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Do Collateral Affect Access and Loan Payments Behavior of MSME ? (Case of Cooperative and MSME Revolving Fund Management Institutions/LPDB-KUMKM)

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ABSTRACT

Various problems in the distribution revolving funds of the Ministry of Cooperatives and SMEs have prompted the government to transfer its management through the Public Service Agency (BLU), namely LPDB-KUMKM with the aim of realizing financial accountability and professionalism. The improvement efforts made by LPDB-KUMKM included improving policies, the most basic were related to the application of collateral and service rates, where previously these were not applied. The service tariff is applied first, however the value is lower than the bank interest rate. However, due to high non-performing loans (NPLs), collateral was required for loans. Reflecting on what banks do, collateral is indeed effective in reducing the default rate of borrowers. However, on the other hand this will have an impact on the accessibility of MSME financing and the behavior of loan repayments from MSMEs. This study uses data on the development of loans from LPDB-KUMKM partners from 2008 to 2018. The Logit Regression Model is used to support the analysis, the results of this study show that collateral has a negative correlation with the growth of loan default rates.

ABSTRAK

Berbagai permasalahan dalam penyaluran dana bergulir Kementerian Koperasi dan UKM, mendorong pemerintah mengalihkan pengelolaannya melalui Badan Layanan Umum (BLU), yaitu LPDB-KUMKM dengan tujuan untuk mewujudkan akuntabilitas pembiayaan dan profesionalisme. Upaya perbaikan yang dilakukan LPDB-KUMKM antara lain melalui penyempurnaan kebijakan, yang paling mendasar terkait penerapan agunan dan tarif layanan, dimana sebelumnya hal tersebut tidak diberlakukan. Tarif layanan lebih dahulu diterapkan, namun demikian nilainya lebih rendah dari suku bunga perbankan. Namun karena tingginya kredit bermasalah (NPL), kemudian jaminan dipersyaratkan untuk pinjaman. Berkaca pada apa yang dilakukan oleh perbankan, agunan memang efektif untuk menekan tingkat gagal bayar dari para peminjam. Namun, di sisi yang lain hal ini akan berdampak kepada aksesibilitas pembiayaan UMKM serta perilaku pembayaran pinjaman dari UMKM. Studi ini menggunakan data perkembangan pinjaman mitra LPDB-KUMKM dari awal hingga tahun 2018. Model Regresi Logit digunakan untuk mendukung analisis, hasil studi ini menunjukkan bahwa agunan memiliki korelasi negatif terhadap pertumbuhan tingkat gagal bayar pinjaman.

1. INTRODUCTION

Micro, small and medium enterprises (MSMEs) have an important contribution to the economic development of each country, as is the case in Indonesia. The role of MSMEs is not only to eradicate small people from poverty and economic equality, more than that, MSMEs also have a significant portion of the country's income or foreign exchange. After the 1997-1998 economic crisis, the number of MSMEs increased, and was even able to create employment opportunities as much as 97% (114 million) of the total available employment opportunities (Ministry of Cooperative and SME, 2013).

On the other hand, MSMEs also face various obstacles, ranging from limited capital and technology, the absence of financial reports, the lack of managerial and marketing capabilities, as well as difficulties in terms of capital. Related to capital,

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limited access to banks or financial institutions, as well as the lack of financial institutions is a major problem. The limitations of MSMEs in accessing funding sources are caused by the inability to provide collateral and the lack of good administration related to their business activities so that they are deemed not bankable (Beck dan Demirguc-Kunt, 2006; Daskalakis, 2013; Liang, et al, 2017).

The government has the duty to provide financing for MSMEs, as many MSME development programs have been packaged as poverty alleviation programs launched by the government, such as Farming Business Loans (KUT), Food and Energy Security Loans (KKPE), Small Investment Loans (KIK), Credit Permanent Working Capital (KMKP), and Revolving Fund Program. But in fact the majority of these programs are less successful, except for the last type that is still running and is expected to be successful and sustainable (Aziz & Wicaksono, 2017)

The revolving fund program that began in 2000 was originally a capital strengthening program from the government (Ministry of Cooperatives and SMEs) provided to cooperatives and MSMEs without interest and without collateral. However, in its development, there are several problems that arise such as performance that cannot be measured clearly, the low productivity of revolving funds, and the standard management of revolving funds that are biased because they are channeled by various agencies with various types of spending. However, the most important thing is the accounting and reporting of revolving funds is not in accordance with the principles of management of state finances and Government Accounting Standards (SAP).

Based on the Regulation of the Minister of Finance (PMK) No. 99/ PMK.05/2008 concerning revolving funds, changing the management of revolving funds that were previously directly managed by Ministries / Institutions to be through the Satker implementing the Public Service Agency (BLU) Financial Management pattern. The Ministry of Cooperatives and SMEs established the LPDB-KUMKM to channel loans/ financing to cooperatives and SMEs based on SAP in order to be able to run effectively, right on target, and right on benefits. In addition, revolving funds are expected to have a significant impact on the economy, both locally and nationally (Trisnojuwono, et al 2018).

Mahjabeen (2010) said that the objective of financial institutions such as banks is to make the allocation of managed portfolios optimal. In other words, in disbursing loans, financial institutions actually have specifically organized lending to MSME groups by rationalizing loans specifically for MSME groups. However, various empirical studies on microfinance carried out in various developing countries prove that asymmetric information and MSME resources have an important role in the success rate of MSME financing or credit. Asymmetric information between the lender and the borrower drives the risk of default, in this case it is difficult for the lender to observe every detail of the activities of the agent (the borrower), which can only be observed financial performance (Castillo, Mora-Valencia, & Perote, 2018).

In order to improve service quality and professionalism, LPDB-KUMKM is improving the regulation of revolving funds by applying collateral and charging service fees. The policy aims to minimize risk, but on the other hand, most SMEs do not have collateral as a loan requirement.

This study aims to see whether there is a role for collateral and service rates (interest rates) that have an impact on the default level of financing for LPDB-KUMKM partners.

2. THEORETICAL FRAMEWORK AND HYPOTHESES

The provision of credit or loans is intended to drive the community's economy and absorb labor, which in turn can improve the welfare of the community. However, the granting of credit by banks to entrepreneurs and the public especially those running MSMEs, always has a very high risk. Therefore, in order to provide credit, banks must apply sound credit principles (Caprio, et al 2007).

A large number of theoretical studies, including Bester (1987), Boot et al. (1991), and Stulz and Johnson (1985), suggest that the use of loan securities such as guarantees in an asymmetric information environment leads to the possibility of welfare benefits by limiting adverse selection and the problem of moral hazard. Regarding the use of collateral in mitigating the moral hazard of the borrower, for example, Boot et al. (1991) argue that guarantees promised by borrowers risk pushing them to exert greater managerial efforts to reduce the probability of default. Stulz and Johnson argue that collateral reduces bad incentives for borrowers to choose risky projects at the expense of creditors (asset replacement).

We must be able to capture this type of effect by observing the ex-post performance of borrowers who guarantee collateral. Despite many empirical studies of the use of collateral, however, little attention has been given to the effect of collateral on the

ex-post performance of borrowing companies. Most empirical studies of collateral examine the relationship between ex-ante borrower risk and collateral supply, and find that risky borrowers will more often guarantee collateral (Berger and Udell, 1990, 1995; Berger et al., 2011b; Brick and Palia, 2007 ; Orgler, 1970). An exception to this is the study by Berger and Udell (1990), Berger et al. (2011b, 2011c), and Jiménez and Saurina (2004). However, these studies find that loans to guaranteed borrowers are more likely to be non-performing loans than loans to unsecured borrowers simply because borrowers who guarantee collateral are ex-ante who a more at risk (ie, when loans are given). Basically, most of the previous literature does not deal with the possibility of selection bias and, as such, cannot discuss whether collateral reduces the borrower's ex-post moral hazard behavior.

Finally, research by Castillo (2018), which discusses the failure of SMEs to capture the 'moral hazard effects' related to collateral, lies in the agent-agent relationship between lenders and lenders, where borrowers are in asymmetrical information. The database used came from the new Colombia by estimating the logit probability model, to measure the impact of the moral hazard impact on credit risk.

The results of various studies show that guarantees can function as contractual tools to improve lender screening and monitor incentives. In addition, collateral is also effective in increasing bank seniority in the presence of several creditors and increasing its screening and monitoring, because collateral serves as an instrument for "gifth" produksi production of information by lenders. Then for some banks with a low level of expertise in MSME loan analysis, most of them use collateral as a substitute for poor evaluation skills.

The various studies above show that most of the research is related to the role of collateral for SME accessibility opportunities or SME opportunities for formal financing. However, regardless there are research results that are also relevant to the condition of our country. We can also see that there are various SME financing models that exist in the world, some are using the government budget (APBN) and there are also financing from the private sector. However, all of these studies analyze SME financing conducted by banks, both government and private.

Meanwhile the Indonesian government established a special financing institution (LPDB-KUMKM) to provide capital for SMEs in other words as an intermediary institution for MSMEs to access banking. In its position, LPDB-KUMKM adopted a policy to suppress NPLs by applying collateral for partners.

3. RESEARCH METHOD

To find out whether applying collateral as a loan requirement affects MSME financing access and partner loan repayment. For this purpose, the analysis used is Logistic Regression. The logit model is a non-linear regression model where the dependent variable is categorical. The most basic category of the logit model produces binary values such as the numbers 0 and 1 so it is often called binary logit, if the category is more than 2, then ordinal logit regression or multinomial logit is used.

Loginal ordinal regression is one of the regression methods used to find the relationship between the response variables are nominal or ordinal scale with one or more continuous or categorical explanatory variables. If the nominal-scale response variable used multinomial logistic regression, while the ordinal-scale response variable used ordinal logistic regression. Estimating the parameters of multinomial and ordinal logistic regression models is done by the Maximum Likelihood Estimation method (Sari, et al 2013).

The logit model makes probabilities dependent on the observed variables, namely X1, X2, and so on. The purpose of this estimation is to find the best value for each coefficient (Kuncoro, 2004). While the logistic regression model used is as follows:

$$Ldefault = a + \beta_1\ Collateral_i + \beta_2\ Interest_i + \beta_3\ Comp_i + \beta_4\ Plafon_i + \beta_5\ Asset_i + \beta_6\ Tenor_i + \beta_7\ Legal_i$$

Ldefault, shows the LPDB-KUMKM partner default rate (0 = collectibility of current loans, 1 = collectibility of bad loans or defaults). Where α,β is regression coefficient, and *Collateral* is to show the value of the collateral (collateral) used as a condition of the loan application (for partners who do not use collateral, the collateral value is 0).

Then *Interest* shows the service rate (interest rate) for a loan (1 = 4% interest, 2 = 4.5% interest, 3 = Interest, 5%, 4 = 6% interest). While *Comp* indicates the type of partner company (0 = cooperative, 1 = Strategic SME) and the plafon represents the value of partner loans (in Millions of Rupiah).

While *Asset* is the value of the amount of assets (total assets) owned by partners (in Millions of Rupiah), then *Tenor* is the tenor / repayment period (1 = 24 months, 2 = 36 months, 3 = 48 months, 4 = 60

months, 5 = 72 months), and finally *Legal* shows the ownership of a legal entity business from partners (0 = does not have a legal entity, 1 = has a legal entity).

4. DATA ANALYSIS AND DISCUSSION

Data Sources

This research was carried out through observation of LPDB-KUMKM partner loan development reports starting from the beginning until 2018. The data in this study are secondary data that provide information related to partner profiles and everything related to the terms and conditions of the loan.

Table 1. Characteristics of LPDB-KUMKM Partners

No	Category	Current		Bad	
		Sum	%	Sum	%
1	Company				
	Cooperative	12	1.48	10	1.23
	SME	715	88.16	74	9.12
2	Loan Amount				
	< 300 M	661	81.50	6	0.74
	300 M - 2 B	55	6.78	62	7.64
	> 2 B	11	1.36	16	1.97
3	Asset				
	< 1 B	671	82.74	15	1.85
	1 - 10 B	45	5.55	56	6.91
	> 10 B	11	1.36	13	1.60
4	Tenor				
	24 Month	1	0.12	1	0.12
	36 Month	30	3.70	37	4.56
	48 Month	7	0.86	18	2.22
	60 Month	689	84.96	25	3.08
	72 Month	0	0.00	3	0.37
5	Interest Rate				
	4 %	6	0.74	3	0.37
	4,5 %	680	83.85	18	2.22
	5 %	9	1.11	11	1.36
	6%	32	3.95	52	6.41
6	Legal Entity				
	Have	252	31.07	72	8.88
	No	475	58.57	12	1.48

Source :LPDB-KUMKM 2018, processed.

From a total of 3,805 partners consisting of banks, venture capital companies, savings and loan cooperatives as well as the real sector, and Strategic SMEs. The sample used in this study are those who use the loan directly, or in other words as an end user. There are 811 sample units, of which 789 are the strategic SME sector and the remaining 22 units come from real sector cooperatives.

As the dependent variable in this study is the quality of loans which are defined into 2 (two) categories, namely default and paid off. The level of bad loans or accumulated more often we call the amount of non-performing loans (NPL), the high value of NPLs can cause a big shock to a country's economic system, especially the monetary sector such as banking (Hossain & Chowdhury, 2015).

In this study as an explanatory variable is the default rate, the researcher uses the policy indicator variable. The first variable is the use of collateral, the application of collateral policy as a loan requirement becomes a dummy variable, where partners who do not use collateral as a condition for obtaining a loan are coded 0, while partners who use collateral are coded 1.

The second variable is the service rate or in banking terms is the interest rate. In providing financing, LPDB-KUMKM applies a variety of service tariffs based on the SME business sector running. In this study, the partners sampled were divided into 4 categories, namely those charged at 4.5%, 5%, 5.5% and 6%.

Beyond the variables that explain the policy as explained above, there are several control variables that explain the condition of partners as determinants of default opportunities, including types of companies, loan amounts, ratio of the number of loans per asset, loan term, service rates, and the existence legal entity (Cassar, 2003).

Result and Discussion

The type of company (SME or not) is suspected to have a negative effect on the rate of return on credit. That is because debtors who run SMEs tend to have relatively lower productivity compared to debtors who run cooperatives, in this case real sector cooperatives. Based on data processing results, it can be seen that the LPDB-KUMKM majority of debtors are current statuses, while there are 84 debtors (10.35%) in bad status, where 10 debtors are from cooperatives (1.23%) and 74 debtors (9.12%) comes from UKM. This shows that there is an uneven distribution between current and non-performing debtors in credit repayments.

Then for the partner category based on the ceiling group, for partners with a loan value below 300 million whose current status is 661 (81.50%) and

those with bad status are 6 (0.74%). Partners whose loan value is in the range of 300 million to 2 billion with a current loan status of 55 (6.78%) and a default status of 62 (7.64%). And the last for partners whose loan value is more than 2 billion, the current loan status is 11 (1.68%) and the default status is 16 (1.97%).

Furthermore, partner assets are grouped into 3 categories, for partners with total assets under 1 billion with current status of 671 (82.74%) and those with bad status of 15 (1.85%). While for partners whose total assets are in the range of 1 to 10 billion, their current loan status is 45 (5.55%) and those with bad status are 56 (6.91%). And lastly for partners whose total asset value is more than 10 billion with current loan status totaling 11 (1.36%) and those with bad status of 13 (1.60%).

Meanwhile, for the financing period (tenor) the description is for partners with a financing period of 24 months with a current status of 1 (0.12%) as well as for those who have a bad status of 1 (0.12%). While for partners whose financing period is 36 months, the current loan status is 30 (3.70%) and the status of bad debts is 37 (4.56%). Furthermore, for partners whose financing period is 48 months, the current loan status is 7 (0.86%) and that has a bad status of 18 (2.22%). Then for partners whose financing period is 60 months with current loan status of 689 (84.96%) while those with bad loan status are 25 (3.08%). Finally, for partners with a financing period of 72 months, all partners have a bad status of 3 (0.37%).

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Then related to service rates, where for the Strategic SME segment and real sector cooperatives get service rates or interest rates of 4%, 4.5%, 5%, and 6%. Based on the table, it can be seen that partners with a service tariff of 4% have a current status of 6 (0.74%) while those with a bad status are 3 (0.37%). For partners with a service tariff of 4.5% who have a current status of 680 (83.85%) and who have a bad status of 18 (2.22%). Furthermore, for partners with a service tariff of 5% who have a current status of 9 (1.11%) and who have a bad status of 11 (1.36%). Meanwhile, for partners with a service tariff of 6% which has a current status of 32 (3.95%) and a status of loss of 52 (6.41%).

In connection with the existence of partner legal entities, it can be seen that partners who have legal entities whose loans have a current status are 252 (31.07%) while those with bad status are 72 (8.88%). While for partners who do not have a legal entity, loans with current status are 475 (58.57%) and non-performing loans are 12 (1.48%).

Empirical Result

The main assumption that must be met in the logistic regression method is multicollinearity. In multicollinearity testing, there is a strong indication of multicollinearity if the independent variable correlation value is more than 8. Based on the correlation table above shows that there is no correlation value of more than 8, so we can conclude that there is no multicollinearity problem on the independent variables in the model.

Meanwhile, based on processing results logit regression model with collectibles for bad loans and bad loans which is the response of the dependent variables, namely the existence of collateral, service rates, type of company, loan ratio (ratio between the loan ceiling and assets owned), legal entity ownership and term loan time (tenor). From the regression results using STATA Software, the output with error coefficient, z (z-score for the test $\beta = 0$), p> | Z | (p-value, for z test).

A positive slope indicates that any increase in the independent variable will increase the chance of default or default. Conversely, a negative slope indicates that increasing the independent variable will

reduce the possibility of default. The slope mark as the STATA output shows that the sign is negative and significant on the collateral variable, indicating that partners who use collateral as loan conditions have a greater chance to reduce the rate of repayment of bad loans. However, according to what was conveyed by Demirguc-Kunt (1999) that with the existence of collateral that can be seen as a put option, then moral hazard still cannot be eliminated because shareholders and managers get incentives to take high risk because there is collateral that is used as a substitute for money borrowed by customers. Bank shareholders have the freedom to execute the option. In this case the shareholders execute it when the borrower is unable to return the credit.

The term of the loan has a positive slope on the coefficient and is significant. It can be interpreted that partners with longer loan terms tend to minimize the chance of default on loans or defaults. In other words, shorter loan terms tend to increase partner lending opportunities to default. As stated by Anderson (2003) There is a need to set limits and tolerate banking risks. Setting limits will provide maximum certainty of risk takers and narrow opportunities for loans to default.

Table 2. Marginal Effect Estimation Results

Variable	Bad Loans	
	dy/dx	*Standard Error*
Use of Collateral	-.03917***	0.0158
Interest Rate	0.03552***	0.0096
Tenor	-.03094***	0.0087
Legal Entity Ownership	0.03869***	0.0141
Typical of company	-.02282	0.0234
Loan Amount	0.000001**	0.000009
Asset	0.000005	0.000003

The existence of a legal entity also has a positive and statistically significant slope. This means that partners who have legal entities have greater opportunities for bad loans, or in other words, partners who do not have legal entities have greater opportunities to repay their loans. This fact is quite interesting, because contrary to what was stated by Barth (2007) which states that legal entity reporting is a useful tool in understanding the current entity structure (organization) and the objectives of each entity, this provides a starting point for analysis the feasibility and capacity of the entity. In this case, banks must focus on the resilience and resolution of these entities from the consideration of clients, affiliates and creditors, as well as potential legal and regulatory barriers for each jurisdiction in which they operate.

It needs to be observed further about the existence of the legal entity, it is possible that the existence of a legal entity is only to boost the status of SMEs in order to get a larger loan, however this is not matched by the capacity of the business they have. As can be seen in table 4.1, the proportion of non-performing loans in proportion is in the class of loans of 300 million - 2 billion and 2 billion or more.

Partners who have collateral have a tendency to minimize the opportunity for partners to default or default by 3.9 times compared to partners who do not have collateral. Partners have a tendency for bad loans when the interest rate they receive rises by 3.25%. The tendency of partners to experience default will decrease by 3.09 times, when the loan period increases or longer 1 year / 12 months. The existence of a legal entity encourages partners to be able to default 3.87 times more than those without a legal entity.

This result shows asymmetric information where partners who have legal entities tend to have good loan quality. Meanwhile, for the loan ceiling, it contributes to partners to stand a chance of loss when the value of their assets is almost equal to the amount of the loan or ceiling received

5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

Conclusion

In 2014, LPDB-KUMKM implemented the use of collateral as a condition for obtaining loans to potential partners. This aims as a mitigation or an effort to anticipate the increase in Non-Performing Loans (NPLs) or opportunities for default.

The empirical evidence presented in this analysis shows that the use of collateral as a requirement for obtaining a loan reaches a measure of effectiveness in reducing the default rate of partner financing. Estimation results show that the use of collateral as a condition of the loan and the term of the loan contribute to reduce the occurrence of bad loans, while service rates and the presence of legal entities contribute to the increase in bad loans.

In this case specifically for legal entities to prove, there is still asymmetrical information on the policies that have been implemented by LPDB.

Where should partners who have legal entities contribute to reduce the level of congestion, but the opposite happened. Meanwhile after 2014 (the year in which collateral was applied as a loan requirement) the number of new partners has decreased annually. In other words the application of collateral has an influence on the accessibility of MSMEs to financing from LPDB-KUMKM.

Implication and Sugestion

Collateral contributes to reduce the default, however there are partners who do not have assets, or whose assets are insufficient to be used as collateral. Therefore, LPDB-KUMKM should be able to find alternatives to be able to help partners who have limited assets to be used as collateral. While the repayment period has a significant effect on minimizing defaults. It needs to be reconsidered to provide limited options precisely related to the repayment period.

Legal entities actually contribute to default, this indicated asymmetrical information, there needs to be coordination between LPDB-KUMKM and Legal Entity issuing Authorities, to identify SMEs or cooperatives who want to apply for loans to LPDB. In addition, the existence of a legal entity also does not necessarily make LPDB-KUMKM provide greater loans to partners who have such legal entities.

Seeing the level of congestion that is dominated by partners whose loans are quite large, it is also necessary to consider the right partner to receive loans, which according to the MSME criteria in the MSME law should not be too large. For large ceiling values it is better to be a segment of the banking sector, because the nomenclature of this institution is the Institute Revolving Fund Management for Cooperative and SME's. This cannot be separated from the fact that there are still many cooperatives and MSMEs that actually need capital but cannot access LPDB-KUMKM.

The application of collateral as a loan requirement affects the accessibility of SME loans, the ease or flexibility of applying the collateral needs to be considered. The facilities include providing alternative collateral in addition to fixed assets, for example in the form of a persona guarantee, fiduciary receivables, cash collateral, or through the assistance of a guarantor company (PT. Jamkrindo at the center and PT. Jamkrida for the regions).

Limitations

In this research, the authors have not been able to obtain data related to the financial condition of SMEs, such as assets, turnover, and profit and loss, where in fact these data also have the potential to affect loan default rates, but cannot be taken due to company policy. Hopefully in the next research the data can be obtained so that it can provide a broader picture of the factors that influence the occurrence of loan defaults and the level of accessibility of SMEs to LPDB-KUMKM financing.

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