Tobin's Q as a Mediating Variable in the Relationship between Financial Ratios and Stock Prices: An Analysis

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ABSTRACT

Other sectors of the economy depend on Indonesia's financial industry for liquidity and loans. Therefore, studying the components that influence the value of banking stocks is both interesting and important. This study investigates the mediating effect of Tobin's Q on the correlation between the Price Earnings Ratio (PER), Price to Book Value (PBV), and Earnings per Share (EPS) with Share Price in the Indonesian banking sector. This quantitative research employs the partial least squares-structural equation modeling (PLS-SEM) method. The study examines 43 banks listed on the Indonesia Stock Exchange (IDX) from 2019 to 2022, resulting in a total of 172 data points over four years. Purposive sampling was used to select the sample. The findings indicate that Tobin's Q acts as a positive mediator; however, it does not statistically significantly influence the relationship between EPS and PER with Share Price. Additionally, Tobin's Q serves as a negative mediator between PBV and Share Price, but this influence is also not statistically significant. This research has major implications for managerial decision-making, investor strategies, regulatory policies, and future research on stock prices and corporate management.

Keywords: Tobin's Q; Price Earnings Ratio; Price to Book Value; Earning per Share; Stock price.

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Analisis Tobin's Q Sebagai Variabel Mediasi Hubungan Rasio Keuangan Dengan Harga Saham

ABSTRAK

Sektor-sektor ekonomi lainnya bergantung pada industri keuangan Indonesia untuk likuiditas dan pinjaman. Oleh karena itu, mempelajari komponen-komponen yang mempengaruhi nilai saham perbankan merupakan hal yang menarik dan penting. Penelitian ini menginvestigasi efek mediasi Tobins's Q pada korelasi Price Earnings Ratio, Price to Book Value, dan Earning per Share terhadap Harga Saham di sektor perbankan Indonesia. Penelitian kuantitatif ini menggunakan metode Partial Least Squares-Structural Equation Modelling (PLS-SEM). Penelitian ini meneliti 43 bank yang terdaftar di Bursa Efek Indonesia (BEI) dari tahun 2019 hingga 2022 dengan total 172 data selama 4 tahun. Pengambilan sampel secara purposive sampling digunakan oleh para peneliti. Tobin's Q merupakan mediator positif, meskipun secara statistik tidak signifikan mempengaruhi EPS dan PER terhadap Harga Saham. Selain itu, Tobin's Q juga menjadi mediator negatif terhadap PBV dan Harga Saham, namun tidak signifikan secara statistik. Penelitian ini memiliki implikasi besar terhadap pengambilan keputusan manajerial, taktik investor, aturan regulasi, dan penelitian selanjutnya mengenai harga saham dan manajemen perusahaan.

Kata Kunci: Tobin's Q; Price Earnings Ratio; Price to Book Value; Earning per Share; Harga Saham.

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INTRODUCTION

Indonesian banking is a crucial sector in the country's economy, playing a vital role in providing liquidity and credit to other sectors (Astawa & Rahayu, 2019). Therefore, analyzing the factors influencing banking stock prices is both an interesting and relevant topic. Several previous studies have examined the relationship between the Price Earnings Ratio (PER), Price to Book Value (PBV), and Earnings per Share (EPS) with stock prices (Eivani et al., 2021; Gunadi et al., 2020; Oktaviyani & Mulyana, 2022). The Price Earnings Ratio (PER) is a ratio often used by investors to measure the value of a company and determine whether the stock is fairly valued (Marc et al., 2022). Previous studies have found a positive relationship between PER and stock prices (Eivani et al., 2021; Gunadi et al., 2020; Marc et al., 2022).

Price to Book Value (PBV) is a ratio that measures the market value of a company compared to its book value (Gunadi et al., 2020). PBV is often used to assess whether a company is cheap or expensive relative to its assets (Apriyani & Aisyah F Pulungan, 2020; Fadhilah et al., 2022; Oktaviyani & Mulyana, 2022). Earnings per Share (EPS) is a ratio used to measure net income attributable to each outstanding share in a company (Anita et al., 2023; Gunadi et al., 2020; Oktaviyani & Mulyana, 2022). Previous research has established a positive relationship between EPS and stock prices (Anita et al., 2023; Gunadi et al., 2020; Oktaviyani & Mulyana, 2022). Tobin's Q is a ratio that compares the market value of a company to its replacement value (Gharaibeh & Qader, 2017; Putri & Suseno, 2024), indicating investment efficiency and firm valuation.

There are various theories that explain the relationship between financial variables and stock price fluctuations, one prominent theory being the Signalling Theory (Connelly et al., 2011). According to this theory, companies communicate with investors through financial indicators such as Price Earnings Ratio (PER), Price to Book Value (PBV), and Earnings per Share (EPS), which influence stock prices. Signalling Theory serves as a foundational pillar in the research examining this relationship. Complementarily, other theoretical frameworks, such as the Efficient Market Hypothesis, propose that all available market information, including financial data, is already reflected in stock prices (Fama, 1970; Malkiel, 2003).

Previous studies highlight that the banking sector possesses unique characteristics that differentiate it from other sectors, including stringent regulations and elevated risks (Astawa & Rahayu, 2019; Gunawan & Budiarjo, 2014). Consequently, investigating the dynamics between financial variables and stock prices within the Indonesian banking sector is crucial (Astawa & Rahayu, 2019; Gunawan & Budiarjo, 2014). Prior research within this sector has established a relationship between financial variables such as PER, PBV, EPS, and stock prices (Anita et al., 2023; Gunadi et al., 2020; Oktaviyani & Mulyana, 2022). However, the potential mediating role of Tobin's Q within this context has not been thoroughly explored. Tobin's Q, which measures the market value of a company relative to its replacement value, provides insights into investment trends, consolidates various financial ratios to assess their impact on stock prices, enhances both financial theory and investment practices, and responds to economic and market changes that influence corporate value and decisions (Astawa & Rahayu, 2019).

This study aims to investigate the mediating role of Tobin's Q in the relationship between Price Earning Ratio (PER), Price to Book Value (PBV), and Earnings per Share (EPS) on stock prices within the Indonesian banking sector. The findings are expected to enrich the understanding of the interplay between financial variables and stock prices and elucidate the role of Tobin's Q as a mediating variable.

This research makes several significant contributions, both theoretically and practically. Theoretically, this study enriches the literature concerning the relationship between Price Earning Ratio (PER), Price to Book Value (PBV), and Earnings per Share (EPS) with stock prices, specifically in the Indonesian banking sector. It provides a more comprehensive understanding of how these financial variables influence stock prices in the capital market. Additionally, this research analyzes the mediating role of Tobin's Q in the relationship between financial variables and stock prices, thus broadening the understanding of Tobin's Q within the financial literature and examining its effects.

On a practical level, the findings of this research will assist investors in making more informed and effective investment decisions. By understanding the relationship between financial variables, stock prices, and the mediating effect of Tobin's Q, investors can more accurately assess company value and potential return. Furthermore, regulators and policymakers will benefit from the insights provided by this research, helping them to develop and implement more effective policies for regulating the banking sector and capital markets. Knowledge of the relationship between financial variables, stock prices, and the mediating role of Tobin's Q can aid regulators in better supervising banking companies and maintaining financial system stability. Lastly, banking management will greatly benefit from this study's findings. The data will enable them to optimize their financial and operational strategies more effectively. Understanding the relationship between financial variables and stock prices, as well as Tobin's Q, will help them to assess company performance more objectively, identify growth opportunities more readily, and manage risks more effectively.

Signalling theory provides a framework for understanding how corporate information influences investor perceptions and stock prices (Connelly et al., 2011). This theory posits that companies employ financial metrics such as Price Earnings Ratio (PER), Price to Book Value (PBV), and Earnings per Share (EPS) to convey positive information to the market. Signals are crucial for promoting transparency and directly impacting investors' decision-making processes (Kurlat & Scheuer, 2021). The theory of market efficiency, which posits that an efficient market incorporates all pertinent information into stock prices, complements signalling theory (Fama, 1970). However, Malkiel (2003) and Shiller (1989) contest this notion, arguing that stock prices may not always fully reflect all available information. According to signalling theory, financial ratios such as PER, PBV, and EPS significantly influence stock prices by sending discernible signals to investors.

Tobin's Q, defined as the ratio of a firm's market value relative to its replacement asset value, serves as a common valuation metric (Gharaibeh & Qader, 2017; Putri & Suseno, 2024). This research utilizes signalling theory to examine the mediating effect of Tobin's Q on the relationship between PER, PBV, EPS, and stock prices in Indonesian banks, aiming to deepen the understanding of these interactions.

Market efficiency theory, another cornerstone of finance, elucidates how knowledge is reflected in stock prices (Fama, 1970; Malkiel, 2003). According to this theory, stock prices assimilate both public and private information, rendering sustained above-market returns unachievable. This theory is particularly relevant in examining how financial variables like PER, PBV, and EPS impact stock prices in the context of Indonesian banking. Despite its foundational status, market efficiency theory faces criticism, notably from Shiller (1989), who observes that stock prices often exhibit greater volatility than corporate earnings. In response, Eivani et al., (2021) developed a model that predicts stock returns and optimizes portfolios, challenging the theory by demonstrating potential arbitrage opportunities in less efficient markets.

This study focuses on Tobin's Q as a mediator between PER, PBV, EPS, and stock prices in Indonesian banks. The objective is to investigate how financial variables influence stock prices and to apply market efficiency theory to the Indonesian banking sector, exploring how markets process information and yield above-average returns.

Tobin's Q is a quantitative metric utilized to assess a corporation based on its replacement assets, serving as an indicator of an organization's resource allocation and potential for expansion (Gharaibeh & Qader, 2017; Putri & Suseno, 2024). Connelly et al., (2011) highlight its usefulness in evaluating investment opportunities. The Price Earnings Ratio (PER), which compares market value per share to earnings per share, is another crucial metric (Marc et al., 2022). Sukmawati & Garsela (2016) note that this ratio reflects investors' willingness to pay per unit of profit, making it essential for evaluating companies listed on stock exchanges (Onyebuchi et al., 2022).

Previous research indicates that both PER and Tobin's Q significantly influence Indonesian bank stock prices (Gunawan & Budiarjo, 2014). (Astawa & Rahayu, 2019) further confirm that bank profitability and efficiency metrics positively impact stock prices. In this context, Tobin's Q serves a critical mediating role between PER and stock price, revealing market expectations for a company's success (Eivani et al., 2021). A high PER is generally perceived by investors as indicative of future growth and profitability, which positively influences Tobin's Q and, consequently, stock prices (Onyebuchi et al., 2022; Sukmawati & Garsela, 2016).

Additionally, the unique characteristics of Indonesian banks, such as the dominant government and institutional investor ownership structure, underscore the importance of Tobin's Q as a mediator in the relationship between PER and stock price (Najid & Rahman, 2011). This ownership structure significantly influences how information regarding PER and Tobin's Q is perceived by the market. (Astawa & Rahayu, 2019) found that banking performance metrics like profitability and efficiency positively correlate with stock prices, highlighting the relevance of Tobin's Q as a mediator that reflects market expectations about future performance. Thus, Tobin's Q not only signals the prospects of banking companies but also strengthens the correlation between PER and stock price, emphasizing the impact of firm valuation on stock prices in the Indonesian banking sector.

However, it is crucial to consider external factors such as macroeconomic conditions or monetary policy, which could influence these relationships (Hariyani et al., 2021). Therefore, while Tobin's Q effectively mediates the relationship between Price Earnings Ratio (PER) and stock price, representing market expectations of future firm performance, careful consideration of these external influences is necessary for accurate evaluation.
H_1: Tobin's Q mediates the relationship between Price Earnings Ratio (PER) and Share Price.

Tobin's Q is a ratio that measures a company's market value relative to the replacement value of its assets and is frequently utilized as an indicator of firm value (Gharaibeh & Qader, 2017; Putri & Suseno, 2024). Price to Book Value (PBV) is another valuation metric that compares the market price of a company’s shares to the book value of its equity (Marc et al., 2022). The relationship between PBV and stock prices in Indonesian banking can be elucidated through the mediating role of Tobin's Q. PBV indicates the extent to which investors are willing to pay above each unit of book value of equity owned by banking companies (Marc et al., 2022). A high PBV typically reflects positive market expectations about a company’s future performance (Onyebuchi et al., 2022). In this context, Tobin's Q serves as a signal to investors about the prospects of banking companies in Indonesia, thereby strengthening the relationship between PBV and stock price.

Empirical studies have consistently found a positive correlation between Tobin's Q and PBV, suggesting that companies with a high market value relative to their book value generally exhibit higher Tobin's Q values (Gharaibeh & Qader, 2017; Gunadi et al., 2020; Putri & Suseno, 2024). This correlation reflects market anticipations of a company's growth potential and its capacity to generate value in the future (Fadhilah et al., 2022).

Moreover, Tobin's Q influences stock prices of banks in Indonesia by conveying information about company performance to investors (Sukmawati & Garsela, 2016). For instance, an increase in Tobin's Q might indicate that banking companies have enhanced operational efficiency and created added value for shareholders (Fadhilah et al., 2022). Within the Indonesian banking sector, Tobin's Q can impact share prices by affecting investors’ perceptions of the quality of company management. Prior research has demonstrated that banks with high Tobin's Q typically possess superior management capabilities and are better equipped to handle financial risks (Astawa & Rahayu, 2019).

Furthermore, Tobin's Q has implications for the investment and financial strategies of banking companies. Firms with high Tobin's Q are more likely to engage in aggressive investment behaviors and take riskier financial decisions, which in turn can influence their stock prices (Eivani et al., 2021). Thus, Tobin's Q elucidates how PBV can affect stock prices in the banking sector through its impact on corporate policies.

Previous studies in the Indonesian banking sector confirm the importance of Tobin's Q in determining firm value (Gunawan & Budiarjo, 2014). In this framework, banking companies with higher Tobin's Q values tend to exhibit higher stock prices, reflecting market expectations of future company performance. In summary, Tobin's Q may mediate the relationship between PBV and stock price in Indonesian banking, reflecting market expectations of future growth and profitability, and helping to communicate crucial information about firm performance to investors (Connelly et al., 2011; Eivani et al., 2021). Through its significant role, Tobin's Q clarifies how PBV influences banking stock prices by impacting the company’s investment and financial policies, management quality, and investor perceptions of the company’s prospects.

H_2: Tobin's Q mediates the relationship between Price to Book Value and Stock Price.

Tobin's Q may mediate the relationship between Earnings per Share (EPS) and Stock Price in Indonesian banks, reflecting market expectations of growth and profitability. EPS, as a crucial indicator of company performance, serves as a vital signal for investors assessing the prospects of banking companies. According to signalling theory, companies with high EPS are perceived to communicate more reliable information about their performance, which is particularly significant in the Indonesian banking context where investors rely on accurate, timely data for investment decisions (Putri & Suseno, 2024).

Previous research corroborates that EPS positively correlates with Tobin’s Q; companies with higher EPS typically exhibit higher Tobin's Q values, suggesting more optimistic market expectations about their future growth and profitability (Anita et al., 2023; Gharaibeh & Qader, 2017; Putri & Suseno, 2024). Furthermore, Tobin's Q is recognized not only as a measure of market value but also as an indicator of a firm’s investment efficiency. Banks with higher Tobin's Q are deemed more effective at resource allocation for investment purposes, potentially boosting their stock prices (Hariyani et al., 2021).

The link between Tobin’s Q and stock prices has been well-documented, especially within the context of Indonesian banking. Tobin’s Q serves as a critical indicator for investors when evaluating firm value and future growth expectations (Gunawan & Budiarjo, 2014). When Tobin’s Q acts as a mediating variable, it clarifies the relationship between EPS and stock price, where banks with higher EPS often possess higher Tobin's Q values, leading to an increase in stock prices (Gharaibeh & Qader, 2017; Putri & Suseno, 2024).

In summary, Tobin’s Q can effectively mediate the relationship between EPS and stock price in Indonesian banking by reflecting market expectations regarding the growth and profitability of banking companies. Banks that manage to maintain or increase their EPS are likely to see a corresponding rise in their Tobin’s Q value and stock price. This underscores the importance for Indonesian banking companies to focus on enhancing their EPS to positively influence their market valuation.

H_3: Tobin's Q mediates the relationship between Earnings per Share and Stock Price.

RESEARCH METHODS

This research adheres to a positivist philosophy and employs a quantitative approach to examine causal relationships. The study utilizes secondary data, combining time series with cross-sectional data, known as panel data. The financial ratios analyzed—Price Earnings Ratio (PER), Price to Book Value (PBV), Earnings per Share (EPS), and Tobin's Q—are derived from annual reports sourced from www.idx.co.id and supplemented with data from various journals and the internet.

The analytical methodology employed in this research is Partial Least Squares (PLS), using the Smart PLS computer software version 3.2.9. According to Hair et al., (2017), PLS is advantageous as it does not require data to be normally distributed and is suitable for studies with small sample sizes. Ghozali (2018) further notes that research utilizing secondary data does not necessitate testing for validity and reliability with a single indicator (outer model); hence, this study focused solely on conducting an inner model test. Statistical significance is determined based on a P-value of less than 0.05 or a T statistic above 1.96 (Ghozali, 2018).

The study's population comprises all banking companies listed on the Indonesia Stock Exchange (IDX) during 2019-2022, totaling 47 companies. A sample of 43 companies was selected using a non-probability purposive sampling method. This sampling approach was chosen to ensure the selection of data based on specific criteria representative of the population. The criteria for sample selection are:

Table 1. Research Sample Criteria

No	Sample criteria	Number of samples
1.	Banking companies listed on the IDX for the period 2019-2022	47
2.	Banking Companies that do not have complete data needed for this study	(5)
3.	Number of company samples	43
4.	Total data	172

Source: data processed by researchers in 2023

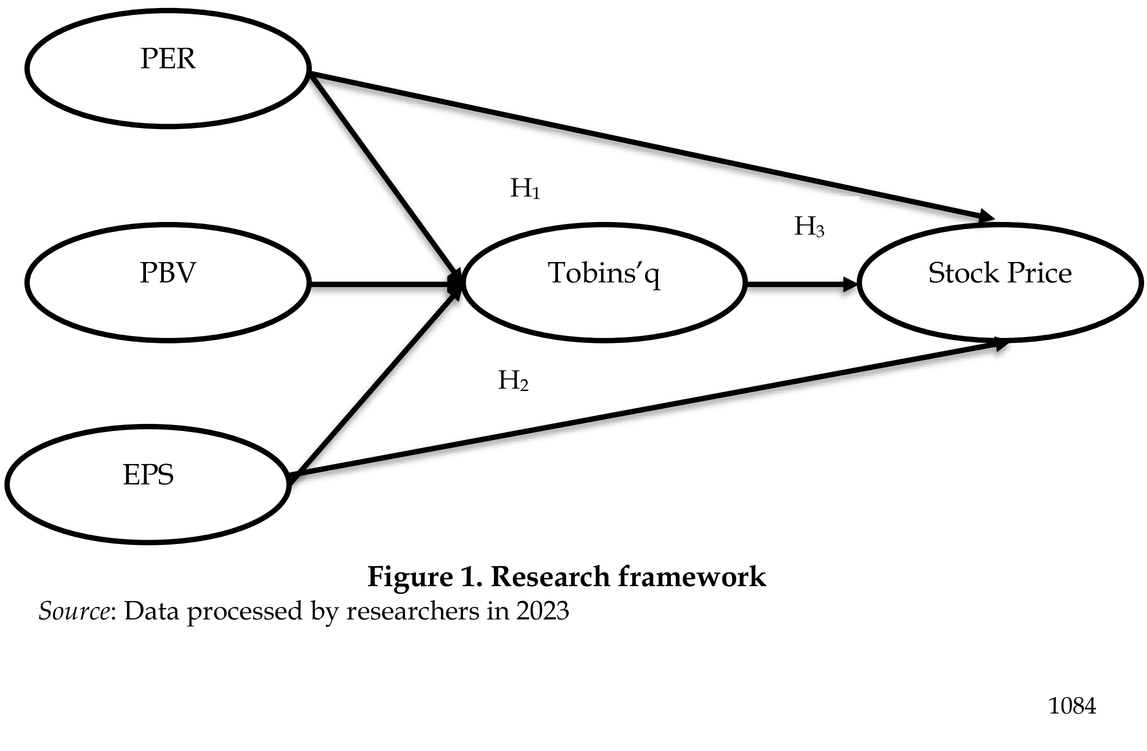

Figure 1. Research framework

Source: Data processed by researchers in 2023

VARIABLE MEASUREMENT

Shares can be defined as certificates that show proof of ownership of a company, and shareholders are entitled to benefit from the income earned by the company (Anita et al., 2023).

Price to Book Value (PBV) is a ratio that measures the market value of a company compared to its book value (Gunadi et al., 2020). The PER measurement formula is:

$$\text{PER} = \frac{\textit{Share Price}}{\text{Earnings Per Share}} \quad \text{……..(1)}$$

PBV is often used to assess whether a company is a cheap or expensive relative to its assets (Apriyani & Aisyah F Pulungan, 2020; Fadhilah et al., 2022; Oktaviyani & Mulyana, 2022). The PBV measurement formula is:

$$\text{PBV} = \frac{\textit{Share Price}}{\text{Book Value Per Share}} \quad \text{……..(2)}$$

Earning per Share (EPS) is a ratio used to measure net income attributable to each outstanding share in a company (Anita et al., 2023; Gunawan & Budiarjo, 2014; Oktaviyani & Mulyana, 2022; Suseno, 2021). The EPS measurement formula is:

$$\text{EPS} = \frac{\textit{Net Profit} - \textit{Preferred Dividend}}{\text{Number Of Shares Outstanding}} \quad \text{……..(3)}$$

Tobin's Q is a ratio that compares the market value of a company to its replacement value (Gharaibeh & Qader, 2017; Putri & Suseno, 2024). The Tobin's Q measurement formula is:

$$\text{Tobin's Q} = \frac{\textit{Total Market Value of Firm}}{\text{Total Asset Replacement Cost}} \quad \text{……..(4)}$$

RESULT AND DISCUSSION

Descriptive statistics are tools used to describe and summarize data clearly and understandably, providing an overview of the research and the relationships between independent variables. Descriptive statistical analysis involves calculating descriptive measures such as the variables' minimum, maximum, average, and standard deviation to understand the data's characteristics.

Table 2. Descriptive Statistics Ratio

Variable	Stock Price	EPS	PER	PBV	TOBINS'Q
Minimum	50	-110	-1.904	0.21	0.186
Maximum	33.850	1.131	1.112	64.2	27.056
Average	2.208	100	46	3.088	1.506
Standard Deviasi	4227.65	193.686	226.47	6.95	2.657

Source: Data processed by researchers in 2023

This research reports on the financial metrics of companies, with a particular focus on stock prices, earnings per share (EPS), Price Earnings Ratio (PER), Price to Book Value (PBV), and Tobin's Q. The minimum stock price of 50 suggests that lower stock prices may reflect poorer company performance and potentially lower future returns. Conversely, the maximum stock price observed was 33,850, indicating high value and good performance, which could lead to higher future returns. The average stock price across the companies studied was 2,208, with a standard deviation of 4,227.65, indicating a wide range of fluctuations in stock price data.

Regarding EPS, the minimum value of -110 suggests losses due to expenses exceeding revenues, while the maximum EPS of 1,131 reflects profitability and effective management. The average EPS was 100, with a standard deviation of 193.686, highlighting significant variability in company earnings.

For the Price Earnings Ratio (PER), the minimum recorded was -1.904, which might suggest that the stock price is undervalued or that earnings are relatively high compared to the share price. The maximum PER was 1.112, which could indicate an overvaluation of the stock or relatively low earnings. The average PER was 46, with a standard deviation of 226.47, again indicating substantial fluctuation.

The analysis of Price to Book Value (PBV) revealed a minimum of 0.21, which might indicate undervaluation or a relatively high book value compared to the share price. The maximum PBV was 64.2, suggesting potential overvaluation or a comparatively low book value. The average PBV stood at 3.088, with a standard deviation of 6.95.

For Tobin's Q, the minimum value was 0.186, indicating a company potentially undervalued by the market. The maximum Tobin's Q was 27.056, suggesting a company highly valued relative to the replacement cost of its assets. The average Tobin's Q was 1.506, with a standard deviation of 2.657, indicating significant variability among the companies analyzed.

Additionally, the coefficient of determination, often represented by the R-square value, is used to quantify the extent to which independent variables in a regression model explain the variation in the dependent variable. A low R-square value suggests that the model's independent variables do not adequately explain or predict the dependent variable's behavior.

Table 3. Coefficient Of Determination

Variabel	R Square
Tobins'Q	0.097
Stock Price	0.071

Source: Data processed by researchers in 2023

Based on the table above, the R-square value for Tobins'Q is 0.097, indicating that PER, PBV, and EPS can affect Tobins'Q by 9.7%. The R-square value for Stock Price is 0.071, indicating that PER, PBV, EPS, and Tobins'Q together can affect Stock Price by 7.1%.

Table 4. Direct Effect

	Original Sample (O)	T Statistics (|O/STDEV|)	P Values
EPS -> Stock Price	-0.12.	2.611	0.009
EPS -> Tobins'Q	-0.087	2.934	0.003
PBV -> Stock Price	-0.191	2.758	0.006
PBV -> Tobins'Q	0.312	3.605	0.000
PER -> Stock Price	0.008	0.135	0.892
PER -> Tobins'Q	-0.005	0.080	0.937
Tobins'Q -> Stock Price	-0.072	2.357	0.019

Source: Data processed by researchers in 2023

The analysis of path coefficients provides insight into the relationships among financial metrics and stock price. The path coefficient for Earnings Per Share (EPS) on Stock Price is -0.125, indicating a negative influence of EPS on Stock Price. This relationship is statistically significant, with a P-value less than 0.05 and a T statistic exceeding 1.96, suggesting that EPS adversely and significantly impacts Stock Price.

Similarly, the path coefficient of EPS on Tobin's Q is -0.087, as indicated in the original sample columns, which suggests a detrimental influence of EPS on Tobin's Q. The statistical significance of this relationship is confirmed by P-values below 0.05 and T statistics above 1.96, illustrating that EPS has an adverse and significant influence on this measure.

In contrast, the path coefficient of Price to Book Value (PBV) on Stock Price is -0.191, which also denotes a negative impact, signifying a detrimental influence. The relationship between PBV and Stock Price is statistically significant, with a P-value below 0.05 and a T statistic of 2.7588, indicating a negative and significant influence of PBV on Stock Price.

Conversely, the path coefficient value of PBV on Tobin's Q is 0.312, which is positive, indicating a beneficial influence. The P-value of this relationship is 0.000, well below the 0.05 threshold, and a T statistic of 3.605, exceeding 1.96, suggests a statistically significant and positive effect of PBV on Tobin's Q.

The path coefficient for Price Earnings Ratio (PER) on Stock Price is 0.008, suggesting a positive but not statistically significant influence, as the P-value is greater than 0.05 and the T statistic is below 1.96. This finding implies that while PER may have a positive influence on Stock Price, it is not significant.

Furthermore, the path coefficient of PER on Tobin's Q is -0.005, indicating a negative influence, which is statistically insignificant as the P-value is 0.937 (greater than 0.05) and the T-statistic is 0.080, significantly below 1.96. This suggests that PER has a negligible and non-significant effect on Tobin's Q.

Lastly, the path coefficient for Tobin's Q on Stock Price is -0.072, reflecting a negative influence. However, there is a discrepancy in the statistical values with P = 0.19, which is incorrectly stated as less than 0.05, and the T Statistic value not provided. This discrepancy needs clarification to accurately conclude the significance of Tobin's Q's effect on Stock Price.

Table 5. Specific Indirect Effect

	Original Sample (O)	T Statistics (|O/STDEV|)	P Values
EPS -> Tobins'Q -> Stock Price	0.006	1.661	0.097
PBV -> Tobins'Q -> Stock Price	-0.023	1.748	0.081
PER -> Tobins'Q -> Stock Price	0.001	0.070	0.944

Source: Data processed by researchers in 2023

Tobin's Q indirectly affects the relationship between Earnings Per Share (EPS) and Stock Price by 0.006, with a p-value greater than 0.05 and a statistical t-value below 1.96. This represents positive mediation but lacks statistical significance in the relationship between EPS and Stock Price. Similarly, Tobin's Q indirectly affects the relationship between Price-to-Book Value (PBV) and Stock Price by -0.023, with a p-value greater than 0.05 and a t-statistic lower than 1.96, thereby mediating negatively, yet not significantly. Tobin's Q also positively, but non-significantly, mediates the relationship between Price Earnings Ratio (PER) and Stock Price; thus, it should not be regarded as evidence against its role as a positive mediator. This result is confirmed with a p-value of 0.944 (>0.05) and a t-statistic of 0.070, below 1.96, indicating its inefficacy in significantly mediating that relationship.

The results indicate that Tobin's Q positively but non-significantly mediates the relationship between Earnings Per Share (EPS) and Stock Price. According to Signalling Theory, companies with higher earnings levels should send positive signals to investors through increased EPS (Connelly et al., 2011). However, Tobin's Q appears to have a negligible role in shaping the relationship between EPS and Stock Price. One potential explanation is the Market Efficiency Theory, which suggests that relevant information, such as EPS, is quickly incorporated into stock prices. An efficient market assumes that investors have already considered information about EPS, thereby minimizing the impact of Tobin's Q on this relationship. For instance, studies by Anita et al., (2023) and Putri & Suseno (2024) found that financial performance ratios, including EPS, positively impact stock returns. Similarly, Talamati & Pangemanan (2015) demonstrated that EPS significantly positively affects Stock Price, indicating that the market can react to information about a company's financial performance, though the mediating role of Tobin's Q may be inconsequential in this context.

Furthermore, the results reveal that Tobin's Q negatively but insignificantly mediates the relationship between Price to Book Value (PBV) and Stock Price. In Signalling Theory, a high PBV suggests an increase in firm value. However, this study shows that Tobin's Q does not significantly influence the relationship between PBV and Stock Price. The Market Efficiency Theory could also elucidate this finding, as investors might already consider PBV information when assessing stock prices. Therefore, Tobin's Q's role in mediating the relationship between PBV and Stock Price becomes statistically insignificant. This conclusion aligns with research by Gharaibeh & Qader (2017) and Willim (2015), who reported that Tobin's Q negatively affects firm value. Additionally, research by Marc et al., (2022) explores the negative impact of the Price Earnings Ratio (PER) on firm value, supporting the notion that the market responds to relevant information, such as PBV, in stock price assessments.

The results indicate that Tobin's Q positively, but not significantly, mediates the relationship between the Price Earnings Ratio (PER) and Stock Price. According to Signalling Theory, a high PER may be perceived as a positive indicator of investors' expectations for future earnings growth. However, in this instance, Tobin's Q does not significantly affect the relationship between PER and Stock Price. This finding aligns with the Market Efficiency Theory, which posits that relevant information such as PER is promptly reflected in the stock price as investors integrate this information into their valuations. Thus, the role of Tobin's Q as a mediator in the relationship between PER and Stock Price is statistically insignificant. Supporting this, Eivani et al., (2021) developed an innovative stock return prediction and optimization model that suggests Tobin's Q might not significantly influence this relationship. Additionally, research by Saputra (2022) and Ichsani et al., (2021) also indicates that the Price Earnings Ratio (PER) has no discernible effect on firm value.

Despite our findings that Tobin's Q does not play a significant role as a mediator between the relationships of Earnings Per Share (EPS), Price-to-Book Value (PBV), PER, and Stock Price, other studies offer different insights. Gunadi et al., (2020) found that profitability and activity ratios have a direct and substantial influence on firm value, with stock price acting as a mediating variable. Similarly, research by Fadhilah et al., (2022) for companies listed on the Indonesia Stock Exchange reported that factors including capital structure, firm size, and growth rate significantly affect firm value. Thus, when analyzing the relationships between EPS, PBV, PER, and Stock Price, it is crucial to consider additional variables that may modify these relationships.

The conclusion of this study is that Tobin's Q is not a significant mediator in the relationships between EPS, PBV, PER, and Stock Price. However, Signalling Theory and Market Efficiency Theory provide potential explanations for these results. Future research could explore additional factors that influence these dynamics to gain deeper insights into the underlying mechanisms of these correlations. Including these elements in future analyses may reveal significant influences and effects within this system of relationships.

CONCLUSION

The results of this study suggest that Tobin's Q does not significantly mediate the relationship between Earnings Per Share (EPS), Price-to-Book Value (PBV), and Price Earnings Ratio (PER) with Stock Price. Although Signalling Theory posits that higher EPS, PBV, and PER should indicate increased value to investors, Tobin's Q appears to have an insignificant effect in this context. This could be attributed to the principles of Market Efficiency Theory, which suggests that information on EPS, PBV, and PER is quickly assimilated into the stock price, thus diminishing the mediating role of Tobin's Q. The findings imply that in an efficient market, the response to financial information may be directly reflected in the stock price, obviating the need for mediating variables such as Tobin's Q. While these results contrast with previous studies that demonstrated a significant impact of financial variables on firm value, they underscore the necessity of considering market conditions in the analysis of relationships between financial ratios and stock prices.

Future research should expand the scope by including larger samples, encompassing more companies, industries, sectors, or time periods to enhance the generalizability of the results and provide a deeper understanding of the relationships among the variables tested. Additionally, researchers might consider integrating or substituting the variables examined in this study with others pertinent to explaining stock price fluctuations, such as liquidity, leverage, and volatility. Given that neither Signalling Theory nor Market Efficiency Theory fully account for the observed relationships, future investigations could explore alternative theoretical frameworks or employ more sophisticated statistical techniques, such as Stata or EViews, to overcome limitations related to the validity and reliability of research findings. Incorporating external factors—such as macroeconomic conditions, governmental policy shifts, or significant global events—into the analysis could offer a more comprehensive view of the dynamics between the tested variables and stock price changes. Comparative studies across different countries could also shed light on regional variations and commonalities in how EPS, PBV, PER, and stock prices interrelate

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