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Capital Adequacy Ratio, Net Interest Margin, and Loan to Deposit Ratio on Profitability of Microfinance Institution (Empirical Study at Kintamani, Bali, Indonesia)

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ABSTRACT : The purpose of this research is to determine the effect of Capital Adequacy Ratio (CAR), Net Interest Margin (NIM), and Loan to Deposit Ratio (LDR) on Profitability. This research was conducted at the Indonesia Microfinance Institution called LPD. The population was 48 LPDs in Kintamani, and 14 LPDs were taken as samples using the purposive sampling method. In this study, data were obtained from the LPD financial report documents for 2015-2019, collected using the non-participant observation method, and analyzed using multiple linear regression analysis techniques. The results show that partially CAR and NIM have a significant positive effect on profitability, while LDR has a significant negative effect on profitability.

KEYWORDS: *Capital Adequacy Ratio, Net Interest Margin, Loan to Deposit Ratio, Profitability*

I. INTRODUCTION

Every profit-oriented business will try to take advantage of all its assets to achieve optimal profit. Profit is one of the main goals of the banking industry. The measure in achieving profit is usually called profitability. Profitability is the company's ability to earn profits or a measure of the effectiveness of company management. A high level of profitability can indicate that the bank is working efficiently. A high level of profitability can also illustrate that the productivity of the bank is getting better, and can show the development of the bank itself. Therefore, profitability is very important both for the bank itself and for the customers and prospective customers of the bank. The purpose of measuring profitability is to measure earnings in one period, to assess and compare the profit position of the previous year with the current year, to find out and monitor the progress of profit from year to year, and to measure the productivity of funds owned by the bank. The measurement of profitability can also be used as a basis for evaluating the following year to determine what decisions to take concerning the next profitability target. One measuring tool that is often used in assessing profitability is Return On Assets (ROA). ROA is the company's ability to earn earnings by utilizing assets owned in its operational activities (Suyono et al., 2017)

Profitability at a bank can be influenced by Capital Adequacy Ratio (CAR), Non-Performing Loan (NPL), Loan to Deposit Ratio (LDR), Operational Expense Ratio to Operating Income (BOPO), and Net Interest Margin (NIM). The factors examined in this study are Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), and Net Interest Margin (NIM). These three factors were chosen because capital is one of the main requirements in running a business entity, the profit of a bank depends on how good asset management will help interest income so that profits can increase and the management of funds from a good third party will produce a good operating profit

Bank capital is a fund that is invested by the owner in the context of establishing a business entity that aims to meet the needs of its business activities and to comply with regulations set by the monetary authority. Capital Adequacy Ratio (CAR) is one of the health indicators of a bank that assesses the adequacy of capital to support assets that generate risk. CAR calculation aims to measure how far the bank's capital can support assets that generate risk. CAR can be influenced by asset quality, liquidity, profitability, and efficiency in operational activities (Bukian & Sudiartha, 2016). The higher the CAR means the greater the risk of bank operational activities that can be covered or backed up. The higher the CAR also means the more funds the bank can channel to customers, so that interest income and profitability can increase. This is in accordance with the Ajayi et al. (2019), Nuryanto et al. (2020)Riyanto & Surjandari (2018)Sari & Murni (2016) Sudarsana & Suarjaya (2019). Different research results were obtained by Wijaya et al. (2019)who found that CAR has a negative effect on profitability.

Net Interest Margin (NIM) is interest income obtained from managing productive assets. NIM is one of the financial ratios from the profitability aspect which is used as a measure of a bank's ability to generate interest income. The NIM calculation aims to measure a bank's ability to manage its productive assets. NIM is influenced by internal factors, namely capital, level of efficiency, bank size, liquidity, and credit risk. NIM is also influenced by external factors, namely, Gross Domestic Product (GDP) growth and inflation. The higher the NIM, the better and more efficient the bank is in managing its assets, so that by doing so, profitability can be optimized. This relationship is in accordance with the results of research from Silaban (2017), Pradnyawati & Widhiastuti (2020), Rachman et al. (2019), Sari et al (2020), Suardana (2018). But Fajri (2018)states that NIM has a negative effect on profitability.

Loan to Deposit (LDR) is credit given to third parties in the form of rupiah and foreign currency, but does not include credit to other banks. Bank Indonesia regulations state that the LDR has a lower limit of 78% and an upper limit of 92%. The purpose of calculating the LDR is to assess the soundness of a bank in carrying out its operations. The factors that affect the LDR consist of internal factors, namely company size, capital, and credit risk. The LDR is also influenced by external factors, namely inflation (Ramadhani & Indriani, 2016). A high LDR indicates that the higher third party funds channeled in the form of credit. Provision of high credit without being matched by a high rate of return (high non-performing loans) can lead to a decrease in interest income which in turn affects the decline in profitability.Inggawati & Hermanto (2018),Limajatini et al.(2019), who found that LDR has a negative effect on profitability. In contrast to Ramadhanti et al. (2019), Andesfa & Masdupi (2019), Anshori et al. (2020), Dewi & Badjra (2020), Kusmayadi (2018), Paramitha et al. (2018), Suryaningsih & Sudirman (2020)who found that LDR has a positive effect on profitability. This research was conducted in a part of the Microfinance Institution in Indonesia, precisely in Bali Province. MFIs in Bali Province are referred to as Village Credit Institutions (*Lembaga Perkreditan Desa, LPD in Bahasa*).

The purpose of establishing an LPD is to support economic development in the village through saving activities and providing credit for small businesses, to eliminate credit exploitation, to create equal opportunities for businesses for business activities in villages, and to increase monetization in rural areas. In Kintamani, there were 48 LPDs, of which there were 8 LPDs that experienced congestion in 2019. LPD congestion in Kintamani District was caused by bad financial performance, bad management, and weak capital. All of these factors ultimately hinder the LPD's ability to achieve optimal profit.

Table 1. Average Profitability of LPD in Kintamani District

No.	Year	Profitability rate
1	2015	5%
2	2016	4,5%
3	2017	3,9%
4	2018	3,6%
5	2019	3,5%

Table 1 shows that the average profitability achieved by all LPDs in Kintamani sub-district has decreased. This indicates that there is a problem with the LPD in Kintamani District. Based on the existence of a research gap and the phenomenon of decreasing profitability in LPDs in Kintamani District from 2015-2019, research was carried out on profitability which was influenced by CAR, NIM, and LDR in LPDs in Kintamani District in the period 2015 to 2019.Based on this description, the research hypothesis are:

H1: CAR has a significant positive effect on profitability
H2: NIM has a significant positive effect on profitability
H3: LDR has a significant negative effect on profitability

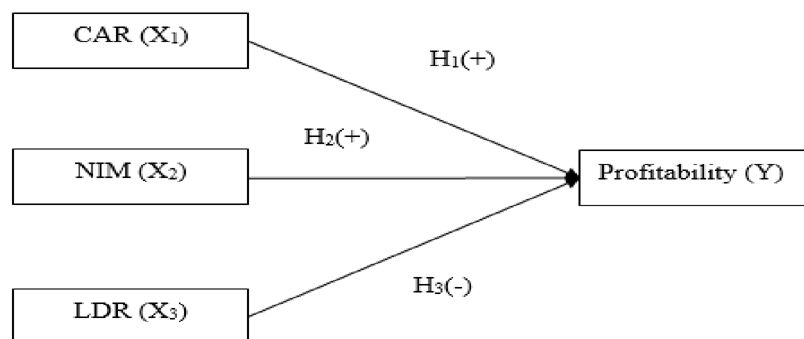

Fig. 1 Conceptual framework

II. RESEARCH METHODS

This research was conducted at the Village Credit Institution in Kintamani District. This research was conducted in the period 2015 to 2019. The population of this study was 48 LPDs in Kintamani District. The sampling technique used in this study was purposive sampling. The criteria for LPDs that are included in the sample members to be studied include LPDs that have never experienced congestion from 2015 to 2019 and have complete financial reports. The time series data used in the study were data from 14 LPDs over a period of 5 years (2015-2019). In conclusion, the number of samples in this study amounted to 70 samples (14 LPD times 5 years of observation). The data collection method used in this study is the non-participant observation method

III. RESULTS AND DISCUSSION

Table 1 Results of Multiple Linear Regression Test

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0,001	0,006		-0,116	0,908
	CAR	0,160	0,030	0,373	5,307	0,000
	NIM	0,345	0,037	0,651	9,240	0,000
	LDR	-0,040	0,011	-0,233	-3,527	0,001
ROA = -0,001 + 0,160 CAR + 0,345 NIM – 0,040 LDR						

Sig value. from the CAR variable is equal to 0.000 $<\alpha = 0.05$ and the β value in the CAR variable is positive. This result means that the CAR variable has a significant positive effect on ROA, so it is concluded that the first hypothesis (H1) is accepted. The CAR ratio is used to measure the capital adequacy of the LPD to cover possible risks. The relationship of the effect of CAR on ROA in this study shows that the higher the capital adequacy, it means that the LPD has sufficient capital to meet needs and cover risks that may arise, including credit risk. A high CAR causes an increase in the LPD's ability to distribute credit, which causes LPD to be able to generate high-interest income so that profitability increases

The NIM variable in the test results has a Sig value equal to 0.000 $<\alpha = 0.05$ and the β value of the NIM variable has a positive value. From the test results, it means that the NIM variable has a significant positive effect on ROA and this means that the second hypothesis (H2) is accepted. The NIM ratio is used to assess how the LPD's productive assets are managed to generate interest. A high NIM indicates that the LPD receives high-interest income from managed earning assets. High-interest income means that the management of the assets owned by the LPD has been carried out efficiently. The higher the NIM, the more efficient an LPD is in carrying out its operational activities so that profitability increases.

The Sig value of the LDR variable is 0.00 $<\alpha = 0.05$ and the β value of the LDR is negative. From the test results, it means that the LDR variable has a significant negative effect on ROA and this means that the third hypothesis (H3) is accepted. LDR is the ratio used to see the ratio of credit extended to third-party funds collected from the public. The higher the LDR, the higher the third party funds disbursed to customers in the form of credit. Loans that are channeled in high amounts will also be followed by a high risk of bad credit as well. The occurrence of bad credit in an LPD will affect the decrease in interest income earned, so that profitability decreases. This also happened to the LPD in Kintamani, many of the third-party funds channeled to the public in the form of credit experienced problems. Customers borrowing funds from the LPD experience defaults so that their interest income decreases. A decrease in the interest income earned by the LPD ultimately results in a decrease in profitability.

The Village Credit Institution (LPD) is one of the microfinance institutions in Bali. This institution is the same as other financial institutions whose main objective is to seek profit or profitability. This study discusses the influence of the CAR, NIM, and LDR variables on profitability. In theory, it is explained that the CAR and NIM variables have a significant positive effect on profitability, in contrast to the LDR variable which has a negative effect on profitability. High capital adequacy increases the ability of the LPD to bear risks and disburse credit so that profits increase, efficient management of productive assets is also able to generate higher profits. Too high a disbursement of third-party funds can lead to a higher risk of bad credit, resulting in decreased profitability.

From the results of the research that has been done, this study implies that the CAR, NIM, and LDR variables support the existing theory. Adequate capital and good management of productive assets will result in higher returns to the LPD. The relationship between the CAR and NIM variables strengthens the evidence from previous studies which showed that there was a significant positive relationship between the CAR and NIM variables on profitability. LDR variable which has a negative effect on profitability. Lending from third parties that is not supported by the community's ability to repay borrowed funds (non-performing loans) will cause a

decrease in LPD income, so that profitability decreases. These results also reinforce previous research which found that LDR has a negative effect on profitability.

The results of this study provide input to LPD managers in Kintamani District. LPD management must be based on efficient and firm management to assist the sustainability of the LPD's business itself. LPD managers should be more assertive in handling existing problems to reduce the risk of possible losses. Managers are expected to be able to work efficiently in operational activities. Managers are expected to be able to act firmly on existing problems, such as bad credit problems. Efficient operational activities and firm treatment, both preventive and post-problematic, are expected to reduce the risk of lowering profitability in the LPD.

IV. CONCLUSION

4.1 Conclusion

Capital Adequacy Ratio (CAR) has a significant positive effect on profitability. A high CAR causes an increase in the LPD's ability to distribute credit, which causes LPD to be able to generate higher interest income from its operational activities so that LPD profitability can increase. Net Interest Margin (NIM) has a significant positive effect on profitability. A high NIM indicates that an LPD is able to generate high interest income from managing their assets so that profitability can increase. Loan to Deposit Ratio (LDR) has a significant negative effect on profitability. Lending from third party funds can pose a risk of default on customers. Bad credit means that the customer is unable to pay the interest obligation on the funds they borrow, while the LPD must continue to pay interest on deposits to third party fund debtors. This is what causes a decrease in profitability. The three variables studied have their respective effects, but in this study the NIM variable has the highest effect on profitability. The NIM variable has the highest beta value among the other two variables.

4.2 Suggestions

Financial institutions must assess prospective customers with 5Cs, namely Character, Capacity, Capital, Collateral, and Condition. Customer must have good character or awareness to pay. Lending must also be adjusted to the capacity or ability to pay and guarantees or collateral from the customer. Managers must also look at the conditions or conditions of economic development in an area that can affect the ability of customers to fulfill their obligations. The application of this principle is expected to reduce the risks that may occur in lending.

4.3 Further Research

For further researchers, it is expected to add other independent variables, such as the variable Non Performing Loan (NPL) and Operational Expenses on Operating Income (BOPO) in the research conducted to determine the variables that can increase the level of profitability in an LPD(Christaria & Kurnia, 2016). Future researchers are also expected to replace or use a newer research period to determine the validity of the effect of CAR, NIM, and LDR on LPD profitability in the following years.

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