BANK FUNDS MANAGEMENT AND ITS EFFECTS ON NET INTEREST MARGIN

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A R T I C L E I N F O

A B S T R A C T

The objective of this study is to examine the effect of bank fund management on Net Interest Margin. The management of bank funds in this study was measured using Interest Expense Ratio, Interest Rate Risk Ratio and Loan to Deposits Ratio. The three measures of bank fund management are tested for their effect on the Net Interest Margin either partially or simultaneously. The study was conducted on rural banks in Indonesia. The samples taken were 65 banks using quarterly financial reports for 4 quarterly periods for each bank. With purposive sampling technique obtained a sample of 260 financial statements of Rural Banks. The method used is multiple linear regression analysis with previous classical assumption tests and followed by hypothesis testing. The results stated that the Interest Expense Ratio, Interest Rate Risk Ratio and Loan to Deposits Ratio had a significant effect both partially and simultaneously on Net Interest Margin with a positive relationship direction. This study also gives the results of the regression equation $Y=-0.179 +0.005 X_1 + 0.008 X_2 + 0.089 X_3$. Overall, 15.7% of net interest margin in rural bank in Indonesia can be explained by Interest Expense Ratio, Interest Rate Risk Ratio and Loan to Deposits Ratio. While the remaining 84.3% of net interest margin are affected by other variables. The future study is expected to examine other variables that affect bank profits.

Keywords: IER, IRRR, LDR, NIM.

INTRODUCTION

The management of sources and uses of funds in Rural Banks requires bank management to be careful and wiser in managing their operations. As we know, the operational activities of rural banks are only limited to fundraising activities from the community in savings and deposits and only allowed to channel funds back in credit. The ability to manage these two types of activities is very much needed where the management of the Rural Bank must be able to maintain its financial management activities in order to avoid losses. Where losses that could lead to bankruptcy can occur, among others, if the precautionary principle is not applied. Credit position is high but if the credit is a lot that is unhealthy then it is thought that it can result in bank profits going down and vice versa. Bank fund management activities include planning, implementing and controlling the collection of funds allocation from the community.

Banking institutions try to improve the infrastructure management system, improve efficiency, develop banking services in accordance with their needs and try to maintain their existence and self-development in accordance with the objectives. All these efforts are expected to be able to attract the attention of customers, develop business networks and expand operational networks so that the banking sector is able to play a wider role in the development of Indonesian economy. Therefore, banking institutions have a very strategic role in driving the economy because banks are public financial intermediaries. The development of various financial institutions from year to year are increasing rapidly with increasing community needs. One of the financial institutions that plays major role in fulfilling the life needs of some communities, namely bank financial institutions. Both individuals and institutions, whether social or companies related to various financial activities, always need bank services. In everyday talks, banks are known to be financial institutions whose activities save and distribute funds to the people in need for the welfare of society. The Republic of Indonesia State Law Number 10 of 1998 explains that the definition of "bank is a business entity that collect funds from the public in deposits and distribute them to public in loans and / or other forms in order to improve the standard living of people". In Indonesia there are 2 (two) types of banks recognized by the government, which is commercial banks and rural banks. Based on Law Number 10 of 1998, the banking structure in Indonesia consist of commercial banks and rural banks. The difference between these two are in term of operational activities, the commercial banks carry conventional business operational and / or based on the sharia principles which in their operational provide services in payment traffic, while the rural banks carry out conventional or sharia-based business activities, which in its activities do not provide services in payment traffic. The existence of a rural bank or abbreviated as rural banks in Indonesia is regulated in Law Number 7 of 1992 about banking where rural banks are given a clear legal basis as one type of bank other than a commercial bank. Furthermore, it was strengthened by the government regulations Number 71 of 1992 specifically concerning rural banks, where rural banks were given clarity of status and guidance as well as directed to expand the range of their services and business certainty in all corners of the country. The uniqueness of the rural bank which is its superiority compared to commercial banks is simple service procedure, fast process and flexible credit regulations. In addition, the rural bank also superior in service the customers that prioritize a personal approach.

Definition of bank fund management is an activity that includes how banks establish policies in the field of business directing funds (source of funds) management and allocation (application funds) into various assets based on their priority scale to achieve optimal profit levels while maintaining a healthy level of liquidity with restrictions. The limit set by the central bank in Indonesia is Bank Indonesia. The scope of bank funds management includes (1) how the bank manages assets / assets (2), how banks manage their debt to third parties (liability management), (3) how banks manage their capital (capital management). (Kasmir, 2016: 58). Interest Expense Ratio, it is a measure of the cost of funds collected by the Rural Bank which can show the efficiency of the Rural Bank in collecting its sources of funds (Setyawati & Jalan, 2010). Interest Rate Risk Ratio, It is a measure of the level of spread that occurs between interst income and its expenditures (Indah & Marita, 2010). Loan to Deposits Ratio is a financial ratio that illustrates the ability of how rural banks distribute loans by taking account the total and third parties that have been collected. The LDR is obtained from the comparison between total credit and third party funds. Third party funds in this case consist of savings and deposits (excluding interbank) and loans given to third parties do not include credit to other banks. Liquidity management is one of the main problems in bank activities, it is because the funds that managed by banks mostly from the public and can be withdrawn any time. The liquidity of bank means that the bank has sufficient funds available to fulfill the obligations (Siamat, 2005). Net Interest Margin are presents the ability of rural banks in generating net interest income. The NIM is obtained from the comparison between net interest income and average earning assets. Average earning assets are calculated by the addition of earning assets from January to December, then divided by 12 (Triandaru and Budisantoso, 2006: 62).

Some of the research on the sources and uses of bank funds have been carried out by Indah and Nyoman (2017), with the title "The Effect of Internal and External Factors of Banks on Net Interest Margin in Indonesia". The research sample consisted of 41 commercial banks in form commercial bank financial statements for the 2013-2015 period. The results showed that EA, LDR, Bank Size and BOPO had significant positive effect on NIM, while NPL had negative effect but not significant on the NIM. External factors of GDP and inflation have a positive positive effect but not significant on the NIM. (Ariyanto, 2017), in his research entitled "Determinants of Net Interest Margin in Banks in Indonesia", so it can be concluded that previous period of NIM, risk variables (NPL and EQA) and credit performance (LDR) and banking efficiency (BOPO) were influential significantly to the level of Indonesian Banking NIM. Budiwati (2018), in her research entitled "The Effect of Third Party Credit and Funding Position on Bank Profit with Non-Performing Loans as a Mediator (Case Study of Rural Banks in Lumajang)". The result showed that the position of credit, third party funds and non-performing loans did not have significant effect on bank profits, but simultaneously all three had significant effect on bank profits. Gumayantika (2008), conducted a study of the effect of credit risk on earnings at Bank Jabar Ciamis branch. The results of this study using the Pearson product moment correlation prove that there are negative correlation between credit risk and earnings.

Continuous research on the main activities of the bank in the field of Bank Fund Management, especially in the financial sector, the problems that will be answered through hypothesis testing where bank fund management consists of Interest Expense Ratio and Interest Rate Risk Ratio are: a) Does Interest Expense Ratio have a significant effect on Net Interest Margin? b) Does the Interest Rate Risk Ratio have a significant effect on Net Interest Margin? c) Does the Loan to Deposits Ratio have a significant effect on Net Interest Margin? d) Does Interest Expense Ratio, Interest Rate Risk Ratio and Loan to Deposits Ratio have a significant effect simultaneously on Net Interest Margin ?. Based on background and the formulation of the problem proposed, the objectives of this study are: a) To obtain evidence of the influence of Interest Expense Ratio that is significant to Net Interest Margin. b) To obtain evidence of the influence of the Interest Rate Risk Ratio that is significant to the Net Interest Margin. c) To get evidence of the influence of credit positions and third party funds that are partially significant towards bank profits. d) To obtain evidence of the influence of Interest Expense Rati, the Interest Rate Risk Ratio and the Loan to Deposits Ratio that significantly simultaneous to the Net Interest Margin. For the formulation and purpose of this research, the hypothesis to be tested is as follows:
H1: There is a significant effect of Interest Expense Ratio on Net Interest Margin
H2: There is a significant effect of the Interest Rate Risk Ratio on Net Interest Margin
H3: There is a significant effect of Loan to Deposits Ratio on Net Interest Margin
H4: There is an influence of Interest Expense Ratio, Interest Rate Risk Ratio and Loan to Deposits Ratio which are significantly significant towards Net Interest Margin

METHODS

This type of research is quantitative research by looking for causal relationships. Sugiyono (2012: 56) states that a causal relationship is a causal relationship. So in this study there are independent variables (influencing variables) and also dependent variables (influenced). To analyze the independent variable (X), namely Interest Expense Ratio, Interest Rate Risk Ratio and Loan to Deposits Ratio to the dependent variable (Y), namely Net Interest Margin, this study uses multiple linear regression analysis. With this technique a hypothesis can be tested which states that there is a partial and simultaneous effect between independent variables (X), namely Interest Expense Ratio, Interest Rate Risk Ratio and Loan to Deposits Ratio to the dependent variable (Y), namely Net Interest Margin.

The object of this research is financial data consisting of Interest Expense Ratio, Interest Rate Risk Ratio, Loan to Deposits Ratio and Net Interest Margin, to Rural Banks in Indonesia. According to the source, the data obtained to be analyzed in this study are

external data, which is data obtained from outside, while the type of data is secondary because data is collected by institutions that collect data and published to the public. This secondary data contained in the financial statements of the rural banks in Lumajang that published in the directory of Otoritas Jasa Keuangan. The data used is quantitative, namely data measured on a numerical or numeric scale. Quantitative data in this study are in the form of Interest Expense Ratio, Interest Rate Risk Ratio, Loan to Deposits Ratio and Net Interest Margin. According to the time of collection, the data used in this study is pooling data or completely called pooled time series, which is a combination of the time series data that has ordinary temporal observations in a unit of analysis, with cross-section data. which has observations on a unit of analysis at a certain point.

The population in this research is the rural bank in Indonesia. The sampling is done by purposive sampling method. The criteria of Rural Banks that can be sampled are (1) Conventional rural banks in Indonesia, (2) Actively publish financial reports in the directory of Otoritas Jasa Keuangan, (3) Having complete information needed in the study in the form of Interest Expense Ratio, Interest Rate Risk Ratio, Loan to Deposits Ratio and Net Interest Margin, (4) Research period for quarterly financial statements for the period 2013 to 2016. From the results of the sampling by purposive sampling obtained a sample of 260 financial statements 4 (four) quarterly periods of 65 (sixty five) Rural Banks in Indonesia. Research Instrument and Measurement Scale : Interest Expense Ratio (IER)= Interest Paid/ Total Deposits, Interest Rate Risk Ratio (IRRR) = Interest Income/ Interest Expend, Loan to Deposits Ratio (LDR) = Credit Provided/ Third-party funds, Net Interest Margin (NIM) = Net Interest Income / Average Earning Assets. Regulation Bank Indonesia, number 6/10/PBI/2004 12 April 2004, Regulation OJK no 12/POJK.03/2016, Direktori Bank Indonesia and Otoritas Jasa Keuangan.

The data analysis techniques will be carried out using multiple linear regression analysis with IBM SPSS 24 application. Multiple linear regression must be tested first and foremost assumptions which in this case will be carried out data normality test, multicollinearity test, heteroscedasticity test and autocorrelation test. Furthermore, hypothesis testing is done by using the t test to test the effect of Interest Expense Ratio, Interest Rate Risk Ratio and Loan to Deposits Ratio which are partially significant to Net Interest Margin and F test to test the effect of Interest Expense Ratio, Interest Rate Risk Ratio and Loan to Deposits Significant ratio simultaneously to Net Interest Margin.

RESULTS AND DISCUSSION

A good regression model must be free from problem with deviations from classic or basic assumptions. The following are the results of classical assumptions testing in the regression model. Normality testing is performed on residual regression. Testing is done by using the P-P plot graph. The data normality test results show a normal graph pattern where the points are not far from the diagonal line, this means the regression model is normally distributed. The results show that all variables used as predictors of the regression model show a fairly small VIF value, where everything are below 10, and toller value is more than 0.1. It means the independent variables used in this research do not indicate the existence of symptoms of multicollinearity, which means that all independent variables are mutually independent variables.

Heteroscedasticity testing is done by using Scatter Plots. If there are no significant variables, it can be concluded that there is no problem with heteroscedastasis. The results of heteroscedasticity testing show that there are no clear patterns of these points. This shows that the regression model does not have symptoms of heteroscedasticity, it means there is no significant disruption in this regression model. Autocorrelation testing is done by testing Durbin-Watson, if the Durbin-Watson value is located between 1.55 <d <2.46 then the data does not occur autocorrelation. The test results with SPSS obtained a Durbin-Watson value or a d'count of 1,635. Because the value of d'count (1.635) lies

between 1.55 <d <2.46, there is no autocorrelation, so further testing can be done because the assumption of autocorrelation-free has been fulfilled.

After the data is tested the basic assumption of multiple linear regression and is declared free of problems in the test, then the next hypothesis is tested. To test t for each independent variable, a t table result is needed. t table results at significance level of 5% with degrees of freedom (n - 2) = 260 - 2 = 258, then obtained t table = ± 1,9719. So the following test criteria are:

If - t table> t count> t table, the hypothesis is accepted

If - t table ≤ t count ≤ t table, the hypothesis is rejected

The results of partial hypothesis testing are presented in the table as follows:

Table 1. Hypothesis Testing Results

Model	Hypothesis Test			Information
	Beta	t	Sig	
Y = -0,179 + 0,005X_1 + 0,008X_2 + 0,089X_3	0,128	2,213	0,028	H1 be accepted
	0,329	5,730	0,000	H2 be accepted
	0,155	2,697	0,007	H3 be accepted

The fourth hypothesis testing is done by testing F on the research variable, then the results of F table are needed. F table results at a significance level of 5% or 0.05 with degrees of freedom (n-k-1) = 260 - 3 - 1 = 256, then obtained Ftable. = 2,64. So the test criteria are as follows: If F count ≥ F table, the accepted hypothesis is accepted, if F count <F table, the hypothesis is rejected.

The results of the F test are obtained by the value of Fcount = 15,916 with a significance of 0,000. By using a significance limit of 5% or 0,05, obtained F table of 2,64. This means Fcount (15,916)> F table (2,64). With a significance of 0,000 which is below the 0,05 significance level, so it can be concluded that there are effects of Interest Expense Ratio, Interest Rate Risk Ratio and Loan to Deposits Ratio that are significantly significant towards Net Interest Margin. Furthermore, it is known that the coefficient of determination (R^2) obtained from R Square is 0,157. This means the 15,7% of net interest margin in rural banks in Indonesia can be explained by Interest Expense Ratio, Interest Rate Risk Ratio and Loan to Deposits Ratio. While the remaining 84,3% net interest margin is effected by other variables that not examined, such as Operational Income Ratio, Earning Asset Quality, Non Performing Loans.

The result of hypothesis testing shows that there is a significant effect of Interest Expense Ratio on Net Interest Margin. Interest Expense Ratio has a significant effect on Net Interest Margin, with the direction of a positive relationship. This means the higher Interest Expense Ratio, the Net Interest Margin will increase and viceversa, the decreasing Interest Expense Ratio will decrease the Net Interest Margin. Interest Expense Ratio is a measure of the cost of funds collected by a rural bank that can show the efficiency of the rural bank in collecting its funding sources. In collecting third party funds which is one of the funding sources, the bank will provide interest which is realized as a cost of funds. The smaller the cost of funds incurred to obtain the third party funds from the community, more it shows the efficiency of the bank in managing its funding sources because it means the margin spread received is higher. Therefore, banks need to be able to explore sources of funds from the community at low costs. For this condition, it is recommended for the bank to try to improve its ability to explore sources of funds from the community at a lower cost. This is certainly not easy because with the increasing competition between banks, the tendency for fund costs in the form of deposit interest provided by banks will compete in a race to provide high interest rates to attract people to save their funds in banks. Attracting community interest to save funds in a bank is not only done by providing a high interest rate, but maintaining public trust by showing that their bank is healthy and safe can also be a strategy to increase bank funding sources.

The results of hypothesis testing shows that there is significant effect of the Interest Rate Risk Ratio on Net Interest Margin. Interest Rate Risk Ratio has a significant effect on Net Interest Margin, with the direction of a positive relationship. This means the higher the

Interest Rate Risk Ratio, the Net Interest Margin will increase and viceversa, the decrease in the Interest Rate Risk Ratio, the Net Interest Margin will also decrease. Interest Rate Risk Ratio is a measure of the spread rate that occurs between interst income and its expenditures which can indicate the efficiency of the Rural Bank in managing its margin spread. This condition can be explained that banks must be able to arrange a comparison between the cost of funds incurred with income or income from interest earned from lending to the public. From the test results it is also known that Interest Rate Risk Ratio is the dominant variable affecting the Net Interest Margin. This can be explained that the greater the interest income from credit provided and the smaller cost of funds spent will further increase the profit of the bank in this study measured by Net Interest Margin. This condition is recommended for bank management to maintain a balance between interest costs and interest income received. If the interest costs are greater than the interest income received, the bank will certainly suffer losses. This is certainly also not easy because the increasing development of interbank competition makes the tendency for interest costs to increase and vice versa interest income decreases because to increase the credit position, banks will compete with each other to increase their credit interest which makes interest costs tend to increase. his can be overcome by providing satisfying services so that customers do not move to competing banks in saving funds or taking credit at the bank concerned.

The result of hypothesis testing provide results that there is a significant effect of Loan to Deposits Ratio on Net Interest Margin. Loan to Deposits Ratio has a significant effect on Net Interest Margin, with a positive direction. This means the higher the Loan to Deposits Ratio, the Net Interest Margin will increase and viceversa, the decreasing Loan to Deposits Ratio will also decrease Net Interest Margin. Loan to Deposits Ratio is a financial ratio that illustrates the ability of how rural banks distribute loans by considering total and third parties that have been collected. The LDR ratio is obtained from a comparison between total credit and total third party funds. Third party funds in this case consist of deposits and deposits (excluding interbank) and loans given to third parties do not include credit to other banks. Liquidity management is one of the complex problems in bank activities, this is because the funds that managed by banks are mostly from the public that are short-term in nature and can be withdrawn at any time. The liquidity of a bank means that the bank has sufficient resources available to fulfill all of the obligations. This condition can be explained that the credit given to the community will ultimately provide interest in the form of operating income to the bank. Then it can be explained that if the amount of credit given to the community increases, this will also increase the bank's operating income in the form of bank profits. Rural banks may only channel their funds in the form of credit, so credit is the only source of income. Therefore, the greater the amount of credit given to the community, this will also increase bank profits. Meanwhile, third party funds represent funds collected from the public together with the credit position, which has significant effect on bank profits. Increasing third party funds will also increase the interest expense that must be paid, which means that this will reduce operating income. The bank must be able to get public funds with low interest so that the bank's interest expense is not too high. For this condition it is recommended that the management of the Rural Bank continue to improve its credit position with efforts that can attract the public to take credit and the bank. Meanwhile, on the side of third party funds, bank management must be able to reach public funds with low interest. This is because competition between banks is also increasingly sharp, especially with commercial banks, which are stronger in their capital compared to Rural Banks. By being able to maintain a balance by obtaining public funds with low interest and redistributing them in the form of loans to the community with higher interest rates, a high margin spread will be obtained as well and ultimately can increase bank profits.

The results of hypothesis testing give results that there are Interest Expense Ratio, Interest Rate Risk Ratio and a significant Loan to Deposits Ratio simultaneously to Net Interest Margin. This condition can be explained that simultaneously or together the three variables examined, namely Interest Expense Ratio, Interest Rate Risk Ratio and Loan to Deposits Ratio have a significant effect simultaneously on Net Interest Margin. The higher the cost of funds issued and the lower the interest income that is obtained will

certainly affect the decline in bank profits and vice versa. Likewise, after successfully obtaining or collecting public funds, the bank is also required to be able to redistribute it in the form of loans with interest rates that are higher than the interest costs incurred. Will not be able to increase bank profits even though the bank has managed to raise as much public funds as possible with low interest costs but cannot distribute them maximally in the form of credit. What happens will be even more burdensome to the bank because the cost of funds is met by the acquisition of interest on loans. Likewise, when the funds have been distributed to the community in credit, it is necessary for the bank's ability to maintain distributed loans to remain healthy so that no bad credit occurs. Overall, 15,7% of net interest margin in rural banks in Indonesia can be explained by Interest Expense Ratio, Interest Rate Risk Ratio and Loan to Deposits Ratio. While the remaining 84,3% net interest margin is effected by other variables that not examined, such as Operational Income Ratio, Earning Asset Quality, Non Performing Loans. Therefore it is important to keep the bank ratios in good condition. For this condition it is recommended that the bank be able to regulate and maintain the balance of interest expense, interest income and the ability to channel funds in the form of credit. The level of intense competition between banks remains a major challenge in maintaining this balance because the higher the level of competition, the tendency for interest expenses to increase, interest income decreases and the difficulty of channeling funds in the form of credit will increase. However, as long as the level of public trust in the bank and the soundness of the bank can still be maintained, the public will continue to entrust their funds in the bank and take credit at the bank to meet their needs.

CONCLUSION

The objective of this study is to determine the effect of Interest Expense Ratio, Interest Rate Risk Ratio and Loan to Deposits Ratio Against Net Interest Margin. Interest Expense Ratio has significant effect on the direction of a positive correlation to Net Interest Margin, which means that the increased Interest Expense Ratio will increase Net Interest Margin and viceversa, the decrease in Interest Expense Ratio will also decrease Net Interest Margin. Interest Rate Risk Ratio has significant effect on the direction of a positive relationship to Net Interest Margin, it means that the Increased Interest Rate Risk Ratio will increase Net Interest Margin and vice versa, the decrease in the Interest Rate Risk Ratio will also decrease Net Interest Margin. Loan to Deposits Ratio has significant effect on the direction of a positive relationship to Net Interest Margin, it means the higher the Loan to Deposits Ratio, the Net Interest Margin will also increase and viceversa, the Loan to Deposits Ratio will decrease. Interest Expense Ratio, Interest Rate Risk Ratio and Loan to Deposits Ratio has significant effect simultaneously on Net Interest Margin.

The results of this study as a thought contribution to the management of Rural Banks to be able to regulate and maintain the balance of interest expense, interest income and the ability to channel funds in the form of credit. The level of intense competition between banks remains a major challenge in maintaining this balance because the higher the level of competition, the tendency for interest expenses to increase, interest income decreases and the difficulty of channeling funds in the form of credit will increase. However, as long as the level of public trust in the bank and the soundness of the bank can still be maintained, the community will continue to entrust their money in the bank and take credit at the bank to meet their needs. By being able to maintain a balance by obtaining public funds with low interest and redistributing them in the form of loans to the community with higher interest rates, a high margin spread will be obtained as well and ultimately can increase bank profits.

The limitation of this study is that only researching conventional Rural Banks, it is suggested to future research to examine the rural banks with sharia principles. Another limitation is the variable under study. Bank profits are effected by other factors that have not been examined in this study, including operational expenses, allowance for losses on receivables and other costs. Therefore it will be interesting to examine the factors that can affect bank profits other than Interest Expense Ratio, Interest Rate Risk Ratio and Loan to Deposits Ratio.

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