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The Effect of Debt to Equity Ratio, Return on Assets, and Working Capital Ratio on Stock Prices with Earnings per Share as a Mediating Variable: Evidence from Property and Real Estate Companies

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Abstract: The property and real estate sector plays an important role in Indonesia's economic development through its contribution to investment and infrastructure. However, the sector has experienced declining stock prices in recent years, reflecting increased investor concern over corporate financial performance. This study examines the effects of Debt to Equity Ratio (DER), Return on Assets (ROA), and Working Capital Ratio (WCR) on stock prices, with Earnings per Share (EPS) as a mediating variable. A quantitative explanatory approach was applied using cross-sectional data from 31 property and real estate companies listed on the Indonesia Stock Exchange (IDX) in 2025. The sample was selected through purposive sampling based on the availability of audited financial statements and complete market data. Path Analysis based on multiple linear regression was used to estimate direct and indirect effects, while the mediating role of EPS was assessed using the bootstrap method. The results show that ROA positively affects EPS, EPS has a positive and significant effect on stock prices, and EPS mediates the relationship between ROA and stock prices. However, EPS does not mediate the effects of DER or WCR on stock prices. These findings support Signaling Theory by demonstrating the role of profitability in transmitting financial information to investors.

Keyword: Debt to Equity Ratio, Return on Assets, Working Capital Ratio, Earnings per Share, Stock Price, Path Analysis.

INTRODUCTION

The capital market plays an important role in supporting economic growth by facilitating the allocation of funds between companies and investors. Stock prices are consequently an important indicator of firm value, investor expectations, and future business prospects. In Indonesia, the property and real estate sector has a strategic role because of its contribution to investment, infrastructure development, employment, and its linkages with construction, banking, and other supporting industries. However, the sector has experienced considerable pressure in recent years, reflected in declining stock prices and increasing investor concerns regarding corporate financial performance.

Although macroeconomic conditions influence capital market performance, differences in stock price movements among firms within the same industry indicate that company-specific financial characteristics also play an important role in investor decision-making. Financial statements provide information concerning capital structure, profitability, and liquidity that investors may use to assess corporate financial health. In this context, Debt to Equity Ratio (DER), Return on Assets (ROA), and Working Capital Ratio (WCR) represent important financial indicators. DER reflects the extent to which company operations are financed by debt relative to equity, ROA indicates the efficiency of assets in generating profits, and WCR reflects the firm's ability to meet short-term obligations.

The relationship between financial performance and stock prices, however, is not necessarily direct. Investors interpret accounting information before incorporating it into investment decisions. Signaling Theory explains that financial information published by management can serve as a signal regarding the firm's condition and future prospects. Nevertheless, investors may place greater emphasis on financial information that directly represents shareholder benefits. In this regard, Earnings per Share (EPS) is particularly important because it represents the earnings attributable to each outstanding share and is commonly used in investment and stock valuation analysis.

Previous empirical studies have reported inconsistent findings regarding the relationships between financial ratios and stock prices. ROA has been found to have a positive relationship with stock prices in some studies, while other studies have reported insignificant effects. Similar inconsistencies are found in the relationship between DER and stock prices, with evidence indicating positive, negative, or insignificant effects depending on the characteristics of firms and industries. Meanwhile, the effect of liquidity, particularly the Working Capital Ratio, on stock prices remains relatively less explored. These inconsistencies indicate that the relationship between financial performance and market valuation requires further investigation.

A further limitation concerns the role of EPS. Previous studies have generally examined EPS as an independent or explanatory variable rather than as a mediating variable that explains how financial performance is transmitted into stock market valuation. Consequently, the mechanism through which financial information influences stock prices remains insufficiently explained. In addition, many previous studies have relied primarily on multiple regression models focusing on direct relationships, whereas indirect relationships through an intervening variable require a more comprehensive analytical approach.

Based on these limitations, this study identifies three research gaps. First, an empirical gap exists because previous findings regarding the effects of leverage, profitability, and liquidity on stock prices remain inconsistent. Second, a conceptual gap exists because the role of EPS as a mechanism linking financial performance and stock prices has received relatively limited attention. Third, a methodological gap exists because conventional regression approaches do not simultaneously explain direct and indirect effects within a mediation framework.

To address these gaps, this study develops a mediation model based on Signaling Theory, positioning EPS as an intervening variable between DER, ROA, WCR, and stock prices. The study employs Path Analysis to examine both direct and indirect relationships. The property and real estate sector is selected because of its strategic economic role and the stock price pressures experienced by companies in this sector. The use of 2025 cross-sectional data also provides recent evidence concerning the relationship between corporate financial performance and market valuation.

Accordingly, this study aims to examine the effects of Debt to Equity Ratio, Return on Assets, and Working Capital Ratio on Earnings per Share and stock prices, as well as to determine whether Earnings per Share mediates the relationships between these financial ratios and stock prices among property and real estate companies listed on the Indonesia Stock

Exchange. The study contributes to the literature by integrating leverage, profitability, liquidity, and shareholder earnings within a single mediation framework and by providing recent empirical evidence from Indonesia's property and real estate sector.

METHOD

This study employed a quantitative explanatory research design to examine the causal relationships among Debt to Equity Ratio (DER), Return on Assets (ROA), Working Capital Ratio (WCR), Earnings per Share (EPS), and stock prices. The study adopted a causal approach because it aimed to investigate both the direct and indirect effects of financial performance indicators on stock prices through the mediating role of Earnings per Share. The proposed research model was developed based on Signaling Theory and tested using Path Analysis to provide a comprehensive explanation of the causal mechanism linking corporate financial performance to market valuation.

The population consisted of all property and real estate companies listed on the Indonesia Stock Exchange (IDX). The sample was selected using purposive sampling to ensure that only firms meeting specific research criteria were included. The sampling criteria were: (1) companies classified within the property and real estate subsector and listed on the IDX during the 2025 fiscal year; (2) companies that published audited annual financial statements for the year ended 31 December 2025; (3) companies with complete financial information required to calculate all research variables; and (4) companies with complete stock price data at the end of the observation period. Based on these criteria, 31 companies were selected as the final research sample.

This research utilized cross-sectional data covering the 2025 fiscal year. Cross-sectional data were considered appropriate because the objective of the study was to compare differences in financial characteristics among companies within the same observation period rather than to investigate changes over time. Furthermore, the year 2025 represents the most recent period following the slowdown experienced by Indonesia's property and real estate sector, making it suitable for evaluating the relationship between corporate financial performance and market valuation under current market conditions.

Secondary data were collected from audited annual reports published by the Indonesia Stock Exchange and individual company websites. Market data, including year-end closing stock prices, were obtained from the Indonesia Stock Exchange database and other publicly available financial information sources. Financial statement information was used to calculate the independent and mediating variables, whereas stock prices represented the dependent variable.

The study employed five research variables. Stock Price (SP) was treated as the dependent variable and measured using the closing stock price at the end of the 2025 fiscal year. Debt to Equity Ratio (DER), Return on Assets (ROA), and Working Capital Ratio (WCR) were specified as independent variables. Earnings per Share (EPS) served as the mediating variable because it represents the earnings attributable to each outstanding share and is widely regarded as an important indicator of shareholder value. The operational definitions and measurements of the research variables are presented in Table 1.

Table 1. Operational Definition of Variables

Variable	Symbol	Measurement (Formula)
Debt to Equity Ratio (DER)	X1	Total Liabilities / Total Equity
Return on Assets (ROA)	X2	Net Income / Total Assets
Working Capital Ratio (WCR)	X3	Current Assets / Current Liabilities
Earnings per Share (EPS)	Z	Net Income / Outstanding Shares
Stock Price	Y	Closing Price (31 December 2025)

Source: Developed by the Author (2026).

The proposed causal relationships were estimated using Path Analysis based on multiple linear regression. This analytical approach was selected because it enables simultaneous examination of both direct and indirect effects among variables. Compared with conventional multiple regression, Path Analysis provides a more comprehensive understanding of causal mechanisms by estimating the mediating role of Earnings per Share within a single analytical framework.

Descriptive statistics were also employed to summarize the characteristics of the research variables. The goodness of fit of the regression models was evaluated using the coefficient of determination (R^2), while individual regression coefficients were assessed through t-tests and the overall model significance was evaluated using the F-test. To examine the mediating role of Earnings per Share, this study employed the bootstrap method. Bootstrap mediation analysis was selected because it does not require the assumption of normality for indirect effects and has been widely recommended for mediation analysis due to its higher statistical power and robustness compared with conventional approaches such as the Sobel test. The significance of indirect effects was evaluated using bias-corrected bootstrap confidence intervals. A mediation effect was considered significant when the indirect effect was statistically different from zero at the 5% significance level. All statistical analyses were conducted using IBM SPSS Statistics. Descriptive analysis, multiple regression, Path Analysis, and bootstrap mediation procedures were performed to estimate the direct, indirect, and total effects among the research variables, thereby providing empirical evidence regarding the causal mechanism linking financial performance and stock prices in Indonesia's property and real estate sector.

RESULTS AND DISCUSSION

Results

Table 2. Descriptive Statistics

Variable	Mean	Std. Dev
Debt to Equity Ratio (DER)	46.7648	29.73589
Return on Assets (ROA)	0.1381	1.29299
Working Capital Ratio (WCR)	262.8642	196.18606
Earnings per Share (EPS)	0.5087	2.78549
Stock Price	57.8710	27.87322

Source: Processed research data (2026).

This study examined the effects of Debt to Equity Ratio (DER), Return on Assets (ROA), and Working Capital Ratio (WCR) on Stock Price through Earnings per Share (EPS) as a mediating variable in 31 property and real estate companies listed on the Indonesia Stock Exchange (IDX) in 2025. The sample was selected using purposive sampling, resulting in 31 companies that met the predetermined criteria.

Descriptive statistics indicate considerable variation in the financial performance of the sampled firms. The average Debt to Equity Ratio (DER) was 46.76%, suggesting a moderate capital structure. Return on Assets (ROA) averaged 0.1381, reflecting relatively low profitability with substantial variation across firms. The Working Capital Ratio (WCR) averaged 262.86%, indicating generally high liquidity levels. Meanwhile, the average Earnings per Share (EPS) was 0.5087, while the average stock price reached IDR 57.87 per share. These findings demonstrate the heterogeneous financial characteristics of property and real estate firms during the observation period.

Table 3. Regression Results of Structural Model I (DER, ROA, WCR → EPS)

Variable	Beta	Sig.	Decision
DER → EPS	0.111	0.421	Not Supported

ROA → EPS	0.757	0.000	Supported
WCR → EPS	0.016	0.913	Not Supported

Source: Processed research data (2026).

The first structural regression model, which examined the effects of DER, ROA, and WCR on EPS, was statistically significant (Sig. F = 0.000), indicating that these variables jointly explained variations in EPS. The coefficient of determination (R^2) was 0.550, implying that 55.0% of the variation in EPS could be explained by the three financial ratios. Partial testing showed that ROA had a positive and significant effect on EPS ($\beta = 0.757$; $p < 0.001$), whereas DER ($\beta = 0.111$; $p = 0.421$) and WCR ($\beta = 0.016$; $p = 0.913$) did not significantly influence EPS.

**Table 4. Regression Results of Structural Model II
(DER, ROA, WCR, EPS → Stock Price)**

Variable	Beta	Sig.	Decision
DER → Stock Price	0.339	0.035	Supported
ROA → Stock Price	0.085	0.708	Not Supported
WCR → Stock Price	0.317	0.054	Not Supported
EPS → Stock Price	0.586	0.011	Supported

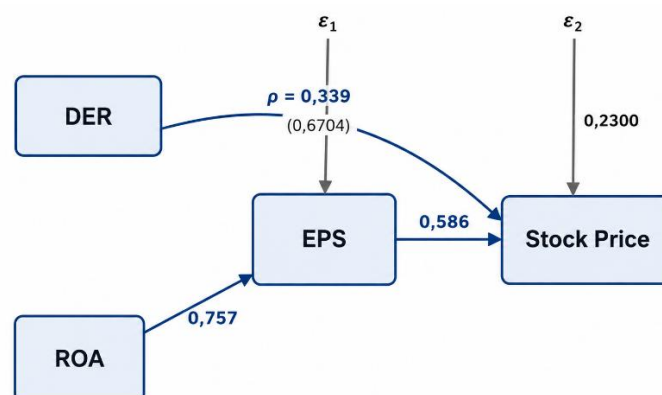
Source: Processed research data (2026).

The second structural model, which examined the effects of DER, ROA, WCR, and EPS on stock price, was also statistically significant (Sig. F = 0.002). The model explained 47.0% of the variation in stock prices ($R^2 = 0.470$). The results revealed that DER ($\beta = 0.339$; $p = 0.035$) and EPS ($\beta = 0.586$; $p = 0.011$) positively and significantly affected stock prices. In contrast, ROA ($\beta = 0.085$; $p = 0.708$) and WCR ($\beta = 0.317$; $p = 0.054$) did not significantly affect stock prices at the 5% significance level.

Table 5. Summary of Direct, Indirect, and Total Effects

Relationship	Direct Effect	Indirect Effect (via EPS)	Mediation
DER → Stock Price	0.339	0.065	Not Mediated
ROA → Stock Price	0.085	0.444	Full Mediation
WCR → Stock Price	0.317	0.009	Not Mediated

Source: Processed research data (2026).



Source: Developed by the Author (2026).

Figure 1. Final Path Diagram After Model Trimming

Path analysis further demonstrated that EPS fully mediated the relationship between ROA and stock price. Conversely, EPS did not mediate the effects of DER and WCR on stock price because the indirect effects were substantially smaller than the direct effects and were

statistically insignificant. These findings indicate that profitability influences investors primarily through its ability to increase earnings available to shareholders rather than through direct improvements in asset efficiency.

Discussion

The findings demonstrate that profitability, represented by Return on Assets (ROA), is the primary determinant of Earnings per Share (EPS). A higher ROA indicates that management utilizes company assets more efficiently to generate profits, which directly increases earnings attributable to each outstanding share. This finding supports Signaling Theory, which argues that improved profitability sends positive signals regarding corporate performance and future prospects. In capital-intensive industries such as property and real estate, investors perceive efficient asset utilization as an indication of stronger future earnings potential.

Debt to Equity Ratio (DER) did not significantly influence EPS, suggesting that leverage alone is insufficient to increase shareholders' earnings. Although debt may provide additional financing for business expansion, its contribution to earnings depends on management's ability to convert borrowed funds into productive investments. This result is consistent with Pecking Order Theory, which suggests that external financing contributes to firm performance only when internal resources are insufficient and debt is used efficiently.

Working Capital Ratio (WCR) also showed no significant effect on EPS. High working capital does not necessarily indicate efficient operational performance because excessive current assets may represent idle resources. In the property sector, large inventories and long project completion cycles often delay profit realization, thereby weakening the relationship between liquidity and shareholder earnings.

Regarding stock prices, DER exhibited a positive and significant effect, indicating that investors interpreted moderate leverage as a favorable signal of business expansion and future growth opportunities. Property development requires substantial external financing; therefore, investors tend to perceive prudent debt utilization as evidence of management confidence and corporate growth potential.

ROA did not directly influence stock prices despite significantly affecting EPS. This finding suggests that investors respond more strongly to earnings distributed per share than to accounting profitability itself. The significant indirect relationship through EPS confirms that profitability enhances firm value only after it is translated into shareholder returns. Consequently, EPS acts as a transmission mechanism linking operational performance to market valuation.

The insignificant effect of WCR on stock prices further indicates that liquidity information is not a primary consideration for investors in the Indonesian property sector. Investors prioritize profitability and shareholder returns over the magnitude of current assets. This finding implies that maintaining excessive liquidity without improving profitability does not necessarily enhance market valuation.

Among all explanatory variables, EPS emerged as the strongest determinant of stock prices. The significant positive coefficient confirms that investors rely heavily on earnings per share as an indicator of corporate value, dividend potential, and future growth prospects. This result strongly supports Signaling Theory, emphasizing that EPS represents the most informative financial signal for investment decisions. Consequently, firms seeking to enhance market value should prioritize strategies that improve profitability and ultimately increase earnings available to shareholders.

CONCLUSION

This study investigated the effects of Debt to Equity Ratio (DER), Return on Assets (ROA), and Working Capital Ratio (WCR) on stock prices, with Earnings per Share (EPS) serving as a mediating variable, among property and real estate companies listed on the

Indonesia Stock Exchange in 2025. The findings indicate that ROA has a positive and significant effect on EPS, whereas DER and WCR do not significantly influence EPS. Regarding stock prices, DER and EPS exert positive and significant effects, while ROA and WCR do not have significant direct effects. These results suggest that investors place greater emphasis on earnings available to shareholders than on profitability or liquidity measures alone.

Furthermore, the mediation analysis reveals that EPS fully mediates the relationship between ROA and stock price, indicating that asset profitability contributes to market value only after being transformed into earnings per share. In contrast, EPS does not mediate the effects of DER and WCR on stock price. Among all variables examined, EPS emerges as the most influential determinant of stock price, reinforcing the argument of Signaling Theory that earnings information constitutes the most relevant signal for investors in assessing firm value. Overall, this study contributes to the financial management literature by demonstrating the mediating role of EPS in explaining the relationship between corporate financial performance and stock prices in Indonesia's property and real estate sector.

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