

Impact of the Covid-19 Pandemic on Micro Finance Income

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Abstract: - The purpose of this study was to examine the impact of the COVID-19 pandemic on the income of microfinance institutions (MFIs) in Indonesia. Using a sample of 181 microfinance institutions using financial report data for 2017–2019 (before the pandemic) and 2020–2021 (during the pandemic). Data were analyzed using a non-parametric test (Wilcoxon signed ranks test). The results show that all elements of income (interest income, fee, and commission income, operating income, and non-operational income) decreased significantly. On the other side of the impact of the COVID-19 pandemic on expenses, several elements of expenses have decreased significantly (interest expense, depreciation, and amortization expense, marketing expense, administration, and general expense, operational expense, and non-operational expense). As for fee and commission expenses, research and development expenses, and an impairment charge on loans, they decrease insignificantly.

Key-Words: - Covid-19, income, expense, microfinance

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1 Introduction

The outbreak of the new coronavirus (COVID-19) not only has an impact on health but also has an impact on the economy in various industries and regions. The population quarantine policy causes a decrease in mobility, which in turn can stagnate economic activity. The COVID-19 pandemic caused a global recession; many countries went bankrupt and lost their jobs, [1]. On a micro-scale, the COVID-19 outbreak has affected the performance of companies in large industries, [1], and MSMEs in the ASEAN region, [2]. Therefore, it is necessary to evaluate the impact of COVID-19 on performance during these difficult economic times, especially in the microfinance institution (MFI) sector, because these financial institutions are an element of the national economy. In addition, microfinance institutions (MFIs) function as intermediaries between funders and users of funds. This MFI must function as an institution that collects and distributes public funds. Effective and efficient management of public funds can be measured by their ability to earn profits. The profitability of MFIs depends on the success or failure of their operations. A microfinance institution (MFI) can succeed if it is profitable in its operational activities and will fail if its operations suffer losses or even go bankrupt.

The global crisis can affect the activities of the banking industry in every country, including Indonesia. As the pandemic pushes aggregate demand, production, trade, and economic activity slow and unemployment rises, financial institutions in almost every country are concerned about the increased risk of falling without government support, [3]. Of course, this situation has an impact on the performance of financial institutions. The main impact on financial institutions is the decline in deposits and decreased profits. Several previous studies have examined the impact of this economic crisis [4], [5], [6]. These studies show that the economic crisis affects the performance of financial institutions in areas such as capital structure, non-performance loans, and profitability. However, other studies have shown that the COVID-19 pandemic did not trigger the explosion of non-performing loans but was related to bank illiquidity, [7]. Furthermore, the findings from a study of 30 commercial banks in Bangladesh show that all banks tend to see a decline in the value of risk-weighted assets, capital adequacy ratios, and interest income, [8]. However, estimates suggest that larger banks are relatively more vulnerable.

Meanwhile, other research shows that the COVID-19 pandemic has a significant effect on decreasing bank income but does not affect credit performance or capital structure, [9]. Furthermore,

research on 13 commercial banks in Indonesia shows that the impact of the COVID-19 pandemic on bank profitability as measured by return on equity (ROE) and net operating margin (NOM) has a significant effect (below 10%), but neither on return on assets (ROA) nor operational expense to income ratio (OEIR), [10].

In the previous study, there were several gaps, including the impact of COVID-19 on banking performance, which was not always negative and significant; the object was only a commercial bank; and it did not review the elements of operating income and expenses. Therefore, this study aims to fill this void by focusing on microfinance institutions (MFIs), which have different customers than large financial institutions. The MFI's customers are in the lower middle class, so they are the most affected by the COVID-19 pandemic. The negative impact of COVID-19 on performance is more pronounced in companies with a smaller investment scale or lower sales revenue, [11]. This study examines the effect of COVID-19 on the elements of operating income and expenses of MFIs.

2 Literature Review

2.1 Microfinance Institutions in Indonesia

In Indonesia, there are three types of microfinance institutions: bank institutions, cooperatives, and non-bank/non-cooperative institutions. Banking institutions include commercial banks that provide micro-credit or have micro units, Islamic banks, and Islamic units. MFIs in the form of banks called Rural Banks are a form of Indonesian microfinance institutions that have roots in the socio-economic conditions of rural Indonesian communities. The operational business of a rural bank is to collect funds from the public in the form of deposits in the form of time deposits, savings, or other equivalent forms; give credit; provide coaching and placement of funds; and place the funds in the form of Bank Indonesia certificates, time deposits, certificates of deposit, and savings in other banks. Rural banks provide services for the needs of banking services for the lower economic community or small and micro businesses. The role of the rural bank is very beneficial in increasing financing for micro and small businesses so that they can contribute more to the Indonesian national economy.

2.2 Operating Expenses and Operating Income of MFI

Based on the rural bank accounting guidelines, [12], operational expenses are all expenses incurred for usual activities as a rural bank business. These expenses include interest, allowance of losses, marketing, research and development, administration, and general expenses. Interest expenses are expenses paid to customers or other parties related to fundraising activities and receiving loans. Interest expenses arise from financing activities in the form of fundraising activities and receiving loans, such as savings and time deposits, including deposit guarantee premiums, cashback rewards, and deposit prizes. Furthermore, marketing costs consist of gifts, advertising, promotions, and unapproved credit costs. Research and development costs are costs related to expenses for research and development. While administrative and general expenses are various burdens that arise to support the operational activities of MFIs, they consist of labor expenses, education expenses, rent expenses, and insurance premiums. On the other hand, operating income is the bank's prime income. Based on the accounting guidelines, operating income is all income derived from the main activities of the MFIs, [12]. Operating income consists of (1) interest income, which is income earned from investing MFI funds in productive assets, where interest income includes fewer costs directly related to lending (transaction costs); and (2) other operating revenues, which are various incomes arising from activities that support MFI's operational activities.

2.3 Impact of Covid-19 on MFI's Income

According to factual options theory, managers tend to delay investments when uncertainty increases, which can cause the loss of profitable projects, [13]. COVID-19 carries higher external risks, which has led managers to increase their cash holdings in the event of an emergency. More cash retention consumes investment funds and reduces the company's sustainable development momentum. More cash retention consumes investment funds and reduces the company's sustainable development momentum. Based on Maslow's hierarchy of needs, consumer demand for health and safety is more pressing than social contact during a pandemic, [14]. These factors lead to a decrease in the company's revenue and a decrease in the company's performance. The company's productivity and revenue fell sharply due to the implementation of quarantine measures, which inevitably led to a decline in performance.

SMEs are the sector most affected by this pandemic. Our analysis reveals that this sector has been the most severely affected by COVID-19 compared to other industries, [11]. The COVID-19 pandemic has had a significant negative impact on performance by reducing investment scale and reducing total revenue, [15]. In the banking sector, the primary source of income is interest income. Almost all banks have experienced a decline in interest income due to the COVID-19 pandemic, [8]. Besides, the ratio of profitability and activity before the COVID-19 pandemic differed significantly from that during the pandemic, [16]. It was this financial sector that experienced a decrease in the ratio of liquidity and the ratio of profitability. Based on this analysis, we hypothesize:

H1: COVID-19 has an impact on reducing the income of microfinance institutions: (a) interest income (II), (b) fee and commission income (FCI), (c) other income (OI), and (d) non-operational income (NOI).

2.4 Impact of Covid-19 on MFI's Expenses

The COVID-19 crisis could significantly increase the cost of credit losses for European banks in the form of their provision for credit losses, [17]. Furthermore, total operational and investment costs have seen an average increase of around 3.5% in other administrative expenses, [18]. The COVID-19 pandemic will increase interest, transaction, and administration expenses and ultimately reduce the return on equity (ROE) and net operating margin (NOM), [19]. However, rural banks are trying to suppress all elements of expenditure and be more selective in extending their loans in line with the impact of the COVID-19 pandemic. Because BPRs have to save costs during the COVID-19 pandemic, based on this analysis, we hypothesize:

H2: COVID-19 has an impact on reducing expenses for microfinance institutions: (a) interest expense (IE), (b) fee and commission expense (FCE), (c) impairment charge on loans (ICL), (d) depreciation and amortization expense (DAE), (e) marketing expense (ME), (f) research and development expense (RDE), (g) administration and general expense (AGE), (h) others expense (OE), (i) non-operational expense (NOE), (j) earnings before income tax (EBIT), (k) income tax (IT), and (l) earnings after tax (EAT).

3 Methodology

This study used a sample of 181 MFIs in the form of banks. The data collected is in the form of income statements from the end of December 2018 to 2019 (before the COVID-19 pandemic) and the end of December 2020 and September 2021 (during the COVID-19 pandemic), which are accessed through the Financial Services Authority's web site. Hypothesis testing using year-on-year (YOY) data with non-parametric tests (Wilcoxon signed ranks test). The formula for calculating Z is as follows:

$$Z = \frac{T - \frac{1}{4N(+1)}}{\sqrt{\frac{1}{24N(N+2N+1)}}$$

N = the number of data points that change after being given a different treatment.

T = the number of rankings of negative differences (if the number of positive differences is greater than the number of negative differences).

T = the number of positive difference rankings (if the number of negative differences is greater than the number of positive differences).

4 Result and Discussion

4.1 Descriptive Statistics

Table 1 shows the difference in the mean and standard deviation of elements of microfinance income and expense before and during the pandemic. The results of the descriptive analysis of the impact of the COVID-19 pandemic on the cost and income elements of MFIs are as follows:

First, the average value of interest income (II) before the COVID-19 pandemic was IDR 14,104.30 million, while the average value of II during the COVID-19 pandemic was IDR 12,73144 million. The current decline in II from before the COVID-19 pandemic to during the COVID-19 pandemic is IDR -1,372.86 million (-9.73%). This decrease in average shows that the COVID-19 pandemic has harmed the company's income when viewed from changes in II. Figure 1 shows an average decreasing trend II from 2018 to 2021.

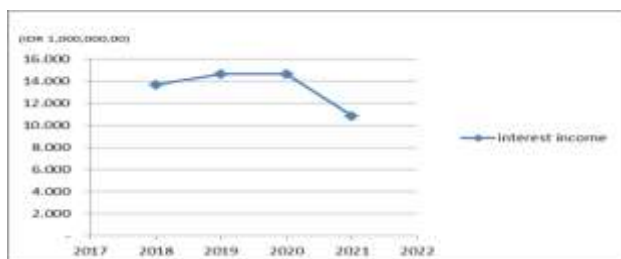


Fig. 1: Growth of II from 2018 – 2021

Average FCI during the pandemic decreased by 10.86% (from IDR 1,064.48 million to IDR 948.89 million). This decrease in average shows that the pandemic negatively affects FCI. Furthermore, the mean of OI decreased by 4.00% (from IDR 1,226.71 million to IDR 1,177.67 million) during the COVID-19 pandemic. This decline indicates that the COVID-19 pandemic had a detrimental effect on other income.

Table 1. Descriptive Statistics

		N	Min	Max	Mean	SD
II	During	181	886.22	299,334.78	12,731.44	2,655.45
	Before	181	583.72	361,537.13	14,104.30	31,346.18
FCI	During	181	0.51	17,955.01	948.89	1,779.01
	Before	181	20.15	24,367.72	1,064.48	2,196.52
OI	During	181	31.31	23,854.11	1,177.67	2,546.15
	Before	181	21.46	22,698.77	1,226.71	2,451.29
NOI	During	181	0.00	1,452.33	82.28	167.06
	Before	181	0.00	3,434.13	133.21	335.07
IE	During	181	82.84	132,215.52	5,200.53	11,801.00
	Before	181	133.60	133,065.01	5,421.59	12,133.09
FCE	During	181	0.00	4,763.25	49.90	366.02
	Before	181	0.00	4,702.08	50.95	358.61
ICL	During	181	0.00	100.60	1.23	8.93
	Before	181	0.00	45.23	0.51	4.35
DAE	During	181	0.69	27,771.57	936.57	2,528.29
	Before	181	13.20	24,533.20	914.92	2,300.98
ME	During	181	0.00	5,166.10	200.08	600.57
	Before	181	0.00	6,434.15	259.64	800.09
RDE	During	181	0.00	171.81	1.96	14.24
	Before	181	0.00	173.82	1.63	13.86
AGE	During	181	633.16	122,112.61	5,592.81	10,289.98
	Before	181	509.08	125,336.85	5,789.75	10,657.36
OE	During	181	0.00	5,192.51	249.43	580.88
	Before	181	0.00	5,766.72	268.82	670.94
NOE	During	181	0.00	1,694.56	74.64	177.27
	Before	181	0.00	3,326.49	112.74	306.22
EBIT	During	181	0.00	58,306.81	2,671.32	6,025.48
	Before	181	0.00	108,288.31	3,385.75	9,365.19
IT	During	181	0.00	14,379.25	513.45	1,408.24
	Before	181	0.00	27,228.98	757.50	2,366.69
EAT	During	181	0.00	43,927.56	2,158.69	4,635.11
	Before	181	0.00	81,059.34	2,629.83	7,000.38
Valid N		181				

The average NOI before the pandemic was IDR 133,214,049.72, while the average NOI during the

pandemic was IDR 82,276,803.87. The average decrease in NOI was IDR -50,937,245.86 (-38.24%). This average decline shows that the pandemic has hurt the company's income when viewed from the perspective of changes in NOI. Figure 2 illustrates the average growth of FCI, OI, and NOI from 2018 to 2021.

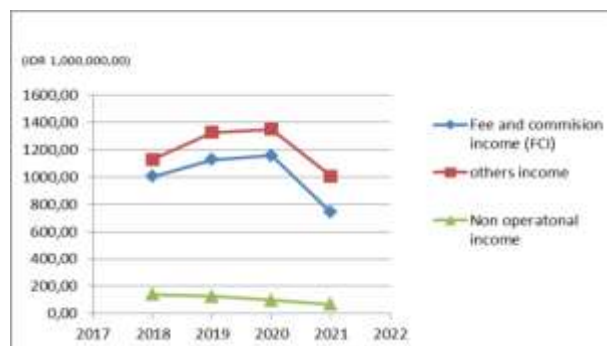


Fig. 2: Growth of FCI, OI, and NOI from 2018 – 2021

Second, the expenditure side of IE shows that the pandemic has increased interest expenses. Average IE during the pandemic increased by 4.08% (from IDR 5,421.59 million to IDR 5,200.53 million). On the other hand, the average FCE decreased by 2.05% (from IDR 50.95 million to IDR 49.90 million). This decrease did not harm the company in terms of changes in fees and commission fees. Figure 3 illustrates the growth of IE and AGE from 2018 to 2021, where there is a tendency to increase IE and AGE from 2018 to 2019, but after that, it decreases.

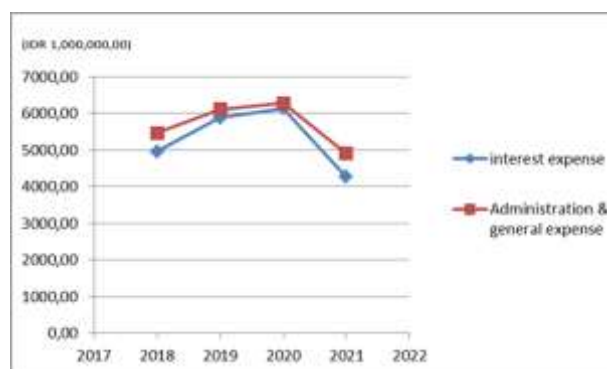


Fig. 3: Growth of IE and AGE from 2018 – 2021

Average ICL, DAE, and RDE have increased during the pandemic. ICL during the pandemic increased by 139.04% (from IDR 0.51 million to IDR 1.23 million). Meanwhile, DAE increased by 2.37% (from IDR 914.92 million to IDR 936.57 million). Furthermore, RDE increased by 20.51% (from IDR 1.63 million to IDR 1.96 million). In

contrast, the average ME, AGE, OE, and NOE decreased during the pandemic. ME during the pandemic decreased by 22.94% (from IDR 259.64 million to IDR 200.08 million). Meanwhile, AGE decreased by 3.40% (from IDR 5,789.75 million to IDR 5,592.81 million). Furthermore, OE decreased by 7.21% (from IDR 268.82 million to IDR 249.43 million). Finally, NOE decreased by 33.80% (from IDR 112.74 million to IDR 74.64 million). Figure 4 shows the growth of FCE, DAE, ME, and NOE from 2018 to 2021. This figure shows that these cost elements have decreased from 2020 to 2021, except for DAE.

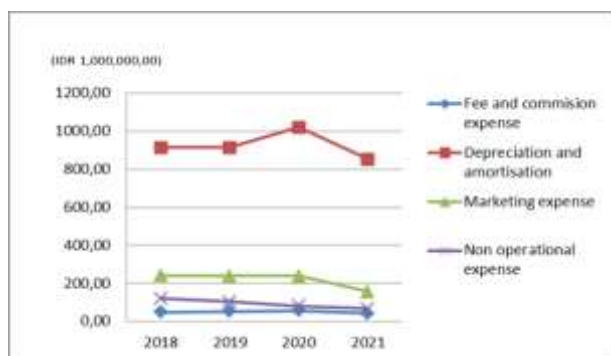


Fig. 4: Growth of FCE, DAE, ME, NOE from 2018 – 2021

The third element in the income and expenses of an MFI is earnings before income tax (EBIT), income tax (IT), and earnings after tax (EAT). These three elements show a decline during the pandemic. EBIT decreased by 21.10% (from IDR 3,385.75 million to IDR 2,671.33 million). Then IT decreased by 32.22% (from IDR 757.50 million to IDR 513.45 million). Meanwhile, EAT decreased by 17.92% (from IDR 2,629.84 million to IDR 2,158.69 million). Figure 5 shows that after 2019, there was a decline in EBIT, IT, and EAT. This figure shows that the COVID-19 pandemic can reduce these three elements of costs and income.

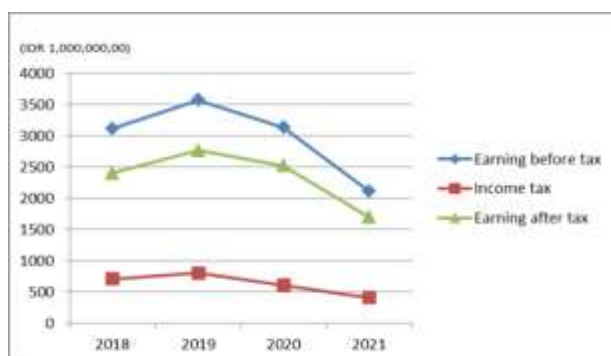


Fig. 5: Growth of EBIT, IT, and EAT from 2018 – 2021

Furthermore, Table 2 shows the frequency with which the distribution of companies based on income and expenses changes. This table shows that the COVID-19 pandemic has not consistently reduced the revenues and costs of MFIs. The frequency of MFIs whose income decreased (II, FCI, OI, and NOI) was more frequent than the increase. Likewise, the frequency of MFIs whose expenditure decreased (IE, DAE, ME, AGE, OE, and NOE) was greater than that of MFIs whose expenditure increased.

Table 2. Frequency distribution of companies based on changes in the elements of income and expenses

Item	Increase		Decrease		Not Change		Total	
	f	%	f	%	f	%	f	%
II	51	28.17	130	71.82	0	0.00	181	100.00
FCI	54	29.83	127	70.17	0	0.00	181	100.00
OI	85	41.44	96	58.56	0	0.00	181	100.00
NOI	69	38.12	108	59.67	4	2.21	181	100.00
IE	63	34.81	118	65.19	0	0.00	181	100.00
FCE	40	22.10	44	24.31	97	53.59	181	100.00
ICL	10	5.52	3	1.66	168	92.82	181	100.00
DAE	86	47.51	95	52.49	0	0.00	181	100.00
ME	38	20.99	134	74.03	9	4.97	181	100.00
RDE	7	3.87	6	3.31	168	92.82	181	100.00
AGE	71	39.23	110	60.77	0	0.00	181	100.00
OE	66	36.46	114	62.98	1	0.55	181	100.00
NOE	66	36.46	114	62.98	1	0.55	181	100.00
EBIT	67	37.02	114	62.98	0	0.00	181	100.00
IT	55	30.39	120	66.30	6	3.31	181	100.00
EAT	70	38.67	111	61.33	0	0.00	181	100.00

4.2 Hypothesis Testing

To test the effect of the COVID-19 pandemic on BPR income and expenses, a non-parametric test (Wilcoxon signed rank test) was carried out. Furthermore, to determine the acceptance of the hypothesis using a significance level of 5% (0.05) and the Z test = 1.960. Table 3 shows the results of hypothesis testing. All elements of income decreased significantly, including II (interest income), FCI (fee and commission income), OI (others income), and NOI (non-operational income). These four elements have a negative statistical Z value that is smaller than the table Z value (-1.960), and the significance level is smaller than 0.05. Therefore, H1a, H1b, H1c, and H1d are supported, which means that the COVID-19 pandemic has significantly reduced the income elements of the MFIs. This result supports the previous research that the COVID-19 pandemic can reduce interest rates at almost all banks, [8], [9]. These results also support previous research that the COVID-19 pandemic can reduce bank profitability, [20], [21]. The explanatory variables

used in this study have short-term and long-term effects on bank profitability. The impact is not uniform across various measures of bank profitability. In the short term, bank profitability is generally negative and significant. Conversely, in the long term, the effect of the COVID-19 pandemic on bank income is uncertain.

Table 3. Non-parametric Tests (Wilcoxon Signed Ranks Test).

	N	Mean Rank	Sum of Ranks	Z	Sig.
II_YOY_after – II_YOY_before	163 ^a	92.77	15121.50	-9.755	.000
	18 ^b	74.97	2696.00		
	0 ^c				
FCI_YOY_after – FCI_YOY_before	154 ^a	95.69	14736.00	-9.209	.000
	27 ^b	64.26	1735.00		
	0 ^c				
OI_YOY_after – OI_YOY_before	143 ^a	96.33	13775.00	-7.848	.000
	38 ^b	70.95	2612.50		
	0 ^c				
NOI_YOY_after – NOI_YOY_before	104 ^a	86.22	8966.50	-2.035	.042
	70 ^b	89.41	6258.50		
	7 ^c				
IE_YOY_after – IE_YOY_before	167 ^a	93.02	15535.00	-10.341	.000
	14 ^b	66.86	936.00		
	0 ^c				
FCE_YOY_after – FCE_YOY_before	52 ^a	43.54	2264.00	-1.070	.285
	37 ^b	47.05	1741.00		
	92 ^c				
ICL_YOY_after – ICL_YOY_before	0 ^a	.00	.00	-1.826	.068
	4 ^b	2.50	10.00		
	177 ^c				
DAE_YOY_after – DAE_YOY_before	106 ^a	92.46	9800.50	-2.365	.018
	74 ^b	87.70	6489.50		
	1 ^c				
ME_YOY_after – ME_YOY_before	130 ^a	84.70	11011.50	-6.972	.000
	34 ^b	74.07	2518.50		
	17 ^c				
RDE_YOY_after – RDE_YOY_before	2 ^a	1.50	3.00	.000	1.00 0
	1 ^b	3.00	3.00		
	178 ^c	93.20	15658.00		
AGE_YOY_after – AGE_YOY_before	168 ^a	62.54	813.00	-10.515	.000
	13 ^b	96.17			
	0 ^c				
OE_YOY_after – OE_YOY_before	130 ^a	96.17	12502.50	-6.406	.000
	49 ^b	73.62	3607.50		
	2 ^c				
NOE_YOY_after – NOE_YOY_before	103 ^a	90.62	9333.50	-2.134	.033
	74 ^b	86.75	6419.50		
	4 ^c				
EBIT_YOY_after – EBIT_YOY_before	142 ^a	86.26	12248.50	-5.685	.000
	39 ^b	108.27	4222.50		
	0 ^c				
IT_YOY_after – IT_YOY_before	119 ^a	82.58	9827.00	-3.328	.001
	55 ^b	98.15	5398.00		
	7 ^c				
EAT_YOY_after – EAT_YOY_before	139 ^a	84.45	11739.00	-4.963	.000
	42 ^b	112.67	4732.00		
	0 ^c				

^a YOY_after < YOY_before.

^b YOY_before < YOY_after.

^c YOY_after = YOY_before.

The test results on the expense elements in Table 3 show that not all expense elements have a significant decrease. The interest expense (IE), depreciation and amortization expense (DAE), marketing expense (ME), administration and general expense (AGE), other expenses (OE), and non-operational expense (NOE) have significantly decreased. Thus H2a, H2d, H2e, H2g, H2h, and H2i are supported. While there is an insignificant decrease in fee and commission expense (FCE), impairment charge on loans (ICL), and research and development expense (RDE), H2b, H2c, and H2f are not supported.

These results illustrate that the COVID-19 pandemic can significantly reduce spending elements, as well as interest expenses, depreciation and amortization expenses, marketing expenses, general administration expenses, non-operational expenses, and other expenses. This result is not in line with previous research that showed that the COVID-19 pandemic did not reduce spending, [21]. It is also not in line with previous research showing that COVID-19 has made it impossible for corporate debt, interest, and other expenses to stop until this period is about to end, [19].

Finally, the net results of MFI's business activities are earnings before income tax (EBIT), income tax (IT), and earnings after tax (EAT). The test results for these three elements decrease significantly. Thus H2j, H2k, and H2l are supported.

5 Conclusion

Most companies have been badly affected by the COVID-19 pandemic, including microfinance institutions (MFIs). Especially for microfinance institutions (MFIs) in the form of rural banks, in terms of income, it can be concluded that all income elements that are affected by the COVID-19 pandemic decreased significantly: a) interest income (II), b) fee and commission income (FCI), c) operational income (OI), and d) non-operational income (NOI). On the other hand, the impact of the COVID-19 pandemic on several elements of the burden has decreased significantly. These elements include interest expenses (IE), depreciation and amortization expenses (DAE), marketing expenses (ME), administrative and general expenses (AGE), operating expenses (NOE), and non-operating expenses (NOE). Meanwhile, fees and commissions (FCE), research and development expenses (RDE), and loan impairment costs (ICL) showed insignificant decreases. Thus, it can be concluded that the COVID-19 pandemic can reduce

the net income of MFIs due to all elements of income. Although MFIs have overcome the effects of the COVID-19 pandemic by reducing the element of expenditure, this reduction is no greater than the decline in income. The results of this study can provide suggestions for the government to provide interest subsidies to MFI customers so that loan installments run smoothly and ultimately increase interest income. This study has limitations in the sample used, which included 181 MFIs in Central Java. In future research, it can be expanded, and the sample used can be multiplied so that the level of generalization is stronger. In addition, it is necessary to study the impact of COVID-19 on the congestion of loans that have been distributed.

References:

- [1] M. Fu and H. Shen, "COVID-19 and Corporate Performance in the Energy Industry COVID-19 and corporate performance in the energy industry," no. August, pp. 1–6, 2020.
- [2] Asian Development Bank, *Asia Small and Medium Sized Enterprise Monitor 2020*, vol. I, no. October. 2020.
- [3] IMF, "Global Financial Stability Report: Markets in the time of Covid-19. Washington DC: International Monetary Fund.," 2020.
- [4] H. Miniaoui and G. Gohou, "Did Islamic Banking Perform Better During the Financial Crisis? Evidence from the UAE," *J. Islam. Econ. Bank. Financ.*, vol. 9, no. 2, pp. 116–130, 2013.
- [5] R. Muhammad and C. Triharyono, "Analysis of Islamic banking financial performance before, during and after global financial crisis," *J. Ekonomi Keuangan Islam*, vol. 5, no. 2, pp. 80–86, 2019.
- [6] N. A. Wahab, R. Rosman, and Z. Zainol, "How Efficient were Islamic Banks During The Financial Crisis? Empirical Evidence From Asian," *Intellect. Econ.*, vol. 11, no. 1, pp. 44–62, 2017.
- [7] A. Ari, S. Chen, and L. Ratnovski, "COVID-19 and Non-Performing Loans: Lessons from past Crises," *SSRN Electronic Journal*, no. 71, pp. 1–7, 2020.
- [8] B. Barua and S. Barua, "COVID-19 implications for banks: evidence from an emerging economy," *SN Bus. Econ.*, vol. 1, no. 1, pp. 1–28, 2021.
- [9] D. W. Perkins and R. Gnanarajah, "COVID-19 Impact on the Banking Industry: Conditions in the Second Quarter of 2020 Income and Loss Reserves," *Congr. Res. Serv.*, vol. September, pp. 1–3, 2020.
- [10] S. Sutrisno, B. Panuntun, and F. I. Adristi, "The Effect of Covid-19 Pandemic on the Performance of Islamic Bank in Indonesia," *Equity*, vol. 23, no. 2, p. 125, 2020.
- [11] A. Rababah, L. Al-Haddad, M. S. Sial, Z. Chunmei, and J. Cherian, "Analyzing the effects of COVID-19 pandemic on the financial performance of Chinese listed companies," *J. Public Aff.*, vol. 20, no. 4, 2020.
- [12] Indonesia Bank, *Pedoman Akuntansi Bank Perkreditan Rakyat*, Cetakan Pe. Jakarta: Ikatan Akuntan Indonesia (IAI), 2010.
- [13] Z. Ming, Z. Ping, Y. Shunkun, and Z. Ge, "Decision-making model of generation technology under uncertainty based on real option theory," *Energy Convers. Manag.*, vol. 110, pp. 59–66, 2016.
- [14] I. Health, S. L. Hagerty, and L. M. Williams, "The impact of COVID-19 on mental health: The interactive roles of brain biotypes and human connection," *Brain, Behav. Immun. - Heal.*, vol. 5, no. January, pp. 1–4, 2020.
- [15] H. Shen, M. Fu, H. Pan, Z. Yu, and Y. Chen, "The Impact of the COVID-19 Pandemic on Firm Performance," *Emerg. Mark. Financ. Trade*, vol. 56, no. 10, pp. 2213–2230, 2020.
- [16] S. Devi, N. Made, S. Warasniasih, P. R. Masdiantini, and L. S. Musmini, "The Impact of COVID-19 Pandemic on the Financial Performance of Firms on the Indonesia Stock Exchange," vol. 23, no. 2, pp. 226–242, 2020.
- [17] J. Bellens and D. Bedford, "How COVID-19 is accelerating banks' cost transformation programs," *EY Global*, pp. 1–5, 2020.
- [18] Zeb, "Impact on costs has been significant, mainly in ICT, H&S and RE categories," *Banking Hub*, pp. 1–5, 2020.
- [19] S. Bose, S. Shams, M. J. Ali, and D. Mihret, "COVID-19 impact , sustainability performance and firm value : international evidence," *Account. Financ.*, vol., pp. 1–47, 2021.
- [20] L. Katusiime, "COVID 19 and Bank Profitability in Low Income Countries : The Case of Uganda," *J. Risk Financ. Manag.*, vol. 14, no. 588, pp. 1–19, 2021.

- [21] M. K. Mughal, A. Waleed, and M. B. Shah, "Comparison of Islamic and Conventional Banks Performance," *Int. J. Res. Econ. Soc. Sci.*, vol. 5, no. 6, pp. 37–46, 2015.

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