

The Effect of Diversification of Income towards the Performance of Banks Listed in the Indonesia Stock Exchange

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Abstract. This study aims to analyze the effect of income diversification on bank performance. The independent variable in this study is income diversification, with the control variables are CAR, LDR, NPL and the dependent variable is bank performance (SHROA and SHROE). The sample used in this study is a company engaged in banking companies listed on the Indonesia Stock Exchange (IDX) for the period 2015-2019. The number of samples used in this study amounted to 30 banking companies using purposive sampling. The results of the study show that the income diversification and NPL variables have a significant negative effect on bank performance (SHROA and SHROE). The LDR variable has a significant positive effect on bank performance (SHROA and SHROE). While CAR and Bank Size variables have no significant effect on bank performance. Managerial Implications: Banking companies are expected to minimize the use of income diversification to reduce the level of risk, increase the level of credit distribution and monitor credit disbursement so as not to cause credit failures.

Keywords: capital adequacy ratio; income diversification; loan to debt ratio; non-performing loans; SHROA and SHROE

1. Introduction

The banking sector is currently experiencing a fairly rapid development. This is marked by an increase in the total assets of the banking industry in February 2018 which grew 9.25 percent annually and the increasing proportion of the Indonesian population who use banking services. Developments in the banking industry were also in line with the 1988 Banking Deregulation Policy Package (Pakto 88) which caused many new banks to appear and banks also expanded their activities to non-interest income activities such as commissions, derivative transactions, investments, fees, and others. This supports the pace of the national economy which always grows above 6.5%. The Financial Services Authority (OJK) noted that at least 80 banks have tried to provide digital banking services for their customers. For example, several banks will launch several digital banking product innovations, namely fingerprints and

video banking which aim to to complement existing digital banking products such as mobile and internet banking.

The number of innovations in the world of banking has led to more diversification of products offered by banks. The theory of the resource base view and the internal market hypothesis argues that diversification can encourage company operating efficiency, expand debt capacity, and reduce taxes [1]. However, there are also potential expenses of strategy of diversification. Brahmin, Kontesa, & Gilbert state that general diversification can reduce the risk of loan failure, this strategy leads to greater diversification of income sources, which can help banks reduce risks and stabilize earnings, provided that components of profit are disparate and not perfectly correlated [2]. Uzhegova states that diversification of income leads to increased profitability [3]. Meslier, Tacneng, dan Tarazi tested the hypothesis in the US and Europe and found that shifting banking activities to non-traditional activities (Non Interest Income) would increase bank profitability and risk-adjusted profits [4]. Based on research conducted by Brahmin et al., the measurement of profitability uses two basic risk-adjusted profitability measurements (risk-adjusted profits), namely SHROA and SHROE which can be calculated by dividing Return on Assets and Return on Equity with each -respectively its standard deviation [2]. The problem in this study is whether diversification of income affects the performance of banking companies listed in the Indonesia Stock Exchange.

2 Literature Review

2.1 Bank Performance

Bank financial performance can be used as a guide to analyze the outcomes of company policies, performance, and efficiency [5]. Therefore it is important to measure bank performance. The performance of adequate financial institutions can be measured using profitability. Profitability is important and crucial not only for customers but also for the sustainable growth and survival of financial institutions [6]. In the economic and financial literature, there are a couple indicators used to measure bank performance. The two key indicators are the profitability of assets (Return on Assets and Return on Equities) and Net Interest Margin [5]. Different banks use different measures to measure their performance. There are two main measurements to measure profitability, namely ROA and ROE. This is in line with research conducted by Ismail, Hanif, Choudhary, dan Nisar which uses Return on Equity (ROE) and Return on Assets (ROA) as a measure of bank performance [7]. Likewise Pennathur, Subrahmanyam, dan Vishwasrao; Karakaya and Er; Turkmen and Yigit in a study that also uses ROE and ROA as performance measurements [8]–[10]. However, in this study, based on previous research conducted by Brahmana et al., the measurement of bank performance uses the standard deviation of ROA (SHROA) and standard deviation of ROE (SHROE) to see bank profitability adjusted for risk level [2]. Delpachitra & Lester (2013), Amidu & Wolfe (2013), in their research also use risk-adjusted ROE and ROA as a measure of bank performance [11], [12].

2.2 Diversification of income

Zhou argues that the total income of conventional banks consists of 2 parts, namely interest income and non-interest income [13]. The non-interest income itself includes charges, commission income, income from foreign currency trading, investment income, and other

operating income. Diversification of income is a business strategy that allows an entity to enter new business fields with diversified products and services with the aim of reducing risk and increasing profitability. from the difference in interest, but also non-interest income obtained through various financial services and other banking products [13]. Diversification is usually carried out to reduce the risks faced in lending and overcome intense competition in the credit market [13]. Brahmana et al., stated that there was a significant positive effect between diversification of income on bank performance [2]. The higher a bank diversifies its income, the better the bank's performance is.

2.3 Capital Adequacy Ratio

Capital Adequacy Ratio (CAR) is a ratio that shows a bank's capability to handle its assets to grow its company and be able to bear all the burdens of the bank's operating activities [14]. Commercial banks require Adequate capital in order to operate more efficiently due to the protection it provides against failure [15]. Capital is part of the bank's obligations that do not have to be repaid and therefore must be available as a buffer in certain conditions such as declining bank assets [16]. Banks are not always profitable, so capital is needed just in case the bank is affected by large losses [17].

2.4 Loan to Debt Ratio

Loan to Debt Ratio (LDR) is a comparison of how much credit the bank provides compared to the total assets owned by the bank. LDR is used to measure the bank's capability to meet credit requests through collateral for a number of assets owned [18]. LDR is a calculation of the percentage of the total loan amount to the total amount of assets [2]. The bank's activity is to collect funds from surplus units and lend them to deficit units. From this activity the bank will benefit. The larger the loan, the higher the level of bank profits and will increase profitability [19].

2.5 Non-Performing Loans

Non-Performing Loans (NPL) is a ratio used to measure a bank's capability to bear the risk of default on credit payments by debtors [20]. Non-Performing Loans arise from the extension of credit facilities to customers [21]. Kingu, Macha, dan Gwahula classify non-performing loans to banks as doubtful, substandard, and bad loans [22]. The lower the NPL, the lower the credit risk borne by the bank [20].

2.6 Bank Size

Menicucci dan Paolucci say that bank size is the size of the bank [23]. Meanwhile, Petria, Capraru dan Ihnatov suggest that bank size is the large number of asset owned by the bank [24]. Banks can achieve a better capital structure based on its size, this is because bank size has an influence on the profits obtained in a bank, where larger sized banks equals greater profit. The size of a bank will affect its capability to bear risks that may arise due to various situations that will be faced in banking activities [25]. Large banks tend to be able to invest a lot of funds into technology development and are able to expand their business lines so that they are able to get more customers. Flamini, Mcdonald, and Schumacher in their research found that there is a positive influence between bank size and bank performance [26]. This

shows that large banks take advantage of diversification opportunities and attract investors to invest in assets. In addition, banks with large banks usually face high operational costs due to an increase in asymmetric information, because of the financial crisis, there are imperfections and market uncertainties that result in slower recovery in operating costs and have an impact on the decline in bank income. Shows that there is a negative influence between bank size on bank performance, which means that the larger the size of the bank, the lower the bank performance [27]. In addition, Al-Harbi found that there was no effect between bank size on bank profitability [28].

2.7 Conceptual Framework

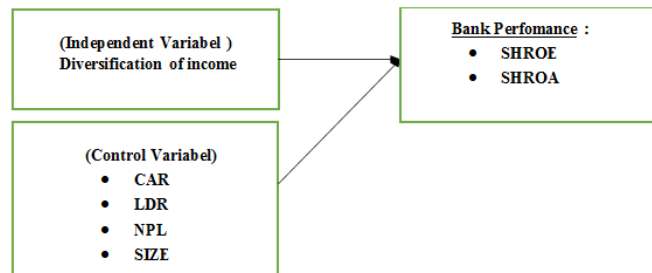


Fig. 1. Conceptual Framework

Hypothesis

- H₁ : Diversification of income has an effect on Bank Performance
- H₂ : CAR affect Bank Performance
- H₃ : LDR affect on Bank Performance
- H₄ : NPL affect Bank Performance
- H₅ : Bank Size affect on Bank Performance

2. Methods of Research

Table 1. Variables and Measurements

Variables	Measurements	Literature
Dependent Variable		
SHROA	ROE / σ ROE	Chiorazzo et al.,(2008)
SHROE	ROA / σ ROA	
Independent Variables		
Diversification of income (DIV)	$DIV = 1 - (RNET^2 + RNII^2)$ Ket : RNET = (NET/(NET+NII)) RNII = (NII/(NET+NII))	Brahmana et al., 2018
Control Variables		
Capital Adequacy Ratio (CAR)	Modal / Risk Weighted	
Loan to Debt Ratio (LDR)	Total Kredit / Total Asset	
Non Performing Loans (NPL)	Kredit Bermasalah / Total Kredit	
Bank Size (SIZE)	The Natural Logarithm of The Total Assets	

This study was conducted by means of hypothesis testing which aims to examine the effect of diversification of income, CAR, LDR, NPL and Bank Size on the performance of conventional banks listed in the Indonesia Stock Exchange (IDX) for the period 2015 to 2019 using Multiple Regression Analysis. This study uses secondary data, namely data collected from the company's annual report obtained from the Indonesia Stock Exchange website, namely www.idx.co.id. The regression model of this study can be formulated as follows:

$$SHROA = \alpha_0 + \alpha_2 CAR + \alpha_3 LDR + \alpha_4 NPL + SIZE + \epsilon$$

$$SHROE = \alpha_0 + \alpha_2 CAR + \alpha_3 LDR + \alpha_4 NPL + SIZE + \epsilon$$

$$SHROA = \alpha_0 + \alpha_1 DIV + \alpha_2 CAR + \alpha_3 LDR + \alpha_4 NPL + SIZE + \epsilon$$

$$SHROE = \alpha_0 + \alpha_1 DIV + \alpha_2 CAR + \alpha_3 LDR + \alpha_4 NPL + SIZE + \epsilon$$

3. Results and Discussion

Table 2. Descriptive Statistics

Variabel	Obs.	Mean	Maximum	Minimum	Stand.Dev
SHROA	145	7.088622	72.91375	-2.522800	13.96002
SHROE	145	4.710184	15.93372	-2.690770	4.294315
DIV	145	0.307925	0.495110	0.018670	0.123062
CAR	145	0.204207	0.458530	0.018670	0.059614
LDR	145	0.897391	1.463760	0.504310	0.144575
NPL	145	0.031536	0.158210	1.00E-05	0.020913
SIZE	145	25.10038	32.83300	22.08341	2.116351

Table 3. T Test Result

Model - 1		SHROA		Model - 2		SHROE	
Variable	Coefficient (beta)	Probcapability (P-value)	Variable	Coefficient (beta)	Probcapability (P-value)		
CAR	3.051047	0.3409	CAR	-3.068711	0.3095		
LDR	3.893490	0.0002*	LDR	3.670246	0.0001*		
NPL	-26.15942	0.0000*	NPL	-33.42304	0.0000*		
SIZE	-0.194580	0.6489	SIZE	-0.716057	0.0382*		

*Signifikan pada *alpha* 0.05 (5%)

Table 4. T Test Result

Model - 3		SHROA		Model - 4		SHROE	
Variable	Coefficient (beta)	Probcapability (P-value)	Variable	Coefficient (beta)	Probcapability (P-value)		
DIV	-3.005206	0.0305*	DIV	-3.479085	0.0084*		
CAR	3.463476	0.2247	CAR	-2.396382	0.4094		
LDR	3.650264	0.0000*	LDR	3.646603	0.0001*		
NPL	-28.53325	0.0000*	NPL	-33.31203	0.0000*		
SIZE	-0.086945	0.8325	SIZE	-0.880756	0.0117*		

*Signifikan pada *alpha* 0.05 (5%)

3.1 Diversification - Bank Performance

The data analysis came to a conclusion that there is a significant negative effect between diversification of income on bank performance (SHROA & SHROE). The results of this study are not in line with research conducted by Brahmin et al., which states that there is a positive and significant effect between diversification of income on bank performance (SHROA & SHROE) [2]. However, these results are in line with the research done by Fiordelisi, Marques-Ibanez, & Molyneux which states that there is a negative and significant relationship between diversification of income and bank risk [29]. Banks that are profitable and contribute to banking system stcapability are banks that only focus on interest income rather than banks that diversify their income. With the increase in bank risk, it will cause a decrease in profitability and a decrease in the performance of the bank itself.

3.2. CAR - Bank Performance

Based on the results of data analysis, it shows that CAR does not affect bank performance (SHROA and SHROE) significantly. The results of this study do not match the research conducted by Brahmin et al. meaning that CAR affects bank performance significantly in a positive way, but the study results match the research conducted by Alper, Wibowo and Mawardi which shows that capital adequacy ratio does not affect bank performance significantly [2], [14], [30]. This shows that high or low CAR does not impact banking performance, both in terms of SHROA and SHROE. Bank Indonesia regulates the banks to maintain a minimum of 8% capital adequacy ratio, so that bank owners increase bank capital only so that the capital adequacy ratio meets the requirements set by Bank Indonesia and does not try to make the capital able to have a significant influence on bank performance. On the other hand, the banking business is a business that prioritizes trust, so as long as the public believes in the credibility of the bank, the required bank capital of 8% will not affect the bank's performance.

3.3 LDR - Bank Performance

The results of data analysis show that the loan to debt ratio positively affects bank performance (SHROA and SHROE) by a landslide. The results of this study are in the same lane as the research conducted by Brahmin et al., which explains that the loan to debt ratio has a positive and significant effect on bank performance where higher loan to debt ratio indicates higher capabilities of a bank to channel credit through collateral for a number of assets owned by the bank [2]. The higher the loan disbursed, the higher the interest income earned, thereby helping to improve the bank's performance.

The results of this study stay on course with the research conducted by Gul et al., which shows that there is a positively significant effect between loan to debt ratio and bank performance [18]. Sasrosuwito and Suzuki also support the results of this study which explains the positive and significant influence between loan to debt ratio and bank performance [31].

3.4 NPL - Bank Performance

Based on the results of data analysis, it shows that non-performing loans (NPL)

significantly affect bank performance (SHROA and SHROE) in a negative way. The results of this study are not in line with the research of Brahmin et al. which shows that NPL has does not affect bank performance, which defines that the size of a bank's NPL level cannot improve bank performance [2]. However, the results of this study goes well with the research from Roman and Tomuleasa which explains that non-performing loans have a significant negative effect on bank performance [32]. This is because the higher the NPL ratio, the higher the amount of credit that cannot be returned by the debtor so that it can reduce bank profitability and performance. Ally; Hallunovi and Berdo also support this study which shows a negative influence between NPL and bank performance [33], [34].

3.5 SIZE - Bank Performance

The results of the study shows that bank size does not influence bank performance (SHROA) but affects bank performance (SHROE) significantly in a negative way. The results of this study are in line with research conducted by Al-Harbi (2019) which found there was no effect between bank size on bank performance.

4 Conclusion

This study aims to determine and examine the effect of diversification of income and control variables, namely capital adequacy ratio, loan to debt ratio and non-performing loans on bank performance in conventional banking companies with a sample of 30 banks using financial statement data from the Indonesia Stock Exchange for five years, the last period 2013-2019. The conclusions from the results of the analysis and discussion of the research that have been described are as follows:

1. Diversification of income affects bank performance (SHROA and SHROE) negatively.
2. Capital adequacy does not influence bank performance (SHROA and SHROE)
3. Loan to debt ratio affects bank performance (SHROA and SHROE) positively.
4. Non-performing loans negatively affects bank performance (SHROA and SHROE).
5. Bank Size does not affect bank performance (SHROA) but affects bank performance (SHROE) negatively.

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