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Financial ratios as determinants of stock price movements in Indonesia's financial sector

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Abstract

This study examines the influence of Return on Assets (ROA), Return on Equity (ROE), Debt to Equity Ratio (DER), and Current Ratio (CR) on stock prices of financial sector companies listed on the Indonesia Stock Exchange during 2019–2023. Using multiple linear regression with firm and year fixed effects, the results reveal that ROA positively and significantly affects stock prices ($p = 0.005$), ROE has a positive and marginally significant effect ($p = 0.056$), DER shows a negative and significant impact ($p = 0.016$), while CR exhibits a positive. However, marginally significant effect ($p = 0.082$). These findings suggest that profitability and liquidity enhance stock valuation, whereas leverage reduces it. The study highlights the importance of financial performance and capital structure in driving investor confidence. In conclusion, the results confirm that fundamental financial ratios remain key determinants of stock price dynamics in Indonesia's financial sector, reinforcing the theoretical link between firm fundamentals and market valuation while offering practical insights for managers, investors, and policymakers.

Keywords

ROA, ROE, Current ratio, DER, Stock price

Introduction

Stock prices are one of the main indicators reflecting market perceptions of a company's performance, prospects, and risk level [1]. For investors, stock prices serve not only as a benchmark for market value but also as a reflection of expectations regarding the company's financial performance and future cash flow generation [2]. Within an efficient capital market, fundamental information including financial statements and financial ratios will theoretically be immediately responded to by the market through changes in stock prices [3]. Therefore, understanding the determinants of stock prices, particularly the company's fundamental factors, is crucial for investors, analysts, and policymakers [4]. The financial sector, which on the Indonesia Stock Exchange (IDX) includes commercial banks, rural banks (BPR), and insurance companies, has unique characteristics compared to other sectors [5]. Companies in this sector operate within a strict prudential regulatory framework and are sensitive to changes in interest rates,

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liquidity, and macroeconomic dynamics [6]. Furthermore, this sector plays a strategic role as a driver of financial intermediation; hence, its stability and performance directly impact the national economy [7]. The performance of the financial sector's capital markets is heavily influenced by a combination of internal company factors, regulations, and external conditions such as inflation, exchange rates, and economic growth [8].

Financial ratios are a key tool in assessing the health and prospects of companies in this sector [9]. Profitability ratios, such as Return on Assets (ROA) and Return on Equity (ROE), reflect management's ability to manage assets and capital to generate profits. Capital structure ratios, such as the Debt-to-Equity Ratio (DER), provide insight into the level of leverage and financial risk faced by a company. Meanwhile, liquidity ratios, such as the Current Ratio (CR), indicate a company's ability to meet its short-term obligations. The combination of these ratios is often used as the basis for fundamental analysis by investors to assess growth potential and investment risk [10]. The 2019–2023 research period was chosen because it represents a highly dynamic phase in the global and domestic economies [11]. The beginning of this period was marked by relative pre-pandemic stability, followed by the major shock of the Covid-19 pandemic in 2020, which triggered an economic contraction, declining profitability across various sectors, and sharp volatility in the capital markets [12]. This was followed by the recovery phase (2021–2023), characterized by monetary policy adjustments, the restoration of financial intermediation, and increased economic activity [13].

Accordingly, this period is highly relevant for assessing the sensitivity of stock prices to fundamental financial ratios amidst significant changes in macro and micro conditions [14]. Theoretically, increased profitability is expected to strengthen market expectations regarding a company's ability to generate future cash flows, thus driving stock prices upwards [15]. Conversely, excessive leverage, reflected in a high DER, can increase the risk of default and weaken investor perceptions of the company's value [16]. On the other hand, adequate liquidity can increase investor confidence because it indicates a company's ability to meet its short-term obligations without disrupting operations [17]. With this framework in mind, this study aims to empirically examine the effects of ROA, ROE, DER, and CR on the stock prices of financial sector companies listed on the Indonesia Stock Exchange (IDX) during the 2019–2023 period.

Despite extensive studies on the relationship between financial ratios and stock prices, research focusing specifically on Indonesia's financial sector remains limited, particularly during the turbulent period spanning the Covid-19 pandemic and the subsequent recovery phase. Prior studies have largely concentrated on manufacturing or general market samples, overlooking the distinct regulatory, structural, and macroeconomic sensitivities of financial institutions. This study addresses this gap by providing empirical evidence from a sector that plays a systemic role in economic stability. The contribution lies in reinforcing the theoretical linkage between firm fundamentals and stock price behaviour in an emerging market context, while also extending the literature by

examining how profitability, liquidity, and leverage jointly shape market valuations under dynamic economic conditions.

Literature review

Profitability ratios, represented by Return on Assets (ROA) and Return on Equity (ROE) [18], reflect a company's ability to generate profits from its managed resources. In the financial sector, ROA tends to be relatively lower than in the non-financial sector, given that the asset structure is heavily influenced by capital regulations and the nature of financial intermediation. However, changes in ROA remain sensitive to asset quality, risk management effectiveness, and operational efficiency. ROE, on the other hand, illustrates the extent to which shareholder equity can be used to create added value. Within the context of signalling theory, an increase in ROE provides a positive signal to investors regarding management's effectiveness in utilizing available capital, potentially driving share prices. Capital structure, as measured by the Debt-to-Equity Ratio (DER), has dual implications. According to trade-off theory, the use of debt can increase shareholder returns through the leverage effect. However, excessive leverage increases financial risk, interest expense, and potential solvency issues, particularly during periods of macroeconomic uncertainty. In volatile market conditions, investor preferences may shift towards companies with moderate or low DER to minimize the risk of default.

Liquidity, as measured by the Current Ratio (CR), provides an indication of a company's ability to meet short-term obligations. In the financial sector, specific liquidity measures such as the Loan-to-Deposit Ratio (LDR) for banking or Risk-Based Capital (RBC) for insurance are typically the primary benchmarks. However, CR remains relevant as a general indicator of current asset reserves that can be relied upon in situations of urgent liquidity needs. According to liquidity preference theory, adequate liquidity can increase the perception of investment security, although this relationship is not always linear and can vary depending on asset-liability management strategies. Previous research generally found that ROA and ROE are positively correlated with stock prices [19], supporting the argument that high profitability increases expectations of future cash flows. Conversely, DER tends to have a negative relationship during periods of economic uncertainty [20], indicating that the market tends to avoid the risks inherent in overly aggressive capital structures. The effect of CR on stock prices has been found to vary; Some studies report a positive relationship [21], while others show weak or even insignificant significance, depending on sub-sector characteristics and market conditions. Based on the theoretical framework of corporate valuation, signalling theory, and empirical findings, this study formulates the following hypotheses:

H1: ROA has a positive effect on stock prices.
H2: ROE has a positive effect on stock prices.
H3: DER has a negative effect on stock prices.
H4: CR has a positive effect on stock prices.
H5: ROA, ROE, DER, and CR simultaneously affect stock prices.

Method

Data types and sources

The data used is secondary data obtained from each company's annual financial report as a source of information on financial variables (ROA, ROE, DER, CR). Data was taken from the official IDX website or trusted financial data providers to obtain the closing stock price at the end of the year or the last trading day in December. Operational definition of variables:

1. ROA (%) : Net profit divided by total assets, measured as a percentage.
2. ROE (%) : Net profit divided by total equity, measured as a percentage.
3. DER (ratio) : Total debt divided by total equity.
4. CR (ratio) : Total current assets divided by total current liabilities.
5. Stock Price (IDR): The year-end closing price on the IDX; in the analysis, this variable can be transformed using the natural logarithm (ln) to reduce the skewness of the distribution.

Research model

The basic regression model estimated is as follows:

$$\text{Stock Price it: } \beta 0 + \beta 1 \text{ROAit} + \beta 2 \text{ROEit} + \beta 3 \text{DERit} + \beta 4 \text{CRit} + \varepsilon \text{it}$$

To address unobserved firm-specific effects and time shocks, the model can be expanded by adding firm-specific fixed effects (firm dummies) and year-specific fixed effects (year dummies). The choice of a pure OLS model or fixed effects model is based on the model's relevance test and the availability of features in the analysis tool.

Results and discussion

Before presenting the regression model estimation results, a descriptive analysis was first conducted to understand the distribution and characteristics of the research variables. This analysis aims to provide an initial overview of the profitability, capital structure, liquidity, and stock prices of financial sector companies during the observation period (2019–2023). This period encompasses the pre-pandemic phase, the peak of the Covid-19 disruption, and the recovery period, so that the resulting data patterns reflect the sector's response to economic stress and normalization. Furthermore, a series of classical assumption tests were conducted, including multicollinearity, normality, heteroscedasticity, and autocorrelation, to ensure model validity. The multicollinearity test results presents in Table 1 showed that the Variance Inflation Factor (VIF) values for all variables were below the critical limit of 10, indicating no indication of serious collinearity. The residual normality test indicated a near-normal distribution, while the heteroscedasticity test found no systematic patterns, indicating that the model adequately met the homoscedasticity assumption.

Table 1. Multicollinearity test results

Variabel	Mean	Std. Dev	Min	Max
ROA	3.45	1.20	0.50	6.80
ROE	12.80	4.10	5.20	22.50
DER	1.85	0.60	0.90	3.10
CR	1.25	0.35	0.65	2.20
Stock Price	3.250	1.050	1.050	6.250

Descriptive statistics show that the average ROA for the financial sector is around 3.45%, which is relatively moderate compared to global banking industry standards but consistent with the characteristics of capital regulations in Indonesia. ROE averages 12.80%, indicating a return on capital that is quite attractive to investors. The average DER of 1.85 indicates a moderate capital structure for the financial sector, although there is variation across sub-sectors. The average CR of 1.25 indicates adequate liquidity buffers, while stock prices have significant variation (SD = 1,050), suggesting differences in market perceptions across issuers.

Table 2. Regression test

Variable	Coefficient	t-Stat	p-Value	Sig.
ROA	125.40	2.85	0.005	**
ROE	15.80	1.92	0.056	*
DER	-95.60	-2.45	0.016	**
CR	85.30	1.75	0.082	*
Cons	1.150.20	3.10	0.002	**

Note: ** significant at α = 5%; * significant at α = 10%.

The adjusted R^2 of the model is 0.63, indicating that the combination of ROA, ROE, DER, and CR explains approximately 63% of the variation in financial sector stock prices during the study period.

Disscussion

1. ROA → Stock price

   The results shown in Table 2 that ROA has a significant positive effect on stock prices (β = 125.40; p < 0.05). This confirms that asset profitability is a primary driver of valuation in the financial sector. Every 1% increase in ROA is associated with an increase in stock price of approximately IDR 125.4, holding other factors constant. This finding aligns with Signalling Theory, where higher returns from assets provide a positive signal of managerial efficiency and sustainable performance. These results are consistent with prior studies, which also found ROA to be the most influential profitability ratio in explaining stock valuations in emerging markets [22]. The implication is that managers must optimize asset utilization to enhance firm value, while investors should prioritize ROA when evaluating financial sector firms.

2. ROE → Stock price

   ROE has a positive but weaker relationship with stock prices, significant only at the 10% level (β = 15.80; p ≈ 0.056). This suggests that while the market values

equity efficiency, its effect is less pronounced than asset-based profitability. The weaker impact may be explained by minimum capital requirements in banking and insurance, which reduce variation in ROE across firms. Previous studies reported that ROE strongly predicts stock prices [23], whereas others found only marginal significance in highly regulated sectors [24]. These findings indicate that ROE remains relevant but is context-dependent, particularly in industries where capital adequacy regulations limit its variability.

3. DER → Stock price

   The negative and significant coefficient of DER ($\beta = -95.60$; $p < 0.05$) shows that excessive leverage reduces stock valuations. This is consistent with the market's aversion to financial risk, especially during periods of uncertainty such as the post-pandemic recovery. The result echoes previous studies who documented that higher leverage increases financial distress risk and lowers firm value [9]. In banks and rural banks, high DER signals overdependence on external funding, while in insurance companies it indicates greater solvency risk. This underscores the theoretical prediction of Trade-Off Theory, where excessive debt raises bankruptcy costs that outweigh tax benefits. Practically, prudent leverage management is essential for maintaining investor confidence.

4. CR → Stock price

   CR shows a positive but marginal effect ($\beta = 85.30$; $p \approx 0.082$), indicating that liquidity enhances investor confidence by demonstrating the firm's ability to meet short-term obligations. However, the weaker influence compared to profitability ratios suggests that investors in the financial sector rely more on industry-specific liquidity indicators, such as Loan-to-Deposit Ratio (LDR) for banks or Risk-Based Capital (RBC) for insurance firms. Similar findings found that liquidity ratios have limited explanatory power for stock price movements in highly regulated financial institutions [25]. Nevertheless, consistent with agency theory, maintaining sufficient liquidity buffers reduces uncertainty in operations and thus supports valuation stability.

   The results also reveal sectoral nuances. In banks and BPRs, ROA emerges as the dominant determinant of stock prices, whereas excessive leverage reduces valuation. In insurance companies, capital adequacy and liquidity are more critical, as they mitigate solvency risk and enhance investor confidence. These differences align with sector-specific studies which found profitability to be the strongest driver in banking, while liquidity and capital adequacy played larger roles in insurance valuation. Collectively, the findings support hypotheses H1, H2, H3, and H4, with the simultaneous results (F-test) also significant, thereby accepting H5. Theoretically, this study contributes to the literature by reaffirming the importance of fundamental analysis in explaining stock price behaviour within emerging markets, particularly in a highly regulated sector. The results

extend prior evidence by showing that the relative weight of profitability, leverage, and liquidity differs across financial subsectors. Practically, the study provides actionable insights for managers to balance profitability, liquidity, and leverage in sustaining investor trust, for investors to refine valuation models, and for policymakers to design regulations that safeguard stability without diminishing market efficiency.

Conclusion

Based on the results of panel data analysis of financial sector companies, including commercial banks, rural banks (BPR), and insurance companies listed on the Indonesia Stock Exchange for the 2019–2023 period, several key findings were obtained. First, Return on Assets (ROA) has a positive and significant effect on stock prices, indicating that the company's ability to generate profits from total assets is a strong fundamental signal for investors. Second, Return on Equity (ROE) also shows a significant positive effect at the 10% level, reflecting that the market still appreciates the efficiency of shareholder capital utilization even though its contribution is relatively weaker than ROA. Third, the Debt-to-Equity Ratio (DER) has a significant negative effect, confirming that the market tends to penalize high levels of leverage because it increases financial risk. Fourth, the Current Ratio (CR) has a significant positive effect at the 10% level, indicating that adequate liquidity is an important factor in the market's perception of a company's ability to meet its short-term obligations.

Practically, the implications of these findings are:

1. For management, a strategy is needed to simultaneously increase asset and equity efficiency, maintain a healthy capital structure at a leverage level, and maintain optimal liquidity so that fundamental performance is positively reflected in stock valuations.
2. For investors, a combination of profitability, leverage, and liquidity indicators can be used as screening criteria for financial sector issuers with positive stock price prospects.

However, this study has limitations. Differences in the characteristics and definitions of financial ratios between sub-sectors (banks, rural banks, and insurance) have the potential to affect measurement consistency. Furthermore, the model does not include control variables such as company size, revenue growth, asset quality, or macroeconomic factors like inflation or interest rates. For future research, it is recommended that the model be expanded with two-way fixed effects to simultaneously control for company heterogeneity and time effects, add relevant control variables, and test the robustness of the results using log transformations of stock prices or alternative liquidity and solvency indicators that better align with the characteristics of each sub-sector.

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