

## COVID-19 PANDEMIC AND ITS IMPACT ON HOUSEHOLD FINANCIAL BEHAVIOR IN INDONESIA

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**Abstract:** *The global pandemic, previously only a health crisis, has been slowly causing the economic crisis. The government policy to lockdown and apply social distancing affected the social and economic lives of the countries. The policy affected businesses and led companies to lay off their employees. Many households were suffering economically because of this pandemic. This research aims to identify the changes in household financial behaviour during the covid-19 pandemic. This research is vital as it is the first to explore household financial behaviour during a pandemic which uses a quantitative method of an online survey with 635 participants in Indonesia. Participants' perceptions on their behaviour during the most challenging time of covid-19 (mid-2020) were compared to their current behaviour and the differences were analysed thoroughly. The results show that spending and insurance behaviour did not change during the pandemic, but the saving and investment behaviour increased significantly during the pandemic. Pandemic warns people that they need investment and savings to survive in an emergency. As the pandemic is still ongoing and there were different government policies between the first and fourth waves, the impact on the economy and households needs to be examined in a more extended period.*

**Keywords:** household finance, covid-19, pandemic, financial behaviour, Indonesia.

**JEL classification:** D14, D91, G41.

### 1. Introduction

The first outbreak of covid-19 started in December 2019 in Wuhan, China. The flu-like symptom diseases from the virus made it challenging to identify the virus carrier. In March 2020, the epidemic spread massively worldwide, and WHO declared it as a pandemic. The number of cases in mid-January 2021 shows that more than 95 million people were infected globally, including more than two million deaths.

As the government cannot control the spread of the virus, each country is slowly applying a lockdown and social distancing. The government policy slows down the spread of the virus and prevents the health care from running out of its capacity. The health crisis slowly turns into an economic crisis because of the government policy that directly impacts the business sector. This pandemic affected the banking and insurance sector, the governmental and public spheres, the financial market, the financing, and cost of capital as well (Goodell,

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2020). The lockdown and social distance policy lead to businesses' inability to run as usual. This policy has directly impacted many people who work in some industries. Slowly companies cannot pay the employees' salaries, and they must lay them off. That happens all around the world. So, the issue in household finance is essential to find in this pandemic era. This research contributes to identify the changes of financial decisions during the covid-19 pandemic.

Several previous researchers examined the impact of the covid-19 pandemic on macroeconomics, such as the stock market at the aggregate level (Corbet, Larkin and Lucey, 2020; Prabheesh, KP, 2020; Sharma, 2020; Zhang, Hu and Ji, 2020). The covid-19 pandemic affects income and poverty, also found in the US (Han, Meyer, and Sullivan, 2020). The income and wealth loss reports were also studied in the US during the pandemic by many researchers (Coibion, Gorodnichenko, and Weber, 2020). The US consumer spending behaviour has substantially changed due to the pandemic (Baker et al., 2020).

In microeconomics, several researchers assessed the impact of covid-19 on financial behaviour: investment behaviour on the stock market decisions (Budiarso *et al.*, 2020; Priem, 2020; Wu, Yang, and Zhao, 2020; Talwar *et al.*, 2021) and the impact on people's financial vulnerability (Midões and Seré, 2020).

Indonesia is the fourth most populated country. Right now, it has 275 million residents. This country is interesting to be examined as they represent how financial behavior is changing in developing countries, especially in Asia. The present research identifies changes in people's financial decisions during the covid-19 pandemic. As the health crisis turns into an economic crisis, it is essential to determine how household finance is changing. This research contributes to household finance in several ways. First, this research is among the first to identify the impact of covid-19 pandemic on the households' financial decisions. Second, this research is doing the smallest scale of measurement: the household as the key player in the economic system. Third, this research comprehensively identifies several financial decisions: budgeting, investment, saving, and insurance.

## 2. Literature review

The health crisis caused by the covid-19 virus has not directly impacted economics. A government policy led to the reduction of economic flow in the countries. As people had to stay at home, traveling was restricted, and the cancellation of mass gatherings directly impacted the economy (Horowitz, 2020). The policy directly affected several sectors, such as the travel industry, hospitality, sport, bank, financial market, events, entertainment, health, and education (Ozili and Arun, 2020). The different timing of local lockdowns during the pandemic has been related to household spending and at a macroeconomic level (Coibion, Gorodnichenko, and Weber, 2020). Like so many sectors which were impacted due to covid-19, examining the effects on the smallest unit of economics (i.e. household economics) is critically essential. Without spending from the households, the country's economy may never run as usual.

Several researchers have researched the impact of the covid-19 pandemic on the financial market. The effect on the volatility of the Chinese stock market and cryptocurrency was found during this financial stress period, and also the reason beyond that happening was also documented (Corbet, Larkin and Lucey, 2020). In the pandemic period, the financial contagion also happens in the Chinese and G7 financial and nonfinancial stock returns (Aktaruzzaman, Boubaker, and Sensoy, 2020). It was also found that the current epicentre of the virus has a significant relation to stock market volatility and the decline of the global stock market (Ali, Alam, and Rizvi, 2020).

There is some literature on financial behaviour during the covid-19 pandemic. Investor behaviour in the capital market is the most prevalent issue which was assessed in this pandemic (Budiarso et al., 2020; Linardi, 2020; Priem, 2020; Putri, Xu and Akwetteh, 2020;

Wu, Yang and Zhao, 2020; Zhang, Hu and Ji, 2020; Talwar et al., 2021). The other topic is the examination of household spending response during the pandemic (Baker et al., 2020), the household liquidity constraint (Li et al., 2020), the impact on income and poverty (Han, Meyer and Sullivan, 2020), the impact on household financial vulnerability (Midões and Seré, 2020), and financial planning (Fox and Bartholomae, 2020). The first contribution of the present research is to comprehensively examine several household financial decisions, such as budgeting, saving, investment, and insurance decisions.

Previous research examining the pandemic's impact on household economics has been found in American households, using consumer belief to determine society's expectations of the economic fallout during the pandemic (Dietrich et al., 2020). They measure society's expectations in the national GDP, inflation, duration of the pandemic, financial decisions, fear of losing jobs, food supplies, and Chinese products (Knotek et al., 2020). This research contributes to identify the shift of financial behaviour during the covid-19 pandemic, especially in Indonesia as a developing country.

During a difficult time in the global pandemic, people lost their jobs, and the worldwide economic slowdown made people financially vulnerable. This forces people to be more careful in spending their resources. So, based on that argument, the **first hypotheses are: People have become more careful in their spending during the covid-19 pandemic compared to the era before the pandemic.**

In the covid-19 pandemic, more people realize that relying on only one source of income puts them at risk of bankruptcy. Whenever their company or their only source of income stops working, it will hit them hard financially. The pandemic teaches many people that they need to have another income source and emergency funds to secure their lives. So, more people start learning about investment and begin to put their money into emergency funds. Based on that argument, **the second hypothesis is that people have become more attracted to saving and investment during the covid-19 pandemic than before the pandemic.**

The health crisis during the covid-19 pandemic increases people's anxiety to get infected with the virus. The psychology behind the covid-19 pandemic is similar to people who face a natural disaster. In a disaster response, individual risk perception of hazard has been identified as a predictor of people's decisions, such as during flooding (Grothmann and Reusswig., 2006), hurricane (Peacock, Brody and Highfield., 2005), tsunami (Johnston, D. et al., 2005), and earthquake (Whitney, D.J., Lindell, and Nguyen, 2004). People perceived they were in a high-risk condition because they could be infected by the virus. The potential harm raised because of the pandemic influences people's decision to protect themselves and their family with insurance. Based on that argument, **the last hypothesis of this research is that people have become more interested in insurance during the covid-19 than before the pandemic.**

### 3. Research Method

This research collected data through a self-administered online questionnaire from Indonesian participants to determine changes in financial behaviour. 824 people initially filled in the questionnaire, but only 635 participants answered all the questions. This research becomes part of an online seminar that discusses the economic impact of the covid-19 pandemic to collect the data. The conference discusses the macroeconomic level of the effect of the global pandemic. The seminar material is not closely related to any individual financial behaviour that could influence people's answers in the questionnaire. The online seminar has been done ten times between December 2020 and February 2021 in Indonesia. Participants were asked to fill in the questionnaire before and after the seminar. Their perception on financial decisions before the covid-19 pandemic was collected before

the seminar, and their perception on their financial behaviour during the covid was collected after the seminar. Respondents were between 25-65 years old. Participants had to score their perception on financial behaviour before and during the pandemic as well. The questionnaire consisted of 29 questions: demographic (5), questions about the pre-pandemic financial behaviour (12), and questions on financial behaviour during pandemic (12). The financial behaviour questions in this research involved four domains: consumption, insurance, saving, and investment (Dew and Xiao, 2011). Table 1 shows each question that used in this research.

**Table 1: Financial Behaviour Questionnaire**

No	Question of the research
1	Spending Behaviour (Strongly Disagree – Strongly Agree) a. I compare prices in different shops when purchasing a product or service. b. I pay all my bills (electricity, water, telephone, etc.) on time. c. I keep a written or electronic record of my monthly expenses. d. I stay within my budget or spending plan.
2	Saving and Investment Behaviour (Strongly Disagree – Strongly Agree) a. I have begun or maintained an emergency savings fund. b. I save money from every income received. c. I save for a long-term goal, such as purchasing a car, education, home, etc. d. I contribute money to a retirement account. e. I buy bonds, stocks, mutual funds, or long-term investments.
3	Insurance Behaviour (Strongly Disagree – Strongly Agree) a. I maintain or purchase an adequate health insurance policy. b. I maintain or purchase adequate property insurance such as comprehensive auto or homeowners' insurance. c. I maintain or purchase adequate life insurance.

Source: Author's own work (2022)

During data analysis t-test paired sample was used to assess the effect of the covid-19 pandemic on the participants' financial behaviour.

The pilot test was executed to avoid multi-perception in the survey. Then exploratory factor analysis (EFA) was applied to determine the suitability of questions into several variables. The test EFA value using Kaiser-Meyer-Olkin (KMO) recommended a threshold of 0.7 (Kaiser, 1974). The next stage was to do a reliability and validity test. Paired sample t-test was used to answer the hypotheses.

#### 4. Results and Discussion

A pilot test was conducted with 78 participants through an online conference during this research. The pilot test was voluntary and set as a bundle with the personal finance seminar. The pilot test's result was the revision of the research instrument as in case of some questions, multi-perception arose at some participants. Then minor wording revision was done to make the questionnaire more easily understandable by the participants. Besides minor wording, exploratory factor analyses were also executed to group a set of questions into several variables in the pilot stage. The summary of the results of exploratory factor analysis can be seen in Table 2.

**Table 2:** Result of the Exploratory Factor Analysis

No	Indicators	Factors		
		Saving and investment	Insurance	Budget
1	I compare prices in different shops when purchasing a product or service.			0.813
2	I pay all my bills (electricity, water, telephone, etc.) on time.			0.850
3	I keep a written or electronic record of my monthly expenses.			0.784
4	I stay within my budget or spending plan			0.802
5	I have begun or maintained an emergency savings fund.	0.784		
6	I save money from every income received	0.892		
7	I save for a long-term goal, such as purchasing a car, education, home, etc.	0.771		
8	I contribute money to a retirement account.	0.795		
9	I buy bonds, stocks, mutual funds, or long-term investments.	0.761		
10	I maintain or purchase an adequate health insurance policy.		0.895	
11	I maintain or purchase adequate property insurance such as comprehensive auto or homeowners' insurance.		0.806	
12	I maintain or purchase adequate life insurance.		0.867	

Source: authors' calculation based on primary data

Table 2. summarizes the results of exploratory factor analysis, and all 15 questions are classified into three variables. The variables are budget behaviour, saving and investment behaviour, and insurance behaviour. As the recommended threshold is 0.7, all questions are formed into each variable. A total of 824 people filled in the questionnaire, but only 635 participants fulfilled the requirements. This research requires the respondent's age to be between 25-65 years old and answer all the questions. The demographics of the respondents can be seen in Table 3.

**Table 3:** Demographics of the Respondents

Demographics			Financial Background		
Gender	Male	285	Annual Revenue	< 3.000 US \$	246
	Female	350		3.001 – 5.000 US\$	106
Age	25 – 35	142		5.001 – 7.000 US\$	75
	36 – 45	185		7.001 – 9.000 US\$	68
	46 - 55	217		9.001 – 10.000 US \$	72
	56 - 65	91		> 10.000 US \$	68
Number of people living in the same house	1	108		Financial Condition	Consumptive Debt
	2	158	Have no saving account		168
	3	168	Makes end meet		78
	4	125	Have a small saving account		104
	5	54	Have a small passive income		86
	> 5	22	Have an active asset that regularly generates passive income		50

Source: authors' calculation based on primary data

Cronbach alpha was used for the reliability test. The recommended score of Cronbach's alpha is 0.70 (Nunnally and Bernstein, 1978). The construct validity of this research was examined by using convergent validity. The average variance extracted (AVE) has been used, and the recommended score is the threshold of 0.5 (Hair, Ringle, and Sarstedt, 2013). Table 4 shows a summary of the reliability and validity test.

**Table 4:** Result of reliability and validity test

No	Construct	Cronbach Alpha	AVE
1	Spending Behaviour	0.756	0.560
2	Saving and Investment	0.812	0.645
3	Insurance behaviour	0.795	0.593

Source: authors' calculation based on primary data

In this research paired sample t-test was used to answer the hypothesis. Three hypotheses were proposed, and two out of three were justified in this research. The first hypothesis that states people's behavior during covid-19 becomes more careful in spending is confirmed. The mean of the pre-test was 9.83, and the post-test was 12.02. The paired sample t-test was found statistically significant. The second hypotheses state people are more attracted to saving and investment during covid-19, supported by the data. The mean differs significantly from pre-test (8,43) and post-test (22,46). The third hypothesis supports that people are more attracted to insurance during the covid. This result can be summarized in Table 5 below.

**Table 5:** Summarize paired t-test result

No	Hypothesis	Pre-test	Post-test	Paired t-test
1	People have become more careful in their spending during covid-19 than before the pandemic	Mean: 9,83 SD: 1,767	Mean:12,02 SD: 1,671	0,000 (significant)
2	People have become more attracted to saving and investment during covid-19 than before the pandemic	Mean: 8,43 SD: 1,432	Mean:22,46 SD: 1,461	0,000 (significant)
3	People have become more interested in insurance during the covid-19 than before the pandemic	Mean: 5,03 SD: 1,133	Mean:4,93 SD: 1,104	0,105 (Not significant)

Source: authors' calculation based on primary data

More detailed discussion is needed as the results show some interesting findings. Several questions were found to be significantly increased during the pandemic, while the rest were found not increasing. During the pandemic, it was found that people tend to compare the prices during shopping. The trend is growing during the pandemic as they need to save more money for an unpredictable moment in the future. People's behavior on staying within the budget was also changing, during the pandemic for most people it was not easy to stay within their budget. Besides that, people's behavior in recording their transactions has also changed during covid-19. Other behaviour in saving and investment were found to increase significantly during the pandemic. People start to collect their emergency fund, save more, make long-term financial goals, and invest more in bonds, stocks, and long-term investments.

On the other hand, several questions were found to be statistically not significant. Behaviour such as paying the bills on time and the insurance behaviour such as starting their health, property, and life insurance have not changed.

## 5. Conclusion

As the results show, two out of three hypotheses were justified by the research data. Saving and investment behaviour, and spending behaviour have changed during the pandemic. However, some of the questions found a significant difference before and during the pandemic covid-19. As the pandemic directly impacts people's income, people have become careful in their spending. They compare the prices between one store and another. Today, people have more options to spend their money. They can easily compare the prices between local stores and online marketplaces. Having emergency funds is critically important when a pandemic happens because many people cannot maintain their source of income. They realized that it was easy for them to lose their job. They need emergency funds to preserve their wealth. The saving behaviour is also influenced by the fear of losing their source of income in the pandemic. This fear induces people to tighten their spending and save more money for their future. Financial planning for retirement is another critical issue in this pandemic. People are more sensitive in their future financial planning; it is especially true for the retirement. The pandemic also hit people's minds that they cannot live securely when relying only on one source of income, so investment behaviour has changed a lot during the pandemic. People are aware that they need to invest their money to generate another source of income to secure their wealth. The investment behaviour finding contradicts some previous research in China. They found that the household investment portfolio decreased by 16.03% during the pandemic (Yue, Gizem Korkmaz, and Zhou, 2020), but it corresponds with another researcher with significantly higher stock activity in the covid-19 pandemic (Budiarto et al., 2020).

Even though some financial decisions have changed significantly during the pandemic, other behaviours have not changed. People's behaviour in paying their routine bills has not changed; people keep paying them on time. People cannot track and record their monthly expenses daily related to their spending behaviour. Sticking to the monthly budget is difficult for most of the participants. The bank overdraft balance is not typical in Indonesian banks. The banks simply make it a dormant account or just close the account when their customer has no money in their bank account. Pandemic does not influence people to change their behaviour in withdrawing cash from the ATMs. They rarely exceed the limit of the transactions each month. The decision to be involved in health, property, and life insurance was also not significantly changed. This finding is quite attractive; a pandemic as a health crisis normatively increases people's awareness of their health risk and protects it using insurance, but this research found that insurance was not attractive during the pandemic.

As the pandemic has not finished yet, the households' financial behaviour might change initially, in the middle and at the end of the pandemic. Another issue that could be examined is the persistence of behavioural change, which might be the only temporary change. This research found that many people have changed their spending, saving, and investment behaviour. This pandemic triggers people to learn more about the importance of financial knowledge. They have started to understand the importance of preparation before a financial shock happens in the future.

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