



# Control Mechanism Analysis in Mediating Market Valuation on Firm Performance in Indonesia

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**Abstract.** The market valuation offers the opportunity to examine the firm performance, especially as the firm goes public. However, management often puts their interests above the interests of investors; therefore, management movement needs to be limited by a control mechanism that will reduce agency conflict. This paper develops an approach based on Tobin's Q using the firm's market value. The financial performance is proxied by Return On Asset (ROA). Based on the monitoring hypothesis that debt can be the control mechanism, the research results show that Tobin's Q has a significant positive effect on ROA, but debt has the opposite effect on ROA. Tobin's Q has a negative but not significant effect on the control mechanism. Finally, the control mechanism debt is shown to be unable to mediate between market valuation and the firm performance of the sample firm included in the SRI-KEHATI Stock Index over 2015–2019.

**Keywords:** Market valuation · Control mechanism · Firm performance

## 1 Introduction

As a firm goes public, the market will explore the firm through the window of market valuation. The market valuation of the securities issued by the firm will change over time. The market valuation offers the opportunity to examine the firm performance. Market valuation is the investor's view of a company about the company's level of success related to stock prices in the market. The investors will measure the firm's performance from their perspective. The drawback is that investors only have insufficient information about the company. Typically, investors base their investment decisions on an examination of a company's public financial statements. Therefore, many investors use Tobin's Q to make investment decision-making [1]. Also, Tobin's Q has been used extensively in financial research to proxy for future investment opportunities. Andrei et al. [2] found that Tobin's Q is a factor that affects investment. The firm needs to improve its performance to attract investors to invest in the firm.

Fu et al. [3] conducted the empirical research, which provides evidence that this ratio has a special relationship to the firm performance but Ishaq et al. [4] found the reverse that there is no relationship between firm performance and Tobin's Q.

Based on the recent phenomenon that global communities have started to realize and are now more conscious about global warming, this research is conducted in public firms known to care more about the environment. This recent phenomenon pushed many firms to jump into providing environment-friendly products. The firm can become more innovative by trying new things without fearing the consequences of failure; such businesses should do more friendly activities for the environment to some extent. As a result, the companies chosen for this study were those that were members of the SRI KEHATI Index (Sustainable and Responsible Investment (SRI)-KEHATI stock index). As a benchmark, this index uses the principles of sustainability, finance, good governance, and environmental awareness. The goal of this study is to see if Tobin's Q and DER have an impact on the ROA of a company that is trusted to care about the environment.

### **1.1 Firm Performance**

Most investors use financial performance to measure the general well-being of the firm performance. The financial success of a company reflects its economic health and how well its management performs over time. It can also be used to aggregate industries or sectors and compare similar enterprises within the same industry. Return on Asset is employed to measure firm performance in this study, which is focused on financial performance (ROA). The return on assets (ROA) gauges management's total efficacy in generating returns to ordinary shareholders using its available assets [5].

### **1.2 Market Valuation**

Tobin's Q is the ratio between the market value of the firm's assets and the replacement value of its assets, according to Lindenberg & Ross [6]. Tobin's Q is a widely used proxy for measuring the operating performance of organizations in corporate governance studies [7], indicating that the firm can accomplish its activities efficiently. To retain better profit margins, the company will produce high-quality goods and services at a fair cost. Assume the investors have faith in this company's abilities. They will also believe in management's ability to maximize shareholder wealth by increasing the market value of the share price through successful business operations in that instance. Thus, the investor will be attracted to invest in the firm.

### **1.3 Control Mechanism**

Control mechanisms have an essential role in limiting the movement of management by monitoring and balancing the interests of stakeholders and management. It is based on the monitoring hypothesis that debt (leverage) can lessen agency conflicts with monitoring creditors, especially when companies are involved in bank loans [8]. The self-interested behaviour of the managers can be monitored and controlled by the creditors to align the interests of creditors so that the company's activities are aimed at generating profits. As the capital provider to the firm, the creditors need to make sure that their money goes on the right track in developing the profit. They can monitor and control how effectively the management will manage the asset, generating profit relative to the investment.

Controlling financial resources is very important for the success of the firm. Then, this effort will improve the company's performance. Vijayakumaran [9], who found clear evidence of a positive association between leverage and the proportion of long-term debt on firms' performance as assessed by ROA, backs up these findings.

## 2 Research Methods

This study aims to analyze the control mechanism as mediation in the relationship between market valuation and firm performance. The secondary data used in this research were collected from the Indonesian Capital Market period 2014–2019, especially the SRI-KEHATI Index. Data were analyzed by using descriptive analysis and regression analysis. The variable measurement used Tobin's Q for the market valuation, DER for the control mechanism, and ROA for the firm performance. The model developed for this study is as below:

Regression Model 1:  $DER = \alpha - \beta \text{TOBINSQ} + e$

Regression Model 2:  $ROA = \alpha + \beta \text{TOBINSQ} + e$

Regression Model 3:  $ROA = \alpha + \beta \text{DER} + e$

Mediating test Model 4:  $ROA = \alpha + \beta \text{TOBINSQ} + \beta \text{DER} + e$

## 3 Results and Discussion

Based on Table 1, the minimum value of Tobin's Q is 0.93, while the maximum value of Tobin's Q is 23.29. The mean of Tobin's Q is 3.18, with a standard deviation of 5.13. The minimum value of DER is 0.19, while the maximum value of DER is 7.21. The mean DER is 2.87, with a standard deviation of 2.37. The minimum value of ROA is 1.60, while the maximum value of ROA is 54.40. The average ROA was 9.89, with a standard deviation of 11.30.

After conducting the Chow, Hausman, and Lagrange-Multiplier testing, the REM method was selected as the appropriate model for producing the regression results.

Regression for model 1

$$DER = 3.097 - 0.0708 \text{TOBINSQ} + e$$

**Table 1.** Descriptive statistics

TOBIN'S Q	DER	ROA
0.93	0.19	1.60
23.29	7.21	54.40
3.18	2.87	9.89
5.13	2.37	11.30

The results reveal that the R-Square value for DER is 0.0235, which means Tobin's Q can affect DER by 2.35%, and other factors influence the remaining 97.65%. Then, after running the regression, the result that the regression coefficient value of Tobin's Q is  $-0.0708$ , which is negative, implying that Tobin's Q has a negative effect on DER. It is known that the probability value =  $0.2356 > 0.05$ ; thereby, it is concluded that Tobin's Q has a negative effect on DER but is not significant.

Regression for model 2

$$ROA = 3.281 + 2.076 \text{ TOBINSQ} + e$$

It is known that the regression coefficient value of Tobin's Q is 2.076, which is positive. This signifies that Tobin's Q has a positive effect on ROA. It is known that the probability value =  $0.0000 < 0.05$ ; thereby, it can be concluded that Tobin's Q has a positive and significant effect on ROA.

Regression for model 3

$$ROA = 14.439 - 1.584 \text{ DER} + e$$

It is known that the regression coefficient value of DER is  $-1.584$ , which is negative. This signifies that DER has a negative effect on ROA. It is known that the probability value =  $0.0064 < 0.05$ ; thereby, it is concluded that DER has a negative and significant effect on ROA (Table 2).

Furthermore, mediation testing was carried out using Sobel Test. Based on the results of the Sobel test, it is known that the indirect effect of TOBINSQ on ROA through DER is  $-0.0650$ . It is known that the Z Sobel value is  $1.170 < 1.96$  and the P-Value =  $0.2418 > 0.05$ ; thereby, it can be concluded that DER is not significant in mediating the effect of TOBINSQ on ROA. In other words, TOBINSQ indirectly does not significantly affect ROA, through DER.

This study shows that Tobin's Q as the proxy of market value has a positive and significant effect on ROA for the sample firm in Indonesia Stock Exchange, especially the SRI-KEHATI Stock Index over 2015–2019. According to Tobin & Brainard [7], firms with high Tobin's Q, or Tobin's Q greater than 1.00, will have higher growth potential. The firm with higher growth potential depicts its future ability to expand its workforce and increase production to generate a larger profit. Furthermore, according to Lang et al. [10], organizations with a Tobin's Q greater than 1.00 were considered to be better for investment prospects and suggested that management had performed well with the assets under its control. Therefore, Tobin's Q as market valuation can be used to summarize the firm's future performance.

**Table 2.** Mediating test

Path	Indirect Effect	Z Sobel	P-Value
TOBINSQ → DER → ROA	$-0.0650$	1.1703	0.2418

Tobin's Q has a small but considerable detrimental effect on DER. Razan & Zingales [11] found a negative relationship between leverage and Tobin's Q ratio for a sample of large corporations in the United States, Germany, France, the United Kingdom, and Canada, but the effect is not significant in Italy and Japan when leverage is measured at book value; it becomes significant when leverage is measured at market value. However, Sing et al. [12] discovered that capital structure (DER) has a considerable favorable impact on a firm's profitability.

The control mechanism tool is DER has a negative and significant effect on ROA. The result is supported by Hong & Diep [13], who revealed that capital structure negatively affects financial performance and return on total assets (ROA). On the other hand, these findings differ slightly from Hart [14] and Okiro et al. [15]. Hart [14] stated that a firm's capital structure can play a role in keeping management on track for corporate control. Whereas Okiro et al. [15] discovered a strong link between corporate governance and firm performance. They used capital structure in the governance model. The capital structure consists of equity and debt that can inform the firm about the liabilities and obligations that need to be paid by them over time. The managers can use the DER (debt to equity ratio) to help them understand the status of the firm's debt to equity as an ownership structure so that the managers can make the best financial strategies for the firm.

This research also concluded that DER is not significant in mediating the effect of TOBINSQ on ROA. In other words, TOBINSQ indirectly does not significantly affect ROA, through DER. A similar but not the same result is based on the research conducted by Hart [14], which revealed that DER is not a mediating variable for the relationship between ROA and TOBINSQ. Their research uses variable RNOA, which is also part of profitability.

## 4 Conclusion

Tobin's Q has a positive and considerable effect on ROA as a proxy for market value. The link between market valuation and intrinsic worth is shown by Tobin's Q. The market value of the firm provides a performance explanation to investors. This valuation is based on investors' perception related to stock price [15]. This can be related to signaling theory, namely, how the market retaliated against good or bad words from the firm. In other terms, market value is the value of a firm based on the total market value of its outstanding shares, or market capitalization. Because market value includes profitability, intangibles, and future growth prospects, it is usually higher than book value. By realizing the future growth prospects, investors may be interested in investing in the company. Therefore, if Tobin's Q value increases, the firm should be motivated to capture additional capital to generate more profit capability. This condition is the opposite of the control mechanism as proxy by DER that has a significant negative effect on ROA. It means if the DER increases, the firm financial performance decreases. It means that increasing DER will increase the firm's total assets and, in turn, reduce ROA. When it comes to DER, it has yet to be established as a mediating factor in the relationship between market value and company performance. In other words, we can assume that investors only consider the market value or control mechanism (DER) when

making investment decisions. Therefore, the firm should be creative in building financial strategies by controlling factors, especially market value and the control mechanism that maximizes the firm financial performance.

**Acknowledgment.** The authors gratefully thank and acknowledge that University of Sumatera Utara supports this present research. The support is under the TALENTA research grant 2021.

**Authors' Contributions.** Both authors Nisrul and Lisa created the study conception and design. Both authors Nisrul and Lisa conducted the data collection, analysis, and interpretation of the results. Nisrul was responsible for manuscript preparation, writing, reviewing, and editing.

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