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Impact Financial Risk on Financial Performance Bank in Indonesia

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Abstract:
This study aims to analyze the impact of financial risk on the financial performance of banks in Indonesia. This study uses panel data from the annual report of 23 banks listed in Indonesia Stock Exchange period 2011-2015. Data analysis was done by using path analysis with Smart Pls 3.0. Endogenous variable is financial performance. Exogenous variables are financial risk consisting of liquidity risk of credit risk, exchange rate risk and interest rate. The findings of the study indicate that credit risk has a negative and significant effect on financial performance. Interest rate risk has a positive and significant impact on financial performance. Liquidity risk and exchange rate risk does not affect the financial performance of banks in Indonesia.

Keywords: *financial performance, liquidity risk, credit risk, interest rate risk, exchange rate risk*

1. Introduction

Economic globalization today where banking intermediation function of banking is very important in improving the economy of a country. This is because banks support the real sector of the economy that produces non-financial goods and services. Banks in carrying out activities offer banking products and services become increasingly complex and varied. Banks in carrying out activities offer banking products and services become increasingly complex and varied, resulting in greater risk exposure borne by banks. Risks in the banking context are potential events, both predictable and unexpected, that negatively affect the Bank's revenue and capital. Therefore, in order to adapt in the banking business environment, Banks are required to apply risk management. The application of risk management may vary between Bank and other Banks in accordance with the Bank's business objectives, business policies, size and complexity and capabilities in finance, supporting infrastructure and human resources. Bank Indonesia Regulation No.11 / 25 / PBI / 2009 on the implementation of risk management for commercial banks as a minimum standard that must be met by banks in Indonesia in applying risk management.

Risk theory of profit (Hawley, 1893) which states that businesses that involve high risk provide more benefits or risks directly proportional to income. While Bowman's theory of risk-return paradox (1980) states that if risk is well managed it will increase income or risk inversely with income. Although these two theories are different but conclude one thing, that is, business activities need to anticipate each risk by performing effective and efficient risk management so as to improve the company's financial performance.

Risk as a measure of company performance in the banking context arises from any transaction or business decision that contains uncertainty about the outcome. Bank risk consists of financial risks and non-financial risks. Financial risk is a fundamental factor that affects the financial performance of banks (Bessis, 2010: 1; Driga, 2012). Therefore, the bank's financial risk becomes the basis for any bank management decision making as it has an impact on the bank's financial performance.

Based on the previous description, this research question is how the impact of financial risk consisting of liquidity risk, credit risk, interest rate risk and exchange rate risk to financial performance of bank in Indonesia. The purpose of this study is to analyze the impact of financial risk on the financial performance of banks in Indonesia.

2. Literature and Hypothesis

2.1. Financial Risk

Financial risk consists of market risk, credit risk, liquidity risk, operational risk, legal and regulatory risk, and human factor risk (Crouhy et al 2001) and according to the Bank (2005) market risk, credit risk and liquidity risk. The bank's risk according to Driga (2012) comes from an internal bank which is a pure risk consisting of liquidity risk and credit risk. Speculative or impure risks are risks arising from external banks, namely interest rate risk and exchange rate risk that may result in losses for the bank. Therefore, the bank's financial risk consists of liquidity risk, credit risk, interest rate risk and exchange rate risk (Greuning and Bratanovic, 2009: 4, 34; Woods and Dowd, 2008: 5 and PBI No.11 / 25 / PBI / 2009).

2.2. Financial Performance

Financial performance is a description of management's achievement in using company's resources to generate optimal profitability. According to Babu and Jain, (1998) improvement in financial performance causes the company to conduct business development and pay dividends to shareholders. Profitability is one measure of bank financial performance. According to Brigham, and Daves (2007,259) Profitability is the net result of a number of policies and decisions. The profitability ratio according to Horne and Wachowicz (2005; 180) consists of two types of ratios, namely, ratios that show profitability in relation to sales (gross profit margin and net profit margin), and profitability in relation to investment: Return on Assets (ROA) and Return on Equity (ROE).

2.3. Hypothesis

2.3.1. Liquidity Risk and Financial Performance

The financial risk associated with bank liquidity decision is liquidity risk. Liquidity risk or funding risk is the unavailability of bank funds when needed (Bessis, 2010; 137). Liquidity risk occurs due to mismatch maturity, or a negative liquidity gap between obligations on deposits of public funds (third party funds) with funding sources from earning assets, especially credit. Therefore, liquidity risk is a risk due to the inability of banks to fulfill the obligations of public savings (third party funds) due from sources of credit funds. So the greater use of public funds for credit the higher the bank's liquidity risk. On the other hand, the use of Bank's third party funds for credit will increase the interest income of the Bank that gives effect to the improvement of the Bank's financial performance. This is in accordance with research conducted by Al Zorqan (2014) against two Banks in Jordan period 2008-2012 who found that the Bank's liquidity risk has a positive and significant impact on the financial performance of the Bank in Jordan. Therefore this study tested the following .hypotheses;

- H_1Liquidity risk has a positive and significant impact on the financial performance of banks in Indonesia

2.3.2. Credit Risk and Financial Performance

The financial risk associated with lending is a credit risk. Credit risk is a risk due to failure of the debtor or other party in fulfilling obligations to the Bank.Credit risk is based on credit quality that is the condition of principal payment, principal installment or loan interest by debtor. The failure of the debtor and / or other parties to meet obligations to banks resulting in non-receipt of interest income planned. Therefore, credit risk affects the decrease of bank's financial performance. This is in accordance with research conducted Haque and Wani (2015) of 10 commercial banks in India in 2008-2013 which found that credit risk has a negative and significant impact on financial performance in India. Therefore this study tested the following hypotheses:

- H_2Credit risk has a negative and significant impact on the financial performance of banks in Indonesia

2.3.3. Interest Rate Risk and Financial Performance

The bank's financial risk as a result of interest rate changes is the interest rate risk. Interest rate risk according to Rose and Hudgins, (2010: 172) the probability that rising or falling interest rate will adversely affect the margin of interest reveals the value of net worth. This risk arises due to changes in interest rates moving in the direction that minimizes interest income margin on interest costs. The greater the margin the more sensitive to changes in market interest rates. Bank interest rate risk is the risk that decreases bank interest income as a result of decreasing interest income margin on bank interest expense. Therefore, interest rate risk has an effect on decreasing bank financial performance. This is supported by research by Muriithi et al (2016) against 43 commercial banks in Kenya for 2005-2014 period found that interest rate risk had a negative and significant effect on bank financial performance in Kenya. Therefore this study tested the following hypotheses:

- H_3Interest rate risk has a negative and significant impact on the financial performance of banks in Indonesia.

2.3.4. Interest Rate Risk and Financial Performance

Risiko keuangan yang terkait dengan transaksi valuta asing adalah risiko nilai tukar. Risiko ini disebabkan oleh fluktuasi nilai tukar mata uang asing terhadap mata uang domestik (Madura (2006: 376; Ekinci, 2016). Banks with foreign exchange bank status may conduct banking activities in foreign currency. Activities in foreign currencies cause the Bank to have assets and liabilities to share foreign currency types (foreign currency exposure). Foreign currency exposure is a payment / receipt of a foreign currency that allows the Bank to incur a loss / gain in relation to exchange rate fluctuations. Foreign currency exchange rate risk is an inherent risk of foreign exchange maintained at off-on balance. Foreign exchange risk The Bank is a potential risk of losses due to exchange rate movements in opposite markets when the Bank has an open position (short and long position). Therefore, exchange rate risk gives negative effect to the financial performance of the bank. This is consistent with research conducted by Muriithi, et al (2016) found that foreign exchange risk positively and negatively affected the financial performance of commercial banks in Kenya. Therefore this study tested the following hypotheses

- H_4 Exchange rate risk has a negative and significant effect on the financial performance of banks in Indonesia.

3. Methodology

The sample of this study includes 23 Indonesian banks listed on the Indonesia Stock Exchange (IDX). This study uses panel data from the annual report for the period of 2011-2015.Here is a bank name is the object of the samples in this study.

NO	CODE	COMPANY NAME
1	BMRI	Bank Mandiri (Persero) Tbk
2	BBRI	Bank Rakyat Indonesia (Persero)Tbk
3	BBCA	Bank Central Asia Tbk
4	BBNI	Bank Negara Indonesia (Persero)Tbk
5	BNGA	Bank CIMB Niaga Tbk
6	BBTN	Bank Tabungan Negara (Persero) Tbk
7	BDMN	Bank Danamon Indonesia Tbk
8	PNBN	Bank Pan Indonesia Tbk
9	BNLI	Bank Permata Tbk
10	BNII	Bank Maybank Indonesia Tbk
11	NISP	Bank NISP OCBC Tbk
12	BJBR	Bank Jabar Banten Tbk
13	BBKP	Bank Bukopin Tbk
14	MEGA	Bank Mega Tbk
15	MAYA	Bank Mayapada International Tbk
16	BSIM	Bank Sinar Mas Tbk
17	INPC	Bank Artha Graha International Tbk
18	SDRA	Bank Woori Saudara Indonesia 1906 Tbk
19	BACA	Bank Capital Indonesia Tbk
20	MCOR	Bank Windu Kentjana International Tbk
21	AGRO	Bank Rakyat Indonesia Agro Niaga Tbk
22	BBNP	Bank Nusantara Parahyangan Tbk
23	BNBA	Bank Bumi Arta Tbk

Table 1: List of Bank That Being Research Object;
Source: www.idx.co.id (Data is processed)

Data analysis was performed using path analysis with SmartPls 3.0 software. because the data is not normally distributed. Endogenous variable is financial performance. Exogenous variables of financial risk consist of risk liquidity risk, credit, interest rate risk and exchange rate risk in table 1.

Variabel	Measured	Description
Financial Performance (FP)	Return on Asset Ratio	Net Income / Total Assets
Liquidity Risk (LR)	Loan to Deposit Ratio	Total loan/Total Deposit
Credit Risk (CR)	Non Performing Loan Ratio	Non-performing loans/Total loans
Interest Rate Risk (IRR)	Net Interest Margin	(Interest income-total interest expenses)/Earning Assets
Exchange Rate Risk (ERR)	Net Open Position Ratio	Net open position/Capital overall

Table 2: List of the Variables to be Studied

To test the hypothesis of this study will estimate the following path analysis model

$$FP_{it} = \beta_1 LR_{it} + \beta_2 CR_{it} + \beta_3 IRR_{it} + \beta_4 ERR_{it} + \varepsilon.$$

Where:
FP = Financial Performance,
LR = Liquidity Risk,
CR = Credit Risk,
IRR =Interest Rate Risk,
ERR = Exchange Rate Risk
β = Coefficients for exogenous variables and
ε = Erro Term.

4. Results

4.1. Path Coefficients
Path coefficients aims to know the magnitude of the coefficient of the effect of liquidity risk, risk credit risk, interest raterisk and exchange rate on the financial performance of the Bank in Indonesia. Path Coefficients shown in figure 1

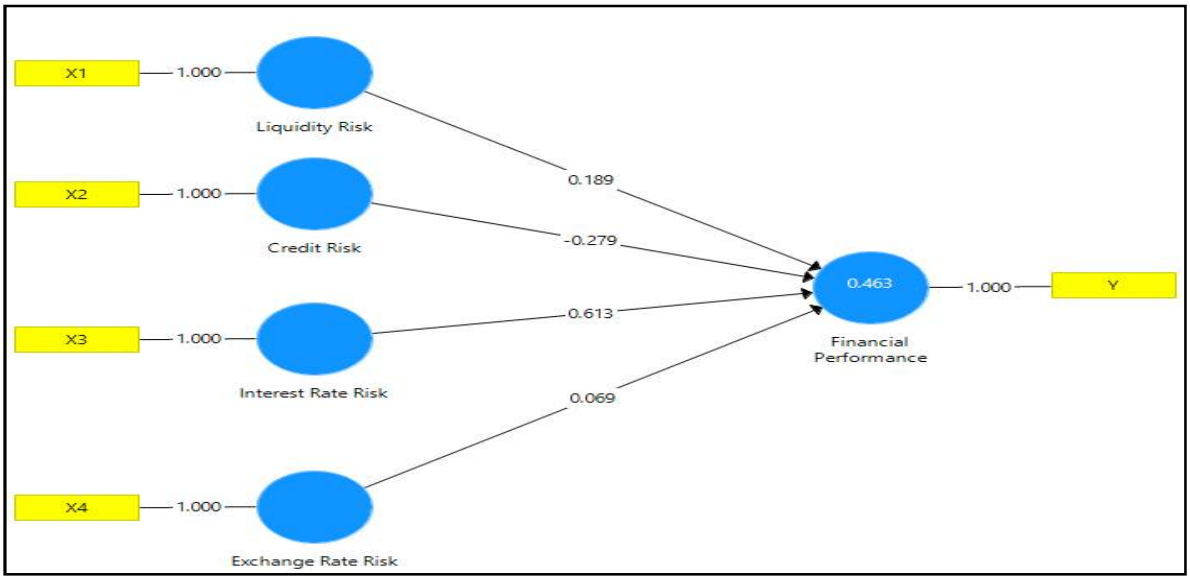

Figure 1: Path Coefficients

Figure 1 shows the coefficient of liquidity risk to the Bank's financial performance of 0.189.This means that liquidity risk has a positive influence on the Bank's financial performance. Credit risk coefficients to the Bank's financial performance is - 0.279. This means that the credit risk of a negative impact on the Bank's financial performance. The interest rate risk coefficient on the Bank's financial performance is 0.613. This means that the interest rate risk positively affects the Bank's financial performance. The coefficient of exchange rate risk on the Bank's financial performance is 0.069. This means that exchange rate risk positively affects the Bank's financial performance. The regression equation of this research is as follows:

$$FP = 0.189\ (LR) - 0.279\ (CR) + 0.613\ (IRR) + 0.069\ (ERR) + \varepsilon$$

4.2. Goodness-of Fit test.

The Goodness-of Fit criterion assessment is used to determine the extent of the endogenous variable's ability to explain the diversity of exogenous variables. Goodness of Fit Model is measured using R-square (Ghozali and Latan, 2015: 81). Figure 1 shows the R-squared generated by the Bank's financial performance variable of 0.463 which means that the effect of liquidity risk, credit risk, interest rate risk and exchange rate risk to the Bank's financial performance is 46.3% and the remaining 53.7% is influenced by the variable other than this research model.

4.3. Test of Hypotheses

Hypothesis testing was done by significance test of path model using Smart Pls 3.0. with signification level 0,05. Test results can be show in table 3

Description	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Credit Risk -> Financial Performance	-0.279	-0.261	0.082	3.398	0.001
Exchange Rate Risk -> Financial Performance	0.069	0.013	0.127	0.548	0.584
Interest Rate Risk -> Financial Performance	0.613	0.631	0.070	8.814	0.000
Liquidity Risk -> Financial Performance	0.189	0.149	0.132	1.429	0.154

Table 3: Signification of The Path Model

Table 3 shows the coefficient of liquidity risk to the Bank's financial performance of 0.189 with t-statistic values of 1,429 <1.97. This indicates that liquidity risk has a positive and insignificant influence on the Bank's financial performance. This means the hypothesis (H1) is rejected. The coefficient of bank credit risk to the financial performance of Bank amounted to - 0.279 with with t-statistic values of 3.398> 1.97.This indicates that credit risk has a negative and significant influence on the Bank's financial performance. This means the hypothesis (H2) is accepted. The coefficient of interest rate risk on the Bank's financial performance .613 with t-statistic values of 8.814> 1.97.this indicates that interest rate risk has a positive and significant impact on the Bank's financial performance. This means the hypothesis (H3) is rejected. The coefficient of exchange rate risk to the Bank's financial performance is 0.069 with a statistical value of t of 0.548 <1.97. This indicates that exchange rate risk has a positive and insignificant influence on the Bank's financial performance or exchange rate risk does not affect the financial performance of the Bank. This means the hypothesis (H4) is rejected.

5. Discussion

The results of this study indicate that liquidity risk as measured by Loan to Deposit Ratio has a positive and insignificant effect on financial performance as measured by Return on Asset Ratio. That is, liquidity risk does not affect financial performance or the use of third party deposits in banks allocated for lending does not affect the financial performance of the Bank.The results of this study support the research of Rahman and Saeed, (2015) and do not support the research of Al Zorqan (2014).Credit risk as measured by Non Performing Loan Ratio has a negative and significant effect on the Bank's financial performance. This means that an increase in credit risk will lead to a decline in bank financial performance. The decline in financial performance is due to the non-acceptance of interest income already planned. The results of this study support the research conducted Haque and Wani (2015). Interest rate risk as measured by Net Interest Margin Ratio has a positive and significant impact on bank financial performance. That is, the increase in interest rate risk will increase the bank's financial performance or an increase in the net interest margin will increase interest income that have an impact on improving the financial performance of the bank. The results of this study do not support the research of Muriithi et al (2016) and support the Research conducted by Odeke and Odongo (2014). The exchange rate risk as measured by the Net Open Position Ratio has a positive and insignificant effect on the financial performance of the bank. This means thatNet Open Position does not affect the financial performance of the bank. The results did not support the research of Muriithi et al (2016).

6. Implication to Research and Practice

Bank liquidity risk does not affect the financial performance of banks. This shows that liquidity risk is not a variable affecting the financial performance of banks in Indonesia. The increase in credit risk has a significant impact on the Bank's financial performance. This indicates that the Bank's credit risk variable is a variable affecting the financial performance of the Bank in Indonesia. Interest rate risk has a positive and significant impact on the bank's financial performance. Therefore, bank interest rate risk is a variable affecting the financial performance of Bank in Indonesia. The exchange rate risk does not affect the financial performance of the bank. This shows that bank exchange rate risk is not a variable affecting the financial performance of banks in Indonesia.

7. Conclusion of the Study and Future Research

Credit risk has a negative and significant effect on financial performance. Therefore, banks need to keep prudential banking attention in channeling their credit by mitigating credit risk to insurance companies. Interest rate risk has a positive and significant impact on financial performance. Therefore, banks need to pay attention to the movement of special interest rate of interbank lending rate because it can cause take over credit to other banks. Liquidity risk and exchange rate risk does not affect the financial performance of banks in Indonesia. This study can be developed a study involving other modeling and also the time for change financial performance of banks.

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