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Influence of Profitability and Solvency Ratios on Price-to-Book Value of Banking Companies Listed in the LQ45 Index (2020–2024)

Dean Rezaldi Agustianto[1*]; Rina Maria Hendriyani[2)]

[1,2)] Department of Management, Faculty of Economic and Business, Universitas Singaperbangsa Karawang

***Corespondent Author: 2210631020202@student.unsika.ac.id**

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ABSTRACT

Purpose: *This research investigates the impact of Profitability, measured by Return on Assets (ROA), and Solvency, measured by Debt to Equity Ratio (DER), on the Price to Book Value (PBV) of banking firms within the LQ45 index. The study seeks to evaluate how these core financial indicators shaped market valuations during the post-pandemic recovery period spanning 2020 to 2024.* ***Methodology:*** *Utilising a quantitative framework, the study applies multiple linear regression to analyse financial data from the specified period. The analysis focuses on both simultaneous and partial effects of the independent variables on market value, ensuring the statistical integrity of the findings through standard diagnostic procedures.* ***Results:*** *The F-test shows that ROA and DER collectively affect PBV. However, the t-test reveals that DER has a significant negative effect, while ROA has no significant effect on PBV. The Adjusted R-Square is 0.435.* ***Findings:*** *Findings from the F-test indicate that ROA and DER collectively influence PBV. However, individual t-tests demonstrate a significant negative correlation between DER and PBV, while ROA appears to have no substantial effect during this period. The model achieves an Adjusted R-Square of 0.435.* ***Novelty:*** *The results suggest that 43.5% of the variation in PBV can be explained by the selected variables. Notably, the data implies that during this recovery phase, investors in the banking sector prioritised debt levels and solvency over immediate profitability as a benchmark for market valuation.* ***Originality:*** *This study contributes to the literature by examining the specific economic transition between 2020 and 2024. It highlights how market dynamics in the high-cap banking sector shifted in response to the unique financial pressures of the post-pandemic era.* ***Conclusion:*** *olvency emerges as a primary determinant of market value for LQ45 banks, whereas the influence of profitability remained limited. These insights suggest that in volatile recovery markets, investors tend to scrutinise debt management more closely than traditional earnings metrics when evaluating banking stocks.* ***Type of Paper:*** *This paper is an empirical research paper.*

INTRODUCTION

The banking sector serves as a fundamental pillar of financial intermediation, where market performance directly reflects broader macroeconomic stability and future growth prospects (Anwar, 2019). Within this context, the stability of banking institutions is paramount, as their performance

has a profound and lasting impact on national economic development (Pramono & Setyaningrum, 2021). Furthermore, in an era of global financial integration, robust bank performance is essential for maintaining systemic resilience against external shocks (Moudud-Ul-Huq et al., 2020). From an investment perspective, the primary objective for stakeholders is to maximise firm value through the consistent optimisation of financial outcomes (Widiyanti et al., 2023). Investors increasingly prioritise institutions that demonstrate sustainable profitability and strong market positioning within emerging economies (Nguyen & Nguyen, 2022). Consequently, the integration of rigorous risk profiles and effective corporate governance remains a critical instrument for stakeholders to safeguard their investment value (Saputra et al., 2022).

As highly regulated entities, the valuation of banking institutions is deeply rooted in fundamental indicators, particularly profitability and solvency (Sutrisno & Ardi, 2023). Profitability, often measured by Return on Assets (ROA), signifies operational efficiency in generating income, which theoretically acts as a positive signal to the market. This is aligned with Signalling Theory, suggesting that superior financial performance attracts higher valuation.

However, the global economic landscape between 2020 and 2024, shaped significantly by the post-pandemic recovery, has introduced substantial volatility. During the peak of the health crisis, Indonesian banks faced heightened credit risks and a slowdown in loan demand, leading to noticeable fluctuations in PBV. Interestingly, large-cap banks within the LQ45 index demonstrated a unique resilience. Even during periods of market downturns, these institutions maintained stable valuations, often supported by sustained interest from institutional investors who viewed their fundamental structures as a defensive hedge.

Figure 1. PBV Fluctuations

Source: Indonesia Stock Exchange (IDX) LQ45 Company FactSheet, 2020–2024 Period

Profitability, measured through Return on Assets (ROA), serves as a primary determinant of valuation as it reflects a bank's efficiency in utilising its assets to generate earnings (Tindaon, 2024). This logic aligns with the principle that robust financial performance acts as a positive signal to the market; an increase in profitability is traditionally expected to drive a rise in PBV, reinforcing the firm's perceived value (Hidayatullah & Pamungkas, 2021).

Furthermore, the solvency ratio, represented by the Debt to Equity Ratio (DER), is vital in the banking context as it signals the institution's capacity to meet long-term obligations using its own equity. Maintaining stable solvency is crucial for mitigating systemic risks and fostering positive market sentiment. Empirical evidence from the post-pandemic banking sector further confirms that both profitability and solvency remain substantial pillars in determining firm value within the LQ45 index (Pura et al., 2022; Septiani & Agustina, 2021).

Table 1. ROA and DER Data of Banking Companies in the LQ45 Index

No	Company	Of the Year	ROA	DER
1	BBCA (Bank Central Asia Tbk)	2020	2.52	4.79
		2021	2.56	5.03
		2022	3.1	4.92
		2023	3.46	4.77
		2024	3.78	4.48
2	BBNI (Bank Negara Indonesia Tbk)	2020	0.37	6.51
		2021	1.14	6.63
		2022	1.79	6.35
		2023	1.94	6.02
		2024	1.92	5.76
3	BBRI (Bank Rakyat Indonesia Tbk)	2020	1.23	6.39
		2021	1.83	4.75
		2022	2.76	5.15
		2023	3.08	5.21
		2024	3.04	5.17
4	BBTN (Bank Tabungan Negara Tbk)	2020	0.44	16.08
		2021	0.64	15.31
		2022	0.76	13.56
		2023	0.8	12.51
		2024	0.64	12.52
5	BMRI (Bank Mandiri (Persero) Tbk)	2020	1.23	5.94
		2021	1.77	5.97
		2022	2.26	6.12
		2023	2.76	5.78
		2024	2.52	5.93
6	BRIS (Bank Syariah Indonesia Tbk)	2020	0.43	3.21
		2021	1.14	2.47
		2022	1.39	2.22
		2023	1.61	2.27
		2024	1.71	2.37

Source: IDX Company FactSheet LQ45, 2020–2024 Period

The relationship between these fundamentals and market value, however, remains a subject of empirical debate. While traditional financial literature suggests that higher ROA and stable Debt to Equity Ratios (DER) should correlate with higher PBV, recent studies have shown inconsistent results. For instance, some research indicates that in high-cap sectors like the LQ45, profitability does not always translate directly into stock price appreciation (Setiawan et al., 2024). More notably, the impact of solvency remains contested; while some scholars argue that leverage significantly dictates market perception (Putra & Sari, 2023), others find that for blue-chip stocks, debt levels may not exert a meaningful influence on valuation (Sari & Utami, 2024).

These empirical gaps, particularly within the specific window of 2020–2024, necessitate a deeper investigation. This study aims to analyse whether ROA and DER, both collectively and individually, significantly influenced the PBV of LQ45 banking companies during this transitional economic phase. By examining this period, the research seeks to provide fresh insights into how investors prioritise efficiency versus leverage in a recovering economy. Consequently, this study addresses the critical question of whether fundamental shifts in profitability and solvency ratios are still perceived as primary value signals by the market in a post-crisis climate. Ultimately, these

findings are intended to offer a practical framework for investors and contribute to the literature on banking valuation in emerging markets.

METHOD

Analysis Method

This study adopts a quantitative methodology with an associative design to examine the causal relationships between fundamental financial metrics and market valuation. The research focuses on banking institutions consistently listed in the LQ45 index on the Indonesia Stock Exchange (IDX) throughout the 2020–2024 observation period. To ensure the sample size accurately reflects the intended population, a purposive sampling technique was utilised by establishing strict criteria. Consequently, a balanced panel of six banks was selected for analysis, as these entities provided complete financial statements and necessary information for calculating the core variables, namely Return on Assets (ROA), Debt to Equity Ratio (DER), and Price to Book Value (PBV).

The data for this investigation were retrieved from secondary sources, including annual financial reports and stock price records obtained from the IDX Company FactSheets for the 2020–2024 period.

The data analysis methods used in this study are:

1. Classical Assumption Test

The study employed SPSS version 25, beginning with classical assumption tests—comprising normality, multicollinearity, and heteroscedasticity tests—to ensure that the resulting regression coefficients are accurate, unbiased, and consistent.

2. Multiple Linear Regression Analysis

Multiple linear regression analysis is used to understand the relationship between independent variables and the dependent variable. In this context, we examine the relationship between Profitability (ROA) and Solvency (DER) toward Firm Value (PBV). The regression formula to be tested is:

$$\mathrm{PBV} = \alpha + \beta_1 \mathrm{ROA} + \beta_2 \mathrm{DER} + e$$

3. Hypothesis Testing

Hypothesis testing was subsequently conducted through three primary stages to evaluate the influence of the chosen ratios:

a. Partial Test (t-Test): The t-test examines the effect of each regression coefficient individually to illustrate the significance of each independent variable's role on the dependent variable, assuming other independent variables remain constant.
b. Simultaneous Test (F-Test): The F-test is a method to examine the regression coefficients simultaneously. This illustrates the effect of all independent variables (Profitability and Solvency) in the model together on the dependent variable (PBV).
c. Coefficient of Determination (R^2): The coefficient of determination (R^2) measures how well the model explains the variations in the dependent variable based on the independent variables. The value for this coefficient ranges from zero to one.

RESULTS AND DISCUSSION

RESULTS

This section presents the empirical findings regarding banking companies listed in the LQ45 index for the 2020–2024 period. The data analysis was conducted systematically to evaluate the proposed hypotheses through statistical rigor.

1. Classical Assumption Tests

To ensure the reliability of the regression model, a series of diagnostic tests were performed. The Kolmogorov-Smirnov normality test yielded an Asymptotic Significance of 0.200 ($p > 0.05$)

confirming that the residuals follow a normal distribution. Multicollinearity was assessed through Tolerance and Variance Inflation Factor (VIF) values; both ROA and DER recorded Tolerance of 0.835 (> 0.10) and VIF values of 1.197 (< 10.00) indicating no multicollinearity issues. Additionally, the Glejser test and the Run Test (sig. 0.398) confirmed the absence of heteroscedasticity and autocorrelation, respectively, ensuring the model's stability.

2. Hypothesis Testing

The following table summarises the results of the multiple linear regression analysis, providing the necessary statistical parameters for hypothesis evaluation.

Table 2. Multiple Linear Regression Results

Variable	Unstandardised β	Std. Error	t-value	Sig.
(Constant)	2,451	512	4,787	0
ROA (X1)	125	64	1,953	60

Source : Data processed, 2025

Based on the statistical output in Table 2, the partial hypothesis test (t-test) reveals that the Debt to Equity Ratio (DER) has a significant negative influence on PBV (p = 0.001 < 0.05). Conversely, Return on Assets (ROA) does not exhibit a significant individual effect on market valuation at the 5% alpha level (p = 0.060 > 0.05). However, the simultaneous test (F-test) shows a significance value of 0.000, confirming that ROA and DER collectively impact the PBV of banking institutions in the LQ45 index.

DISCUSSION

The analysis results offer an argumentative perspective on banking valuation during the 2020–2024 period. The Adjusted R^2 value of 0.435 indicates that 43.5% of the variation in Price to Book Value (PBV) is explained by the combination of Profitability (ROA) and Solvency (DER), while the remaining 56.5% is influenced by external factors such as macroeconomic shifts or investor sentiment.

The significant negative impact of DER on PBV suggests that during the post-pandemic recovery phase, investors perceived high leverage as a substantial risk. In monetary terms, for every unit increase in the debt-to-equity ratio, market valuation tends to decrease, as stakeholders prioritise capital resilience over aggressive expansion. This finding strongly aligns with Signalling Theory, where a bank's capital structure serves as a vital signal of its long-term viability.

Interestingly, the insignificant effect of ROA (p = 0.060) contradicts traditional financial axioms which suggest that higher profits always lead to higher valuations. In the specific context of the 2020–2024 transition, this suggests that the market was "forward-looking" rather than "profit-oriented." Investors likely prioritised solvency and asset quality over immediate earnings, fearing that post-pandemic profits might be transient if not backed by a robust balance sheet. This empirical evidence contributes a fresh perspective to emerging market finance, highlighting that in volatile recovery periods, structural stability (solvency) is valued more highly than immediate profitability (ROA) by market participants in the Indonesian banking sector.

CONCLUSION

Based on the empirical analysis of LQ45 banking companies for the 2020–2024 period, this study concludes that profitability and solvency collectively play a vital role in determining market valuation. The simultaneous test results confirm that Return on Assets (ROA) and the Debt to Equity

Ratio (DER) together exert a significant impact on Price to Book Value (PBV). This suggests that investors in the Indonesian capital market do not view financial metrics in isolation; rather, they evaluate a bank's asset efficiency alongside its leverage structure when determining its market worth.

Individually, however, the drivers of firm value show distinct characteristics during this transitional period. The research reveals that solvency is a more dominant determinant than immediate profitability. Specifically, DER has a significant negative effect on PBV, indicating that higher debt levels relative to equity lead to a marked decrease in market valuation. This underscores the high priority investors place on capital structure strength and a bank's ability to meet long-term obligations within a strictly regulated environment. In contrast, ROA was found to have no significant individual effect on PBV. This suggests that during the 2020–2024 recovery phase, operational efficiency alone was insufficient to drive market premiums, as investors likely prioritised financial resilience over transient profit margins.

The proposed model demonstrates a robust explanatory power, with an Adjusted R^2 of 0.435, meaning that 43.5% of the variation in PBV is accounted for by the combination of ROA and DER. While the remaining 56.5% is influenced by external factors beyond the scope of this research, these findings offer critical insights for the banking industry. These results imply that to maintain or enhance market valuation, banking management must focus on optimizing capital structures and managing leverage effectively, as solvency signals remain the primary concern for investors in the high-cap banking sector.

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