

THE EFFECT OF FINANCIAL PERFORMANCE AND MARKET RETURN ON STOCK RETURN WITH GDP GROWTH AS A MODERATING VARIABLE

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ABSTRACT

Organizations must possess an awareness of financial performance to effectively manage their impact on future cash flows and profitability. Previous research conducted by other researchers showed different results (research gaps) regarding the effect of bank performance on bank stock returns. There is still a limited study exploring the effect of bank performance and market return on bank stock returns moderated by economic growth, specifically for the banks in category IV (KBMI IV based on POJK No. 12/POJK.03/2021). The research approach used in this research is a quantitative method. The data sources used in this study are secondary data in the form of financial statement data of banks in category four listed on the Indonesia Stock Exchange using the quarterly report for the period 2007–2021. This research uses regression of panel data analysis. The findings resulted in no differences in stock performance among banks in category four and NPL, LDR, and Market Return positively and significantly affect the stock returns for the period 2007-2021. Results in this study also found that GDP Growth moderates the effect of LDR, ROA, NPL, NIM, and Market Return on the banks' stock returns. The findings of this study might serve as a valuable tool for organizations and investors seeking to analyze and obtain a deeper understanding of the methods employed by banking sectors. The findings of this study have potential implications for the government, as they can be utilized to conduct a more in-depth analysis and formulate legislation about banking performance.

Keywords: Stock Returns, GDP Growth, Bank Performance.

INTRODUCTION

The coronavirus disease (COVID-19) has significantly impacted many areas of life. In 2020 The GDP contracted by -2%, although in the last quarter of 2020, the economic pressures were gradually eased (BI, 2020). And the economic dynamics of 2020 were influenced by the COVID-19 pandemic blighting the entire world. The impact size and scope of the COVID-19 crisis can be compared so far to the Great Financial Crisis of September 2007, and no banks in the world will be left unscathed (Aldasoro et al., 2020). The COVID-19 virus first hit Indonesia and globally in March 2020 (BI, 2020), and soon after, Indonesia entered a new order for almost every industry. The dynamics of the Indonesian economy were greatly affected by the impact of Covid-19 (BI, 2020). The Indonesian government immediately took some policies to mitigate COVID-19 spread, including through mobility restrictions, which greatly impacted the national economy. In the first semester of 2020, the Indonesian economy was contracted quite deep. The optimism for national economic recovery (PEN – Pemulihan Ekonomi Nasional), post-trade war US-China which surfaced at the end of 2019 and the beginning of 2020, has faded with the Covid-19 outbreak.

The financial sector was most affected by the pandemic, followed by the trade service and investment sectors. The impact was due to a decline in exports, production, and economic activities because of mobility restrictions. The COVID-19 pandemic and the negative market returns were significantly related, indicated by the abnormal returns following the outbreak (Herwany et al., 2021).

Enormous previous researchers have implemented RBBR as a methodology. Heryana and Arifin (2018) used RBRR ratios to measure the effect of banks' health rating on the stock return of companies listed on the Indonesia Stock Exchange. The samples were 150 banks listed in the period 2012-2016, with independent variables; NPL, LDR, ROE, NIM, Good Corporate Governance (GCG); and dependent variables; Stock Return. The result showed that NPL, LDR, GCG, ROE, and NIM have insignificant effects on Stock Return. Daryanto and Meiliawati (2022) conducted a study about the effect of bank rating, based RBBR on stock returns. The sample in this research was 15 banks actively traded in the period 2013 to 2015. The dependent variable was Stock Return; and the independent variables were NPL, GCG, NIM, and CAR. The findings showed NPL, GCG, NIM, and CAR have insignificant effects on Stock Return. Sianturi (2019) conducted a study about the effect of bank soundness rating on stock returns in the banking industry listed on the Indonesia Stock Exchange for the period 2010-2017. The sample in this research was 206 sample for the period of 2010-2017. The dependent variable was Stock Return; on the other hand, the independent variables were LDR, GCG, CAR, and ROA. The findings indicated that LDR, GCG, and CAR have insignificant effects on Stock Return, ROA have significant effect on Stock Return. According to Tiono and Djaddang (2021), the banking performances; NPL, ROA, ROE, OER/BOPO, and LDR; of conventional banks of Indonesia category 4 banks show there was a significant difference in banking performance before and after the pandemic, but no significant difference of performance in CAR ratio. Another study from Ristanto (2021) indicated that banking performance ratios of Indonesian banks registered in the Indonesian Stock Exchange, the NPL and OER/BOPO were significantly different before and during the pandemic, while CAR, LDR, ROA, and ROE, were not affected significantly before and during the pandemic. Also, CAR, NPL, LDR, and ROA between large and small banks were significantly different during the pandemic but not significantly different on ROE and OER/BOPO.

Previous research conducted by other researchers showed different results (research gap) regarding the effect of bank performance and market return on the bank stock returns. There is still limited study exploring the effect of economic growth on bank performance, market return, and bank stock returns moderated by GDP growth, specifically for the banks in category IV (KBMI

IV based on POJK No. 12 /POJK.03/2021). Based on this reason, the author wants to conduct more studies on this phenomenon, specifically on the banks in Category IV. There has been limited research that analyzed the effect of financial performance and market return on stock return with GDP growth as a moderating variable.

Thus, the objectives of the research are to analyze and evaluate the effect of NPL, LDR, ROA, and NIM on stock returns. Additionally, to analyze and evaluate whether GDP Growth moderates the effect of NPL, LDR, ROA, and NIM on stock returns.

LITERATURE REVIEW

CAPITAL ASSET PRICING MODEL

William Sharpe, a renowned financial economist and recipient of the Nobel Prize in economics, established the Capital Asset Pricing Model (CAPM) in his book titled "Portfolio Theory and Capital Markets" in 1970 (Kenton, 2019). The Capital Asset Pricing Model (CAPM) quantifies systemic risk. Systematic risk is one of the two types of hazards inherent in an individual investment. Systematic risk refers to the risk that arises from market elements associated with economic fluctuations, particularly macroeconomic indicators, and natural calamities. Systemic risk exerts an influence on both the overall market and individual enterprises or organizations. Diversification cannot mitigate systemic risk. Nevertheless, it is possible to forecast and mitigate the systemic risk. In addition to systematic risk, an individual investment also carries unsystematic or non-systematic risk. Unsystematic risk refers to the specific risk that arises from the financial and operational choices made by individual enterprises or businesses. Diversification and portfolio creation are effective strategies for reducing unsystematic risk.

EFFICIENT MARKET HYPOTHESIS

According to Fama (1965) and Malkiel (1962), the efficient market hypothesis posits that the price of any asset, such as a stock, should promptly incorporate basic information of the asset. Fama (1970) categorized market efficiency into three levels: weak-form efficiency, semi-strong-form efficiency, and strong-form efficiency. These levels are determined by the degree to which new information is incorporated into stock prices. Within a market characterized by weak-form efficiency, the present stock prices incorporate all the information conveyed by the pertinent stock price time series. Within a semi-strong-form efficient market, stock prices incorporate both the historical price movements and any extra information that is publicly accessible. In a market characterized by strong-form efficiency, stock prices rapidly incorporate all information accessible to the general public as well as information accessible to insiders within businesses.

ARBITRAGE PRICING THEORY

The formulation of the Arbitrage Pricing Theory (APT) took place in 1976 by Stephen Ross. Tandelin (2017) asserts that the APT model posits that a security's return is not only determined by a market portfolio. This is because the model assumes that the expected return of security can be impacted by other sources of risk. Roll and Ross (1980) identified many factors that influence return rates, including unexpected fluctuations in inflation, industrial production, risk premiums (the disparity between bonds with high and low ratings), and alterations in the slope of the yield curve. Therefore, it can be inferred that the APT model is a well-balanced model for quantifying anticipated returns that are impacted by macroeconomic conditions. The Arbitrage Pricing Theory (APT) model is based on many key assumptions: (1) The Capital Market operates under perfect competition, (2) the investor exhibits risk aversion, (3) the investor possesses a homogenous trust, and (4) the return is generated using the factorial model.

BANK PERFORMANCE

The early development of banking performance rating was the Uniform Financial Institution Rating System adopted by the U.S. Federal Financial Institutions Examination Council (FFIEC), and it has been used in U.S. banking institutions since 1979. It is well known for its CAMELS rating. The acronym "CAMEL" refers to the five bank's components that are assessed: capital adequacy, asset quality, management, earnings, and liquidity, and later on 1997, sensitivity to market risk was added; hence the acronym changed to CAMELS. This study will use Non-Performing Loan (NPL), Loan to Deposit Ratio (LDR), Return on Asset (ROA), and Net Interest Margin (NIM) as the variables of bank performance. The proposed hypotheses for the bank's performance are:

H₁: Non-Performing Loan negatively affects the stock returns

H₂: Loan to Deposit Ratio negatively affects the stock returns

H₃: Return on Asset positively affects the stock returns

H₄: Net Interest Margin positively affects the stock returns

MARKET RETURN

Market return signifies the financial gain or loss experienced by investors as a result of their investments in the capital market (Thamrin & Sembel, 2020). It is comprised of the anticipated return and the realized or actual return. The expected return refers to the anticipated rate of return that investors anticipate from an investment, taking into account past data and potential outcomes under various scenarios (Boyte-White, 2020). Meanwhile, the realized or actual return refers to the actual profit gained by investors over the duration in which they held their investments (Chen, 2018). Market return can be quantified by utilizing the stock exchange index (Thamrin & Sembel, 2020). Greater returns in the stock market will heighten investors' inclination to purchase stocks of

companies listed in that particular market. In contrast, a drop in the stock market's return will diminish investors' inclination to purchase stocks of companies inside that market. Consequently, investors will seek alternate investment opportunities, such as commodities, art and antiques, real estate, and life insurance. This study will use quarterly JKSE returns, IDX Composite or IHSG returns from 2007- June 2021. The proposed hypothesis for Market Return is:

H₅: Market Return positively affects the stock returns

GROSS DOMESTIC PRODUCT (GDP) GROWTH

The growth rate of Gross Domestic Product (GDP) is the increase in the percentage of GDP from quarter to quarter. The GDP growth rate can measure how fast a country's economy is growing in a particular period. If the GDP growth rate grows, that country's businesses, jobs, and personal income will also grow (Amadeo, 2023). The increase or decrease in GDP growth rate can usually affect the stock market because the decline in GDP indicates an underperforming economy. In contrast, the increase in GDP growth rate indicates an over-performing economy. The underperforming economy means lower earnings for companies which can cause lower companies' stock prices. In comparison, the over-performing economy means higher profits for companies which can cause higher companies' stock prices. Because of this reason, investors must pay attention to both positive and negative GDP growth rates when assessing an investment idea or devising an investment strategy (Kramer, 2023). The most common indicator in macroeconomic factors used to track a nation's economic health is GDP. Gross domestic product (GDP) growth measures the monetary value of final goods and services, and the amount of GDP is measured by a ratio scale (Bertuah & Sakti, 2019). Thus, GDP Growth is the moderating variable in this research. The proposed hypotheses for the GDP Growth are:

H₆: GDP Growth moderates the effect of NPL on stock returns

H₇: GDP Growth moderates the effect of LDR on stock returns

H₈: GDP Growth moderates the effect of ROA on stock returns

H₉: GDP Growth moderates the effect of NIM on stock returns

H₁₀: GDP Growth moderates the effect of Market Return on stock returns

STOCK PERFORMANCE

Stock performance is an indicator of whether a company's stock is good or bad. In this study, stock return is used to represent the stock performance. The stock returns or the level of stock profit can also be defined as the benefits obtained by investors from investment activities in a company either directly or through securities companies (Suciati, 2018). The stock returns are critical aspects of conducting investment analysis because they serve as investors' indexes. From a particular investment that the investors want to choose, they will ensure that they will obtain a higher return than the cost of capital.

METHODOLOGY

The data sources used in this research are secondary data in the form of financial statement data of banks category four listed on the Indonesia Stock Exchange using the Quarter report for the period 2007-2021 taken from the Indonesia Stock Exchange (www.idx.co.id), stock price data from The World investment (www.duniainvestasi.com) and GDP growth rate data is retrieved from Badan Pusat Statistik website (www.bps.go.id). This research used the non-probability sampling technique, which is a sampling technique that does not provide the same opportunity for each element or member of the population to be selected into a sample (Sugiyono, 2017). According to Kumar (2011), non-probability sampling chooses the number of elements in a population that depends on other considerations. There are five commonly used non-probability sampling: quota sampling, accidental sampling, judgmental or purposive sampling, expert sampling, and snowball sampling.

The entire group of people, events, or things of interest population could be defined as population. The population of this study is all banks category four listed on the Indonesia Stock namely: 1) Bank BRI (BBRI), 2) Bank BMRI (BMRI), 3) Bank BCA (BBCA), and 4) Bank BNI (BBNI). The sample only consists of four banks. The bank in category four is the bank with a core capital of more than IDR70 trillion. The financial data is limited to the company's quarterly reports from 2007 Q1 to 2021 Q4, while the economic growth used in this study is GDP growth from 2007 Q1 to 2021 Q4.

The independent variables that are used in this study are as follows:

1. Non-Performing Loan (NPL)

The condition where non-performing loans occur is when the debtor fails to make contractual payments, usually interest and with the principal. IMF identifies five types of loan performance categories for external reporting purposes: standard, watch, substandard, doubtful, and loss. Substandard, doubtful, and loss are considered non-performing loans (NPL) (Casu et al., 2015). The formula for NPL:

$$NPL = \frac{\text{Total Non Performing Loan}}{\text{Total Loan}} \times 100\%$$

2. Loan to Deposit Ratio (LDR)

Loan to Deposit Ratio (LDR) is used in measuring liquidity risk. The bank provides credit to its customers with sources of funds originating from customer deposits. These customer deposits consist of demand deposits, savings deposits, and time deposits. The LDR ratio shows whether the credit issued by the bank can fulfil the bank's obligation to fulfil the demand of depositors who want to withdraw the money that has been used by the bank to extend credit. If the LDR ratio is high, it means the bank does not have sufficient liquidity to cover its obligations to customers. Conversely, if the LDR ratio is too low, it means that the bank has sufficient liquidity but may have a lower income because, in the banking industry, the bank earns income through loans. The LDR ratio is stated in percentage. The formula to calculate LDR:

$$LDR = \frac{\text{Total Loans}}{\text{Third Party Funds}} \times 100\%$$

3. Return on Asset (ROA)

The ROA figure gives an idea of how effective the company is in converting the money it invests into net income. The higher the ROA number, the better, because the company can earn more money with a smaller investment. Put simply, a higher ROA means more asset efficiency (Zucchi, 2023).

ROA is calculated by dividing a company's net income by its total assets. As a formula, it's expressed as:

$$ROA = \frac{\text{Earnings before tax}}{\text{Total Asset}} \times 100\%$$

4. Net Interest Margin (NIM)

Net Interest Margin (NIM) is a ratio used to measure the ability of bank management to manage their productive assets to generate net interest income derived from interest income less interest expense (Pandia, 2017). NIM is one indicator of a bank's profitability and growth. It reveals how much the bank is earning in interest on its loans compared to how much it is paying out in interest on deposits. The formula of NIM:

$$NIM = \frac{\text{Net Interest Income}}{\text{Productive Asset}} \times 100\%$$

5. Market Return (MR)

Market return represents the investors' return on the investments that they have made in the capital market (Thamrin & Sembel, 2019). This study will use quarterly JKSE returns, IDX Composite, or IHSG returns from 2011 to June 2021. The formula to calculate market return is:

$$MR_t = \frac{(JKSE_t - JKSE_{t-1})}{JKSE_{t-1}}$$

Where:

- MR_t = Market return at the period of t
- JKSE_t = Jakarta Composite Index at the period of t
- JKSE_{t-1} = Jakarta Composite Index at the period of t-1

The dependent variable used in this study is stock returns. The formula used to measure stock returns, i.e. the current stock price is reduced by the previous period's stock price compared to the last period's stock price. According to Ristyawan (2019), Stock returns are calculated as follows:

$$R_{it} = \frac{P_{it} - P_{it-1}}{P_{it}} \times 100\%$$

Where:

- R_{it} = the level of profit of shares i in the period t
- P_{it} = Closing price of shares i in period t (closing/end period)
- P_{it-1} = Closing price of shares i in the previous period (initial)

The moderation variable in this study was GDP Growth rate. This study will use the quarterly GDP growth rate issued by Badan Pusat Statistik (BPS) from 2007 to 2021. The amount of GDP is measured by a ratio scale, and the method of measurement according to Bertuah and Sakti (2019):

$$GDP = \frac{GDP_t - GDP_{t-1}}{GDP_{t-1}} \times 100\%$$

Where:

GDP = GDP at the period of t

GDP_{t-1} = GDP at the period of t-1

Analysis of panel data in this research is done by regression of panel data. The general regression equations can be expressed as follows Xu et al. (2007):

$$SR_{it} = \beta_0 + \beta_1 NPL_{it} + \beta_2 LDR_{it} + \beta_3 ROA_{it} + \beta_4 NIM_{it} + \beta_5 MR_{it} + \beta_6 (GDPG_{it} * NPL_{it}) + \beta_7 (GDPG_{it} * LDR_{it}) + \beta_8 (GDPG_{it} * ROA_{it}) + \beta_9 (GDPG_{it} * NIM_{it}) + \beta_{10} (GDPG_{it} * MR_{it}) + \varepsilon_{it}$$

Where:

i = the unit of observation

t = the period of time

SR = indicates explanatory variables representing Stock Return

NPL = indicates explanatory variables representing Non-Performing Loan

LDR = indicates explanatory variables representing Loan to Deposit Ratio

ROA = indicates explanatory variables representing Return On Asset

NIM = indicates explanatory variables representing Net Interest Margin

MR = indicates explanatory variables representing Market Return

GDPG = indicates explanatory variables representing the GDP Growth Rate

β₀ = the intercept

β_k = the coefficient of each explanatory variable

ε_{it} = the error term

RESULT & DISCUSSION

This study observation includes the cross-section (company) data and time periods from 2007 Q1 until 2021 Q4. The total observation of this study is 60 records for GDPG and 240 data for SR and bank performance indicators derived from 4 banks and 60 time periods. Table 1 shows the descriptive statistic result of the data.

Table 1 Descriptive Statistic Result

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
NPL	240	0.12	5.47	0.8313	0.78296	0.613
LDR	240	47.79	97.94	78.9785	11.74621	137.973
ROA	240	0.50	7.27	3.2884	1.10578	1.223
NIM	240	3.78	13.97	6.6387	1.89664	3.597
MR	60	-27.95	41.33	3.2295	10.94963	119.894
SR	240	-51.34	138.89	4.6484	17.53262	307.393
GDPG	60	-4.19	5.05	1.2527	2.36327	5.585

Table 2 displays the Coefficient Correlation between variables using Pearson's Correlation. The most significant correlations were seen between MR and SR (0.807). Other significant correlations seen are between bank performance indicators, specifically ROA and NIM (0.761). ROA and NPL show a strong negative correlation with a value of -0.348.

Table 2 Coefficient Correlation Result

		NPL	LDR	ROA	NIM	MR	SR	GDPG
NPL	Pearson Correlation	1	-.211**	-.348**	-0.030	0.148	0.035	0.070
	Sig. (2-tailed)		0.001	0.000	0.641	0.259	0.588	0.593
	N	240	240	240	240	60	240	60
LDR	Pearson Correlation	-.211**	1	.151*	.238**	-0.175	-0.093	-0.061
	Sig. (2-tailed)	0.001		0.020	0.000	0.182	0.150	0.646
	N	240	240	240	240	60	240	60

ROA	Pearson Correlation	-.348**	.151*	1	.761**	0.005	-0.005	-0.033
	Sig. (2-tailed)	0.000	0.020		0.000	0.968	0.941	0.802
	N	240	240	240	240	60	240	60
NIM	Pearson Correlation	-0.030	.238**	.761**	1	-0.047	0.008	0.045
	Sig. (2-tailed)	0.641	0.000	0.000		0.723	0.900	0.735
	N	240	240	240	240	60	240	60
MR	Pearson Correlation	0.148	-0.175	0.005	-0.047	1	.807**	0.057
	Sig. (2-tailed)	0.259	0.182	0.968	0.723		0.000	0.668
	N	60	60	60	60	60	60	60
SR	Pearson Correlation	0.035	-0.093	-0.005	0.008	.807**	1	-0.024
	Sig. (2-tailed)	0.588	0.150	0.941	0.900	0.000		0.854
	N	240	240	240	240	60	240	60
GDPG	Pearson Correlation	0.070	-0.061	-0.033	0.045	0.057	-0.024	1
	Sig. (2-tailed)	0.593	0.646	0.802	0.735	0.668	0.854	
	N	60	60	60	60	60	60	60

The panel data model will be assessed to identify the most suitable model for this study. As previously stated, three models, namely the Chow test, Hausman test, and Lagrange Multiplier (LM) test, can be used to choose the most appropriate panel data model for this study. Based on Napitupulu et al. (2021), model selection decisions are made based on the test findings presented in Table 2:

Table 3 Model Selection Test Decisions

TEST	RESULT	DECISION
Chow Test	Prob. > 0.05	CEM
	Prob. < 0.05	FEM
Hausman Test	Prob. > 0.05	REM
	Prob. < 0.05	FEM
Lagrange Multiplier	Prob. > 0.05	CEM
	Prob. < 0.05	REM

CHOW TEST

The Chow test is employed to determine the optimal model selection between the Common Effect Model (CEM) and the Fixed-Effect Model (FEM).

Table 4 Chow Test Result

Effects Test	Statistic	d.f.	Prob.
Cross-section F	0.37406	-3229	0.7718
Cross-section Chi-square	1.173213	3	0.7594

Table 3 shows a chi-square probability value of 0.7594 greater than 0.05. This suggests that the common effect model is more favourable than the fixed effect model. Therefore, it is unnecessary to do the Hausman test; instead, the Lagrange multiplier test should be used to proceed with the model selection test.

LAGRANGE MULTIPLIER TEST

This test is utilized to ascertain the model between the Common Effect Model (CEM) or Pooled Least Square (PLS) approach and the Random Effect Model (REM).

Table 5 Lagrange Multiplier Test Result

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	1.270769 (0.2596)	24.86232 (0.0000)	26.13309 (0.0000)
Honda	- 1.127284 (0.8702)	4.986213 (0.0000)	2.728675 (0.0032)
King-Wu	- 1.127284 (0.8702)	4.986213 (0.0000)	1.099707 (0.5011)
Standardized Honda	-0.645869 (0.7408)	5.401015 (0.0000)	2.482521 (0.9935)
Standardized King-Wu	-0.645869 (0.7408)	5.401015 (0.0000)	-3.260161 (0.9994)
Gourieroux, et al.	--	--	24.86232 (0.0000)

The p-value for the Breusch-Pagan test in Table 4 is 0.2596, which is more than the significance level of 0.05. This suggests that the common effect model is more appropriate than the random effect model. This validates the earlier Chow test, which concluded that the common effect model is the most optimal model for the study.

SIGNIFICANCE TEST

The significance test that has been performed for this study consists of three tests, namely the partial regression coefficient test (t-test), the simultaneous significance test (test f), and the determination coefficient test (Test R²). The results of each significance test can be seen in Table 6.

Table 6 The Significance Test Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-11.93055	5.047427	-2.36369	0.0190
NPL	-2.917826	1.293903	-2.255057	0.0252**
LDR	0.200376	0.056503	3.546294	0.0005***
ROA	-0.276835	1.135533	-0.243793	0.8076
NIM	-0.023509	0.607747	-0.038683	0.9692
MR	1.184213	0.059258	19.98394	0.0000***
NPL*GDPG	0.906388	0.527598	1.717952	0.0873*
LDR*GDPG	-0.060175	0.021434	-2.807398	0.0055***
ROA*GDPG	0.94628	0.429116	2.205185	0.0285**
NIM*GDPG	-0.591405	0.226371	-2.612547	0.0096***
MR*GDPG	0.039672	0.021136	1.877019	0.0619*
R-squared	0.710438	Mean dependent var		4.278407
Adjusted R-squared	0.692682	S.D. dependent var		14.16251
S.E. of regression	7.851171	Akaike info criterion		7.019148
Sum squared resid	13067.87	Schwarz criterion		7.231039
Log-likelihood	-779.1637	Hannan-Quinn criter.		7.104658

F-statistic	40.01073	Durbin-Watson stat	2.166453
Prob(F-statistic)	0.00000		

*** Highly Significant: p-value < 0.01

** Significant: 0.01 < p-value < 0.05

* Marginally Significant: < 0.05 p-value < 0.1

The t (partial) test on the regression model yielded a t-statistic NPL value of -2.255057 and a probability significance value of 0.0252, which is less than the significance level of 5%. Therefore, we may conclude that the second hypothesis is accepted. Hence, it can be inferred that NPL exerts a detrimental and substantial impact on the Stock Returns of banks categorized as "four" and listed on the Indonesia Stock Exchange from 2007 to 2021. The t-test conducted on the regression model for LDR resulted in a t-statistic value of 3.546294 and a probability significance value of 0.0005, which is less than the threshold of 0.05. Thus, the second hypothesis is affirmed, indicating that LDR has a favourable and substantial impact on Stock Returns. The t-test conducted on the regression model for ROA yielded a t-statistic value of -0.243793 and a p-value of 0.8076, which is more than the significance level of 0.05. Consequently, the third hypothesis is invalidated, leading to the conclusion that ROA has a detrimental and statistically negligible impact on Stock Returns. Regarding NIM, the t (partial) test conducted on the regression model yielded a t-statistic of -0.038683 and a probability significance value of 0.9692, which is more than 0.05. Consequently, the fourth hypothesis is invalidated, leading to the conclusion that NIM has a detrimental and inconsequential impact on the Stock Returns. The t (partial) test on the regression model yielded a t-statistic value of 19.98394 for Market Return, with a probability significance value of 0.00, which is less than the threshold of 0.05. Therefore, the fifth hypothesis is affirmed, indicating that Market Return has a favourable and substantial impact on the Stock Returns of Bank Category Four listed in the Indonesia Stock Exchange from 2007 to 2021.

The t (partial) test on the regression model for the interaction between GDP growth and NPL yielded a probability significance value of 0.0873, which is more than 0.05 but less than 0.1. Therefore, it may be inferred that GDP growth has little moderating impact on the relationship between non-performing loans (NPL) and stock returns. The t (partial) test on the regression model for the interaction between GDP growth and LDR yielded a probability significance value of 0.0055, which is less than 0.05. Therefore, it may be inferred that the rate of change in Gross Domestic Product (GDP) has a moderating influence on the relationship between the Loan-Deposit Ratio (LDR) and the performance of stocks. The t (partial) test conducted on the regression model for the interaction between GDP growth and ROA yielded a probability significance value of 0.0285, which is less than the threshold of 0.05. Therefore, it may be inferred that the growth of Gross Domestic Product (GDP) mitigates the impact of Return on Assets (ROA) on the returns of stocks. The t (partial) test on the regression model for the interaction between GDP growth and NIM yielded a probability significance value of 0.0096, which is less than 0.05. Therefore, it may be inferred that the growth of Gross Domestic Product (GDP) mitigates the impact of Net Interest Margin (NIM) on the returns of stocks. The t (partial) test on the regression model for the interaction between GDP growth and Market Return yielded a probability significance value of 0.0619, which is more than 0.05 but less than 0.1. Therefore, it can be inferred that the GDP growth has little moderating impact on the relationship between market returns and stock returns of the fourth category of banks listed on the Indonesia Stock Exchange from 2007 to 2021.

Based on the results of simultaneous tests (test F) in Table 5, it is seen that all variables have probabilities (F-statistics) or p-values (0.00) that are smaller than 0.05. This result concludes that NPL, LDR, ROA, NIM, Market Return, and the interaction between GDP growth with independent variables have the same effect on the stock returns. Based on the results of the regression of panel data with the common effect model method, the Adjusted R-squared value is 0.692682. This result can be interpreted that the NPL, LDR, ROA, NIM, Market Return, and the interaction between GDP Growth and independent variables can jointly explain the Stock Returns of 69.27% and the remaining 30.73% explained by other variables outside the research model.

According to the findings from the partial testing using the common effect model, only the variables NPL, LDR, and Market Return had a positive and substantial impact on stock returns throughout the period from 2007 to 2021. This outcome indicates that a rise in NPL (non-performing loans), LDR (loan-to-deposit ratio), and Market Return rate would lead to a corresponding increase in the stock returns of banks. Subsequently, in this analysis, the variable of GDP Growth was included as a moderator variable. The findings of this study indicate that the growth of GDP has a moderating influence on the impact of non-performing loans (NPL), loan-to-deposit ratio (LDR), return on assets (ROA), net interest margin (NIM), and market return on the stock returns of banks.

The findings of this study further corroborate the prior investigations carried out by Adawia and Manggabarano (2020), as well as Oktary and Pratiwi (2021), which demonstrate a favourable and substantial impact of long-distance relationships (LDR) on stock returns. The studies conducted by Daniswara and Daryanto (2019), Defrizal et al. (2015), Kasman et al. (2011), and Yuswandi (2012) have demonstrated that there is a strong and positive correlation between Market Return and Stock Return.

This study further discovered that the rate of economic growth influences the effect of Non-Performing Loan (NPL), loan-to-deposit ratio (LDR), Return on Assets (ROA), Net Interest Margin (NIM), and Market Return on stock returns. This finding is consistent with the concepts of the Capital Asset Pricing Model (CAPM). The CAPM theory analyses the influence of particular factors on the returns of individual stocks, as market movements are affected by information from diverse factors.

CONCLUSION

This study addresses a research gap in the existing literature by examining the inconsistent findings of previous researchers regarding the impact of bank performance and market return on bank stock returns. The study employed panel data regression and conducted significance tests to address the second to seventh research inquiries, specifically by examining individual regression coefficients using t-tests and conducting simultaneous significance tests using F-tests. The regression analysis of panel data reveals that the independent variables, Non-Performing Loan (NPL), Market Returns, and Loan Deposit Ratio (LDR), have a significant impact on the stock returns of Category IV Banks listed on the Indonesia Stock Exchange from 2007 to 2021. Conversely, the variables of Return on Assets (ROA) and Net Interest Margin (NIM) do not exert any influence on the stock returns of Category IV Banks that are publicly traded on the Indonesia Stock Exchange during the period spanning from 2007 to 2021. In addition, the hypothesis incorporates supplementary moderation variables, specifically the GDP growth rate. The regression analysis of panel data reveals that the GDP growth rate is influencing the effect of NPL, LDR, ROA, NIM, and Market Return on the stock returns of Category IV Banks listed on the Indonesia Stock Exchange during the period of 2007-2021.

Investors interested in stock market investments should analyse market returns as they indicate whether investors are purchasing or refraining from purchasing company shares. Investors are advised to scrutinize the financial statements of the target company, as this will aid them in selecting the most appropriate company for stock investment. According to this research, it is crucial to monitor market return, non-performing loan (NPL, loan-to-deposit ratio (LDR), and GDP growth as they positively impact the returns of shares belonging to Category IV Banks listed on the Indonesia Stock Exchange from 2007 to 2021.

The findings indicated that fundamental variables have an impact on stock returns. Consistent with the Efficient Market Hypothesis, stock returns will be influenced by fundamental information. Following the Capital Asset Pricing Model (CAPM) theory, the stock return is influenced by the market. However, the stock return is also affected by other factors, as suggested by the Arbitrage Pricing Theory (APT), which posits that certain variables impact the stock return.

This research has several limitations that should be taken into account for future studies to achieve more accurate outcomes. Since the Bank's Core Capital is the base to determine the bank category (OJK regulation No. 12 /POJK.03/2021), at the time this research is conducted, there are only four Banks that are categorized into Category Four. If there are more banks in Category IV, this study could have more samples and could have more accurate results. The findings of this research are specific to banking companies in Indonesia and cannot be extrapolated to other industries.

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