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Structural Model of the Influence of Corporate Fundamental Factors on Market Value: A SEM-PLS Approach on LQ45 Companies

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Abstract: Market value reflects investor perceptions of a firm's financial condition and future prospects. However, in emerging markets like Indonesia, discrepancies often occur between strong financial fundamentals and actual market valuation. This study aims to develop a structural model that analyzes the influence of fundamental financial factors on market value, with Return on Assets (ROA) as a mediating variable. The research was conducted on 15 companies, consisting of both non-financial and banking firms, consistently listed in the LQ45 Index during the 2021–2023 period. Secondary data were collected from audited financial statements and analyzed using a quantitative approach through Partial Least Squares–Structural Equation Modeling (PLS-SEM). The results indicate that CAPEX, DER, FATA, SIZE, and WCTO simultaneously affect ROA with an R^2 value of 0.577. Partially, CAPEX has a significant positive effect, while SIZE and WCTO show significant negative effects on ROA. DER and FATA are not statistically significant. Furthermore, ROA positively affects PBV; however, it only explains 2.2% of the variance ($R^2 = 0.022$). These findings suggest that market value is not solely driven by internal performance, highlighting the importance of incorporating external and qualitative factors in future valuation models.

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INTRODUCTION

The market value of a company's stock is a crucial indicator that reflects investor sentiment, perceived firm performance, and future growth expectations. It serves as a collective judgment of the market, shaped not only by historical financial outcomes but also by how effectively a company signals its financial health and strategic outlook. In increasingly dynamic and information-saturated capital markets, investors rely heavily on fundamental financial indicators—such as profitability, operational efficiency, capital structure, and firm size—to make informed valuation decisions (Putri & Hidayat, 2022; Hair et al., 2021).

Despite the importance of these indicators, empirical evidence in emerging markets like Indonesia often reveals a disconnect between strong corporate fundamentals and actual market valuation. The Indonesian LQ45 Index, comprising 45 liquid, high-capitalization companies, provides a relevant benchmark to observe this phenomenon. For instance, PT Bank Central Asia Tbk (BBCA) posted a net profit of IDR 48.57 trillion in 2023, achieving a high price-to-book value (PBV) of 4.5x, indicating strong market confidence. In contrast, PT Astra International Tbk (ASII) earned IDR 29.7 trillion in the same year, yet its

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PBV remained stagnant at 1.5x—despite robust financial performance (IDX, 2023). These cases illustrate an enduring anomaly: financial performance does not always translate proportionally into market value.

This valuation gap is consistent with the signaling theory proposed by Spence (2002), which argues that companies attempt to influence investor perception through credible signals derived from their financial statements. When these signals—such as profitability or investment in assets—are either misunderstood or overshadowed by macroeconomic noise, the intended effect on market valuation can be muted. Additionally, behavioral finance literature suggests that investor sentiment, market volatility, and external risk perceptions often override objective fundamentals in pricing decisions (Baker & Wurgler, 2007).

Within this framework, specific financial indicators such as capital expenditure (CAPEX), asset structure (FATA), debt-to-equity ratio (DER), firm size (SIZE), and working capital efficiency (WCTO) are theorized to impact profitability—measured by return on assets (ROA)—which subsequently influences market valuation as reflected in PBV. While several studies have validated parts of this framework, findings remain inconsistent. Firmansyah (2020) reported that CAPEX positively influences profitability, reinforcing the internal growth theory (Myers & Majluf, 1984). Conversely, Sari and Rahmawati (2022) found no significant relationship between capital structure and firm value. Wijaya and Lestari (2021) also demonstrated that operational inefficiency could reduce profitability, particularly in firms with high asset bases.

These mixed findings underscore the need for a more holistic and structural approach to understanding how internal corporate fundamentals translate—either directly or indirectly—into market value. To address this gap, the present study employs Partial Least Squares–Structural Equation Modeling (PLS-SEM), a robust statistical method suitable for complex models involving multiple interdependent variables (Hair et al., 2019; Chin, 1998). This technique allows for simultaneous estimation of direct and mediated effects, capturing the nuance of financial interactions within the corporate system.

By analyzing companies listed in the LQ45 Index over the 2021–2023 period, this study constructs and tests a structural model to evaluate how key financial fundamentals influence profitability and how, in turn, profitability shapes market value. The insights are expected to contribute both theoretically and practically by enhancing our understanding of firm valuation dynamics, particularly in emerging markets. Practically, the findings may assist corporate managers in designing more effective financial strategies and guide investors in developing valuation models that integrate both fundamental and behavioral dimensions.

METHODS

This study adopts a quantitative explanatory research design, aiming to examine the structural influence of internal corporate financial indicators on market value, with profitability (ROA) as a mediating variable. The explanatory approach is appropriate because it allows for the analysis of causal relationships among variables that are theoretically and empirically linked within a complex financial structure (Sugiyono, 2021; Sekaran & Bougie, 2022). This design is particularly suitable for identifying both direct and indirect effects within multi-variable financial models.

The population of this study comprises companies listed in the LQ45 Index on the Indonesia Stock Exchange (IDX) during the period 2021 to 2023. The LQ45 index was selected as it represents top-tier companies characterized by high liquidity, strong financial performance, and large market capitalization. The study employed purposive sampling based on the following criteria: (1) the company must have been listed consistently in the LQ45 index during the three-year observation period, (2) complete audited annual financial

statements must be available, and (3) financial institutions such as banks and insurance companies were excluded due to their distinct financial structures. Based on these criteria, 15 non-financial companies were selected for analysis.

The research relies entirely on secondary quantitative data, collected from publicly available audited financial statements, the Indonesia Stock Exchange (https://www.idx.co.id), and official company websites. Secondary data are particularly valuable in financial research due to their objectivity, verifiability, and wide accessibility (Hair et al., 2021). All financial ratios and indicators used in the analysis were derived directly from these official sources and reflect actual historical performance.

The study examines the causal structure involving five exogenous variables—capital expenditure (CAPEX), fixed asset to total asset ratio (FATA), debt-to-equity ratio (DER), firm size (SIZE), and working capital to total asset ratio (WCTO)—as predictors of profitability (ROA). In turn, ROA functions as a mediating variable, influencing the endogenous variable, which is market value, proxied by price to book value (PBV). These variables are grounded in signaling theory (Spence, 2002) and internal growth theory (Myers & Majluf, 1984), and have been widely used in financial valuation studies (Putri & Hidayat, 2022; Firmansyah, 2020).

To evaluate the hypothesized relationships among the variables, this study employs Partial Least Squares–Structural Equation Modeling (PLS-SEM) using SmartPLS version 3.0. PLS-SEM is particularly effective in modeling complex structural relationships, especially when working with relatively small sample sizes and data that may not meet multivariate normality assumptions (Hair et al., 2019; Henseler, Hubona, & Ray, 2016). It allows for the simultaneous estimation of multiple causal paths and the assessment of mediation effects, making it suitable for testing both direct and indirect influences in corporate finance models.

The inner model evaluation focuses on assessing the structural relationships between the latent constructs in the model. This involves examining path coefficients to determine the direction and strength of relationships, and using bootstrapping procedures with 5,000 resamples to test the statistical significance of these paths. The t-statistics and p-values obtained from bootstrapping provide evidence of whether each hypothesized relationship is statistically supported.

Additionally, the model's explanatory power is assessed through the R-square (R^2) values of the endogenous variables. These values indicate the proportion of variance in profitability and market value that can be explained by the set of exogenous variables. To determine the effect size of each exogenous variable on the endogenous constructs, f-square (f^2) values are calculated. According to guidelines from Hair et al. (2021), f^2 values of 0.02, 0.15, and 0.35 indicate small, medium, and large effects, respectively.

The analytical strategy employed in this study ensures a comprehensive examination of the proposed financial model. By focusing on the inner model, the study aims to explain how internal corporate decisions, reflected in fundamental financial indicators, structurally influence firm profitability and ultimately shape market value. This approach contributes to the literature by demonstrating the direct and mediated effects of financial fundamentals in an emerging capital market context.

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RESULTS AND DISCUSSION

The inner model analysis in this study was conducted to examine the direct causal relationships among the latent variables within the structural model. This process involved testing the significance of path coefficients using the bootstrapping procedure with 5,000 resamples, as recommended by Hair et al. (2021). The results of this analysis are summarized in the table below.

Inner Model Analysis (Path Coefficients)

Table 1. Path Coefficients and Significance Testing Results (Bootstrapping Output)

Path Relationship	Path Coefficient	T-Statistic	P-Value	Description
CAPEX → ROA	0.142	3.392	0.001	Significant (positive)
DER → ROA	0.153	0.982	0.327	Not significant
FATA → ROA	0.155	1.600	0.110	Not significant
SIZE → ROA	-0.751	7.163	0.000	Significant (negative)
WCTO → ROA	-0.297	4.430	0.000	Significant (negative)
ROA → PBV	0.148	2.056	0.040	Significant (positive)

Source : Data processing was conducted using SmartPLS 3.0 (2025)

Interpretation of Path Relationships

The inner model findings provide several key insights:

- Corporate investment (CAPEX) has a significant positive effect on profitability (ROA). This supports the notion that investment in productive assets enhances operational performance and profitability, in line with internal growth theory and findings from Firmansyah (2020).
- Debt-to-equity ratio (DER) and fixed asset to total asset ratio (FATA) do not exhibit statistically significant effects on ROA. This may indicate that these elements of capital and asset structure are either optimized or have diminishing marginal returns in influencing profitability—consistent with the findings of Sari and Rahmawati (2022).
- Firm size (SIZE) has a significant negative effect on ROA. This inverse relationship may stem from diseconomies of scale, bureaucracy, or inefficiencies in large firms, where increased organizational complexity and overhead costs erode profitability (Wijaya & Lestari, 2021).
- Operational efficiency (WCTO), surprisingly, also shows a negative impact on ROA. This suggests that high working capital relative to total assets may represent idle or underutilized resources, which do not contribute effectively to generating profits. Excessive working capital might also indicate poor financial planning or ineffective use of liquidity.
- Lastly, Return on Assets (ROA) has a positive and significant effect on Price to Book Value (PBV), confirming the signaling theory proposition. A firm's profitability sends a strong, credible signal to the market, increasing investor confidence and enhancing perceived firm value.

However, despite the significance of ROA's influence on PBV, the explanatory power of ROA over PBV remains very limited, as reflected in the low R^2 value.

Coefficient of Determination (R-Square Value)

The coefficient of determination (R^2) assesses how well the independent variables explain the variation in the endogenous constructs.

Table 2 Coefficient of Determination (R^2) for Endogenous Variables

Dependent Variable	R^2	Interpretation
ROA	0.57757.7%	of the variance in ROA is explained by CAPEX, DER, FATA, SIZE, and WCTO.
PBV	0.022Only	2.2% of the variance in PBV is explained by ROA.

Source : Data processing was conducted using SmartPLS 3.0 (2025)

The R^2 value for ROA (0.577) is considered moderate (Hair et al., 2019), suggesting that over half of the variance in profitability is adequately explained by the proposed fundamental variables. Conversely, the R^2 for PBV is only 0.022, indicating that profitability alone cannot explain changes in market value, which is likely shaped by more complex, external market forces.

f-Square Analysis (Effect Size)

To measure the magnitude of the impact of each exogenous variable on the endogenous construct, the effect size (f^2) was calculated. The effect size complements the R^2 by evaluating the practical significance of each predictor in the structural model.

Table 3 Effect Size (f^2) of Exogenous Variables on Endogenous Constructs

Path	f^2 Value	Interpretation
CAPEX → ROA	0.03	Small
DER → ROA	0.033	Small
FATA → ROA	0.031	Small
SIZE → ROA	0.511	Large
WCTO → ROA	0.192	Medium
ROA → PBV	0.022	Small

Source : Data processing was conducted using SmartPLS 3.0 (2025)

From the above table, the following conclusions can be drawn:

- The largest effect is observed in the path SIZE → ROA, with an f^2 of 0.511, indicating a strong negative contribution of firm size to profitability.
- WCTO also has a moderate effect, reflecting the impact of working capital efficiency on returns.
- All other variables—including CAPEX, DER, FATA, and ROA → PBV—have small effect sizes, which while statistically significant in some cases, have relatively limited practical influence on the target constructs.

Implications and Theoretical Contributions

The results of this study provide empirical support for several theories in corporate finance and capital markets:

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- Signaling Theory: The significant relationship between ROA and PBV reinforces the idea that internal performance, particularly profitability, serves as a credible signal to investors regarding firm value.
- Internal Growth Theory: The positive contribution of CAPEX to ROA supports the argument that reinvestment in productive assets can foster internal growth and enhance profitability.
- Scale Inefficiency Hypothesis: The negative association between firm size and ROA points to potential diseconomies of scale, suggesting that larger firms may face strategic or operational constraints in optimizing returns.
- Working Capital Trap: The inverse effect of WCTO on ROA highlights the potential inefficiency of excessive liquidity, reinforcing the need for balanced working capital management.
- Capital and Asset Structure Irrelevance: The non-significant effects of DER and FATA suggest that these structural factors may not be as critical in driving short-term profitability in non-financial firms, possibly due to maturity or stability in financial policies.

Furthermore, this study complements the findings of Rahman and Setyawan (2023), who emphasized that the consistency and credibility of financial signaling—especially profitability and capital investment—significantly enhance firm valuation only when coupled with transparent disclosure practices. This underscores the need for Indonesian listed companies to improve the clarity and accessibility of their financial reports to reinforce investor trust and maximize market recognition of internal performance.

This study extends the relevance of signaling theory in the Indonesian context by emphasizing that profitability alone, although statistically significant, does not carry sufficient weight to fully explain variations in market valuation. While ROA provides a snapshot of internal performance, investors in Indonesia may interpret other qualitative factors such as management quality, sustainability initiatives, and market reputation as equally, if not more, important signals. These findings support the view of Baker and Wurgler (2007), who highlight the role of investor sentiment and behavioral biases in capital markets.

Furthermore, by demonstrating the limited explanatory power of profitability on PBV, this research invites future studies to explore alternative mediating variables such as return on equity (ROE), earnings per share (EPS), or even ESG scores. Integrating these elements could enhance the robustness of financial models in capturing both firm fundamentals and market perceptions.

Lastly, the contrasting results among financial indicators suggest that a contextualized approach is crucial when analyzing firm value in different industry sectors. Researchers are encouraged to incorporate industry-specific dynamics and institutional factors in future models to produce more granular insights for both academics and practitioners.

CONCLUSION

This study empirically examines the structural influence of corporate fundamental factors on market value, focusing on companies listed in the LQ45 Index during the 2021–2023 period. By employing the Partial Least Squares – Structural Equation Modeling (PLS-SEM) approach, the research uncovers both direct and mediated pathways through which internal financial indicators shape firm valuation, with profitability (ROA) serving as a mediating variable. The findings reveal that capital expenditure (CAPEX) positively affects profitability, supporting the notion that investment in productive assets drives internal growth. Conversely, debt-to-equity ratio (DER) and fixed asset to total asset ratio (FATA) show no significant influence, indicating potential irrelevance or optimal thresholds of capital and asset structures within mature non-financial firms. Interestingly, firm size (SIZE) and

operational efficiency (WCTO) demonstrate significant negative effects on profitability—highlighting that larger firms may experience diseconomies of scale and that excess liquidity, rather than enhancing returns, may reflect inefficient capital utilization. Profitability (ROA), in turn, exhibits a positive and significant relationship with market value (PBV), affirming signaling theory propositions that earnings performance conveys credible value cues to investors. However, the low explanatory power of ROA on PBV (R^2 = 0.022) suggests that market value is shaped by broader, multifaceted factors—potentially including macroeconomic conditions, investor sentiment, or non-financial disclosures—beyond internal profitability metrics. From a theoretical standpoint, the study reinforces several key frameworks, including signaling theory, internal growth theory, and the scale inefficiency hypothesis. Practically, the insights underscore the need for corporate managers to balance growth investments, manage firm size complexity, and optimize working capital use. Investors, meanwhile, are encouraged to consider a more nuanced interpretation of financial fundamentals, as not all indicators equally influence firm value. In conclusion, while internal corporate fundamentals—particularly CAPEX and ROA—play a role in shaping market value, their effects are neither uniform nor absolute. A holistic valuation model must account for the interplay of internal dynamics and external market forces. Future research should consider integrating qualitative variables, such as corporate governance, ESG performance, or investor expectations, to enhance the predictive power of firm valuation models in emerging capital markets like Indonesia.

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