

Credit risk and operational efficiency as determinants of Bank Mandiri stock prices

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ABSTRACT

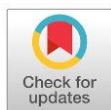
Purpose: to analyze the effect of the non-performing loan (NPL) ratio and the operating expenses on the operating income (OEOI) ratio on Bank Mandiri's stock price.

Method: this study employs a quantitative explanatory research method using secondary data from Bank Mandiri's annual financial statements and stock prices for the period 2014–2024. The analysis includes descriptive statistics, classical assumption tests, and multiple linear regressions to examine the effects of NPL and OEOI on the stock price.

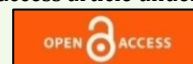
Findings: the NPL ratio has no significant effect on Bank Mandiri's stock price, while the OEOI ratio has a significant negative effect. These results indicate that stock price movements are more sensitive to operational efficiency than to credit risk during the observed period.

Implications: operational efficiency strongly influences stock prices, highlighting the importance for banks to manage costs effectively and for investors to consider efficiency alongside credit risk in investment decisions.

Originality: providing updated empirical evidence on how NPL and OEOI ratios influence Bank Mandiri's stock price, addressing inconsistencies in previous research, and focusing specifically on the latest financial performance and market response in the Indonesian banking sector.



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Introduction

The banking sector plays a central role in maintaining financial system stability and fostering national economic growth (Korneev et al., 2023). As financial intermediaries, banks mobilize funds from the public and channel them into productive and consumer credit (Azolibe, 2022). Sound banking performance not only determines the sustainability of a bank's operations but also influences monetary sector stability and investor confidence in the capital market (Salim et al., 2023). In the Indonesian context, conventional banking continues to dominate the financial system, operating

under a business model that relies primarily on interest-based funding and lending activities as the main source of revenue (Hafiz et al., 2025). Therefore, asset quality and operational efficiency are fundamental aspects that determine bank performance and valuation from an investor's perspective (Rosario & Mavuri, 2026).

As one of the largest banks in Indonesia, Bank Mandiri plays a strategic role in the national financial system and is regarded as a leading blue-chip stock on the Indonesian Stock Exchange (Shodiq & Nugraha, 2025). Throughout the 2014–2024 period, Bank Mandiri's financial performance exhibited notable dynamics, particularly in its Non-Performing Loan (NPL) ratio and Operating Expenses to Operating Income (OEOI) ratio. The trend in total loan growth and operating income generally showed an upward trajectory, though it faced pressure in 2020 due to the pandemic, which also led to an increase in non-performing loans. This was followed by a significant recovery and expansion through 2023, accompanied by fluctuations in credit quality. Operating expenses initially rose but improved after 2022. This period encompasses phases of economic expansion, the COVID-19 pandemic, and the subsequent recovery and normalization of global monetary policy. Fluctuations in NPLs resulting from loan restructuring during the pandemic, along with changes in operational efficiency driven by digital transformation, raise a fundamental question: to what extent have these changes in fundamental indicators influenced Bank Mandiri's stock price?

An increase in the NPL ratio reflects a deterioration in credit quality, necessitating higher loan-loss provisions and, consequently, exerting pressure on profitability, potentially leading to a decline in stock prices (Alyousfi, 2025). On the other hand, the OEOI ratio represents the bank's operational efficiency; the lower the OEOI ratio, the more efficient the bank is at generating profit from its operating income (Mehzabin et al., 2023). Nevertheless, empirical evidence suggests that the relationship between fundamental indicators and stock prices is not always linear. Several banks with improving financial ratios have, in fact, experienced stock price pressure due to macroeconomic sentiment, interest rate changes, and market psychological factors (Verma & Bansal, 2021). This condition indicates the possibility of differing market responses to banking prudential indicators.

Numerous prior studies have examined the effect of NPL and OEOI on stock prices; however, their findings remain inconsistent. Regarding the NPL variable, several studies, such as Zarkasi & Puspita (2016); Nugroho & Rachmaniyah (2020); Winoto & Purba (2022); Taqiuddin et al. (2024); Sara et al. (2025), find that NPL has a positive effect on stock prices. In contrast, studies by Brastama & Yadnya (2020); Rizkia (2023); Nikmah et al. (2025) report that NPL has a negative effect on stock prices. Meanwhile, research by Putri (2024) concludes that NPL has no significant effect on stock prices. Inconsistencies are also evident in the findings related to the OEOI variable. Nugroho & Rachmaniyah (2020) find that OEOI has a positive effect on stock prices. On the other hand, studies by Zarkasi & Puspita (2016); Taqiuddin et al. (2024); Wibhisono & Hasanuh (2024); Nikmah et al. (2025); Sara et al. (2025) demonstrate that OEOI negatively affects stock prices. Meanwhile, research by Zuhroh & Veronika (2021); Winoto & Purba (2022); Putri (2024) finds that OEOI does not significantly affect stock prices.

These divergent findings indicate empirical inconsistencies and suggest a research gap in the observation period, sample characteristics, economic conditions, or the analytical approaches employed. The novelty of this study lies in its attempt to provide empirical clarification of the inconsistent results reported in prior research regarding the effect of NPL and OEOI on banking stock prices, particularly those of Bank

Mandiri. This study utilizes a more recent observation period that reflects the contemporary dynamics of Bank Mandiri, thereby offering empirical evidence that is more relevant than that presented in previous studies. Therefore, further research is necessary to obtain more comprehensive empirical evidence concerning the effect of NPL and OEOI on stock prices.

This study aims to analyse the effects of NPL and OEOI on Bank Mandiri's stock price between 2014 and 2024. The findings are expected to provide empirical contributions for investors in understanding the sensitivity of stock prices to bank soundness indicators, for management in formulating risk management and operational efficiency strategies, and for regulators in evaluating the effectiveness of prudential policies on capital market stability. Furthermore, this study is anticipated to offer practical contributions to both investors and bank management in making decisions based on fundamental performance. It not only enriches the empirical literature on the determinants of banking stock prices in Indonesia but also provides a comprehensive understanding of how the capital market responds to credit risk indicators and operational efficiency across different phases of the economic cycle.

This study is grounded in signaling theory, which posits that a company's financial information serves as a signal to investors in making investment decisions. Signaling theory was first introduced by Spence (1973) in the context of information asymmetry. The theory explains that there is an imbalance in information between a company's internal parties (management) and its external parties (investors). Management possesses more comprehensive information regarding the company's condition and prospects than investors. Therefore, companies convey signals to the market through financial statements, dividend policies, and financial performance indicators in order to reduce information asymmetry, thereby influencing stock prices (Taher & Al-Shboul, 2023).

Stock prices fundamentally reflect a firm's value, determined by the mechanisms of supply and demand in the capital market (Fuad & Yuliadi, 2021). Theoretically, stock prices are influenced by investors' expectations of future cash flows and the firm's risk level. The NPL ratio and the OEOI ratio serve as signals of asset quality and managerial efficiency. Accordingly, changes in NPL and OEOI should be reflected in stock price movements if the market responds rationally to such information (Arhinful et al., 2025). Credit risk refers to the potential loss arising from a debtor's failure to fulfil obligations to the bank. In the banking industry, credit risk is commonly measured by the NPL ratio, which represents the proportion of non-performing loans to total loans extended (Gjeçi et al., 2023). The higher the NPL ratio, the greater the bank's default risk. Operational efficiency in banking is frequently measured using the OEOI ratio (Estiasih et al., 2024). This ratio indicates the bank's efficiency in managing operating expenses to generate income. The lower the OEOI ratio, the more efficient the bank's operational performance. Therefore, OEOI constitutes an important indicator in assessing banking soundness and performance, which may influence market reactions.

According to signaling theory, information conveyed through financial statements serves as a signal to investors in assessing a company's prospects. Financial ratios such as the NPL ratio and the OEOI ratio reflect a bank's risk and operational efficiency, which, in turn, influence investors' expectations for future performance and cash flows. Stock prices reflect firm value, which is determined by investors' expectations of profitability and risk (Bui et al., 2023). An increase in the NPL ratio may signal rising credit risk, potentially reducing profits and increasing uncertainty, leading the market to respond with a decline in stock prices. Conversely, if NPL remains within a

manageable range and indicates productive credit expansion, the market may respond positively.

Meanwhile, the OEI ratio reflects a bank's level of operational efficiency. A high OEI indicates relatively high operating expenses relative to operating income, which can compress profits and reduce the stock's attractiveness. Conversely, a low OEI reflects strong efficiency and the potential for increased profitability, which can enhance stock prices. Thus, NPL and OEI serve as fundamental indicators that can influence stock prices through signaling mechanisms to the market and investors' responses to the bank's risk profile and performance.

According to signaling theory, the NPL ratio provides investors with information regarding a bank's credit quality and risk level (Arhinful et al., 2025). An increase in NPLs reflects a rise in non-performing loans, which can reduce profits and increase the risk of insolvency (Singh et al., 2021). From the perspective of stock price theory, higher risk increases the required return for investors and exerts downward pressure on stock prices. This view is also supported by previous studies by Brastama & Yadnya (2020); Rizkia (2023); Nikmah et al. (2025), which founds that NPLs negatively affect stock prices. Accordingly, the following hypothesis can be formulated: H1: NPL has a negative effect on stock prices.

The OEI ratio reflects a bank's operational efficiency in generating income (Estiasih et al., 2024). The higher the OEI, the lower the bank's operational efficiency, which may reduce profits. According to signaling theory, this condition serves as a negative signal to investors, indicating a decline in managerial performance. From the perspective of stock price theory, decreased efficiency that negatively affects profits will lower expectations of future cash flows, leading to a decline in stock prices. This is also supported by previous studies by Zarkasi & Puspita (2016); Taqiuddin et al. (2024); Wibhisono & Hasanuh (2024); Nikmah et al. (2025); Sara et al. (2025), which found that OEI negatively affects stock prices. Accordingly, the following hypothesis can be formulated: H2: OEI negatively affects stock prices.

Method

This study employs a quantitative, explanatory research design to test causal relationships between independent and dependent variables through hypothesis testing. A quantitative approach is used because this study emphasizes the numerical measurement of variables and statistical analysis to obtain objective and measurable conclusions. The research was conducted at PT Bank Mandiri (Persero) Tbk, located at Menara Mandiri 1, Sudirman Street, Kav. 54–55, Jakarta 12190, Indonesia. The selection of this research object is based on the consideration that Bank Mandiri is one of the largest banks in Indonesia, with stable financial performance and consistently published financial statements.

The data used in this study are secondary, in the form of annual financial statements, which have been officially published on the company's website and the Indonesian Stock Exchange. The observation period of this study spans from 2014 to 2024. The data include NPL, OEI, and year-end closing stock prices. The population of this study consists of all annual financial statements of PT Bank Mandiri (Persero) Tbk for the 2014–2024 period. The sampling technique employed is saturated sampling, in which the entire population serves as the research sample. For the 2014–2024 period, the total sample consists of 11 observations (11 years). Data collection was carried out using the documentation method, which involved gathering, recording, and processing data from the consolidated comprehensive income statements, notes to the consolidated

financial statements, and stock price data obtained from the Indonesian Stock Exchange.

This study uses two independent variables and one dependent variable. The operational definitions of each variable are presented in Table 1.

Table 1 operational definitions of variables

Variables	Operational definition	Indicator	Measurement formula	Scale
NPL (X1)	A ratio that indicates the level of non-performing loans relative to the total loans extended by the bank.	Total non-performing loans and total credit	$NPL = (\text{Non-Performing Loans} / \text{Total Loans}) \times 100\%$	Ratio
OEOI (X2)	The ratio that shows the level of operational efficiency of the bank	Operating expenses and operating income	$OEOI = (\text{Operating Expenses} / \text{Operating Income}) \times 100\%$	Ratio
Stock price (Y)	The closing price of the company's shares at the end of the period (closing price)	End of year stock price	Closing stock price as of December 31	Ratio

The data analysis in this study was conducted using the SPSS statistical software, version 26. The analysis began with descriptive statistics, aimed at providing an overview of the characteristics of the research data, including the minimum, maximum, mean, and standard deviation of each variable, namely NPL, OEOI, and stock prices. Descriptive statistics are used to understand data patterns and to detect any preliminary indications of anomalies before conducting further analysis. Subsequently, classical assumption tests were performed to ensure that the regression model used meets the criteria of the Best Linear Unbiased Estimator (BLUE). The classical assumption tests included the normality test, to determine whether the data are normally distributed; the multicollinearity test, to examine the presence of correlations among independent variables; the heteroscedasticity test, to detect any inequality of residual variance; and the autocorrelation test, to examine whether correlations exist among residuals in time-series data.

After the model was confirmed to meet the classical assumptions, the analysis proceeded using multiple linear regression to examine the effect of NPL and OEOI on stock prices. Hypothesis testing was conducted through the t-test to determine the partial effect of each independent variable on the dependent variable, and the F-test to assess the simultaneous effect of both independent variables on stock prices. In addition, the coefficient of determination (R^2) was used to measure the extent to which NPL and OEOI explain the variations in stock price changes. All stages of the analysis were carried out to obtain objective conclusions in accordance with the research objectives.

Results and discussion

Descriptive statistics

Before further testing, descriptive statistical analysis was conducted to provide an overview of the research data. Descriptive statistics were used to determine the minimum, maximum, mean, and standard deviation of each research variable, namely NPL, OEOI, and stock prices, during the 2014–2024 period. The results of the descriptive statistical analysis are presented in Table 2.

Table 2 results of descriptive statistical tests

Variables	N	Minimum	Maximum	Mean	Std. Deviation
NPL	11	0.0131	0.04037	0.0298	0.00839
OEOI	11	0.44790	1.38983	0.6430	0.25396
Stock prices	11	5800.00	10775.00	7984.09	1607.18

Source: secondary data, processed

Based on Table 2, the total number of observations used in this study is 11. The NPL variable has a minimum value of 0.0131, a maximum of 0.04037, a mean of 0.0298, and a standard deviation of 0.00839. The relatively small standard deviation relative to the mean indicates that NPL data during the study period were stable and did not exhibit significant fluctuations. The OEOI variable ranges from 0.44790 to 1.38983, with a mean of 0.6430 and a standard deviation of 0.25396. The relatively large standard deviation indicates that OEOI experienced considerable variation or fluctuation during the observation period, suggesting changes in operational efficiency from year to year. Meanwhile, the stock price variable has a minimum of 5,800.00, a maximum of 10,775.00, a mean of 7,984.09, and a standard deviation of 1,607.18. The relatively large standard deviation indicates that stock prices experienced significant fluctuations during the 2014–2024 period, reflecting market dynamics that influenced stock price movements throughout the study period.

Normality

The normality test was conducted to determine whether the residuals of the regression model are normally distributed. The assumption of residual normality is crucial because statistical tests, such as the t-test and F-test, require the residuals to follow a normal distribution for the test results to be valid. A regression model that meets the normality assumption will produce statistically reliable coefficient estimates.

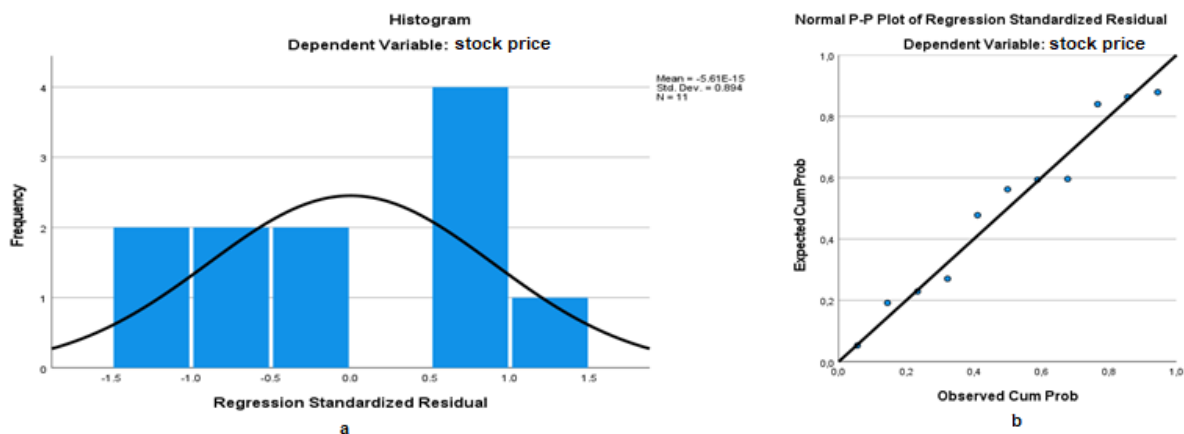


Figure 1 histogram and p-p plot
Source: secondary data, processed

Normality analysis was conducted using two approaches: visual analysis through graphs and statistical analysis. Visually, the residual histogram shows that the data distribution is symmetric, resembling a bell-shaped curve, and does not skew to the right or left, indicating that the residuals are normally distributed (Figure 1a). This is further supported by the normal P-P plot, where the residual points spread along the diagonal line, suggesting that the residual distribution closely approximates normality (Figure 1b).

In addition to visual analysis, normality testing was also conducted statistically using the One-Sample Kolmogorov-Smirnov test. The test results show an Asymp. Sig. (2-tailed) value of 0.200, which is greater than the significance threshold of 0.05. This indicates that the residuals do not differ significantly from a normal distribution, suggesting that the residuals are normally distributed. With the normality assumption satisfied both visually and statistically, the regression model used is deemed appropriate for further analysis.

Multicollinearity

The multicollinearity test was conducted to assess whether the independent variables in the regression model are highly correlated. A well-specified regression model should not exhibit multicollinearity. In this study, multicollinearity was assessed by examining the Tolerance and Variance Inflation Factor (VIF) values for each independent variable. The model is considered free from multicollinearity if the Tolerance value is greater than 0.10 and the VIF value is less than 10.00.

Table 3 results of multicollinearity test

Variables	Tolerance	VIF
NPL	0.673	1.486
OEOI	0.673	1.486

Source: secondary data, processed

Based on Table 3, the results of the multicollinearity test show that the NPL variable has a Tolerance value of 0.673, which is greater than 0.10, and a VIF value of 1.486, which is less than 10.00. This indicates that the NPL variable does not exhibit symptoms of multicollinearity in the regression model. Furthermore, the OEOI variable has a Tolerance value of 0.673, which is greater than 0.10, and a VIF value of 1.486, which is less than 10.00. Therefore, the OEOI variable does not exhibit multicollinearity. Based on these results, it can be concluded that none of the independent variables in this study exhibits multicollinearity, making the regression model suitable for further analysis.

Autocorrelation

Autocorrelation testing is conducted to determine whether there is a correlation between residuals in period t and residuals in the previous period ($t-1$) within the regression model. A good regression model does not exhibit autocorrelation. In this study, autocorrelation testing was performed using the Durbin-Watson (DW) test. If the Durbin-Watson test results are inconclusive, an alternative test, the Runs Test, is conducted to confirm the presence or absence of autocorrelation. Based on the results of the test, the Durbin-Watson (DW) value was 0.905. Meanwhile, according to the Durbin-Watson table, the lower bound (dL) is 0.927, and the upper bound (dU) is 1.539. Since the DW value (0.905) is smaller than the lower bound ($dL = 0.927$), it falls into an inconclusive region regarding the presence of positive autocorrelation in the regression model. Therefore, further testing is required to confirm the existence of autocorrelation.

To reinforce the results of the autocorrelation test, an alternative test, the Runs Test, was conducted. This test aims to determine whether the residuals in the regression model are randomly distributed. If the significance value is greater than 0.05, the residuals are considered random, indicating that the regression model does not exhibit autocorrelation. Based on the results of the Runs Test, the Asymp. Sig. (2-tailed) value was 1.000. This value is greater than 0.05, indicating that the residuals in the regression

model are randomly distributed. This suggests that there is no autocorrelation problem in the regression model used. Therefore, based on the Runs Test results, the regression model in this study is free from autocorrelation and is suitable for further analysis.

Heteroscedasticity

Heteroskedasticity testing is conducted to determine whether the variance of residuals differs across observations within the regression model. A good regression model does not exhibit heteroskedasticity, meaning it has constant residual variance (homoskedasticity). In this study, heteroskedasticity was tested by examining the pattern of points in a scatterplot of the Regression Studentized Residuals and the Regression Standardised Predicted Values.

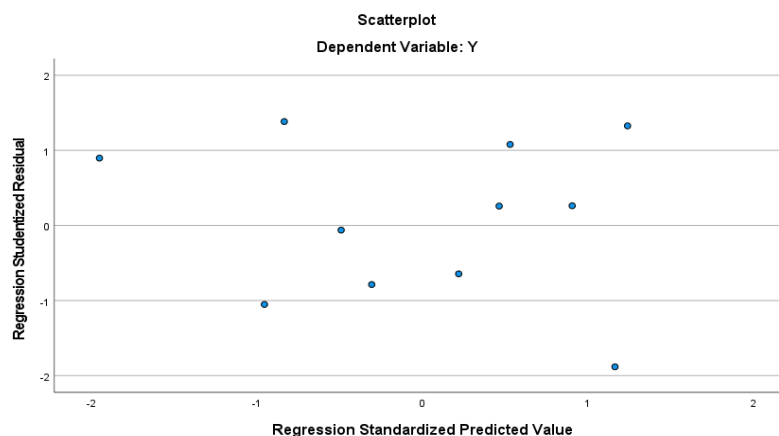


Figure 2 scatterplot
Source: secondary data, processed

Based on Figure 2, it can be observed that the points on the scatterplot are distributed above and below the zero line on the Y-axis (Regression Studentized Residuals). The distribution of these points does not form any specific pattern, such as a curved pattern, a narrowing (funnel) pattern, or a widening pattern. In addition, the data appears to be randomly scattered and does not show any systematic pattern. This indicates that the residual variance in the regression model is constant. Therefore, it can be concluded that the regression model in this study does not exhibit heteroskedasticity, thereby satisfying one of the key assumptions of classical linear regression analysis and is suitable for further testing.

Hypothesis

Hypothesis testing is conducted to examine the effect of independent variables on the dependent variable, both partially and simultaneously. In addition, this testing aims to assess the extent to which the independent variables explain the dependent variable, as indicated by the Adjusted R-square. The results of the hypothesis testing in this study are presented in Table 4. The results of the partial test show that the NPL variable has a coefficient of -100,077.102, a t-value of -1.589, and a significance value of 0.151. The t-value (-1.589) is smaller than the t-table value (2.36), and the significance value (0.151) is greater than 0.05. This indicates that NPL does not have a significant effect on stock price (H1 is rejected). Furthermore, the OEI variable has a coefficient of -4,949.303, a t-value of -2.377, and a significance value of 0.045. The t-value (-2.377) is greater than the t-table value (2.36), and the significance value (0.045) is less than 0.05. This indicates

that OEOI has a significant negative effect on stock price (H2 is accepted). Based on the simultaneous test, the F-value is 2.864 with a significance value of 0.115. The F-value (2.864) is smaller than the F-table value (4.74), and the significance value (0.115) is greater than 0.05. This indicates that NPL and OEOI do not have a significant effect on stock prices simultaneously. Meanwhile, the adjusted R-square value of 0.272 shows that NPL and BOPO can explain 27.2% of the variation in stock price in this research model, while other variables outside the research model explain the remaining 72.8%.

Table 4 results of hypothesis testing

Hypothesis	Coefficient	T-value	Sig.
H1: NPL → stock price	-100077.102	-1.589	0.151
H2: OEOI → stock price	-4949.303	-2.377	0.045
F-value		2.864	0.115
Adjusted R-square		0.272	
T-table		2.36	
F-table		4.74	

Source: secondary data, processed

The effect of NPL on stock prices

The findings indicate that NPL does not have a significant effect on Bank Mandiri's stock price during the period 2014–2024. Although the regression coefficient is negative, consistent with the theoretical expectation that an increase in NPL would put downward pressure on stock prices, the effect is not statistically significant. This suggests that changes in non-performing loan levels are not necessarily reflected directly in stock price movements. Empirically, these results align with Putri's (2024) study, which found that NPL does not affect stock prices. This indicates that, under certain conditions, the non-performing loan ratio is not always a primary consideration for investors when evaluating banking stocks. However, these results differ from the findings of Brastama & Yadnya (2020); Rizkia (2023); Nikmah et al. (2025), who reported a negative effect of NPL on stock prices. Such discrepancies may be due to differences in the research periods, macroeconomic conditions, sample characteristics, or market sensitivity to credit risk at each observation period.

Based on signaling theory, the NPL ratio serves as a signal of a bank's asset quality and credit risk. An increase in NPLs should serve as a negative signal for investors because it can reduce profits by requiring the establishment of impairment loss provisions and increase the uncertainty of future cash flows (Arhinful et al., 2025; Weerasekara et al., 2025). From the perspective of stock pricing theory, higher risk raises the required return for investors, thereby putting downward pressure on stock prices (Moradi et al., 2021; Rohleder et al., 2022). However, in the context of this study, the signal does not appear strong enough to influence investment decisions significantly. This suggests that the market may have anticipated fluctuations in NPLs as part of the normal business cycle, particularly during the pandemic and post-pandemic periods.

In reality, during the 2014–2024 periods, Bank Mandiri maintained its NPL ratio within relatively controlled limits in accordance with regulatory requirements, despite an increase during the COVID-19 pandemic. In addition, the implementation of credit restructuring policies and regulatory support from financial authorities helped mitigate the negative impact of the surge in non-performing loans on investor perception. As a bank with strong fundamentals and large capitalization (blue chip), investors are likely to consider other factors, such as profitability, credit growth, dividend policies, and macroeconomic conditions, rather than focusing solely on the NPL ratio.

Thus, the findings of this study indicate that, in the context of Bank Mandiri, NPLs are not the primary determinant of stock price movements during the study period. Going forward, management still needs to maintain credit quality by implementing prudent risk management to ensure the NPL ratio remains at an optimal level. For investors, it is important not to focus solely on a single risk indicator but to consider overall financial performance comprehensively. Meanwhile, for future researchers, it is recommended to include additional variables, such as Return on Assets (ROA), Net Interest Margin (NIM), and macroeconomic factors, to provide a more comprehensive understanding of the determinants of banking stock prices.

The effect of OEOI on stock prices

The findings indicate that OEOI has a negative and significant effect on Bank Mandiri's stock price during the 2014–2024 period. The negative regression coefficient suggests that a decline follows any increase in the OEOI ratio in stock prices. This finding implies that operational efficiency is a factor investors consider when assessing the performance and prospects of banking companies. Empirically, this result aligns with studies by Zarkasi & Puspita (2016); Taquiuddin et al. (2024); Wibhisono & Hasanuh (2024); Nikmah et al. (2025); Sara et al. (2025), which found that OEOI negatively affects stock prices. In other words, the higher the OEOI ratio, reflecting lower operational efficiency, the more likely the stock price is to decrease. However, this result contrasts with the study by Nugroho & Rachmaniyah (2020), which found a positive effect, as well as several studies by Zuhroh & Veronika (2021); Winoto & Purba (2022); Putri (2024), which reported no significant effect. These differences may be influenced by economic conditions, bank characteristics, or market perceptions of operational efficiency during a given period.

Theoretically, OEOI is an indicator of a bank's operational efficiency (Estiasih et al., 2024; Sapa et al., 2022), reflecting management's ability to control operational expenses relative to operational income (Lee, 2023). The higher the OEOI, the greater the costs required to generate income, which tends to reduce profitability. From the perspective of signaling theory, the OEOI ratio serves as an important signal to investors about management quality and cost management effectiveness (Eissa et al., 2025; Fathi et al., 2025). A high OEOI can be interpreted as a negative signal because it indicates potential declines in future profitability. Based on stock pricing theory, a decrease in expected profits and future cash flows lowers the firm's intrinsic value, prompting the market to respond with a decline in stock prices (Zakamulin, 2024).

During the study period, Bank Mandiri's operational efficiency fluctuated, particularly during the pandemic when operational costs increased, and income was under pressure. However, post-pandemic, the bank began implementing digital transformation and more structured cost-efficiency measures, enabling the OEOI ratio to be reduced. The significant stock price response to OEOI indicates that investors are highly sensitive to changes in operational efficiency, especially amid increasingly intense competition in the banking industry and margin pressures driven by interest rate dynamics. Based on these findings, management should continue to maintain operational efficiency through cost optimization, digitalization of services, and enhanced asset productivity. Optimally controlling OEOI will strengthen profitability and boost investor confidence. For investors, these results serve as a relevant fundamental indicator in making investment decisions in the banking sector. Meanwhile, future researchers are advised to combine efficiency ratios with profitability indicators and

macroeconomic variables to gain a more comprehensive understanding of the mechanisms driving stock prices in the banking industry.

Conclusions

Based on the findings of this study, it can be concluded that the NPL ratio does not affect Bank Mandiri's stock price, whereas the OEOI ratio negatively affects the stock price. This indicates that the market tends to respond more to operational efficiency than to credit risk when determining the company's stock valuation during the study period. Simultaneously, both variables have not exerted a significant influence on stock prices, suggesting that stock price movements are determined not only by credit quality and operational efficiency but also by other internal and external factors. Thus, operational efficiency emerges as a primary focus in efforts to enhance investor confidence and maintain stock price stability.

The implications of this study indicate that operational efficiency is a factor investors observe more closely than credit risk when evaluating banking stocks. Therefore, management should prioritize controlling operational costs, optimizing digitalization, and enhancing productivity to maintain the efficiency ratio at a healthy level. Although credit risk did not directly affect stock prices in this study, prudent credit quality management remains essential to safeguard long-term performance stability and market confidence. For investors, these findings suggest that fundamental analysis of banking stocks should not focus solely on credit risk but also on the bank's operational efficiency. Meanwhile, for regulators and future researchers, these results can serve as a basis for considering additional variables to explain better the dynamics of stock prices in the banking sector.

This study has limitations; the sample size is relatively small, as it focuses on a single research object over a specific observation period, so the findings cannot yet be generalised to the entire banking sector. The variables used are limited to NPL and OEOI. In contrast, stock price movements are also influenced by other factors such as profitability, liquidity, capital structure, macroeconomic conditions, and market sentiment. Another limitation is the use of annual data, which may not fully capture short-term stock price fluctuations. Therefore, future research is recommended to expand the sample by involving multiple banks or using panel data, to include additional relevant financial and macroeconomic variables, and to use a longer observation period or higher-frequency data to obtain more comprehensive and representative results.

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