THE INFLUENCE OF MARKET RISK ON FINANCIAL PERFORMANCE IN STATE-OWNED AND FOREIGN BANKS LISTED ON INDONESIA STOCK EXCHANGE

PENGARUH RISIKO PASAR TERHADAP KINERJA KEUANGAN PADA BANK BUMN DAN BANK ASING YANG TERDAFTAR DI BURSA EFEK INDONESIA

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Abstract: Market risk has remained a major challenge since the financial crisis. The financial crisis taught us that risk reduction and implementation are necessary to achieve continued success. Therefore, to anticipate it will happen again, market risk has become one of the banking industry's considerations. This study aims to analyze the market risk influence on the financial performance of State-Owned Bank and Foreign Banks listed on the Indonesia Stock Exchange period of 2009-2019. In this study, market risk is measured by the interest rate risk. This study is conducted through quantitative methods, Data Regression Panel; the test and analysis using SPSS 20 software. The sample of this research is four State-Owned Bank banks and eight Foreign Banks in 2009-2019. This study found that Market Risk partially has a positive and significant influence on EPS.

Keywords: market risk, PBV, NIM, OEOI, financial performance

***Abstrak:** Risiko pasar menjadi tantangan utama sejak krisis keuangan. Krisis keuangan mengajarkan kita bahwa pengurangan risiko dan implementasi diperlukan untuk mencapai kesuksesan yang berkelanjutan. Oleh karena itu, untuk mengantisipasi hal tersebut terulang kembali, risiko pasar menjadi salah satu pertimbangan industri perbankan. Penelitian ini bertujuan untuk menganalisis pengaruh risiko pasar terhadap kinerja keuangan Bank BUMN dan Bank Asing yang terdaftar di Bursa Efek Indonesia periode 2009-2019. Dalam penelitian ini, risiko pasar diukur dengan risiko suku bunga. Penelitian ini dilakukan melalui metode kuantitatif, Data Regression Panel; pengujian dan analisis menggunakan software SPSS 20. Sampel dalam penelitian ini adalah empat bank BUMN dan delapan Bank Asing pada tahun 2009-2019. Penelitian ini menemukan bahwa Risiko Pasar secara parsial berpengaruh positif dan signifikan terhadap EPS.*

***Kata Kunci:** risiko pasar, PBV, NIM, OEOI, kinerja keuangan*

INTRODUCTION

Research Background

Banks have an essential role in the economy of a country. Many activities use a bank as a financial institution to ensure business activities. Hence, in doing its functions, banks will face risks that can affect their performance. In addition, the banking industry was the most vulnerable point when the economic crisis hit. The economic crisis occurred several times, causing changes and affecting the banking industry. It makes existing banks follow international standards, which require more attention to risk management operations. Bank Indonesia regulates compliance in Indonesia through Good Corporate Governance (GCG). When banks meet these standards, they may optimize their ability to endure risks to support their development-related activities (AFDB, 2009).

The cause of the 1998 crisis was the Asian regional financial crisis due to massive private debt maturing and a money rush due to market and business distrust. In 1997, the crisis inflicted a closure of 16 banks based on the IMF's recommendations and a decrease in the Bank's confidence level, which caused the problem to become more complex. The second crisis that hit Indonesia in 2008 changed the world economic order. The factors causing

the 2007 global recession were the US subprime mortgage crisis. Its impact was felt throughout the world, especially in developing countries in 2008; Indonesia was one of the countries affected by this crisis. According to the FDIC (2010), 168 banks in the United States reported closing between 2007 and 2009. The condition of the foreign economy significantly affects the banking conditions in Indonesia.

Market Risk was underestimated since the global financial crisis but significantly impacted Indonesia's economy. Market risk refers to the market change and the situation outside its control. If the Bank's market risk is not appropriately managed, the unexpected movements will reduce the banks' earnings or valuation, resulting in a capital loss. The financial crisis, in particular, seems to have altered market risk (Grout and Zalewskac, 2016). When most banks lose capital in a short period, the financial system's stability is threatened. Hoseininassab et al. (2013) studied the impacts of many types of risk parameters, including market risk, in 15 Iranian banks from 2005 to 2011 and discovered that market risk indicators, i.e., interest rate and exchange rate, were significantly impacted efficiency. Interest rate risk is related to the level of income and costs to obtain a bank's operational funds, which is sensitive to changes in interest rates. So, changes in interest rates will impact bank costs and income, so it can cause banks to face changes in income and changes in the market value of assets and or liabilities owned by banks.

Research Objective

The research objective is to identify the market risk effect on the Financial Performance of state-owned banks and the foreign banks listed on the Indonesia Stock Exchange.

THEORETICAL FRAMEWORK

Risk

Risk is a form of uncertainty about a situation that will occur in the future, with decisions made based on various considerations. It clarifies that everything that is a factor of loss experienced by a company will be called risk. Risk can be associated with things that are likely to occur and harm previously not anticipated by the company.

Risk Management

Risk management is a field of science that discusses how an organization applies measurements in mapping various existing problems by placing various management approaches comprehensively and systematically (Fahmi, 2016). Meanwhile, according to Karim (2016), risk management is a series of procedures and methodologies to identify, measure, monitor, and control risks arising from activities.

Market Risk

Market risk is a situation that occurs outside the company's control. Market Risk is the risk of loss reflected in the Bank's on-off balance sheet positions due to changes in prices or bank assets, interest rates, foreign exchange rates, market volatility, and market liquidity. In line with that, Barus, Sudjana, and Sulasmiyati (2017) stated that financial institutions expose to various risks, including interest rate risk, credit risk, market risk, liquidity risk, currency risk, exchange risk, and operational risk. These are the risks that have a high probability of impacting the company.

Interest rate risk

Interest rate risk is the risk as a result of changes in interest rates that occur in the market that can affect company income (Fahmi, 2016), while Peraturan Bank Indonesia No. 11/25/PBI/2009 explains that interest rate risk is a potential loss that arises as a result of interest rate movements in the market that are contrary to bank positions or transactions that contain interest rate risk.

State-owned Bank

The definition of BUMN, according to UU No. 19 Tahun 2003, is a business entity whose entire or most of the capital is owned by the state.

Foreign Bank

        A foreign bank is a bank owned by a foreign private sector or a foreign government, which opens branches in Indonesia. Foreign parties also acknowledge its ownership—foreign banks operating in Indonesia with backgrounds related to the need for foreign capital.

Financial Performance

        A foreign bank is a bank owned by a foreign private sector or a foreign government, which opens branches in Indonesia. Foreign parties also acknowledge its ownership—foreign banks operating in Indonesia with backgrounds related to the need for foreign capital. Therefore, foreign banks cannot be defined as branches of foreign banks but also include banks whose capital is more than 50% owned by foreign parties, either individually, companies (including banks), or international organizations (B. N Jeon et al., 2011).

Previous Research

        Rahmi (2014) examined the effect of credit risk, liquidity risk and interest rate risk on profitability (empirical studies on banking companies listed on the Stock Exchange). This study classified the causative research. The population in this study are all banking companies listed on the Stock Exchange in 2009 until 2012. While the sample is determined by purposive sampling method in order to obtain 29 sample firms. The type of data used is secondary data obtained from www.idx.co.id. The analytical method used is multiple regression analysis. Based on the results of multiple regression analysis with a significance level of 5%, then the results of this study concluded: (1) the credit risk of a significant negative effect on the profitability of banking companies listed on the Stock Exchange with the β coefficient is negative at-0, 428 and a significance value 0.000 < 0.05. (2) liquidity risk not significant effect on the profitability of the banking company registered in BEI with worth valued coefficient β -0.004 and a significance value 0.576> 0.05 (3) interest rate risk of a significant positive effect on the profitability of banking companies listed on the Stock Exchange with β coefficient is positive 0.241 and significance value 0.000<0.05.

        Syafi'i and Rusliati (2016) examined the effect of credit risk, market risk, operational risk, and liquidity risk on profitability of banks listed on the Indonesia Stock Exchange in 2010-2014. The method used is descriptive and verification methods, with a sample of 30 banks and using multiple regression analysis. The results showed that credit risk does not partially affect profitability. Market risk, operational risk, and liquidity risk partially have positive effect on profitability. It simultaneously shows that credit risk, market risk, operational risk and liquidity risk have effect on the profitability of banks amounted to 67.1%. Improvement of Non-Performing Loan, Net Interest Margin, Operating Expenses to Operating Income Ratio, and Loan to Deposit Ratio will increase the Profitability.

        Natalie (2015) examined and analyzed the impact of credit risk, market risk, operation efficiency, capital, and liquidity toward the financial performance of banks. This research used quantitative research design. The data used in this research are all state-owned banks listed in Bursa Efek Indonesia (BEI) from the year 2009-2012. The type of data is secondary data. Technical analysis used multiple linear regression. The result shows that market risk and operation efficiency have significant influence to financial performance of banks. Meanwhile, credit risk, capital, and liquidity do not have significant influence to financial performance of banks.
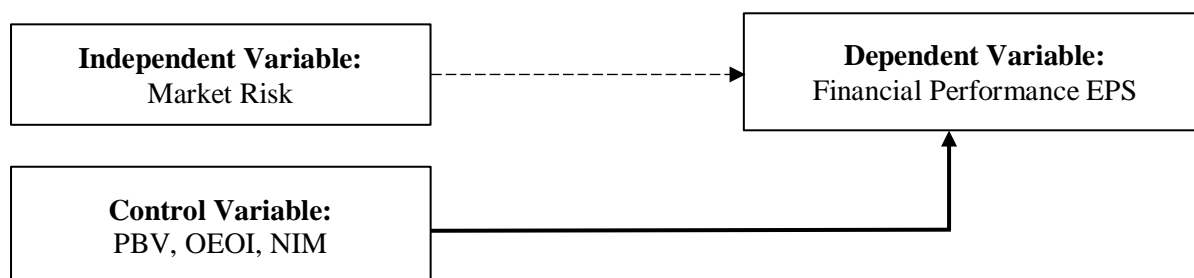
Conceptual Framework

Figure 1. Conceptual Framework
Source: Data Processed, 2021

RESEARCH METHOD

Research Approach

This research uses a quantitative approach to provide accurate explanation or image of a specific situation data required to decide the variables used to apply. This research used a quantitative approach to assess market risk's effects on state-owned banks and foreign banks financial performance over eleven years. Quantitative analysis demonstrates the relationship between independent and dependent variables while also determining the relationship's intensity.

Population, Sample, and Sampling Technique

The population of this research is 46 banks that are listed in Indonesia Stock Exchange. The samples of this study 12 banks were selected, 4 banks are state-owned banks and the rest are eight which is foreign banks. The sampling method used for this research is purposive sampling. Purposive sampling indicates that the sample represents the population and it is appropriate to the research objectives.

Data Collection Method

This study uses an internet research method, the researcher gains the information by gathering the sample bank's annual report to gain information about financial performance of each bank official website. Secondary data is obtained on this study, indirectly through intermediaries which is the internet.

Operational Definition of Research Variables
Table 1. Variable Definition

Variable	Definition	Indicators
Market Risk (X_1)	Market risk is the risk of financial position and administrative accounts due to change in overall market conditions.	Interest Rate
PBV (X_2)	PBV measures the stock price in the market compared to the book value of its shares	$PBV = \dfrac{Price\ of\ Stock}{Book\ value\ per\ share}$
OEOI (X_3)	Operating Expenses Operating Income is a ratio referred to as the efficiency ratio used to measure the ability of bank management to control operational costs against operating income.	$OEOI = \dfrac{Operating\ Expense}{Operating\ Income}$
NIM (X_4)	NIM measures a company's profit from its investments for its total investing assets.	$NIM = \dfrac{interest\ returns - interest\ expenses}{average\ asset}$
EPS (Y)	EPS is a ratio to measure management success in achieving profit for shareholders.	$EPS = \dfrac{net\ income}{outstanding\ shares}$

Source: Author's Note, 2021

Data Analysis Method
Panel Data Regression

Panel data is a combination of cross-section type data and time series collected in a specific period (Rosadi, 2012). The main advantage of panel data is that can formally model the heterogeneity across groups that are typically present in panel data (Greene, 2012). In line with that Baltagi (2005) confirms Greene's statement that the benefit of panel data can control for individual heterogeneity. Another opinion of benefits of using panel data is the advantage of panel data regression analysis is the variability in the unit cross-section (Jaya and Sunengsih, 2009). In this research, Y is EPS, and X1 is Market Risk; in this case the market risk indicator is the Total Assets to Interest Rate, X2 is PBV, X3 is OEOI, and X4 is NIM. Then, the entity in this research is the selected state-owned bank and foreign banks, and also the t is the period in this research; 2009-2019. So, the simple model of this research is:

$$Yit = \alpha + \beta1X1it + \beta2X2it + \beta3X3it + \beta4X4it + \mu i + eit$$

Where:

Y	= Earnings per share
i	= entity (State-owned bank and Foreign Banks)
t	= time (the period of the research; 2009-2019)
α	= Constant
$\beta_{1,2,3,4}$	= Coefficient of the Independent Variables
X_1	= Market Risk
X_2	= PBV
X_3	= OEOI
X_4	= NIM
e	= Coefficient Error

Multicollinearity

Multicollinearity is a condition when there is a linear correlation between independent variables. A variable has high collinearity if the VIF value of more than ten or the tolerance tends approach to 0. The multicollinearity test aims to determine whether there is a perfect relationship or very high among the independent variables in the regression model. The rule of thumb is if there are high correlations, generally 0.90 and above, it indicates multicollinearity.

Heteroscedasticity

Heteroscedasticity test is a condition where in the regression model there is an inequality of variance from the residuals in one observation to another observation. A good regression model is homoscedasticity (Ghozali, 2013).

T-Test

The independent factors' effect on the dependent variable is determined via a partial test. HO is rejected when the likelihood of significance is less than 5%, indicating that the independent variable significantly impacts the dependent variable.
a. If the probability value is less than 0.05, the hypothesis is accepted, indicating that the independent variable has a significant impact on the dependent variable.
b. The hypothesis is rejected if the probability value is larger than 0.05, indicating that the independent variable does not influence the dependent variable.
c. Using the table to compare the t statistic value to the critical point. If the t is more than the t table, the alternative hypothesis is accepted, claiming that each independent variable impacts the dependent variable individually.

RESULT AND DISCUSSION

Result

Market risk indicators are interest rate, exchange rates, and inflation rates. However, not all of the bank's annual reports contain all the market risk indicators; therefore, this research only focuses on the interest rates indicator-the data obtained from financial reports published by the official website of each bank. The categories of banks are state-owned banks and foreign banks, 46 banks were qualified and 12 banks were selected. This research focuses more on EPS because EPS is one of the important things for investors. After all, investors can see how productive the stock is making money.

Table 2. Multicollinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Market_Risk	.690	1.448
	PBV	.984	1.016
	OEOI	.625	1.599
	NIM	.870	1.150

Source: Data Processed, 2021

It shows that the four independent variables do not occur multicollinearity because the tolerance of value of the variable is close to 1.00 or pas 0.1. It concludes that none of the four independent variables detected multicollinearity.

Table 3. Fixed Effect Model

Parameter	Estimate	Std. Error	df	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Intercept	301.109979	192.294659	66	1.566	.122	-82.818696	685.038653
MR	4.100959E-010	6.561266E-011	66	6.250	.000	2.790960E-010	5.410958E-010
PBV	-22.479462	8.378877	66	-2.683	.009	-39.208430	-5.750494
OEOI	-4.511909	1.747726	66	-2.582	.012	-8.001357	-1.022461
NIM	31.547268	7.967166	66	3.960	.000	15.640309	47.454227

Source: Data Processed, 2021

The t-test is applied to determine the partial relationship between each independent variable (Market Risk, PBV, OEOI, and NIM) and the dependent variable (EPS). By comparing the value of tcount > ttable with a significance level of a = 0.05 or 95%, where df = (n-k) = (12-4) = 8, we get a ttable of 1.860. From the equation model above, the interpretation is market risk (X1) significantly positive influence on EPS, also indicating that every one-unit increase in Market Risk will be followed by an increase in EPS of 4.100959E-010, assuming ceteris paribus. From the t test result 0.000 which is lower than the significant level of 5% Market Risk partially has a significant effect on EPS (Y). Then, the PBV (X2) result based on this table above shows that PBV has a negative effect on EPS, assuming ceteris paribus that every one unit in PBV will decrease in EPS by 22.479462. From the t test result of PBV 0.009 which is lower than the significant level of 5% so PBV partially has a significant effect on EPS (Y). The OEOI (X3) result has a negative effect on EPS and by assuming ceteris paribus that every 1 unit increase in OEOI will cause a decrease in the EPS variable by 4.511909. From the t test result of OEOI 0.012 which is lower than the significant level of 5% so PBV partially has a significant effect on EPS (Y). The X4 variable which is NIM results that NIM significantly positively influences EPS, assuming ceteris paribus that every 1 unit increase in NIM will increase the EPS variable by 31.547268. From the t test result 0.000 which is lower than the significant level of 5% NIM partially has a significant effect on EPS (Y).

Discussion
Market Risk and EPS
Based on the significance test results, the PBV's parameter coefficient value is a positive sign of 4.100959E-010 with a t statistic value of 6.250 > 1.860. The significance level is 0.000, lower than 0.05, which means Market Risk partially has a significant and positive relation on EPS in State-owned Bank and Foreign Banks listed on the Indonesia Stock Exchange for the 2009-2019 period. The results of this study indicate that if Market Risk (interest rate risk) increases, it will increase EPS at state-owned banks and foreign banks listed on IDX. The results of this study are in line with the results of research conducted by Syafi'I and Rusliati (2016); the study found that Market risk, partially positive and significant on profitability. Also, Mansyur's (2018) research found that Market Risk (interest rate risk) positively and significantly affects profitability. The profitability included Net Interest Margin, Earning per Share, Contribution Margin (Kusumo, 2002).

PBV and EPS
Based on the significance test results, the PBV's parameter coefficient value is a positive sign of -22.4749462 with a t statistic value of -2.683 > 1.860. The significance level is 0.009, lower than 0.05, which means PBV partially has a significant and negative relation on EPS in State-owned Bank and Foreign Banks listed on the Indonesia Stock Exchange for the 2009-2019 period. It indicates that every increase in PBV will decrease EPS, and every decrease in PBV will increase EPS.

OEOI and EPS
Based on the significance test results, the OEOI's parameter coefficient value is a positive sign of -4.511909 with a t statistic value of -2.583 > 1.860. The significance level is 0.012, lower than 0.05, which means OEOI partially has a significant and negative relation on EPS in State-owned Bank and Foreign Banks listed on the Indonesia Stock Exchange for the 2009-2019 period. This study indicates that if OEOI increases, it will

decrease EPS at state-owned banks and foreign banks listed on Indonesia Stock Exchange. This study's result supported the research conducted by Ristomo (2009) that stated OEOI has negative and significant to EPS.

NIM and EPS

Based on the significance test results, the NIM's parameter coefficient value is a positive sign of 31.547268 with t statistic value of 3.960 > 1.860; and the significance level is 0.000, lower than 0.05, which means NIM partially has a significant and positive relation on EPS in State-owned Bank and Foreign Banks listed on the Indonesia Stock Exchange for the 2009-2019 period. The bank's primary income consists of three components, namely interest income, fee-based income, and foreign exchange income. However, the most considerable portion of bank income comes from interest income obtained from the difference between loan interest and interest expenses. The bank's primary function is an intermediary institution that collects funds and distributes credit to the public. A large NIM means that the bank's productive assets can be appropriately managed because the total loan portfolio can generate significant interest income. Investors choose to invest in banks with large profits; NIM generates enormous profits. Thus, large NIM is influenced by increasing EPS. This study supports by previous research from Salam et al. 2020 which states that NIM has a significant and positive effect on EPS.

CONCLUSION AND RECOMMENDATION

Conclusion

Based on the analysis result and discussion in the previous chapter, the data analysis, and interpretation of the result, the conclusion can be drawn as follows:
1. Regarding the F-test, Market Risk simultaneously affects EPS. It means that every increase or decrease of Market Risk altogether affects the EPS on State-owned banks and foreign banks listed on the Indonesia Stock Exchange. Based on the t-test, Market Risk partially has a significant positive effect on EPS. The t-test showed that H_a is accepted and rejects H_0. So, it can be concluded that the market risk variable can provide beneficial information to predict the EPS value.

Recommendation
1. To State-owned Bank and Foreign Banks. Banking Industry needs to be concerned about Market Risk; in this pandemic situation, the market risk indicators could affect financial performance, so the banking industry, especially the bank's management, can prevent the problem that could happen as the previous financial crisis. Also, banking companies should continuously improve risk management.
2. Investor. In deciding to invest in banking stocks based on EPS, investors should pay attention to factors that can influence it, namely the Market Risk factor. The investor must consider the market risk indicator to see how productive the stock makes money. Information about market risk (interest rate risk) signals the investor to make decisions through EPS.
3. Next Researcher. The next researcher is expected to research more specifically or try to use other market risk indicators to find if there is another indicator that could influence the financial performance of the Bank. Perhaps the following research taken by other researchers can also improve the quality of the research. The next researcher can use the extended period or try this market risk on other industries.

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