader sense (Szustak et al., 2021). Another piece of research conducted among Poles indicated that during

ing the crisis, people who have more debt literacy are better prepared to manage credit liabilities; in this situation, financial literacy is less important. In addition, the type of credit experience turned out to be significant. Respondents who have experience with consumer loans (potentially high-margin products) are more likely to have debt repayment problems than those with mortgage loan experience (Kurowski, 2021).

Research methodology

The survey was conducted on a group of N = 438 Poles and N = 1059 Slovaks using a Google Forms online survey with the support of Slovak brokerage house Finax in May–July 2021. The Polish citizens were aged between 20 and 77 with an average of M = 36.29 and a deviation of ± 9.49 years, while the median in this group was 35 years old. Slovak citizens were aged between 19 and 74 with an average of M = 36.60 years and a deviation of ± 9.25 years, and the median in this group was also 35 years old. A Mann-Whitney U test revealed no differences between the groups in terms of age distribution Z = 0.84; p = 0.402; r = 0.02.

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Table 1: Comparative age analysis with Mann-Whitney U tests between studied groups

		Min	Max	M	SD	Me	Z	p	r
Age	Poland	20	77	36.29	9.49	35	0.84	0.402	0.02
	Slovakia	19	75	36.60	9.25	35			

Min - minimum, Max - maximum, M - mean, SD - standard deviation, Me - median, Z - Mann-Whitney U statistic,
p - level of statistical significance, r - strength of the relationship
Source: Own elaboration.

The majority of the study group were men - 84.5% of the Polish and 83.8% of the Slovak group. Most of the respondents had higher education (82.2% of Poles and 74.5% of Slovaks), followed by people with secondary education with a high school diploma (14.8% of Poles and 23.9% of Slovaks), and more rarely with a secondary education without a high school diploma (3% of Poles and 1.6% of Slovaks). In terms of education, there were slight differences between the groups, $p < 0.001$. The Slovak group contained more economically active people (93.8%) than the Poles (90.2%), and this difference was statistically significant $p < 0.001$, but differences between Poles and Slovaks in terms of their place of residence $p < 0.001$; V = 0.23. The Poles featured a greater percentage of inhabitants of large cities (66.9%) than the group of Slovaks (42.3%). On the other hand, the Slovaks had a greater percentage of inhabitants of small towns and villages. The study groups did not differ in terms of household size - most of the respondents lived in households of two, three or four people. The mean average net income per person in the household was also compared between the groups, and this difference was statistically significant $p < 0.001$ and moderate V = 0.20. The Poles had a higher average

Table 2: Characteristics of the groups of respondents with the results of Pearson's χ2

		Poland		Slovakia		p	V
		N	%	N	%		
Sex	Women	68	15.5%	172	16.2%	0.731	0.01
	Men	370	84.5%	887	83.8%		
Education	Secondary without high school diploma	13	3.0%	17	1.6%	0.000***	0.11
	Secondary with high school diploma	65	14.8%	253	23.9%		
	Higher	360	82.2%	789	74.5%		
Professional situation	Unemployed	15	3.4%	10	0.9%	0.005**	0.09
	Student	17	3.9%	38	3.6%		
	Professionally Active	395	90.2%	993	93.8%		
	Retired	11	2.5%	18	1.7%		
Place of residence	Village	42	9.6%	224	21.2%	0.000***	0.23
	Town up to 50,000 inhabitants	53	12.1%	248	23.4%		
	Town with 50-150,000 inhabitants	50	11.4%	139	13.1%		
	City with more than 150,000 inhabitants	293	66.9%	448	42.3%		
Number of people in household	One	67	15.3%	134	12.7%	0.131	0.07
	Two	149	34.0%	320	30.2%		
	Three	95	21.7%	230	21.7%		
	Four	102	23.3%	293	27.7%		
	Five and more	25	5.7%	82	7.7%		
Average monthly income (net) Per person in household in Euro	Up to 250	11	2.5%	2	0.2%	0.000***	0.20
	251-500	25	5.7%	50	4.7%		
	501-750	51	11.6%	141	13.3%		
	751-1000	50	11.4%	193	18.2%		
	1001-1500	94	21.5%	332	31.4%		
	1501 and more	207	47.3%	341	32.2%		

*** $p < 0.001$ ** $p < 0.01$ *$p < 0.05$
V - strength of Cramer's V relationship, p - level of statistical significance
Source: Own elaboration.

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Assessment of the impact of the pandemic on the financial situation of poles and slovaks – study outcomes

Table 3 presents the results of Pearson's χ2 test of the analyses to compare the groups with regard to the financial impact of the pandemic. The pandemic did not adversely affect the finances of 50.5% of Poles and 60.8% of Slovaks (statistically significant difference χ2 (1) = 13.62; p < 0.001; V = 0.10), and an increase in income despite the pandemic occurred in 37.4% of Poles and 30.5% of Slovaks (statistically significant difference χ2 (1) = 6.80; p < 0.01; V = 0.07). A decrease in income during the pandemic was observed by 15.1% of Poles and 12.5% of Slovaks. Therefore, most of the people surveyed did not feel the impact of the pandemic on their finances or their financial situation improved compared to the pre-pandemic period.

Table 3: The results of analyses using Pearson's χ2 tests on the impact of the pandemic on the financial situations of Poles and Slovaks

How did the COVID-19 pandemic influence your	Poland	Slovakia	χ^2	p	V
I received less income	15.1%	12.5%	1.83	0.176	0.03
I lost my job	4.6%	2.7%	3.27	0.071	0.05
I had difficulty keeping up with loan repayments	0.5%	0.1%	2.03	0.154	0.04
The pandemic hit my company	7.1%	4.9%	2.78	0.095	0.04
The pandemic did not negatively affect my finances	50.5%	60.8%	13.62	0.000***	0.10
My income rose in spite of the pandemic	37.4%	30.5%	6.80	0.009***	0.07

*** p < 0.001 ** p < 0.01 *p < 0.05
V - strength of Cramer's V relationship, χ2 - Chi-square statistic, p- level of statistical significance
Source: Own elaboration.

The study groups were also compared in terms of how the pandemic affected financial behaviour, and these results turned out to be statistically significant at p < 0.0001 (Table 4). During the pandemic, most of the respondents had lower expenditure (67.4% of Poles and 70.5% of Slovaks), but more than half of the re-spondents did not plan to change their level of expenditure going forward (53.0% of Poles and 59.1% of Slovaks). During the pandemic, most of the respondents increased their savings (63.9% of Poles and 61.7% of Slovaks).

Table 4: The results of Pearson's χ2 test analyses comparing Poles and Slovaks in terms of how the pandemic impacted financial behaviour

Survey questions	Country	Fewer expenses / less savings	No change	More expenses / savings	χ^2	p	V
How did the COVID-19 affect your expenses?	Poland	67.4%	32.6%	0.0%	38.29	0.000***	0.14
	Slovakia	70.5%	24.8%	4.7%			
How did the pandemic affect your savings?	Poland	12.1%	24.0%	63.9%	24.24	0.000***	0.13
	Slovakia	5.8%	32.7%	61.7%			
What are your spending plans for the future compared to what you were spending before the pandemic?	Poland	28.5%	53.0%	18.5%	35.31	0.000***	0.15
	Slovakia	33.0%	59.1%	7.9%			

*** p < 0.001 ** p < 0.01 *p < 0.05
V - strength of Cramer's V relationship, χ2 - Chi-square statistic, p- level of statistical significance
Source: Own elaboration.

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Comparisons were also made between Polish and Slovak groups on how the pandemic impacted their investments. The study groups differed in a statistically significant way in terms of shifts in investment habits during the pandemic χ2 (3) = 21.26; p < 0.001; V = 0.12 as well as investment plans post pandemic χ2 (3) = 9.71 p < 0.05; V = 0.08. Poles tended to state that they invested more during the pandemic (70.1% vs. 65.9%), while Slovaks were more likely than Poles to have invested the same amount during the pandemic (27.7% vs. 18.9%). On the other hand, the surveyed Slovaks declared that after the pandemic they intend to invest more than Poles (57% vs. 49.8%).

Table 5: Pearson's χ2 test results analysis to comparing groups of Poles and Slovaks in terms of how the pandemic affected investments

Survey questions	Country	Poland	Slovakia	$χ^2$	p	V
How did your investment habits change during the pandemic?	I didn't invest at all	7.1%	3.2%	21.26	0.000***	0.12
	I invested less	3.9%	3.2%			
	I invested the same	18.9%	27.7%			
	I invested more	70.1%	65.9%			
What are your investment plans post-pandemic?	I am not going to invest	2.3%	0.9%	9.71	0.021*	0.08
	I will invest less	3.2%	2.6%			
	I will invest same	44.7%	39.5%			
	I will invest more	49.8%	57.0%			

*** p < 0.001 ** p < 0.01 *p < 0.05
V - strength of Cramer's V relationship, χ2 - Chi-square statistic, p - level of statistical significance

Source: Own elaboration.

Conclusions

The period of the corona-crisis and pandemic has tested personal finances and household budget management skills, including income, expenses, savings and investments. The results of the study show that both Poles and Slovaks handled the shock of the COVID-19 pandemic quite well. Certainly, some behavioural traits that emerged during the pandemic – including tighter monitoring of the household budget and more frequent use of financial applications – may become permanent after the pandemic. The robo-advice user survey confirmed generally observed trends during the pandemic regarding reduction of expenses, increased savings and the willingness to invest, but the scale of reactions in Poland and Slovakia was different. Further-more, in terms of post-pandemic investment plans, the percentage of people who expressed the intention to invest more exceeds those who claim they will invest the same or less despite the fact that the Poles and the Slovaks differed in this respect. The limitations of the empirical study carried out include the limited cuts to Finax customers, and thus the lack of representative-ness of the sample in relation to the general population of Poles and Slovaks. In the future, comparative and representative studies can be planned, and it can be determined whether the declarations of Poles and Slovaks regarding expenses, savings and investments in the post-pandemic period proved correct, and if not, what were the reasons and conditions for this.

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