The Effect of Non-Performing Loans and Loan to Deposit Ratio on Return On Assets in the Banking Industry

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Abstract: This study aims to determine the effect of Non Performing Loans and Loan to Deposit Ratio partially and simultaneously on Return On Asset in bank sub-sector companies listed on the Indonesia Stock Exchange for the 2017-2019 period. The factors tested in this study are the Non-Performing Loan and the Loan to Deposit Ratio as independent variables, while Return on Assets as the dependent variable. The method used in this research is descriptive and verification methods. The population in this study were the bank sub-sector companies listed on the Indonesia Stock Exchange for the 2017-2019 period, totaling 43 companies. The sampling technique used was non-probability sampling with a purposive sampling method, so that the total sample size was 27 companies. While the data analysis used is multiple linear regression analysis at a significance level of 5%. The results showed that partially and simultaneously the Non Performing Loan and the Loan to Deposit Ratio had an effect on Return On Assets. The magnitude of the influence of the Non Performing Loans and the Loan to Deposit Ratio in giving the contribution of the influence on the Return on Assets is 64.19%.

Keywords : Non Performing Loans, Loan to Deposit Ratio and Return On Assets

1. Preliminary

A bank is an institution that becomes a means of implementing government policies, such as channeling micro credit to support entrepreneurs, accepting deposits and providing credit. In addition, the bank is an organization which in its economy activities based on people trust so that the the bank soundness has to be sustained, with the existence of a healthy bank, one of the prerequisites for a healthy economy can be fulfilled.

Bank performance of financial is a description of a bank's condition of financial in a several period, including both the characteristics of raising funds and passaging funds. Assessment of bank performance is brought out by analysis of its statements of financial. Corporate reports of financial are an principal information source in addition to other data such as corporate market share, conditions of economic, management quality, industry information, and others (Hanafi and Halim, 2009). Meanwhile, the bank's performance of financial can be seen from the bank's statements of financial. The bank's report of financial shows the overall financial condition. This report also shows the performance of bank management during one period.

In analyzing the financial statements of a corporate, certain tools are needed. The most commonly used tools are financial ratios. Based on this report, a ratio appears that will serve as a standars for evaluating the rate of bank profitability. Banks need to maintain a high level of profitability, be able to distribute dividends well, have always developed business prospects, and be able to meet prudential banking regulations properly (Kuncoro and Suhardjono, 2002).

The profitability rate is an indicator to calculate the performance of a bank. One of the barometer used to calculate profitability is Return On Assets (ROA). ROA is a ratio used to calculate the bank management capability to obtain operating return (profit after tax). The larger the ROA, the larger the level of profit achieved by the bank and the better the bank situation in asset use terms (Rivai, 2006; Adle & Ademir, 2019).

ROA is one of the most regularly used ratios of profitability because it is allowed to display the triumph of the corporate in making a profit. The rate of return on assets is used to measure bank profitability because the Financial Services Authority (OJK) as a banking supervisor the profitability advantage of a bank as measured by assets which investments come from most of the people savings investments (Wibowo & Syaichu, 2013).

BI also prioritizes the advantage of a bank's profitability as calculated by ROA compared to ROE because Bank Indonesia prioritizes the advantage of a bank's profitability as calculated by assets whose investments come from people deposits so that ROA is more representative in measuring the level of bank profitability (Dendawijaya, 2009).

There have been many assessments of the components that impact the profitability (ROA) of banks. In this study, more specifically on the internal factors that affect the bank's ROA. Internal factors are factors originating from within the bank itself which characterize the bank. The characteristics of a bank can use its financial ratios. The ratios used in this research are NPL and LDR.

Research on ROA has actually been done a lot but still shows mixed results. Luh Eprima Dewi's research (2015) displays that NPL and LDR has an impact on profitability (ROA). Meanwhile, Yonira Parti Alifah's research (2014) shows that NPL has no effect on ROA. According to Poposka et al. (2013) stated that LDR has an effect of negative on ROA.

The reason for choosing the profitability measure used is ROA because ROA is generally used by the banking industry while ROE is mostly used by companies. ROA focuses on the ability to earn a profit within the corporate, whereas ROE only measures the return obtained from the corporate's owner's investment in the corporate's business. ROA can also be used to calculate the corporate effectiveness in gain returns by using its assets. ROA is the ratio among profit after tax to total assets. The amount of ROA shows that the financial performance is getting better because the rate of return is getting bigger. If the ROA increases, it means that the profitability of a bank increases. Besides that, ROA also takes into account interest costs and corporate taxes so that ROA is beneficial for investors. Based on these reasons, ROA is used as an indicator of profitability in this study.

Based on the existing theories that are still different from the findings in practice, the authors intend to perform a research entitled "The Effect of Non-Performing Loans and Loan to Deposit Ratio on Return On Assets in the Banking Industry (Research on Sub-Sector Banks listed on the Indonesia Stock Exchange (IDX) for the period 2017-2019). "

Problems Identification

The formulation of the research problem is as follows:

1. How does NPL affect ROA in banking companies listed at the IDX.
2. How does LDR affect ROA in banking companies listed at the IDX
3. How does NPL and LDR simultaneously affect ROA in banking corporates listed at the IDX ?

2. Literature review

Bank Financial Report

The report of financial is a financial information regarding the corporate's performance in a several period of time. The financial statements definition is stated in the Statement of Financial Accounting Standards (PSAK) No.1 of 2015 which states that:

“The financial report is a structured presentation of the financial position and financial performance of an entity. The purpose of financial reports is to provide information concerning the financial position, performance and changes in the financial position of an entity that is useful for most users of financial statements in making economic decisions. "

Then according to Munawir (2010) financial reports, namely:
"In general, the financial statements consist of a balance sheet and profit and loss calculation as well as a change in capital report, where the balance sheet shows / describes the total assets, debt and capital of a corporate on a certain date, while the calculation (report) shows the results that have been achieved. by the corporate and the costs incurred during a certain period, and the Change in Capital Report shows the sources and uses or reasons that cause changes in the corporate's capital. But in practice, other groups that are helpful in nature are often included in obtaining further explanation, for example reports on changes in working capital, reports on sources and uses, cash flows and other lists. "

So it can be dissolved that statements of financial are corporate information of financial or performance of corporate in an accounting period in which there are various components such as balance sheets, profit and loss, changes in equity or capital, notes on financial statements and cash flow that are useful for internal and external parties. which is used for decision making for users of the financial statements.

***Loan to Deposit Ratio* (LDR)**

Based on Kasmir (2015), LDR's a calculation used to calculate the formation of the number of credit specified collated to the people funds amount and used of capital. LDR is a ratio used to calculate the liquidity of a bank in paying back withdrawals made by depositors by depending on the investing provided as a liquidity source, namely by diverging the number of financing served by the bank to Third Party Funds (TPF).). LDR can be expressed by the formula (Kasmir, 2015).

$$L\ D\ R = \frac{\text{Total Loan}}{\text{Total Deposits} + \text{Equity}}\ x\ 100\%$$

Total loans are obtained from the amount of loans granted, total deposits include savings deposits, time deposits, and current accounts. Equity is managed from general reserves, paid-up capital, other reserves, paid-in capital, last year's remaining profit, and current year's profit.

The higher the LDR an indication of the lower liquidity bank concerned capacity, this's for the reason that the funds needed number to credit of finance is getting larger. On the other hand, a low LDR indicates a low level of credit expansion compared to the funds it receives and indicates that banks are still far from being maximized in carrying out their intermediation function (Mulyono, 2001).

The predicate scales, ratios, and credit scores for bank LDR are in the table below:

LDR Component Rating Criteria Matrix

LDR	Risk Value	Risk Predicate
50% < L D R ≤ 75%	1	Very good
75% < L D R ≤ 85%	2	Good
85% < L D R ≤ 100%	3	Pretty good
100% < L D R ≤ 120%	4	Not good
120% < L D R	5	Not good

Source: S.E. B.I. No.6/23/ D P N P / 2011

***Non Performing Loan (*NPL)**

NPL is the ratio used to calculate the bank management capability in managing non-performing financing that can be fulfilled by the high-yielding assets holded by a bank (Mulyono, 2001). If the lower the NPL, the bank will experience losses due to the rate of return on bad credit. So that if this is allowed, it will affect the loss of public trust. Non Performing Loans (NPL) can be expressed by the formula (Kasmir, 2015).

$$N\ P\ L = \frac{\text{Total of Non Performing Loan}}{\text{Total of Credit}}\ x\ 100\ \%$$

The amount of NPL accepted by BI is currently 5%, if it more than 5% it will impact the assessment of the Soundness Rate of the Bank concerned, that is, it will reduce the value / score it receives. According to Kasmir (2015) a high NPL will increase costs, so that it has the potential for losses of bank.The larger the NPL calculation, the more bad bank credit quality, which create the amount of NPL to rise, and therefore the bank must receive losses in its activities of operational so that it impacts against the decrease in ROA gained by the bank.

The criteria for assessing the soundness rate of the NPL calculation can be seen in the next table :

NPL Component Rating Criteria Matrix

Rating	NPL value	Predicate
1	N P L < 2%	Very good
2	2% ≤ N P L ≤ 5%	Good
3	5% ≤ N P L ≤ 8%	Pretty good
4	8% ≤ N P L ≤ 11%	Not good
5	N P L ≥ 11%	Not good

Source: Annex PBI 13/1 / PBI / 2011

Profitability

Profitability ratio is a calculation to calculate and assess the corporate's capability to gain profit. The corporate profitability shows the ratio between profit and assets or capital that produces this profit. Profitability is calculated by ROA which calculates the capability of bank management to receive overall benefits (Dendawijaya, 2009).

ROA is a profitability calculation that denotes the comparison among profit before tax and bank assets totally, this calculation shows the rate of asset management efficiency carried out by the bank concerned (Riyadi, 2006). ROA can be expressed by the formula (Kasmir, 2015).

$$\text{ROA} = \frac{Operating\ Income}{\text{Total Assets}} x\ 100\ \%$$

Operating income obtained from the amount of interest income and the amount of operating income other than interest. Most of the bank's income in the interest on loans shape , fees and commissions arising from the provision of loans is grouped into interest income. Meanwhile, total assets are obtained from total cash, arrangements with BI, arrangements with other securities, banks, credit, intangible assets, fixed assets and inventory, and others.

The criteria for assessing the soundness level of the Return On Asset (ROA) ratio can be seen in the table below:

ROA Component Rating Criteria Matrix

ROA	Rating	Predicate
R O A > 1.5%	1	Very healthy
1.25% < R O A ≤ 1.5%	2	Healthy
0.5% < R O A ≤ 1.25%	3	Fairly Healthy
0% < R O A ≤ 0.5%	4	Unwell
R O A ≤ 0%	5	Not healthy

Source: S.E. B.I. No. 13 / 24 / D P N P / 2011

Framework

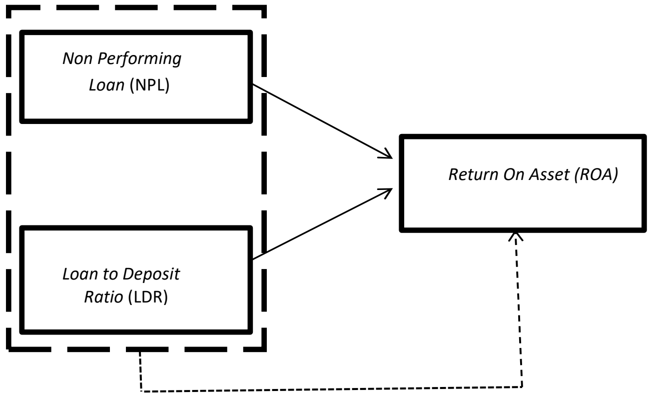
LDR shows the rate of a bank's capability to channel third party invests collected by banks. Thus, the amount of money / funds used to provide loans in the credit form is money / funds that come from deposits from the public.

When the bank collects moneys from the public in the deposits form, namely savings, deposits, and demand deposits which are assets of banking companies, the bank will then channel the funds back to people who need loans on the credit form. The credit will be paid by the customer in installments containing the principal of the debt and interest. Loan interest is one of the operating income of a bank because the main source of income for banking companies comes from lending to people who need funds. According to Setiadi (2010) the greater the amount of funds channeled to customers in the credit form, the interest income earned will also increase which will increase the LDR as well. and the increase will affect profitability. Profits will increase (assuming banks are channeling credit effectively) will has an impact on ROA. NPL is credit categorized into three qualities, namely loans classified as non-current, loans classified as current, and loans classified as bad.

When the customer is no longer able to pay the loan given by the bank, the bank will experience the risk of loss so that there is uncollectible credit or the emergence of a Non-Performing Loan so that the bank will lose the opportunity to get income from the credit it provides, thereby reducing profit, then the bank must increase the allowance for earning assets reserves and ultimately will reduce the bank's capital so that it will significantly affect ROA to decrease so that the return on assets or ROA in the form of cash will decrease.

The effect of the an unnatural NPL existence, one of which’s the loss of the chance to gain return from loans, thereby reducing profitability and adversely affecting bank profitability (Dendawijaya, 2009). According to Kasmir (2015), a high NPL will increase costs, so that it has the potential for losses of bank. The larger the NPL calculation, the more bad the bank credit quality, which lead to the amount of non-performing loans to rise, and therefore the bank must carry losses in its activities of operational so that it impacts against the decrease in Return On Assets gained by the bank.

Based on the explanation that has been stated, it can be said that the NPL and LDR have an effect on ROA. The framework is as follows:



Research Hypothesis

Based on the theory above, it can be concluded a research hypothesis, namely:

H_{01}: There is no significant effect of the Loan to Deposit Ratio on Return On Assets

H_{A1}: There is a significant effect of the Loan to Deposit Ratio on Return On Assets

H_{02}: There is no significant effect of Non Performing Loans on Return On Assets

H_{A2}: There is a significant effect of Non Performing Loans on Return On Assets

H_{03}: There is no significant effect of Non Performing Loan and Loan to Deposit Ratio to Return On Assets

H_{A3}: There is a significant effect of Non Performing Loan and Loan to Deposit Ratio to Return On Assets

3. Research methodology

In this study, the objects of research are the LDR, NPL and ROA. The subjects in this research are bank sub-sector corporates listed at the IDX for the period of 2017-2019.

The method used on this study's method of descriptive verification. The method of descriptive is a method of examining the conditions of a people group, a set of conditions, an object, a class of events in the future or a system of thought (Nazir, 2014). Meanwhile, research of verification is a study that aims to check the truth of the results of other research (Arikunto, 2010).

The population in this research is the bank sub-sector corporates listed at the IDX for the period of 2017-2019. The population in this research were 43 companies.

Determination of the sample used in this study is using the purpose sampling method , namely the technique of determining the sample with a specific purpose or purpose (Nuryaman and Veronica Christina, 2015).

List of sample companies studied in the Sub-Sector of Bank at 2017-2019 on the IDX

No.	Code	Name
1	BABP	Bank MNC Internasional Tbk
2	BBCA	Bank Central Asia Tbk
3	BBHI	Bank Harda Internasional Tbk
4	BBMD	Bank Mestika Dharma Tbk
5	BBNI	Bank Negara Indonesia (Persero) Tbk
6	BBRI	Bank Rakyat Indonesia (Persero) Tbk
7	BBTN	Bank Tabungan Negara (Persero) Tbk
8	BBYB	Bank Yudha Bhakti Tbk
9	BCIC	Bank J Trust Indonesia Tbk
10	BDMN	Bank Danamon Indonesia Tbk

11	BJTM	Bank Pembangunan Jawa Timur Tbk
12	BMAS	Bank Maspion Indonesia Tbk
13	BMRI	Bank Mandiri (Persero) Tbk
14	BNBA	Bank Bumi Artha Tbk
15	BNGA	Bank CIMB Niaga Tbk
16	BNII	Bank Maybank Indonesia Tbk
17	BSIM	Bank Sinar Mas Tbk
18	BSWD	Bank of India Indonesia Tbk
19	BTPN	National Pension Savings Bank Tbk
20	BVIC	Bank Victoria International Tbk
21	DNAR	Bank Dinar Indonesia Tbk
22	INPC	Bank Artha Graha Internasional Tbk
23	MAYA	Bank Mayapada International Tbk
24	MCOR	Bank China Construction Bank Ind. Tbk
25	MEGA	Bank Mega Tbk
26	DRAGON	Bank Mitraniaga Tbk
27	AGRS	Bank Agris Tbk

This study uses the documentation data type. The data source of this study is data of secondary. The data is gained from internet siteswww.sahamok.com and www.idx.co.id in the shape of an yearly report (annual report).

The variables of independent in this research are the LDR and the NPL. The dependent variable in this study is ROA. In this research, the author will describe the conditions of LDR, NPL and ROA in sub-sector of bank corporates listed at the IDX for the period of 2017-2019.

4. Research results and discussion

Loan to Deposit Ratio Effect on Return On Assets

Based on the results of the study, it is stated that the variable of LDR has a effect of significant on Return On Assets in the Bank Sub-Sector corporates listed at the IDX for the period of 2017-2019. If the LDR increases, the ROA in the bank sub-sector will increase, because the effect is directly proportional or positive. Loan to Deposit Ratio describes how big the corporate is in channeling funds from third parties to the public.

The outcomes of the research are in accordance with the stated that if the LDR increases, the ROA will also increase and or vice versa (Dendawijaya, 2009).

The oucomes of the research are in accordance with the outcomes of study (Anggraeni, Rani Dwi, 2017) where states that the LDR has an effect of significant and positive on ROA. These outcomes are different from the study conducted (Devinsen, 2015) which denotes that the LDR has no effect of significant on ROA.

The Non Performing Loans Effect on Return On Assets

From the outcomes of the research, it is stated that the variable of Non Performing Loan has an effect of significant on Return On Assets in Sub-Sector of Bank corporates listed at the IDX for the period of 2017-2019. If the NPL rise, the ROA in the bank sub-sector will decline, because it has a negative effect. NPL describe the ability of management's to manage existing NPL.

The outcomes of the research're in accordance with the stated that if the NPL increases, the ROA will decrease and or vice versa (Dendawijaya, 2009). The outcomes of the research are in accordance with the outcomes of study (Anggraeni, Rani Dwi, 2017) where states that NPL have an effect of significant and negative on ROA. These results are contrary from the study conducted (Yonira Parti Alifah, 2014) which states that NPL have no impact on ROA.

The Non Performing Loans Effect and Loan to Deposit Ratio on Return On Assets

Based on the results of the study, it is stated that the NPL and LDR variables has an effect of significant on ROA in Bank Sub-Sector corporates listed at the IDX for the period of 2017-2019. The outcomes of the research are in accordance with the research results of Luh Eprima Dewi (2015), Devinsen (2015), and Anggraeni (2017) which state that NPL and LDR have an effect of significant on ROA.

5. Conclusions and suggestions

Conclusion

From the outcomes of the study and discussion described tn the chapter before regarding the impact of NPL and LDR on ROA in sub-sector of bank corporates listed at the IDX in the period of 2017-2019, it can be dissolved as follows:

1. Loan to Deposit Ratio has an effect on Return On Asset in bank sub-sector companies listed on the Indonesia Stock Exchange for the period 2017-2019.
2. Non-Performing Loans have an effect on Return On Assets in bank sub-sector companies listed on the Indonesia Stock Exchange for the 2017-2019 period.
3. Non Performing Loans and Loan to Deposit Ratio have an effect on Return On Assets in bank sub-sector companies listed on the Indonesia Stock Exchange for the period 2017-2019.

Suggestion

Based on the above conclusions, the authors provide suggestions that might be useful, namely as follows:

1. Banking Party

The bank needs to stabilize and maintain the LDR ratio in an ideal position as well

pay attention to the quality of its credit funneledto avoid non-performing loans so that they can benefit from loans extended to banks. To increase the LDR ratio, namely by strengthening the reserves for possible losses, increasing and enlarging the allowance for earning assets losses and simultaneously covering the shortage of reserves for post-employment benefits.Management is expected to be able to sustain the rate of credit risk in good condition, namely in accordance with Bank Indonesia regulations. Banks must continue to be able to improve credit supervision and minimize problematic credit risk. To reduce the NPL figure, namely collecting bills to customers who have problems or to customers who are late paying, if the customer or debtor is late in paying, the bank has the right to conduct a building auction with problems, increase bank supervision of prospective debtors and provide the amount of credit at the limit that has been determined. determined.

2 Researcher Party

Future researchers and those interested in the same field can use other types of financial ratios as research variables.

Can be used as a reference and can examine in depth the impact of NPL and LDR on ROA.

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