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The Effect Of Non Performing Loan (NPL) On Earning Per share (EPS), Return On Investment (ROI), And Rate Of Return (ROR) In BUMN Banks Listed On The Indonesia Stock Exchange (IDX) From 2013-2022

Devina Ulima Nathania Tamba^{1*}, Mohammad Benny Alexandri², Farisadri Fauzan³

¹Universitas Padjadjaran, Fakultas Ilmu Sosial dan Ilmu Politik, Indonesia, devinaunt@gmail.com.

²Universitas Padjadjaran, Fakultas Ilmu Sosial dan Ilmu Politik, Indonesia, mohammad.benny@unpad.ac.id.

³Universitas Padjadjaran, Fakultas Ilmu Sosial dan Ilmu Politik, Indonesia, farisadri.fauzan@unpad.ac.id.

Corresponding Author: devinaunt@gmail.com

Abstract: The aim of this research is to determine the effect of Non-Performing Loans (NPL) on Earning Per Share (EPS), Return on Investment (ROI), and Rate of Return (ROR) in state-owned banks listed on the Indonesia Stock Exchange (BEI) for the period 2013- 2022. Researchers used quantitative research methods with samples in the research, namely four state-owned banks listed on the BE, using SEM (Structural Equation Modeling) and the Partial Least Square (PLS) approach as methods in the research process. Research findings show that Non Performing Loans (NPL) have a significant effect on Earning Per Share (EPS), Non Performing Loans (NPL) have a significant effect on Return On Investment (ROI), and Non Performing Loans (NPL) have a significant effect on the Rate of Return (ROR) BUMN Bank for the 2013-2022 period with testing using a significance level of 5%. Apart from that, research findings also show that the Covid pandemic has had a negative impact on the NPL, EPS, ROI and ROR ratios as evidenced by the ratio values being low and decreasing very significantly in the 2020-2021 period. Of the three ratios used, the Return On Investment (ROI) ratio is the ratio that is most influenced by NPL (Non Performing Loan), and conversely the one that is least influenced by NPL (Non Performing Loan) is the Rate of Return (ROR) ratio.

Keyword: Earning Per Share (EPS), Non Performing Loans (NPL), Rate Of Return (ROR), Return On Investment (ROI).

INTRODUCTION

Loan disbursement is the primary way most commercial banks make money. In the Indonesian market ecosystem, conventional banks still believe in credit as the main income in terms of financing bank operations. This proves that loan disbursement is a prioritized facility or service for banks to make profits. The process of loan disbursement is initiated by customers, who have surplus funds, deposit their money at the Bank, and the Bank will compensate them with a certain interest rate. The money deposited by the Bank will be utilized, or in short, the Bank will utilize the money to lend to parties who are short of funds. From the process of

lending the money, the Bank will charge a higher interest rate to the borrower and get profit from the difference in interest rates.

In Indonesia, people have a high interest in lending services provided by banks. The disbursement of loans by the Bank is also distributed in various forms, the type chosen is adjusted to the needs and conditions of each customer. The phenomenon of increasing public interest in credit can be triggered by various factors, such as funding to open or expand a business, purchase or renovate a house, education, working capital, and personal expenses.

To continue to operate lending properly, banks need capital. Investors or shareholders often provide additional capital for the bank. According to Sri Handini & Erwin Dyah Astawinetu, investors are defined as individuals or groups who buy many shares of an organization in the hope of benefiting from future increases in stock prices or dividends as compensation for the effort and risk of the investment (Sri Handini & Erwin Dyah Astawinetu, 2020).

In Indonesia, financial well-being is a top priority, hence many people understand the importance of investment (Prasetyo, 2021). This is indicated by the increasingly significant expansion of investors and the improving performance of the Indonesian capital market. The number of investors in the Indonesian capital market has exceeded 10 million, according to data collected from PT Kustodian Sentral Efek Indonesia (KSEI), with the number of local investors at 99.78%. This shows that in Indonesia, the presence of investors is increasingly growing and becoming more prevalent (PT Kustodian Sentral Efek Indonesia, 2022).

However, Latif said that investors often experience difficulties because the condition of stock prices tends to fluctuate so that to ensure their decision to invest, investors will consider the condition of the company in which they will invest. Consideration of the condition of the company can be seen through financial ratios that can be calculated (Latif et al., 2021).

According to Rusdiyanto, investors utilize a ratio called EPS (Earnings Per Share) to determine the potential per share in earning profits. An indicator of management performance in generating profits for all shareholders is the earnings per share ratio or book value ratio (Rusdiyanto et al., 2020). Management is considered to have failed to satisfy shareholders if the EPS ratio is low, whereas if the EPS ratio is high, shareholder welfare will increase. The reason is that an increase in the EPS ratio allows shareholders to receive larger dividend payments.

In addition, investors can also utilize Return On Investment (ROI) as a ratio that can help examine investment prospects, measure potential returns, and assess investment benefits. According to Fahmi, the capacity of an investment to generate profits in accordance with expectations is measured by a ratio called ROI (Fahmi, 2014).

Investors can also consider the Rate of Return (ROR) ratio to measure the profit or loss of an investment that they may receive over a certain period of time. Rate of Return (ROR) is a ratio to calculate income on investment over a certain period of time (Jogiyanto, 2017).

The profit margin of a bank is directly correlated with the values of EPS, ROI, and ROR. When the bank generates a larger profit margin, investors will naturally receive higher returns; conversely, when the values of EPS, ROI, and ROR are low, the bank's profit levels and investor returns will decrease. In Indonesia, the conditions of EPS, ROI, and ROR show fluctuating trends. However, they share a similarity: in 2020, these three financial ratios experienced a drastic decline compared to the previous year, with the Rate of Return in 2020 even turning negative. Generally, one of the factors influencing changes in the growth and decline of company profits is credit, due to the risk of defaults. This statement is supported by the findings of Jing, Khan, Martiningtiyas & Nitinegeri, and Jolevski who stated that credit risk has a negative impact on bank profitability (Jing, 2020; Jolevski, 2017; Khan et al., 2020; Martiningtiyas & Nitinegeri, 2020).

According to Singh, Non Performing Loan (NPL) is a condition in which bank loans experience delays in repayment or the impossibility of being repaid by the debtor in full (Singh

et al., 2021). NPLs are a big problem for the banking sector because they result in a decrease in bank profitability and are often considered barriers for banks to further channel loans to their customers. If this trend continues, it can slow economic growth. Based on thorough analysis from 2013 to 2022, it can be concluded that the condition of substandard, doubtful, and bad loans at state-owned banks has shown fluctuating trends, sometimes rising significantly. However, this phenomenon is increasingly crucial due to the fact that bad credit conditions consistently dominate other NPL collectibility groups.

The high level of NPLs is the concern of all conventional banks because there is a relationship with bank health, where the magnitude of the NPL ratio is one of the indicators that determine whether a bank is healthy or not (Khairi & Widayati, 2020). The amount of the Non Performing Loan (NPL) ratio can even be used as an early warning system for the Bank because it can be used as a reference in indicating a problem in the bank and a solution needs to be found immediately to solve the problem, even more than that this NPL level also has an impact on the investment received, where investors will invest less in banks that are not healthy.

Basically, there is no previous research that examines relevant topics regarding the effect of Non Performing Loan (NPL) on EPS, ROI, and ROR. However, research related to the effect of NPL on a bank ratio has been carried out by many previous researchers, especially research on the effect of NPL on profitability ratios. Some previous studies include previous research by Harianja, showing that NPL has a negative effect on Earning Per Share (Harianja, 2013). Even so, there are contradictory studies, namely research from Amalia (Amalia, 2023) who said that EPS is not affected by NPL and Murti's research (Murti, 2020) mentioned the effect of NPL has a positive effect on Earning Per Share. Research by Pirgaip & Uysal states that Non Performing Loan has a negative impact on the stock market for return on investment (Pirgaip & Uysal, 2023). However, Fitriasuri and Sawitri & Sunarya stated that NPL has no significant effect on ROI (Fitriasuri, 2022; Sawitri et al., 2020). Research by Jolevski suggests there is a negative relationship between Non Performing Loan and Rate Of Return (Jolevski, 2017). The difference in findings from previous research is one of the reasons why similar research needs to be carried out to ensure and support the results of the research.

This study focuses on BUMN Banks, comprising four banks: PT Bank Mandiri, PT Bank Tabungan Negara, PT Bank Negara Indonesia, and PT Bank Rakyat Indonesia. These financial institutions are government-controlled and serve to raise public funds. The objectives of this study are: (1) to examine the effect of Non-Performing Loans (NPL) on Earnings Per Share (EPS) at BUMN Banks listed on the IDX from 2013 to 2022; (2) to assess the impact of Non-Performing Loans (NPL) on Return On Investment (ROI) at BUMN Banks listed on the IDX during the same period; (3) to analyze the effect of Non-Performing Loans (NPL) on EPS Rate of Return (ROR) at BUMN Banks listed on the IDX from 2013 to 2022.

METHOD

In particular, researchers use quantitative methods, which involve quantitative or statistical data analysis, aimed at testing hypotheses. This research is descriptive, correlational, and verification-oriented. The objective is to examine the direction and magnitude of the relationship between the Non Performing Loan variable and the EPS, ROI, and ROR variables — specifically, the extent to which Non-Performing Loans are related to EPS, ROI, and ROR at BUMN Banks listed on the IDX from January 1, 2013, to December 31, 2022. Additionally, this study aims to verify findings similar to those of previous studies.

Population and Samples

The population consists of subjects with predefined characteristics. In this study, the population includes four companies: Bank Mandiri, Bank BNI, Bank BTN, and Bank BRI listed on the IDX from 2013 to 2022. A sample is used to represent the population. Given the small population size (less than 30 entities), the study employs saturated sampling, where every

member of the population is included as a research sample. Therefore, the entire population, including Bank Mandiri, Bank BNI, Bank BTN, and Bank BRI listed on the IDX from 2013 to 2022, is sampled.

Data Collection Method

Document study and literature review are the methods used for data collection in this research. Through the documentation method, researchers will gather information from third-party media sources and analyze the collected data contents such as reports or company documents based on data requirements. Additionally, annual and financial reports from state-owned banks listed on the IDX from 2013 to 2022 serve as primary research documents. Other secondary data sources in document form supporting this research include Bank Indonesia Circulars (SEBI), documents from financial institutions relevant to the research, previous research reports, and the SmartPLS Usage Guide book which provides comprehensive guidance on using SmartPLS software, covering basic concepts, analysis steps, interpretation methods, and success criteria for research using SmartPLS software.

In addition, researchers will collect data through a literature study process, where they gather, read, record, and process library data using references from research articles and journals related to the variables under investigation. They will also consult books related to the research topic. Specifically, researchers will collect data based on literature from previous studies in the form of journals, books, and theses focusing on the impact of Non-Performing Loans on EPS, ROI, and ROR at BUMN Banks listed on the IDX from January 1, 2013, to December 31, 2022.

Data Analysis Technique

This research used the Partial Least Square (PLS) approach as the research method with Structural Equation Modeling as the data analysis tool. There are three general stages in this research, including outer model, inner model, and hypothesis testing.

RESULTS AND DISCUSSION

Descriptive Statistics

Based on the results of secondary data analysis of the financial statements of Bank Mandiri, Bank BNI, Bank BTN, and Bank BRI, descriptive data were collected on State Owned Company Banks listed on the IDX from 2013 to 2022 related to NPL, EPS, ROI, and ROR :

Table 1. Average Statistics of Research Variables

Variable	Year									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<i>NPL</i>	2.27%	2.32%	2.43%	2.72%	2.38%	2.03%	2.11%	2.81%	2.95%	2.51%
<i>EPS</i>	Rp569.85	Rp629.81	Rp640.98	Rp341.79	Rp423.88	Rp467.68	Rp428.80	Rp209.55	Rp412.02	Rp622.88
<i>ROI</i>	2.38%	2.20%	2.02%	1.78%	1.98%	1.86%	1.62%	0.79%	1.34%	1.89%
<i>ROR</i>	32.87%	17.28%	4.82%	12.74%	35.67%	12.61%	2.41%	-30.24%	15.24%	24.88%

Source: Data processed from the financial statements of state-owned bank companies, 2023

Table 1 above provides an explanation of the results of data analysis for each variable used in this study. Based on Bank Indonesia Circular Letter No. 6/23/ DPNP 2004 (Regulasip, 2004), the state of banking NPLs remained healthy from 2013 to 2022 based on NPL data from the four BUMN banks. This conclusion is drawn from the period's data, indicating that state-owned banks effectively managed non-performing loans. Additionally, the data reveals an increasing trend in credit issuance annually, reflecting heightened community demand for loans. The highest NPL rate occurred in 2021 at 2.95%. Generally, this increase can be attributed to the impact of the COVID-19 pandemic, as the four BUMN banks continue to

recover from its substantial effects. The lowest Non-Performing Loan rate was recorded in 2018 at 2.03%.

Based on NPL data collected from 2013 to 2022 for the four state-owned banks, their capability in managing NPLs can be ranked as follows: PT Bank Rakyat Indonesia averaged 1.33% in NPLs, PT Bank Negara Indonesia averaged 2.70%, PT Bank Mandiri averaged 2.72%, and PT Bank Tabungan Negara averaged 3.06%. Nonetheless, the Non-Performing Loan (NPL) condition of these four state-owned banks is still categorized as healthy in the banking sector. To maintain high management quality, PT Bank Rakyat Indonesia has implemented several programs, including a write-off program aimed at improving loan loss recovery, selective growth where BRI Bank is more cautious in extending credit and evaluates restructuring needs for customers, and building sufficient reserves to execute a soft landing strategy as a proactive measure against potential credit deterioration.

The Earning Per Share (EPS) condition of the four state-owned banks shows a significant fluctuating trend, varying up and down. This variability is common in banking due to numerous influencing factors, including fluctuations in net income, changes in outstanding shares, fluctuations in market share value, and developments within the banking sector. The lowest EPS was recorded in 2020 at Rp209.55, which was expected during the economic slowdown caused by the COVID-19 pandemic, posing challenges for the banking industry and depressing EPS sensitive to industry changes. The highest EPS occurred in 2015 at Rp640.98, largely driven by BRI achieving an EPS of Rp1,030.43. In 2015, BRI saw a 4.25% increase in net profit from the previous year, with a 13.5% rise in interest income, 21.4% in non-interest income, a 21.2% increase in fee-based income, and a 7.1% growth in Third Party Funds (DPK). These factors contributed to BRI's positive profit performance.

The Return on Investment (ROI) of the four state-owned banks also showed a fluctuating trend, though not excessively significant. From 2013 to 2016, there was a decline in ROI, followed by a rise in 2017, and then another decline from 2018 to 2021, concluding with an increase in 2022. This indicates that ROI fluctuates gradually and without significant variation. The lowest ROI occurred in 2020 at 0.79%, attributed to a 78.7% decrease in profits at BNI, which consequently lowered the ROI. The highest ROI was recorded in 2013 at 2.38%, boosted by BRI achieving an ROI of 3.41%. BRI's success in that year was supported by its dominance in microcredit, resulting in increased deposits, an expanded network of operations, and the development of information technology (IT)-based products and services aimed at enhancing profitability.

The Rate of Return (ROR) condition of the four state-owned banks exhibited a fluctuating trend with significant ups and downs. Analysis of the 2013-2022 research period reveals a downward trend in ROR from 2013 to 2015, followed by an upward trend in 2016-2017. However, from 2018 to 2020, there was a notable decline, resulting in a negative ROR in 2020. The lowest ROR recorded was in 2020 at -30.24%. This decrease was attributed to Bank BTN's decision not to distribute dividends due to its lower Tier 1 capital compared to other state-owned banks, which was addressed in 2021 by strengthening its capital base. The highest ROR was achieved in 2017 at 35.67%, driven by BTN's significant performance with an ROR of 51%, attributed to increased profits, asset growth, higher loan volumes, reduced NPLs, and increased deposits.

Partial Least Square (PLS) Test Outer Model Analysis

Outer Model analysis is defined as a valid and reliable measuring tool, which can be proven by validity and reliability tests.

Convergent Validity

Validity test is accepted if the loading factor reaches > 0.7 (Ghozali, 2014). All variables are declared valid because they have a loading factor value > 0.7 .

Table 2. Loading Factor Research Indicators

Variable	Indicator	Loading Factor	Description
<i>Non Performing Loan (NPL)</i>	Total Non Performing Loan	0.899	Valid
	Total Credit	0.963	Valid
<i>Earning Per Share (EPS)</i>	Total Shares Outstanding	0.915	Valid
	Net Income	0.953	Valid
<i>Return On Investment (ROI)</i>	Net Income After Tax	0.961	Valid
	Total Asset	0.975	Valid
<i>Rate of Return (ROR)</i>	Capital Gain	-0.194	Invalid
	Yield	0.996	Valid

Source: Loading Factor data is processed by the author using SmartPLS, 2023

The indicators from the NPL, EPS, and ROI constructs are deemed valid, but one indicator from the ROR construct, namely Capital Gain, is invalid as it received a value of < 0.7 , specifically -0.194 . Due to this, the research cannot proceed, necessitating the removal of indicators that fail to meet requirements. It is advisable to eliminate indicators with very low loading factors (below 0.40). Therefore, since the Capital Gain indicator of the ROR construct is below 0.40, it is excluded from the construct. The model is then retested without the Capital Gain indicator. The revised statement is as follows:

Table 3. Loading Factor of Research Indicators after Removing the Capital Gain Indicator

Variable	Indicator	Loading Factor	Description
<i>Non Performing Loan (NPL)</i>	Total Non Performing Loan	0.899	Valid
	Total Credit	0.963	Valid
<i>Earning Per Share (EPS)</i>	Total Shares Outstanding	0.915	Valid
	Net Income	0.953	Valid
<i>Return On Investment (ROI)</i>	Net Income After Tax	0.961	Valid
	Total Asset	0.975	Valid
<i>Rate of Return (ROR)</i>	Yield	1.000	Valid

Source: Loading Factor data is processed by the author using SmartPLS, 2023

Therefore, all indicators of the variables studied have been declared completely valid so that the analysis can be continued using the data that has been obtained.

Discriminant Validity

Discriminant validity aims to ensure that each idea of each latent model is different from other variables, which is done using cross loading and fornell-larcker criterion. Research is said to be valid if the root of the AVE on the construct is greater than the correlation of other latent variable constructs, according to the findings of the fornell-larcker criterion test.

Table 4. Fornell-Larcker Criterion

	<i>EPS</i>	<i>NPL</i>	<i>ROI</i>	<i>ROR</i>
<i>EPS</i>	0.935			
<i>NPL</i>	0.716	0.931		
<i>ROI</i>	0.924	0.900	0.968	
<i>ROR</i>	0.060	0.351	0.193	1.000

Source: Fornell-Larcker Criterion data processed by the author using SmartPLS, 2023

Based on Table 4, it is known that the root AVE value of each construct is greater than the correlation of other latent variable constructs. Therefore, it can be said that all latent variables or constructs have good discriminant validity.

Average Variance Extracted (AVE)

The potential variation of latent variables relative to manifest variables is indicated by the AVE value.

Table 5. Recapitulation of AVE of Research Indicators

Indicator	<i>AVE</i>	<i>Conclusion</i>
<i>EPS</i>	0.874	Valid
<i>NPL</i>	0.868	Valid
<i>ROI</i>	0.937	Valid
<i>ROR</i>	1.000	Valid

Source: Average Variance Extracted data is processed by the author using SmartPLS, 2023

Based on the AVE Table, it is known that the AVE value of each variable has > 0.5 so that the research is said to be valid.

Composite Reliability

If a data set has a composite reliability > 0.7, it can be said to have high reliability or is acceptable.

Table 6. Recapitulation of Composite Reliability of Research Indicators

Indicator	<i>Composite Reliability</i>	<i>Conclusion</i>
<i>EPS</i>	0.932	Reliable
<i>NPL</i>	0.929	Reliable
<i>ROI</i>	0.968	Reliable

<i>ROR</i>	1.000	Reliable
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Source: Composite Reliability data is processed by the author using SmartPLS, 2023

From Table 6 Composite Reliability above, it can be concluded that the variables are reliable as evidenced by the composite reliability value > 0.7.

Cronbach’s Alpha

The value of a data is classified as having high reliability or acceptable, if Cronbach's Alpha > 0.7.

Table 7. Cronbach's Alpha Recapitulation of Research Indicators

Indicator	Cronbach’s Alpha	Conclusion
EPS	0.858	Reliable
NPL	0.856	Reliable
ROI	0.934	Reliable
ROR	1.000	Reliable

Source: Cronbach's Alpha data is processed by the author using SmartPLS, 2023

From Table 7, it is known that the variables are declared reliable because the test results show the Cronbach's Alpha value > 0.7.

Inner Model Analysis

Based on substantive theory, this model can explain the relationship between latent variables. To test the hypothesis that has been determined, it can be shown by the t-statistic value and p value generated from the Bootstrapping calculation on SmartPLS.

RSquare

In defining the Rsquare criteria, there are three categories: substantial large (value = 0.67), moderate (value = 0.33), and weak (value = 0.19).

Table 8. R Square Recapitulation

	<i>RSquare</i>	<i>RSquare Adjusted</i>	Category
<i>Earning Per Share (EPS)</i>	0.512	0.499	moderate
<i>Return On Investment (ROI)</i>	0.810	0.805	substantial / large
<i>Rate of Return (ROR)</i>	0.123	0.100	weak

Source: The author processed Rsquare data using SmartPLS, 2024

Table 8 displays the R-squared (R²) values for the EPS, ROI, and ROR variables as 0.512, 0.810, and 0.123, respectively. This indicates the following interpretations: The R² value for EPS is 0.512, indicating that 51.2% of the variability in the EPS construct can be explained by the NPL (Non-Performing Loan) construct, while the remaining 48.8% is influenced by variables not included in this research. For ROI, the R² value is 0.810, suggesting that 81% of the variability in the ROI construct can be explained by the NPL construct, with the remaining 19% influenced by external variables. Lastly, the R² value for ROR is 0.123, meaning that

12.3% of the variability in the ROR construct can be explained by the NPL construct, while 87.7% is influenced by external variables. Therefore, it is concluded that Earning Per Share (EPS) falls within the moderate R² category, Return On Investment (ROI) falls within the substantial/large R² category, whereas Rate of Return (ROR) falls within the weak R² category.

FSquare

There are three categories to determine the F-square criteria: a value of 0.35 is categorized as having a large influence, a value of 0.15 is categorized as having a medium or moderate influence, and a value of 0.02 is categorized as having a small influence (Ghozali & Latan, 2015).

Table 9. FSquare Recapitulation

	<i>Earning Per Share (EPS)</i>	<i>Non Performing Loan (NPL)</i>	<i>Return On Investment (ROI)</i>	<i>Rate of Return (ROR)</i>
<i>Earning Per Share (EPS)</i>				
<i>Non Performing Loan (NPL)</i>	1.049		4.254	0.140
<i>Return On Investment (ROI)</i>				
<i>Rate of Return (ROR)</i>				

Source: SmartPLS output results (processed), 2024

Based on Table 9 FSquare, it is known that the relative influence of the NPL variable on EPS is classified as having a large influence with a value of 1.049, and the relative influence of the NPL variable on ROI is also classified as having a large influence of 4.254, while the relative influence of the NPL variable on ROR is classified as having a small influence of 0.140.

VIF (Variance Inflated Factor)

According to J. Hair Jr, the Inner VIF value must be below 5 to be able to prove that there is no multicollinearity between variables (Hair et al., 2021). The following are the results of the test for the VIF value:

Table 10. VIF Recapitulation

Indicator	VIF
Total Shares Outstanding	2.297
Total Non Performing Loan	2.267
Net Income (Parent Entity Owner)	2.297
Net Income After Tax	4.292
Total Asset	4.292
Total Credit	2.267
<i>Yield</i>	1.000

Source: The author processed the Variance Inflated Factor data using SmartPLS, 2023

The presence of multicollinearity among variables, specifically measured by the inner VIF (Variance Inflation Factor), must be assessed before evaluating the hypotheses of the structural model. Based on the analysis, all estimated research indicators exhibit an inner VIF value < 5. The VIF values are as follows: the number of outstanding shares indicator has a VIF of 2.297, the non-performing credit indicator has a VIF of 2.267, the net profit indicator (parent entity owner) has a VIF of 2.297, the net profit after tax indicator has a VIF of 4.292, the total assets indicator has a VIF of 4.292, the total credit indicator has a VIF of 2.267, and the yield indicator has a VIF of 1.000. These values are all below 5, indicating a low degree of multicollinearity between variables. Therefore, the parameter estimates in PLS-SEM are robust and unbiased due to the minimal multicollinearity.

Hypothesis Test

Based on the t-statistic value and probability value, hypothesis testing can be calculated. The statistical parameters used in hypothesis testing produce an alpha of 5%. By applying the formula $df = n - k$, the degrees of freedom or df (degrees of freedom) are used to analyze indicator validity tests. According to (Junaidi, 2014), This research has n samples and k independent and dependent variables. This results in the finding: $df = 40 - 4 = 36$. The t table value is 2.02809 for 36 degrees of freedom and two-way testing at a significance level of 5%. For each hypothesis path in this research, the table is as follows:

Table 11. Output Bootstrapping

Hypothesis	Path Coefficient	T statistics (O/STDEV)	P values	Description
H1. NPL -> EPS	0.716	15.301	0.000	Accepted
H2. NPL -> ROI	0.900	64.117	0.000	Accepted
H3. NPL -> ROR	0.351	3.269	0.001	Accepted

Source: Output SmartPLS (processed), 2024

The first hypothesis, that Non-Performing Loans (NPL) have an effect on EPS, is accepted based on the test findings showing a significant effect of NPL on EPS. This is indicated by the T-statistic value of 15.301, which is greater than 2.028, with a p-value < 0.05 (specifically 0.000), and an original sample value of 0.716. **The second hypothesis**, that Non-Performing Loans have an influence on ROI, is also accepted based on the test findings. The T-statistic value is 64.117, which exceeds 2.028, with a p-value < 0.05 (specifically 0.000), and an original sample value of 0.900. **The third hypothesis**, that Non-Performing Loans influence ROR, is similarly accepted based on the test findings. This is evident from the T-statistic value of 3.269, which exceeds 2.028, with a p-value < 0.05 (specifically 0.001), and an original sample value of 0.351. Based on the path coefficient analysis, Non-Performing Loans exhibit a path coefficient of 0.716 for EPS, 0.900 for ROI, and 0.351 for ROR.

Discussion

The aim of this research is to determine the effect of Non-Performing Loans (NPL) on EPS, ROI, and ROR from 2013 to 2022 in state-owned banks listed on the IDX. The findings are based on research conducted using SmartPLS software. The R² (R-Square) value for EPS is 0.512, indicating that the NPL construct explains 51.2% of the variance in EPS, while 48.8% is influenced by external variables. For ROI, the R² value is 0.810, meaning that the NPL construct explains 81% of ROI variability, with 19% influenced by external variables. The R² value for ROR is 0.123, indicating that the NPL construct explains 12.3% of ROR variability, with 87.7% influenced by external variables. Thus, EPS is moderately explained by NPL, ROI

substantially, and ROR weakly. Based on the Fsquare test, NPL has a large relative influence on EPS (1.049) and ROI (4.254), while it has a small influence on ROR (0.140). From the path coefficient analysis, it is observed that an increase of one unit in NPL leads to a 90% increase in ROI, a 71.6% increase in EPS, and a 35.1% increase in ROR. All hypotheses are accepted as NPL significantly affects EPS, ROI, and ROR (p-value < 0.05), as confirmed by bootstrapping. **The first hypothesis**, that Non-Performing Loans (NPL) have an effect on EPS is accepted. This finding is relevant to (Harianja, 2013) and (Murti, 2020) that stated *NPLs* have an effect on *Earning Per Share*, while it is inversely proportional to another research by (Amalia, 2023) who mentioned *NPLs* have no effect on *EPS*. **The second hypothesis**, that Non-Performing Loans have an influence on ROI, is accepted. This finding is relevant to Pirgaip & Uysal (2023) that stated pengaruh *NPLs* have an effect on *Return On Investment (ROI)*, while it is inversely proportional to another research by (Fitriasuri, 2022) and (Sawitri et al., 2020) who mentioned *NPLs* have no effect on *ROI*. Last, **The third hypothesis**, that Non-Performing Loans influence ROR, is accepted. This finding is relevant to (Jolevski, 2017) who stated *NPLs* have an effect on *Rate of Return*.

From the research conducted, it is observed that the Covid-19 pandemic had a significant impact on banking conditions, particularly on the studied ratios: NPL, EPS, ROI, and ROR. There were notable changes, especially during the 2020-2021 period when the pandemic occurred. For instance, the Non-Performing Loan (NPL) value reached its peak throughout the 2013-2022 period during this time. This indicates that in 2020 and 2021, amid the Covid-19 pandemic, people faced difficulties in meeting their credit obligations. Economic activities slowed down due to the implementation of Community Activity Restrictions. This observation aligns with Wahyudi's statement, which suggests that banks encountered various risks, including increased bad debts, with the onset of Covid-19 (Wahyudi, 2020). Therefore, it can be concluded that when the Covid pandemic occurs there will be a possible risk of Non-Performing Loans.

CONCLUSION

Based on the conducted research and hypothesis analysis, it is concluded that Non-Performing Loans (NPL) significantly affect the EPS, ROI, and ROR of state-owned banks listed on the IDX for the period 2013-2022. Additionally, this research demonstrates that the Covid-19 pandemic negatively impacted the NPL, EPS, ROI, and ROR ratios. This is evidenced by significantly lower and decreasing ratio values observed during the 2020-2021 period.

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