Enterprise Development and Microfinance, 32:1–2, 93–106
<http://dx.doi.org/10.3362/1755-1986.21-00002>

The COVID-19 pandemic and its impact on microfinance institutions in Indonesia

Tuti Ermawati, Agus Eko Nugroho, M. Soekarni, Nur Firdaus, Jiwa Sarana, Ragil Yoga Edi, Septian Adityawati, and Ikval Suardi

Abstract: *The paper aims to analyse the impacts of the COVID-19 pandemic on microfinance institutions (MFIs) and identify mitigation and adaptation measures to cope with the situation. An online survey and focus group discussions were employed to capture how far the COVID-19 pandemic affects MFIs' business. The results show that MFIs' performance is negatively affected due to the COVID-19 crisis as their major customers, micro and small enterprises (MSEs), have experienced a contraction. MFIs have implemented several mitigation and adaptation measures to cope with the situation and future shocks. These results provide an overview of how far the COVID-19 crisis affects MFIs which can help the government design policies that can support MFIs and MSEs to survive. However, some issues related to methodology, such as the inability to capture complex and profound information, survey monitoring, and response rate, influenced the analysis so that the research may lack generalizability. Thus, a more holistic methodology is needed to investigate the impacts of the COVID-19 pandemic comprehensively.*

Keywords: adaptation, COVID-19, microfinance institutions (MFIs), micro- and small enterprises (MSEs), mitigation, performance

Introduction

At the beginning of 2020, an unprecedented event, the COVID-19 outbreak, significantly changed world development. Although similar outbreaks occurred a few years ago, the World Health Organization (WHO) notes that the COVID-19 pandemic has profound impacts threatening not only the health system but also the global economy. Also, it has the potential to hinder efforts to achieve the Sustainable Development Goals (SDGs). The COVID-19 pandemic has infected more than 10 million people globally (WHO, 2020), and the number of cases continues to increase, jeopardizing the economy. As a result, it is predicted that the world's GDP will decline by around 5.6 per cent (Barrot et al., 2020). In response,

Tuti Ermawati (tuti001@lipi.go.id), Agus Eko Nugroho (agus016@lipi.go.id), M. Soekarni (msoe001@lipi.go.id), Nur Firdaus (nurf004@lipi.go.id), Jiwa Sarana (jiwa001@lipi.go.id), Ragil Yoga Edi (ragi001@lipi.go.id), Septian Adityawati (sept012@lipi.go.id), Ikval Suardi (ikva001@lipi.go.id), Indonesian Institute of Sciences: Lembaga Ilmu Pengetahuan Indonesia, Jakarta

efficient policies need to be adopted in anticipation of high economic costs and a prolonged economic crisis caused by the outbreak (Stock, 2020).

In Indonesia, the COVID-19 pandemic damaged the domestic economy, which experienced a very sharp decline in its major production sectors, particularly manufacturing, an increase in unemployment and poverty, and disruption in the food supply chain (Asian Development Bank (ADB), 2020; Muzakki, 2020; Nugroho et al., 2020). Consequently, the financial industry is inevitably overshadowed with substantial losses because of the deep contraction of the real sector. In response to this, the Government of Indonesia (GOI) released Presidential Instruction No. 4/2020 on Program Refocusing, Budget Reallocation and Procurement of Goods and Services in the context of Accelerating Handling of Corona Virus Disease 2019 (COVID-19) (Djalante et al., 2020), and other policies related to handling and anticipating of the further impact of the COVID-19 outbreak on the economy.

Furthermore, the Indonesian Government issued a fiscal stimulus policy amounting to IDR 695 tn (about US$49.6 bn) to cope with the economic recession. Within the programme, micro- and small enterprises (MSEs) gain financial support of about IDR 126 tn ($9 bn) as they are seen to be the sector most affected by the COVID-19 crisis. To this, stimulus packages include credit relaxation, tax exemption, and working capital allowance, helping MSEs overcome the unpleasant situation. MSEs have been prioritized to receive such facilities considering their contribution to GDP, accounting for 61 per cent (Damuri et al., 2020). In terms of implementation, such facilities are channelled through state-owned banks. This mechanism is regulated under Government Regulation No. 23/2020, in which financial institutions that provide such facilities are given funds in the form of liquidity supports. Following this, financial institutions perform credit restructuring policies that allow borrowers to reschedule and defer their repayment. However, it is worth noting that other financial institutions, such as microfinance institutions (MFIs) (e.g. cooperatives, Village Credit Institutions (Lembaga Pembiayaan Desa, or LPD), Baitul Maal Wat Tamwil (BMT), Revolving Fund Management Institution (Lembaga Pengelola Dana Bergulir, or LPDB), PT Permodalan Nasional Madani (PNM Mekaar programme), and PT Pegadaian (pawnshop)), that provide microfinance services receive less attention from the government. Such various institutions have gained from a stimulus package amounting to only IDR 1 tn ($71.4 m). It is evident that a large majority of MSEs, in fact, also benefit from MFIs to support their business with flexible financial schemes.

This study aims to capture the extent to which the COVID-19 pandemic affects Indonesian MFIs, by scrutinizing the personal opinions of many microfinance practitioners and MFIs' associations. We focus on several MFIs, such as conventional and sharia rural banks, saving and loan cooperatives, PT PNM (Mekaar programme), PT Pegadaian, and other microfinance institutions (conventional and Islamic). Such MFIs were chosen because they provide microcredit facilities to micro-, small, and medium enterprises (MSMEs). A survey was conducted on MFIs based on the database provided by the associations and principals of the MFIs.

Literature review

Several studies have discussed disturbances affecting the microfinance industry. A study by McGuire and Conroy (1998) shows that the crisis impacts microfinance if it is strongly linked to the financial system. It is, however, less affected in countries with the most significant concentrations of poverty. In the context of the global financial crisis in 2008, a cross-country study by Reile et al. (2009) finds that MFIs face difficulties in accessing external funding, and their microcredit portfolios deteriorate due to the poor condition of their clients.

Another disturbance, the Ebola outbreak in 2014–2016, had negative implications for MFIs through a decrease in GDP and per capita income, affecting the jobs and livelihoods of their MSE clients. To that effect, MFIs considered there was a greater uncertainty if they kept providing loans to these clients. Besides, mitigation measures to prevent the spread of infection through border closure and mobility restrictions that hindered economic activities, such as trading, investing, lending, and even consumption, impacted MFIs' clients (SLAMFI and Ayani, 2015; United Nations Development Group, 2015; Chakma et al., 2017).

In this study, the COVID-19 pandemic is seen to be similar to the case of the Ebola epidemic as a health concern that restricts people mobility and economic activities, affecting the microfinance industry. Here, we propose that due to the global pandemic, the magnitude of the impact on MFIs is more considerable because both domestic and international markets are disrupted, leading to economic recession. Unlike previous recessions in which the main cause was disturbance of the banking systems (e.g. the crisis of 1997/98), the COVID-19 pandemic hits the real sector through which limitation in production and trade, and thus of money flow significantly deteriorate the business performance of MSEs and lower-income groups. Hence, it is convincing to argue theoretically that the COVID-19 measures that restrict their lives and livelihoods considerably disrupt MFIs' markets, causing the problem in the business operation of MFIs.

Research methods

This study employed a mixed method by combining quantitative and qualitative approaches. In this study, we conducted an online survey to gather data on the impact of COVID-19 on MFIs. The targeted respondents of the study include rural banks (Bank Perkreditan Rakyat/Syariah or BPR/BPRS), saving and loan cooperatives, PT PNM (Mekaar), PT Pegadaian, and other microfinance institutions (conventional and Islamic). A number of focus group discussions (FGD) were undertaken to gain further information and verify data gathered from the survey. A literature review on information related to the COVID-19 pandemic and its relation to microfinance from current articles, research reports, and other documents was performed to design the questionnaire and support the analysis.

To analyse the impact of the COVID-19 pandemic on MFIs, we focused on the following issues. The first is the impact of the pandemic on MFIs' intermediation capacity, performance, and mitigation and adaptation strategies. The developing countries' economy, including Indonesia, is mostly driven by MSEs whose capital accessibility is served by MFIs (Kholiq et al., 2019). In microfinance practices, savings accumulation from MSEs is critically important for their lending services, as well as a liquidity source, to run their business (Tang et al., 2020). In this regard, this study presumes that the COVID-19 pandemic that disrupts economic activities indirectly exposes MFIs' role as a financial intermediary to MSEs.

The second is that the COVID-19 pandemic hinders the role of MFIs so that MFIs' debtors, such as MSEs, are exposed to the economic downturn, leading to an increase in non-performing loans (NPLs) that jeopardize their liquidity. Consequently, they would not be able to provide credit facilities (Tchuigoua et al., 2020).

The third, because of their social mission, is that it is critical to investigate the economic objective of MFIs to support their operating activities and sustain their business (Wasiaturrahma et al., 2020). Concerning this, a decline in the number of customers and savings, credit defaults, and liquidity problems will impair MFIs' profit and cash flow. In response, MFIs need to mitigate and adapt to minimize the risks as well as operating costs. It is important to argue that deep analysis is required on how MFIs respond to the adverse impacts caused by the COVID-19 pandemic, and future adaptation strategies post COVID-19 as the economic landscape may change. Referring to the scope of the analysis described above, the variables used in the study can be seen in Table 1.

Furthermore, the online survey of the study was administered in the following steps (see Figure 1). Firstly, we employed a purposive random sampling to collect data, from July to September 2020. The MFIs selected to be our respondents were obtained from the database provided by Perbarindo, Asbisindo, Ministry of Cooperatives and MSEs, and OJK. The questionnaire was self-administered, so we sent the online survey link to the respondents. Secondly, approximately 1,608 MFIs were sent the link to the online survey, but only 698 MFIs responded. Thirdly, after the screening of collected questionnaires, we obtained 277 respondents for the analysis. Fourthly, to interpret the results, we used descriptive analysis to investigate

Table 1 Analytical framework

Aspect	*Variable*	*Indicators*
Impacts	Disruption of financial intermediation	a. NPLs b. Savings c. No. of depositors d. Financing e. No. of debtors
Performance	Business performance	a. Credit channelled b. Profit c. No. of employees
Strategy	Mitigation	a. Increased NPLs b. Deposit risks c. Outreach problems
	Adaptation	a. Survival b. Post COVID-19

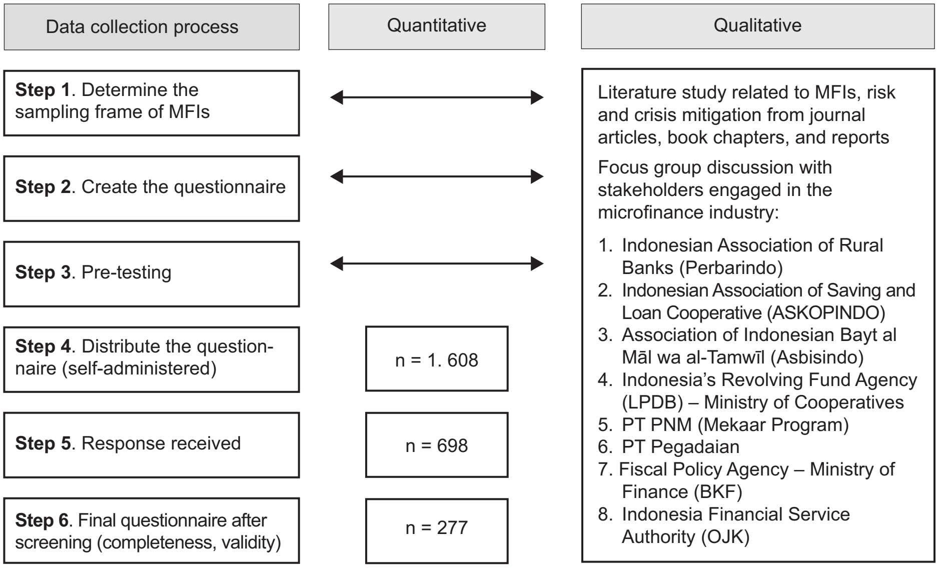

Figure 1 The data collection process

how the COVID-19 pandemic, as a disruptor, affects MFIs' role in intermediating financial services to MSEs, and how they implement mitigation and adaptation measures to respond to such effects.

Results and discussion

Disruption of financial intermediation by the COVID-19 pandemic: credit quality

The COVID-19 pandemic significantly hit Indonesia at the beginning of March 2020, following the implementation of the lockdown policy that hindered most economic activities, including the microfinance industry. Our survey shows that 96 per cent of MFIs were impacted because their core business in providing micro-financing facilities could not work properly (for more details, see Table 2, point c). In the early stage of the COVID-19 pandemic, the central government set in place a

Table 2 MFIs' assessment of the impact of the COVID-19 pandemic on performance

Statement	*Assessment of the COVID-19 pandemic effect on performance (%)*			
	Major effect	*Moderate effect*	*Minor effect*	*No effect*
a. The customers' business performance affects MFIs' performance	58.3	40.9	0.7	0.0
b. The COVID-19 pandemic affects MFIs' outreach	51.3	37.2	5.8	5.8
c. The COVID-19 pandemic affects MFIs' performance	57.0	39.0	2.2	1.8

Table 3 MFIs' assessment of the impact of the COVID-19 pandemic on credit quality

MFI category	*Assessment of NPL (%)*		
	Increase	*Stay the same*	*Decrease*
BPR/BPRS	83.3	3.7	13.0
Cooperatives and other MFIs	67.6	14.9	17.6
PT PNM	29.2	41.7	29.2
PT Pegadaian	80.0	13.6	6.4

lockdown policy to restrict social interactions, causing a decline in economic transactions, including MSEs. A study conducted by Nugroho et al. (2020) found that MSMEs experienced a 75 per cent drop in their sales compared with the normal condition. As a result, many MSMEs with significant debt in their balance sheet could not secure any loan repayment.

Furthermore, disruption in cash flows faced by MSEs increases the probability of default so that MFIs are exposed to a surge in NPLs. This unintended effect can be seen from our findings showing that about 65.0 per cent of MFIs claim increased NPLs. In more detail, BPR/BPRS, cooperatives and other MFIs, and PT Pegadaian are the most affected MFIs with regard to an increase in NPLs (see Table 3). Meanwhile, PT PNM so far can control its NPL at low levels by utilizing a group lending scheme. This is probably the case because in group lending, if one member of the group experiences defaults, the other members will bear the risk. Besides, each group member is required to make a weekly saving contribution to prevent any potential default. In other words, PT PNM will receive regular savings instalments from its borrowers to insure against the risk of loan defaults.

Intermediary dysfunction

Since MSEs' cash flows are in decline due to the COVID-19 pandemic, they faced difficulties repaying their loans to MFIs. This condition depresses further the business operation of MFIs, as most of their customers tended to withdraw their money for spending due to a reduction in wages, unemployment, and unprofitable MSEs business operations. Thus, instead of repaying their loans, many MSEs withdraw their savings not only for financing business purposes but also for sustaining daily consumption. In Table 4, about 55.6 per cent of MFIs received fewer savings from the customers. BPR/BPRS (68.5 per cent) and cooperatives and other MFIs (71.6 per cent) experienced a significant reduction in saving performance. Likewise, the number of depositors in the MFIs decreased as claimed by 45.8 per cent of MFIs. In more detail, BPR/BPRS and cooperatives and other MFIs lost a greater number of depositors. However, PT Pegadaian showed different performance in which the number of depositors increased consistently. This performance was driven especially by an increase in the gold savings scheme. In a state of uncertainty due to the COVID-19 pandemic, many people tended to hold portfolio investment in gold or jewellery.

Furthermore, another issue related to the intermediary function is the poor credit performance of MFIs. Table 5 reveals that the COVID-19 pandemic

Table 4 MFIs' assessment of the impact of the COVID-19 pandemic on saving performance

MFI category	*Assessment of saving performance (%)*		
	Increase	*Stay the same*	*Decrease*
Saving amount			
BPR/BPRS	18.5	13.0	68.5
Cooperatives and other MFIs	16.2	12.2	71.6
PT PNM	0.0	58.3	41.7
PT Pegadaian	23.8	35.4	40.8
No. of depositors			
BPR/BPRS	31.5	11.1	57.4
Cooperatives and other MFIs	12.2	21.6	66.2
PT PNM	0.0	62.5	37.5
PT Pegadaian	56.8	20.8	22.4

reduced the amount of MSEs' lending services as claimed by 52.3 per cent of MFIs surveyed. BPR/BPRS, cooperatives, PT PNM, and other MFIs faced the idiosyncratic problem in lending services. Interestingly, PT Pegadaian gained benefits from the COVID-19 crisis. For the low-income group, rather than selling assets, they tended to pawn their assets in PT Pegadaian to finance their daily expenditure. Moreover, in terms of the number of debtors, 57.0 per cent of MFIs surveyed agree that the COVID-19 pandemic has reduced their potential debtors (see Table 5). A decline in both the amount of loans and the number of debtors of MFIs occurred because of a reduction in incomes following the implementation of the lockdown policy that hindered people's mobility and interactions. The findings were confirmed by the report from OJK (2020c) showing MSE credit contraction during the pandemic.

Table 5 MFIs' assessment of the impact of the COVID-19 pandemic on credit channelled

MFI category	*Assessment of credit channelled (%)*		
	Increase	*Stay the same*	*Decrease*
MSMEs financing			
BPR/BPRS	44.4	5.6	50.0
Cooperatives and other MFIs	25.7	6.8	67.6
PT PNM	16.7	12.5	70.8
PT Pegadaian	66.4	12.8	20.8
No. of debtors			
BPR/BPRS	22.2	11.1	66.7
Cooperatives and other MFIs	33.8	13.5	52.7
PT PNM	8.3	20.8	70.8
PT Pegadaian	26.7	35.4	37.9

Business performance

In the first quarter of 2020, the business performance of many non-bank-type institutions (e.g. insurance companies, venture capital, and MFIs) declined as their total assets dropped by 1.56 per cent, driven by a decrease in asset value from the insurance and pension fund industry (OJK, 2020a). Interestingly, for regulated MFIs, their assets grew by about 23.8 per cent (year-on-year). This performance had not been affected by the COVID-19 pandemic because the first COVID-19 case was found in March 2020. In the second quarter, non-banks' performance began to decline because of the COVID-19 pandemic in which the assets dropped by 1.64 per cent, triggered by the financing and special financial institutions (i.e. financial institutions established for particular duties and functions to support the government to achieve social purposes, such as export credit agency, pawnshops, PT PNM, and housing financing agency) (OJK, 2020b). However, MFIs' assets, specifically, still grew 31.3 per cent (year-on-year), although the growth was smaller than the previous quarter (quarter-on-quarter). Similarly, BPR/BPRS experienced a decline in assets and credit growth. In the third quarter, BPR/BPRS' credit grew negatively (quarter-on-quarter) while pawnshops' assets and credit channelled increased constantly.

Specifically, the study reveals that MFIs' performance was disrupted due to the COVID-19 pandemic in which around 59.1 per cent of MFIs admit that their cash flow declined, leading to liquidity problems (see Table 6). Maintaining cash flow is critically important to make sound business plans. Thus, the downturn pressure

Table 6 MFIs' assessment of the impact of the COVID-19 pandemic on business performance

MFI category	*Assessment*		
	Increase	*Stay the same*	*Decrease*
Cash flow			
BPR/BPRS	25.9	20.4	53.7
Cooperatives and other MFIs	10.8	12.2	77.0
PT PNM	4.2	12.5	83.3
PT Pegadaian	47.2	30.4	22.4
Profits			
BPR/BPRS	38.9	7.4	53.7
Cooperatives and other MFIs	14.9	6.8	78.4
PT PNM	0.0	8.3	91.7
PT Pegadaian	49.6	16.8	33.6
No. of employees			
BPR/BPRS	14.8	68.5	16.7
Cooperatives and other MFIs	4.1	73.0	23.0
PT PNM	8.3	83.3	8.3
PT Pegadaian	12.8	78.4	8.8

on cash flow has made it difficult for MFIs to run their business during the COVID-19 crisis. However, PT Pegadaian's cash flow was relatively better than the other three MFIs, remaining positive. With such liquidity pressure, many people prefer to pawn their assets to meet their daily needs and overcome the cash flow problems of MSEs. This behaviour, in turn, provides an additional income source to PT Pegadaian.

On the one hand, a decline in cash flows has led to a reduction in MFIs' profitability, as they have to implement credit restructuring policies: for example, repayment reschedules, instalment deferment, and reduced interest rate for MSEs debtors. On the other hand, the operating costs of MFIs remain the same, worsening their business performance. Except for PT Pegadaian, our survey has found that most MFIs (64.4 per cent) confirm a significant drop in their profits due to the COVID-19 pandemic (see Table 6). PT PNM was the most affected because its financing performance deteriorated considerably, resulting from the downturn in interest income.

It is worth noting that although their financial performance worsened significantly, the lay-off policy in MFIs' operation has not changed (see Table 6). To minimize operational costs, many MFIs tended to cut salary and other expenses. In such a difficult situation, many MFIs regard that lowering salary will be more helpful for their employees rather than laying them off. Interestingly, some MFIs indeed have increased the number of employees, especially those with IT skills to support their business during the pandemic. This plan indicates the immediate transformation of MFIs' business into digital operation during the pandemic.

Mitigation measures by MFIs during the pandemic

It is evident that the serious implication of the COVID-19 pandemic has been associated with the restriction measures on people's social interaction and mobility. This situation hampered MFIs as their business operation relied heavily on face-to-face contact and interaction in providing financial services to the customers, as in the case of the Ebola outbreak. It is common for MFIs in Indonesia to engage in personal approaches to build a strong and close relationship. This means that the social distancing policy to overcome the pandemic has a serious consequence for the business practices of MFIs.

The previous section underlines the fact that the COVID-19 pandemic has brought about negative implications for MFIs' business performance. The poor performance of MFIs' loans was particularly associated with the contraction of the MSE business as their major clients. To mitigate this problem, most MFIs surveyed (87.8 per cent) have implemented the proactive approach to collect loan repayments to minimize default rate (see Table 7). This approach was undertaken in two ways. The first was by motivating their MSE customers to only focus on the core of their business during the pandemic, and the second was by promoting their customers' products to increase sales.

Moreover, the COVID-19 pandemic has led MSEs to face a significant drop in sales due to lower demand for their products and services. As a result, many MFIs have been facing serious liquidity problems. In this regard, they have to carefully

Table 7 Mitigation measures done by MFIs

Strategies	*Percentage*			
	BPR/BPRS	*Cooperatives and other MFIs*	*PT PNM*	*PT Pegadaian*
An increase in NPLs				
a. Business as usual	0.0	5.4	0.0	1.6
b. Collecting loans proactively	90.7	81.1	83.3	96.0
c. Assisting to promote customers' business	37.0	25.7	37.5	32.8
d. Motivating borrowers	70.4	81.1	75.0	64.0
e. Other[1]	29.6	12.2	16.7	19.2
Deposit risks				
a. Business as usual	7.5	8.1	20.8	4.0
b. Offering competitive interest rates or returns	40.4	21.9	29.2	24.8
c. Providing door prizes or merchandise	51.9	17.6	29.2	43.2
d. Getting new customers	88.7	74.3	37.5	63.2
e. Other[2]	18.9	31.1	8.3	6.4
Outreach problems				
a. Business as usual	3.8	8.1	0.0	4.0
b. Offering competitive interest rates or returns	88.7	73.0	58.3	75.2
c. Providing door prizes or merchandise	35.8	14.9	29.2	29.6
d. Getting new customers	50.9	63.5	75.0	52.8
e. Other[3]	18.9	14.9	12.5	15.2

Notes: [1] Selective lending, asset auction, credit restructuring, and credit expansion
[2] Education and socialization for customers, trust development, excellent service, attractive lending facilities, and offering new products
[3] IT utilization/digital application provision, selective lending, and priority areas mapping

scrutinize the risk of maturity mismatch, especially for their most needed customers. To prevent and minimize illiquidity risk, most MFIs (65.9 per cent) conducted strategies with greater effort to increase the number of new saving customers to balance cash outflows (see Table 7). In practice, it has been undertaken by providing door prizes, merchandise rewards, and competitive interest rates for their savings so as to attract both existing customers and new customers.

Adaptation strategies to survive during and post COVID-19

Adaptation strategies are particularly critical for business under an environment of greater uncertainty with significant implications. The impact of the COVID-19 pandemic is more serious for MFIs with a lack of access to the financial markets. In response, MFIs employed several adaptation strategies to survive against such a situation. Our survey has found that three generic methods were adopted: utilizing digitalized reports (53.4 per cent), cooperating with other financial institutions (45.2 per cent), and target reduction (49.9 per cent). MFIs also implemented other strategies that were considered suitable for microfinance characteristics, such as credit restructuring, prioritizing core businesses, product diversification, and efficiency improvement; however, only a few MFIs employed such strategies.

In more detail, the reduction in loan disbursement target has been the main strategy of most BPR/BPRS (56.6 per cent) and cooperatives and many other MFIs (66.2 per cent) (see Table 8). Such MFIs are deemed to have relatively limited capital

Table 8 Adaptation strategies to survive during and post COVID-19

Strategies	*Percentage*			
	BPR/BPRS	*Cooperatives and other MFIs*	*PT PNM*	*PT Pegadaian*
During the COVID-19 pandemic				
a. Cut workers	3.8	13.5	4.2	2.4
b. Reports digitalization	52.8	28.4	58.3	74.2
c. Management restructuring	5.7	13.5	4.2	2.4
d. Cooperate with other financial institutions	52.8	36.5	37.5	54.0
e. Reduce targets	56.6	66.2	54.2	22.6
f. Other[1]	32.1	35.1	8.3	21.8
Post COVID-19				
a. Merger and/or acquisition	5.7	10.8	4.2	0.0
b. Outsourcing	0.0	5.4	0.0	8.0
c. Product diversification	47.2	55.4	29.2	33.6
d. Digital services	62.3	41.9	79.2	96.0
e. Shift to financial technology (fintech)	17.0	10.8	20.8	42.4
f. New ways of working (e.g. working from home)	30.2	31.1	41.7	48.8
g. IT infrastructure improvement	54.7	44.6	50.0	53.6
h. Organization optimization	9.4	18.9	12.5	4.0
i. Branches closure	1.9	12.2	4.2	4.0
j. Other[2]	18.9	17.6	4.2	4.0

Notes: [1] Credit restructuring, core business prioritization, digital service provision, product diversification, efficiency, internal consolidation, public information disclosure, excellent service, credit tightening

[2] Increasing loans and saving, efficiency, credit restructuring, market expansion, improving employees' performance, building networks, strengthening core business, target reduction, credit facility provision

and liquidity resources compared to PT PNM and PT Pegadaian. Interestingly, PT PNM and PT Pegadaian are state-owned enterprises with better IT skills and resources so that they are more able to respond to the crisis. However, such a strategy only focused on developing paperless reports, while digital services have not been fully implemented. During the COVID-19 pandemic, digital services are mostly needed by customers as they have to minimize face-to-face contact and interactions.

Furthermore, our survey recognizes that 70.6 per cent of MFIs believe that the economic situation would be better next year. These optimistic views of MFIs are based on the belief that MSEs' performance will revive and recover by 2021. To this regard, several strategies would be performed by MFIs in response to the economic recovery from the COVID-19 pandemic mainly through the implementation of digital service provision (69.8 per cent), IT infrastructure improvement (50.7 per cent), product diversification (41.3 per cent), implementation of new ways of working (e.g. working from home) (37.9 per cent), and shifting to financial technology (22.7 per cent). These imply that the preferred adaptation undertaken by MFIs in the near future is to focus on utilization of better IT capability to support digital services. The COVID-19 pandemic has created an opportunity for MFIs to improve their productivity by adopting digital technology to reduce operating costs.

Conclusion

This study has investigated the impact of the COVID-19 pandemic on the operational business of MFIs in Indonesia closely. Specifically, three conclusions arise from the study: first, the majority of MFIs, inevitably, have experienced a contraction in terms of financing, savings, and the number of customers and of an increase in NPLs. This is linked to the business downturn of their MSE clients that leads to liquidity shortage and greater risk of loan default of MFIs.

Second, among various players, this study recognizes that cooperatives and other MFIs have suffered the most compared to rural banks (BPR/BPRS) and PT Pegadaian. With less access to financial markets, a significant drop in savings and loans, as well as the number of small-scale depositors and borrowers, leads to financial distress. This is associated with a decrease in cash flow and profits, and reduction in operating costs to sustain their business. Laying off employees to reduce costs is not an option for MFIs because of their close relationships with employees rather than implementing lower working hours.

Third, mitigation and adaptation are crucial for MFIs because they face financial constraints to overcome the uncertain situation. Mitigation strategies, such as proactive repayment collection, getting new customers, and offering competitive deposit interest rates, are how MFIs cope with sudden liquidity shortage and greater risk of default. Furthermore, adaptation strategies during the pandemic have been undertaken through reducing target, report digitalization, and strengthening cooperation with other financial institutions. As people's mobility is restricted, improving IT infrastructure and digitalizing services are required for MFIs to be more adaptive to the current situation and anticipate future shocks.

With regard to the above conclusions, the following recommendations for sustaining the MFIs during the pandemic should be considered.

MFIs are encouraged to improve their human resources in IT and digital-related skills. In the context of the COVID-19 pandemic, the implementation of crisis management strategies would be more likely to succeed by strengthening the organization with more advanced IT capabilities.

In the complexity of the COVID-19 pandemic, the government's financial supports remain needed not only for micro-banking but also MFIs which are highly exposed to the business downturn of MSEs. The current support is insufficient with respect to a large number of MFIs. Financial authorities, such as Bank Indonesia and OJK, need to work together with the ministerial government to improve regulation and supervision, especially closely monitoring the governance system of MFIs.

Last, it is worth noting that the online survey employed in this study has various limitations. During the COVID-19 pandemic, this method could not fully monitor respondents when they filled in the questionnaire. The online survey is also self-administered with a simple questionnaire design, leading to insufficient information for such a complex issue. Therefore, further study remains important to have a better knowledge of the implications of the pandemic for MFIs with different financial capacity and business capability to respond to such unpleasant situations. It is also evident that the COVID-19 pandemic is unlikely to end in the near future, so deeper studies are required to gather complex and profound information.

References

Asian Development Bank (ADB) (2020) *Asian Development Outlook 2020 Update: Wellness in Worrying Times*, Manila, Philippines: ADB [online] <http://dx.doi.org/10.22617/FLS200256-3>.

Barrot, J.-N., Grassi, B. and Sauvagnat, J. (2020) 'Sectoral effects of social distancing', *Covid Economics* 3(April): 85–102.

Chakma, H., Coppel, E., Diallo, A., Dubitsky, R. and Whisson, I. (2017) *Financial Inclusion and Resilience: How BRAC's Microfinance Program Recovered from the West Africa Ebola Crisis*, Global Delivery Initiative, BRAC, Bangladesh <https://www.globaldeliveryinitiative.org/sites/default/files/case-studies/rflessonslearned_10-25-17.pdf> [accessed 2 March 2021].

Damuri, Y.R., Aswicahyono, H., Hirawan, F., Setiati, I. and Simanjuntak, I. (2020) *Langkah Pemberdayaan UMKM dalam Menghadapi COVID-19* [pdf], CSIS Policy Paper Series PPSECO 1/2020, Jakarta, Indonesia <https://www.jstor.org/stable/pdf/resrep26733.pdf>.

Djalante, R., Lassa, J., Setiamarga, D., Sudjatma, A., Indrawan, M., Haryanto, B., Mahfud, C., Sinapoy, M.S., Djalante, S., Rafliana, I., Gunawan, L.A., Surtiari, G.A.K. and Warsilah, H. (2020) 'Review and analysis of current responses to COVID-19 in Indonesia: period of January to March 2020', *Progress in Disaster Science* 6: 100091 <http://dx.doi.org/10.1016/j.pdisas.2020.100091>.

Indonesia Financial Services Authority (OJK) (2020a) *Laporan Triwulan I-2020* [pdf], Jakarta, Indonesia <https://www.ojk.go.id/id/data-dan-statistik/laporan-triwulanan/Pages/Laporan-Triwulan-I---2020.aspx> [accessed 12 April 2021].

OJK (2020b) *Laporan Triwulan II-2020* [pdf], Jakarta, Indonesia <https://www.ojk.go.id/id/data-dan-statistik/laporan-triwulanan/Pages/Laporan-Triwulan-II---2020.aspx> [accessed 12 April 2021].

OJK (2020c) *Laporan Triwulan III-2020* [pdf], Jakarta, Indonesia <https://www.ojk.go.id/id/data-dan-statistik/laporan-triwulanan/Pages/Laporan-Triwulanan-III---2020.aspx> [accessed 12 April 2021].

Kholiq, A., Hartono, N. and Fathonih, A. (2019) 'Inovasi Model Pembiayaan Mudharabah oleh Industri Keuangan Non-Bank (INKB) untuk Usaha Pengolahan Terasi di Cirebon', *EKSPANSI: Jurnal Ekonomi, Keuangan, Perbankan dan Akuntansi* 11(1): 101–16 <http://dx.doi.org/10.35313/ekspansi.v11i1.1318>.

McGuire, P.B. and Conroy, J.D. (1998) *Effects on Microfinance of the 1997–1998 Asian Financial Crisis*, The Foundation for Development Cooperation, Brisbane, Australia.

Muzakki, F. (2020) 'The global political economy impact of COVID-19 and the implication to Indonesia', *Journal of Social Political Sciences* 1(2): 76–92.

Nugroho, A.E., Fizzanty, T., Febiyansyah, P., Cahyono. B.D., Farandy, A., Novandra, R., Endah, N.H., Handoyo, F.W. and Adityawati, S. (2020) 'Data Survei Dampak Pandemi COVID-19 terhadap Kinerja UMKM' [online], Pusat Penelitian Ekonomi (P2E)-LIPI (ed.), Jakarta, Indonesia, RIN Dataverse <https://hdl.handle.net/20.500.12690/RIN/KWAGMW> [accessed 12 April 2021].

Reile, X., Kneiding, C. and Martinez, M. (2009) *The Impact of the Financial Crisis on Microfinance Institutions and their Clients*, CGAP Brief, Consultative Group to Assist the Poor, Washington, DC.

SLAMFI and Ayani (2015) *Sierra Leone: The impact of the Ebola Crisis on the Microfinance Sector and Stories of Microentrepreneurs' Resilience* [pdf] <https://www.findevgateway.org/sites/default/files/publications/files/sierra_leone_the_impact_of_ebola_crisis_on_the_microfinance_sector.pdf> [accessed 2 March 2021].

Stock, J.H. (2020) *Data Gaps and the Policy Response to the Novel Coronavirus*, Working Paper 26902 [online], National Bureau of Economic Research, Cambridge, MA <http://dx.doi.org/10.3386/w26902> [accessed 12 April 2021].

Tang, J.J., Quayes, S. and Joseph, G. (2020) 'Microfinance institutions, financial intermediation and the role of deposits', *Accounting & Finance* 60(2): 1635–72 <http://dx.doi.org/10.1111/acfi.12506>.

Tchuigoua, H.T., Soumere, I. and Hessou, H.T.S. (2020) 'Lending and business cycle: evidence from microfinance institutions', *Journal of Business Research* 119: 1–12 <http://dx.doi.org/10.1016/j.jbusres.2020.07.022>.

United Nations Development Group (2015) *Socio-Economic Impact of Ebola Virus Disease in West African Countries: A Call for National and Regional Containment, Recovery and Prevention* [pdf] <https://www.undp.org/content/dam/rba/docs/Reports/ebola-west-africa.pdf> [accessed 12 April 2021].

Wasiaturrahma, Sukmana, R., Ajija, S.R. and Salama, S.C.U. (2020) 'Financial performance of rural banks in Indonesia: a two-stage DEA approach', *Heliyon* 6(7): E04390 <http://dx.doi.org/10.1016/j.heliyon.2020.e04390>.

World Health Organization (WHO) (2020) 'WHO Coronavirus Disease (COVID-19) Dashboard' [online] <https://covid19.who.int/> [accessed 2 July 2020].