

Research Article

Strengthening Micro and Small-scale Enterprises' (MSE's) Resilience and Adaptability to Accelerate Economic Recovery Post-Covid-19 Pandemic in Indonesia

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The Corona Virus Disease 2019 (COVID-19) outbreak 2020 opened a new discourse that a global health disaster could trigger an economic crisis. For Indonesia, this crisis was marked by a significant decline in economic activity in almost all sectors, so gross domestic product (GDP) growth was corrected to –2.19%. COVID-19 has had a tangible impact on the decline in the performance of MSMEs. In responding to the global crisis caused by COVID-19, MSMEs must have a crisis management strategy. Efforts to strengthen the resilience of MSMEs amidst the uncertainty caused by the COVID-19 pandemic require external support, especially from the government. This research generally aims to improve the strength and adaptive capacity of MSEs to accelerate economic recovery after the COVID-19 pandemic. From the results of the analysis, fintech financing has a significant influence on capital productivity. If fintech sets high interest rates, it will have an impact on reducing MSEs' capital productivity. The value of loans during the pandemic era for access to online loans has the potential to strengthen the resilience of MSEs from the pressures of the economic crisis. The suitability of the loan value to business needs shows that MSEs whose fintech loans match business needs will be able to increase capital productivity compared to MSEs with unsuitable fintech loans, and the usefulness of fintech loans means that fintech has a positive impact on MSEs' capital productivity by looking at its effectiveness.

Keywords: SMEs, financial technology, capital, productivity

1. Introduction

The COVID-19 epidemic of the Corona Virus Disease in 2020 opened a new discourse that a global health disaster could trigger economic crises. For Indonesia, such crises were marked by a significant decline in economic activity in almost all sectors. In addition, the massive social policy (PSBB) from April to December 2020 simultaneously caused a contraction on the aggregate supply and demand sides. As a result, its growth

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gross domestic product (GDP) growth was corrected to reach -2.19% in 2020. However, entering 2021, economic activity shows signs of recovery as indicated by GDP growth of -0.71% and a significant 7.07% in the quarter II 2021 (y-on-y). This indication of the recovery process is inseparable from the government's quick response through the national economic recovery program (PEN), which was issued in May 2020.

To accelerate economic recovery, one of the main pillars of the PEN program is a policy stimulus to encourage business activities of MSMEs (micro, small, and medium-sized businesses) as the engine of the populace's economy. Data from the Kemenkopukm (2019) shows that the micro-business group has the most significant proportion, reaching 64,601,352 units (98.67%), while small businesses are 798,679 units (1.22%). On the other hand, the medium and large business groups are relatively small, with 65,465 units (0.10%) and 5,637 units (0.01%), respectively. The COVID-19 outbreak has had an impact on declining MSME performance. Furthermore, the quick study survey results show that digital technology provides more significant opportunities for MSMEs to maintain their sales compared to physical marketing alone. (Nugroho et al., 2020).

On the one hand, business activities are becoming highly and globally interrelated, but on the other hand, they are increasingly vulnerable to various existing risks. This means that business continuity will lead to more 'failures' conditions which demand less margin of error in understanding disruptions (Machado et al., 2020). The COVID-19 outbreak shows that many institutions are unaware of their vulnerability to unexpected global disruptions (Singh et al., 2021). This is systemic when the COVID-19 outbreak has resulted in global disruption to supply chains due to factory closures, specific events and inventory disruptions. MSMEs serve as the socioeconomic foundation of the majority of emerging nations (Jafari-Sadeghi et al., 2020), have had a very significant impact due to the COVID-19 outbreak in three ways: First, the COVID-19 pandemic has directly changed production and demand pattern. Second, it disrupts supply chains and market behaviour, and third, it harms companies and financial markets (Spicer, 2020).

In responding to the global crisis due to COVID-19, MSME actors must have a strategy for crisis management. This strategy is essential because it can help MSMEs understand how businesses adapt and respond to drastic changes. Theoretically, this adaptation strategy manifests the level of resilience of MSMEs to be able to overcome various obstacles in situations of uncertainty. Resilience in the context of business refers to a person's capacity and ability to endure and adapt in order to grow and flourish during difficult circumstances (Kuckertz et al., 2020).

With various existing limitations, efforts to strengthen MSME resilience amid the uncertainty due to the COVID-19 pandemic require external support, especially from

the government. The empirical justification refers to the experience of the importance of Bank Indonesia's liquidity assistance program (BLBI) for large-scale corporations in the 1997/98 economic crisis. In addition, during of the COVID-19 outbreak, efforts to strengthen MSME resilience were carried out through the PEN program, among others: (1) Simplifying credit requirements for low-cost, interest-subsidized financing for MSMEs through People's Business Credit (KUR); (2) Relief on loan installment payments for MSMEs; (3) A policy of easy access to cheap financing through cooperative Revolving Fund Distribution Institutions (LPDB) to MSMEs. According to (Pranata & Suardi, 2021), based on the results of a survey that has been carried out, it shows that cooperatives as one of the leading choices for external financing for MSMEs 38.66%. This means that the government has a strong enough justification for optimizing the role of cooperatives as external financing institutions for MSMEs in the COVID-19 outbreak era, in addition to the broad reach and distribution of cooperatives in Indonesia.

Various emergency policies are carried out in various developing countries to strengthen the resilience of MSMEs to the economic crisis due to the COVID-19 outbreak, including debt relief, emergency loans, debt relief and exemption, and subsidies from the government (Sibanda et al., 2021). According to (Thukral, 2021), the COVID-19 crisis has caused changes in consumer behavior that affect MSME entrepreneurship. The implication is that the ability of MSMEs to respond to these changes will depend on their ability to carry out creative and innovative ideas. For this reason, economic policy must be oriented toward strengthening the capabilities of MSMEs in creating and innovating, both at the production, distribution, and exchange levels. Because the COVID-19 pandemic's economic and social effects will continue to be sustainable within the parameters of the new normal, this becomes extremely critical. Failure to strengthen MSME resilience will be very problematic for accelerating economic recovery for achieving sustainable development in developing countries (Sibanda et al., 2021).

In other words, strengthening MSME resilience will accelerate the achievement of the Sustainable Development Goals (SDGs), particularly poverty alleviation and the creating decent jobs (Sibanda et al., 2021).

The main focus of this research is how to improve MSEs' resilience and flexibility to speed up the recovery from the COVID-19 pandemic. To achieve this goal, this study describes the importance of digital technology capabilities for MSEs, particularly in external financing. In responding to the global crisis caused by COVID-19, MSMEs must have a crisis management strategy. Efforts to strengthen the resilience of MSMEs amidst the uncertainty caused by the COVID-19 pandemic require external support,

especially the government. This research generally aims to strengthen resilience and adaptive capacity for MSEs as an effort to accelerate economic recovery after the COVID-19 pandemic. This study illustrates the value of digital technology skills for MSEs, particularly in external finance, in order to accomplish that goal.

2. Literature Review

Globalisation emphasises the significance of SMEs as advocates of a healthy business climate, economic efficiency, and strength for economic development, particularly in developing nations, according to (Keskin et al., 2010). SMEs are now crucial in developing nations since they operate with less capital but require more labour, have lower management costs, and can produce goods at lower costs. Despite having significant shortcomings, SMEs are less impacted by the economic crisis because of their adaptability and flexibility. SMEs are crucial for fostering entrepreneurship, competitiveness, innovation, and the development of strong innovation systems in emerging nations. Despite having significant shortcomings, SMEs are less impacted by the economic crisis because of their adaptability and flexibility.

Resilience is a key idea in entrepreneurial crisis management, according to (Doern et al., 2019), This is especially linked to the capability of business actors to sustain their operation during disruptive events. The accessibility to financial resources, for instance, is vital during the crises, so as to accelerate recovery processes (Spillan & Hough, 2003; Williams et al., 2017). It is of paramount importance during the COVID-19 crisis for SMEs to quickly restore the functionality of their business operation affected by a disrupted system (Williams et al., 2017).

However, in the case of SME business, their capability to response to the crises often need affirmative and systematic support from external sources. In many cases, the MSEs' business resilience often requires primarily financial and empowering services that could help overcome difficulties during the era of uncertainty (Guttler, 2001). According to (Doern et al., 2019), changes in sales and marketing are one of the crisis management that business actors can do to reduce uncertainty and liquidity pressure due to the crisis. For MSEs, the advantages in terms of adapting to a crisis (Smallbone et al., 2012) is that they are often more creative than large businesses. In the context of financing, such creativity can take the forms of utilizing multiple lending sources from relatives and friends to semi and/or fully commercial loans from moneylenders, cooperatives, fintech providers, micro banking and the likes. The access of SMEs to such small scale loans aims particularly to ensure that their businesses can survive in the face of short-term

liquidity adversity. (Kuckertz et al., 2020) puts forward the notion that crisis management by MSEs level is an entrepreneurship responsibility, while policymakers play critical role in facilitating MSEs to deal with crises such as in the case of the COVID-19 pandemic.

Observing how the government’s response in dealing with the economic crisis in the COVID-19 pandemic era, several emergency policies can be synthesized in Table 1, as follows:

TABLE 1: Emergency policy responses supporting MSME resilience toward the COVID-19 outbreak.

No	Countries	Debt Relief	Emergency loans	Tax breaks and exemptions	Government subsidies
1	Brazil	Yes	Yes	Yes	-
2	China	Yes	Yes	Yes	Yes
3	Afrika Selatan	Yes	Yes	Yes	Yes
4	Chile	-	-	Yes	-
5	Rwanda	Yes	Yes	-	-
6	Iran	Yes	-	Yes	Yes
7	Pakistan	-	Yes	-	-
8	Malaysia	Yes	Yes	Yes	Yes
9	Cambodia	-	Yes	Yes	-
10	Nigeria	Yes	Yes	-	-

Source: (Sibanda et al., 2021)

Due to the unique difficulties SMEs are currently facing, countries have taken action to help SMEs’ ability to continue doing business. While public health is of primary concern, a number of initiatives have been put in place to lessen the financial toll that the coronavirus outbreak has had on businesses. With a significant emphasis on programmes to sustain short-term liquidity, many nations are enacting measures to support SMEs and the self-employed during this extremely difficult period (OECD, 2020).

Several nations have concentrated on more comprehensive programmes to soften the shock to the economy and to all enterprises. For instance, by easing monetary circumstances, Central Banks have intervened to support lending in numerous nations. Additionally, a number of nations have implemented SME-specific policy measures, one of which is the implementation of structural policies in an increasing number of nations to assist SMEs in embracing new work practises and (digital) technology as well as in finding new markets and distribution networks to continue marketing despite the current restrictive regulations. Fundamentally, this strategy seeks to alleviate severe short-term

liquidity issues, such as those brought on by the use of teleworking, but it also helps to structurally increase SMEs' resilience and enable further growth (OECD, 2020).

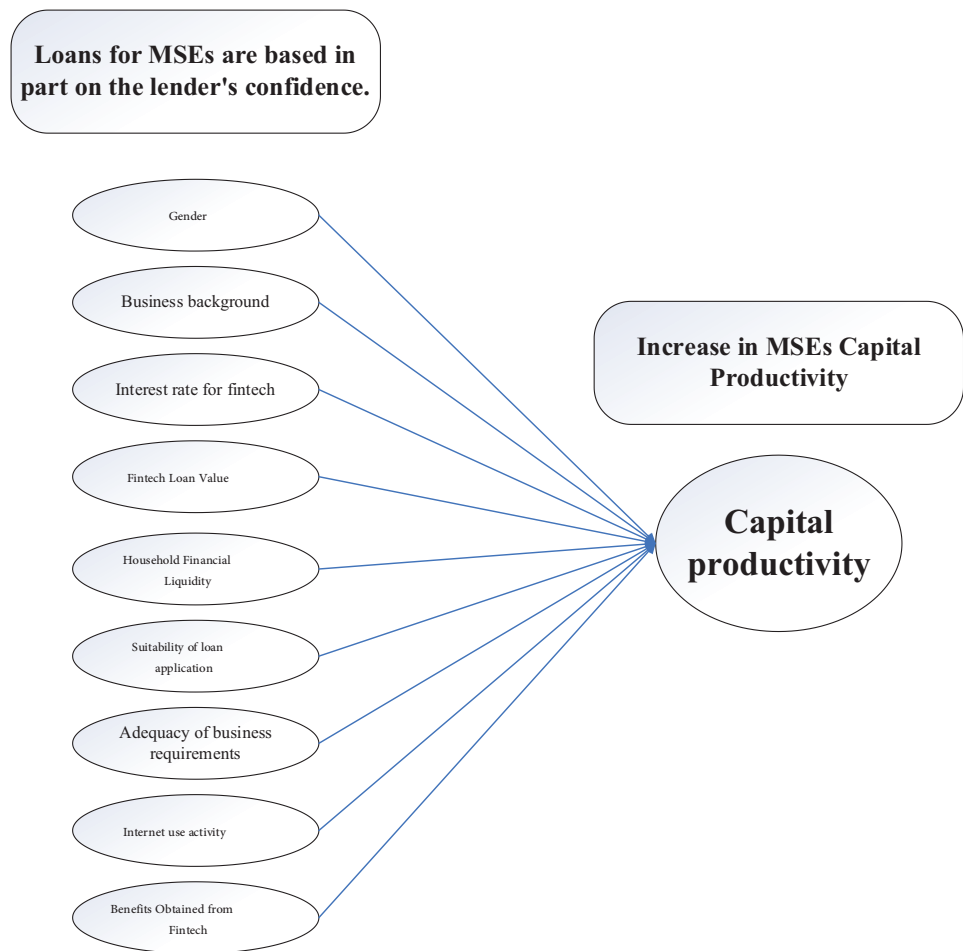
According to (Molotkova et al., 2019), small-scale businesses have several advantages in terms of flexible organizational structure and simple operational decision-making process. Yet, they often face financial constraints, high-interest rates charged due to high transaction costs of production. SMEs are also highly susceptible to changes in external environment and local demand. In this regard, the presence of financial innovation, such as digital financing can accelerate the growth of MSE business through an increasing access to external financing. As (Beck & Demirguc-Kunt, 2006) recognize, the availability of sophisticated financial products, such as digital finance, can encourage greater access of MSEs to financing. However, the lack of knowledge on digital technology constrain MSE in utilizing such virtual financial services (Lee et al., 2015).

A study by (Rosavina et al., 2019), several factors influence the willingness of MSEs in utilizing Peer-to-Peer (P2P) lending services from fintech providers. Among them are fast loan processes, interest rates, loan amounts and flexible installment. From the perspective of borrower however, Information on borrower characteristics is crucial for determining loan availability as well as the likelihood of default in virtual lending (Liu & Wu, 2020). According to (Tao et al., 2017), profiling data on borrowers could forecast the possibility of credit failure, which would have an impact on the approval of loan requests.

The biggest risk connected with digital peer-to-peer lending is managing and minimising credit risk, according to (Bernè et al., 2006). Considering the capacity of fintech firms to recognise and evaluate the hazards of offering virtual loans (Dang et al., 2020). Since the majority of virtual loans are given unsecured to unidentified borrowers, the default risk is considerable for fintech lending schemes by nature. The tricky part is figuring out how fintech companies may use virtual data on borrower creditworthiness to calculate risk mitigation (Dang et al., 2020). This study takes into account nine variables that could potentially affect how much fintech affects MSEs' capital productivity (Figure 1).

In the context of the influence of fintech on capital productivity, there are nine indicators as proxies. Therefore, if fintech does not reduce capital productivity, it will be a consideration for investors in providing loans in the amount required by MSEs to increase MSEs capital productivity. Therefore, this study will test several hypotheses as follows:

1. Hypothesis 1 : Positive effects of gender on MSEs capital productivity
2. Hypothesis 2 : Background in the business world boosts MSEs capital productivity.



Source: Authors

Figure 1: Conceptual framework. Source: Authors.

3. Hypothesis 3 : Interest rate for fintech have a positive effect on MSEs capital productivity
4. Hypothesis 4 : The value of fintech credit has a positive effect on MSEs capital productivity
5. Hypothesis 5 : Household financial liquidity positively effect on MSEs capital productivity
6. Hypothesis 6 : Suitability of credit application positively effect on MSEs productivity
7. Hypothesis 7 : Adequacy of business requirements needs positively affects MSEs productivity.
8. Hypothesis 8 : Internet activity has a positive effect on MSEs productivity
- Hypothesis 9 : Benefits obtained from fintech loans positively affect SMEs productivity.

3. Methodology

This study uses primary data obtained through an online survey in five provinces in Indonesia, the survey was undertaken during the period of May 2019 in five provinces in Indonesia: West Java, the special capital region of Jakarta, the special region of Yogyakarta, East Java and Central Java, interviewing 500 MSE respondents who accessed fintech. Of the 500 MSE respondents who received the questionnaire, around 345 respondents were willing to fill out the questionnaire to the demographic profile, while 242 respondents did not participate, and the remaining 135 were able to complete the questionnaire. However, after validation of the 135 respondents, only 103 respondents were eligible for further analysis. This research has a weakness in the small sample size; non-probability sampling and purposive sampling methods are used for online survey sampling. It is hoped that future research will get more respondents with a more comprehensive regional distribution. Purposive sampling has several limitations which include non-random selection of participants, namely that researchers are subjective and biased in selecting research subjects (Dolores & Tongco, 2007). Because we had budget limitations, we only took samples in 5 provinces. Still, the respondents we obtained were far from expectations because many needed to fill out the questionnaire, so we could not analyze the data we received.

Data collection is essential in research; it is vital that choosing how to obtain data and from whom to obtain the data is carried out with good judgment, especially because small amounts of analysis can make up for data collected incorrectly (Etikan, 2016). The purposeful selection of a participant is a component of the judgement sampling method, which is also known as purposive sampling. There is no underlying theory necessary for this non-random strategy to work. Simply put, based on their knowledge or experience, researchers select what needs to be understood and are willing to offer information assistance (Bernard, 2002)

This study aims to examine how fintech loans affect capital productivity. MSEs' accessibility to fintech loans is the main goal because online loan distribution tends to increase significantly during the COVID-19 outbreak. Therefore, this study will analyze how the accessibility of fintech affects the productivity of MSEs' capital. In this case, we construct the capital productivity variable (Y) in a binary manner, where $D=1$ if capital productivity is more significant than one (1), reflecting increasing returns to scale, and $D=0$ if MSE capital productivity is equal to or lower than 1 (one). Statistically, the analytical model used in this study is the logistic method. In this case, the capital productivity

probability variable (variable Y) is influenced on several variables, described in the table below.

TABLE 2: Description and statistical variables.

variables	code	mininum	maximum	mean	Standard deviation	Data type
Productivity	Y	0	1	0.4175	0.4955	Binary
Gender	α_1	0	1	0.8058	0.3975	Binary
Business background	α_2	0	31	5.2136	5.4424	Numeric
Interest rate for fintech	α_3	1	3	2.1262	0.6519	Ordinal
Fintech loan value	α_4	5.00E5	1.00E8	9.0792E6	1.63271E7	Numeric
Household financial liquidity	α_5	0.07	1.50	0.5121	0.2342	Numeric
Suitability of loan application	α_6	0	1	0.4757	0.5018	Binary
Adequacy of business requirements	α_7	0	1	0.7379	0.4419	Binary
Internet use activity	α_8	1	3	1.2233	0.5411	Ordinal
Benefits obtained from fintech	α_9	1	3	1.8155	0.8488	Ordinal

In simple terms, the general form of the logistics model in this study is described by the following equation:

$$L(i) = \ln \left[\frac{\pi(x)}{1-\pi(x)} \right] = \beta_0 + \beta_1\alpha_1 + \beta_2\alpha_2 + \beta_3\alpha_3 + \beta_4\alpha_4 + \beta_5\alpha_5 + \beta_6\alpha_6 + \beta_7\alpha_7 + \beta_8\alpha_8 + \beta_9\alpha_9 + \epsilon$$

Description:

L(i) = SME productivity

β_0 = Constant

$\beta_1 \dots \beta_9$ = Regression coefficient

α_1 = Gender

α_2 = Business background

α_3 = Interest rate for fintech

α_4 = Fintech loan value

α_5 = Household financial liquidity

α_6 = Suitability of loan application

α_7 = Adequacy of business requirements

α_8 = Internet use activity

α_9 = Benefits obtained from fintech

ϵ = Error term

4. Result and Discussion

This study makes use of Stata software to estimate the logistics model. The estimation of the logistic model is statistically acceptable according to the statistical analysis results, as shown by the likelihood ratio and the indicators from the Omnibus Tests. From step 0 (139.97) to step 1, the likelihood ratio value dropped to step 1 (119.98). As a result, the estimated logistic model that was created is comparatively more reliable. The analysis's findings were based on the Hosmer and Lemeshow test, which yielded a significant efficiency value of 0.304. This result is higher than the research average ($0.304 > 0.05$), demonstrating that the model is consistent with the empirical data, making the usage of this logistic regression model in the advanced stage feasible. The value of the Nagelkerke R² coefficient of 0.237 indicates that the estimated logistic model that has been carried out can explain the probability of the MSE productivity variable with a confidence level of about 23.7%.

Referring to Table 3, the interest rate variable (α_3) significantly affects capital productivity, with a confidence value of around 90% seen from the p -value of 0.075. Furthermore, the odd ratio coefficient of this variable is 0.512, indicating that an increase in the Interest rate for fintech of 10% will impact a decrease of around 5.1% of the capital productivity of MSEs. This shows that determining high-interest rates from fintech loans will affect the decline in SME capital productivity. Of course, this decrease implies that most of the sales value of the UMK must be allocated for large installment payments.

On the other hand, the value of fintech loans (α_4) positively affects MSE capital productivity with a significance level of 0.07 (p -value). Furthermore, the odd ratio coefficient of 1.00 indicates the unity elasticity where a 10% increase in the value of fintech loans will impact MSEs' capital productivity at the same level. This shows that the productivity of MSEs is statistically significantly influenced by their accessibility to online loans. This means that during the pandemic era, access to online loans has the potential to strengthen MSEs' resilience to the pressures of the economic crisis.

With a 95% confidence level (p -value of 0.025), the variable of the loan value's fit with business demands (α_7) strongly influences the productivity of MSE capital. The negative coefficient value suggests that the ability of fintech loans to meet the needs of MSEs is a key factor in the growth in capital productivity of those companies. The odds ratio value of 0.299 indicates that MSEs that have fintech loans following business needs will be able to increase capital productivity by about 0.3 points greater than MSEs with fintech loans that are not by their business needs. This is possible because, in general, MSEs' working capital is not too large compared to the risk of fintech loans where MSEs have

TABLE 3: Coefficient estimation of the logistic model.

Variables	coefficient	S.E	ρ -value	Odds ratio	95% C.I.for Exp(B)	
					Low	Up
constant	1.453	1.456	0.31	4.27		
α_1	-0.88	0.56	0.12	0.42	0.13	1.26
α_2	0.06	0.04	0.16	1.06	0.97	1.15
α_3	-0.66	0.37	0.07*	0.51	0.24	1.07
α_4	0.00	0.00	0.07*	1.00	1.00	1.00
α_5	-1.20	0.96	0.19	3.46	0.52	22.84
α_6	-0.29	0.48	0.54	0.74	0.28	1.93
α_7	-1.20	0.53	0.02**	0.29	0.10	0.86
α_8	-0.39	0.43	0.36	0.67	0.28	1.58
α_9	0.61	0.27	0.02**	1.84	1.06	3.17

Likelihood= 139.97^a

Note: *** sig at $\alpha=1\%$; ** sig at $\alpha=5\%$; * sig at $\alpha=10\%$

to pay interest installments where the high-interest rate compared to business capital is not commensurate with the existing risks. The risk can be in the form of default or a business that does not go well.

Meanwhile, the benefits obtained from fintech (α_9) significantly affect capital productivity with a confidence value of 95% (ρ -value 0.028). The coefficient value of 0.611 indicates that fintech has a positive impact on MSE capital productivity seen from the perceived usefulness obtained, namely improvement in business turnover, number of customers, and number of relationships. Indicates that MSEs that can access fintech have the potential to strengthen resilience during a pandemic by improving their business performance.

People are given convenience in accessing financial services through Fintech, but only loans are the people’s choice for transactions using Fintech. Because the peer-to-peer lending offered has its market, unlike fintech services for financial funding services, people trust banking more than Fintech because the money invested is guaranteed by the deposit insurance agency. Another thing with Fintech is that a deposit insurance institution still needs to secure it, so investing in Fintech tends to have higher risks. At the same time, the increase in Fintech capital is obtained by providing a platform for investors.

5. Conclusions

This study analyzes the effect of fintech on MSEs' capital productivity. From the analysis results, we conclude that accessibility to fintech financing significantly affects capital productivity. Increasing capital productivity is influenced by interest rates, the value of fintech loans, their applicability to company demands, and their advantages in terms of financial technology. First, the Interest rate for fintech factor, if fintech sets a high-interest rate on fintech loans, will affect the MSEs' capital productivity decline. Second, The loan value element in the pandemic era for online loan access can increase MSEs' resistance to the pressures of the economic crisis. Third, the suitability of loan value with business needs shows that MSEs with fintech loans under business needs will be able to increase capital productivity compared to MSEs with unsuitable fintech loans. With regard to the positive impact of fintech financing to MSEs' capital productivity, the government needs to improve the literacy of MSEs in using digital technology to accelerate their ability to adopt new work methods and (digital) technology. The small sample size in this study is a limitation; non-probability sampling with purposive sampling techniques are used in the online survey sampling. It is hoped that future research will get more respondents with a more comprehensive regional distribution. The results of this research can be used as a reference for the five provinces that are the sample for this research. Suppose the conclusions from this research are used as government policy in making decisions regarding MSEs. In that case, it is said to be inappropriate due to the small number of samples and the uneven distribution of questionnaires.

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