 ISSN 2579-7298

The Mediating Effect of Efficiency on the Impact of Managerial Ownership on Firm Value Moderated by Firm Size and Risk Using Macro PROCESS

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ARTICLE INFO

Article history
Received
Revised
Accepted

Keywords
Managerial ownership
Firm value
Efficiency
Conditional Process Analysis
Macro PROCESS

ABSTRACT

The phenomenon of firm value is still an interesting topic to research in the field of financial management, especially those caused by managerial ownership. Not all studies explore the efficiency mechanism and test it up to the boundary conditions of the effect itself. This study uses firm size and risk as factors to explain how efficiency mediates the impact of managerial ownership on firm value both directly and indirectly. The sample used in this study is the financial statements of companies listed on the Indonesia Stock Exchange with a period range of financial statements from 2010 to 2019. This study uses Conditional Process Analysis techniques with implementing of macro PROCESS embedded on SPSS version 21 software to find out how the mechanism (efficiency) varies as a function of individual differences (company size and risk). The results obtained are, large companies in Indonesia tend to have been managed efficiently so that they are able to deal with various levels of risk while small and medium-sized companies provide the opposite results. Firm size and stock return risk determine the indirect impact of efficiency on the effect of managerial ownership on firm value. Another finding is that the measurement of the direct impact of managerial ownership on firm value is not moderated by firm size and also the level of risk. Firm size (small, medium, large) and stock return risk (low, moderate, high) both have no contributory effect on the direct effect of managerial ownership on firm value.

1. Introduction

The issue raised in this study is the value of companies in public companies in Indonesia. This phenomenon has been a widely discussed topic in finance and management especially related to the impact of managerial ownership. Many previous studies show that managerial ownership can affect firm value but not all studies explore the conditions under which firm size and risk level can affect the strength or direction of this relationship. Reference [1] in a similar study put the risk factor as an impact of managerial ownership while the results of [2] put the gender factor in the managerial ownership structure. In addition, the role of efficiency as a business process in corporate governance

by managers that has an impact on firm value can also be said to be limited because not all studies agree on its effectiveness, especially when company size and risk are taken into account. The results of research by [3] show that efficiency partially mediates the relationship between ownership structure and firm performance. Similarly, in small and medium-sized companies, efficiency does not mediate this relationship pattern [4].

Companies in Indonesia have a different managerial shareholding structure than companies in other countries, and this is often influenced by an uneven ownership structure. Large companies in Indonesia are usually owned by families or conglomerates, and they tend to be concentrated. As a result, founders may also serve on boards of directors and commissioners, which can lead to conflicts of interest between managers and shareholders, which in turn can reduce manager accountability [5].

Research by [6] shows that high managerial ownership in Indonesian companies is not always directly proportional to the increase in firm value. Instead, there is a risk that managers will be more likely to take actions that harm the company for their personal interests [7], [8]. Such conditions can certainly result in a decrease in company value and investor confidence [9]. Furthermore, [10] explains that in developing countries the relationship between managerial ownership and firm value is often more complicated, faces major challenges in terms of investor protection and transparency, and often reflects different market characteristics compared to developed countries.

In developed countries such as the United States and European countries, managerial share ownership is often more structured and well regulated. In this context, there are more corporate governance mechanisms that serve to maintain a balance between the interests of managers and shareholders. Despite strict regulations, conflicts of interest can still arise, especially when managers receive incentives that are incompatible with the long-term goals of the company. However, at least strict regulations and a better monitoring system can help reduce potential conflicts of interest. Reference [11] explain that the dual board system in Germany allows shareholders to have a greater say in corporate strategy decisions thereby reducing the possibility of abuse of power by managers. Company managers in developed countries can still be trapped in short-termism where they focus more on short-term results to meet market demands which can have a negative impact on innovation and long-term growth of the company [12].

According to the phenomenon and previous research, share ownership structure and corporate financial performance affect firm value. Meanwhile, firm size, stock return risk, and share ownership affect firm financial performance. In order for this phenomenon to be revealed more deeply, researchers use mediation analysis to understand the mechanism by which an effect operates and moderation analysis to understand the contingencies or boundary conditions of the effect [13]. So that, this research aims to: (i) To determine the indirect effect of efficiency in mediating the relationship between managerial ownership on firm value moderated by company size and risk level; (ii) To determine the direct effect of managerial ownership on firm value moderated by company size and risk level.

This study was prepared with the hope of providing benefits in the form of a comprehensive understanding of the value of companies listed on the Indonesia Stock Exchange and being able to provide additional information for investors, especially domestic investors, who will invest in the Indonesian capital market.

2. Literature Study

2.1. Agency Theory

According to agency theory, the link between share ownership and the financial performance of a business entity is based on the defense and alignment effects for those holding managerial shares (internal parties). The alignment effect is because management can use share ownership to align their interests with shareholders. In addition to being subject to contracts, management also gets financial incentives to optimize and develop the business. Called the defense effect because they can become more resistant to scrutiny from external parties. This especially works in contexts where management has a low level of expertise and wishes to create a more efficient life. Plus if there is an significant concentration of share ownership by external parties, it can affect firm performance or labor productivity [14].

Agency and agency problems arise as a result of the separation of ownership functions (owners) and management functions (agents). The management function is no longer involved in the decision-making and risk responsibilities of the company [15]. Agency conflicts occur because company management often has other objectives that conflict with the main objectives of the company.

2.2. Firm Theory

Firm value is very important because its growth will be accompanied by an increase in the welfare of shareholders [16]. And therefore, through the careful implementation of financial management functions, the company's goals can be achieved [17].

Companies usually try to increase the value of the company, which is shown in the form of estimated stock prices, while maintaining the welfare of shareholders. Firm value, according to [18], is calculated as the sum of the present value of future cash flows generated by the firm's current assets plus potential investment projects. The current stock value indicates current earnings capacity and expectations of future investment and operating performance.

The market performance indicator used in measuring firm value is Tobin's Q because it is able to predict the value of the company's investment in the future by [19], [20]. A company with a high Tobin's Q value ($Q > 1$) indicates greater growth potential, greater investment opportunities, and good management in managing the company's assets [21]. Therefore, a high Tobin's Q value indicates that more investors will be interested in investing in the company.

2.3. Firm Efficieny

Companies always strive to achieve efficiency in each of their activities because it is closely related to liquidity, the company's ability to utilize all of its assets [22], and the speed of the company in converting various accounts into sales or cash [23]. Some empirical studies provide results that there is a positive, albeit weak, relationship between firm efficiency and firm value [24] but different results are obtained [25] which show a significant positive relationship.

2.4. Firm Size

Some anomalies (deviations from what is considered normal), one of which is firm size, namely common shares of companies with small market capitalization (price per share times the number of shares outstanding) provide higher returns than companies with high capitalization [22].

According to [26] company size describes the total assets owned by the company which is the sum of liabilities and equity to generate profits. Based on the life cycle theory of the firm, large companies tend to be able to generate a lot of profit so that they will also provide large dividends. Large companies are usually established companies and have lower risks than small companies. Reference [27] explain that firm size is a measure that describes the size of the company which is equivalent to the size of the number of assets, total sales, average sales and average total assets, while [28] company size is measured by the natural logarithm of total assets.

Larger company sizes have good systems and technology that can also facilitate management in using company assets and can encourage companies to improve performance. Reference [29] also stated that the size of the company can be seen in the total asset value of the year-end balance sheet. To obtain funds, large companies have the ability to access the capital market.

Several empirical studies related to stock returns test results show that firm size has a significant positive effect and provides economically meaningful cross variation on firm value [30]–[32].

2.5. Risk

For investors, the relevant risk measure is the standard deviation of portfolio returns or portfolio beta as systematic risk [33]. If the investor places all or part of his capital in the portfolio, this standard deviation is more appropriate as a measure of risk.

The more information potential investors obtain, the less uncertain they are about the future of the issuing company [34]. Since large-scale companies are less likely to be influenced by the market, but can change the market as a whole, the level of uncertainty is usually lower in large-scale companies. Large businesses have a smaller level of investment risk in the long run, but small businesses have a greater level of uncertainty in the future, so their level of investment risk in the long run is greater [35].

The results of [36] prove a positive relationship between risk and firm value, but this does not apply to large companies. Research by [37], [38] found a positive correlation (although weak) between market risk and firm value. However, [39] in their research results show that there is no significant influence related to market risk.

2.6. Research Framework

From several relationships between the above variables resulting from previous research, there are still inconsistencies between managerial ownership, efficiency, company size and risk factors on firm value. To provide a complete scheme of this research, it can be seen in the research paradigm scheme or framework in Figure 1 below.

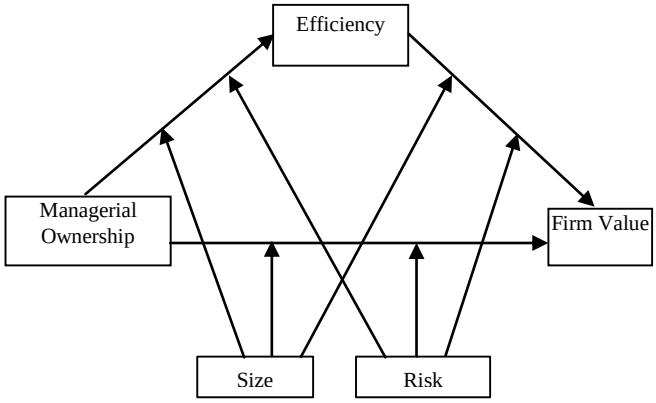

Figure 1. Research Framework

By considering the framework that has been formulated, preliminary transmittal hypotheses are made for temporary answers to the research to be carried out.

H1: Firm size and risk level together moderate the indirect effect of managerial share ownership structure on firm value through efficiency.

H2: Firm size and risk level together moderate the direct effect of managerial share ownership structure on firm value.

3. Method

Using a purposive sampling technique, data on the variables tested was taken from the Indonesia Stock Exchange for the annual financial reporting period (2010 - 2019) on the grounds that during this time period economic conditions were relatively normal. And the samples selected were only companies whose managerial ranks (commissioners/board of directors) were included in the share capital ownership structure and were consistently recorded (without any missing values) during the observation period. So from a population of 324 issuers, there are 88 issuers that can be used as samples and meet the criteria with a composition of 15 issuers in the financial services sector, 18 issuers in the non-financial services sector, 28 issuers in the manufacturing sector, 8 issuers in the trade sector, 2 issuers listed in the plantation sector , 8 issuers are in the mining sector category, and 9 issuers are in the property sector. In this data reduction process, cross-checking data is carried out, so that invalid and relevant data will be ignored.

Managerial Ownership (MOWN). The unit of analysis of managerial ownership is in the form of a percentage of the number of shares owned by management of the total number of company shares so that it reflects the ratio between the number of ordinary shares owned by members of managers and directors to the total ordinary shares [40], [41].

$$MOWN = \frac{\sum management\ shares}{\sum company\ shares} x100\% \quad (1)$$

Efficiency (TATO). Reflects the company's capability in using the resources in the form of assets it owns [28]. This variable reflects the ratio of total sales to total assets with the following formula:

$$TATO = \frac{Net\ Sales}{Total\ assets} \quad (2)$$

If TATO more than 1, the company is more efficient, and if TATO less than 1 then the company is said to be not efficient enough.

Company Size (SIZE). The size of the company based on market capitalization value is calculated by multiplying the company's outstanding shares by its market price [42]. And these results are then converted into natural logarithms in order to reduce excessive data fluctuations without changing the actual proportion of company size [28]. Based on this, the company size is formulated as follows:

$$SIZE = \ln market\ capitalization \quad (3)$$

Risk (RISK). The company's earnings variability is interpreted as the annualized standard deviation of stock returns [36], [43]. The formulation is:

$$s = \sqrt{\frac{\sum_{i=1}^{n}(x_i - \bar{x})^2}{n-1}} \quad (4)$$

Firm Value (FV). The market value of securities (shares) or company capitalization value which describes investors' perceptions of company success and the market performance indicator used to measure company value is Tobin's Q because it reflects the company's book value and also its market [44]–[46]. The higher Tobin's Q value (more than 1), so the higher company value in the eyes of investors. The following is the company value formula:

$$FV = \frac{Market\ Value + Debt\ value}{Total\ Assets} \quad (5)$$

For data processing and analysis techniques using PROCESS macros with a bootstrap approach [47]–[49] on SPSS version 21 statistical software. The presence of mediating and moderating factors in this research is to measure the effect of the efficiency mediation process in the influence of managerial ownership on value company on condition/based on company size.

The research model is divided into two models: (Model 1) Determining the indirect effect between managerial ownership (MOWN) on firm value (FV) through company efficiency (TATO) which is moderated by company size (SIZE) and risk (RISK); (Model 2) Testing the moderating effect of SIZE and the mediating effect of TATO on the influence of MOWN on FV. The two models empirically are as follows:

Model 1:

$$TATO = i_1 + a_1 MOWN + a_2 SIZE + a_3 MOWN * SIZE + a_4 RISK + a_5 MOWN * RISK + e_1 \quad (6)$$

Model 2:

$$FV = i_2 + c_1' MOWN + c_2' SIZE + c_3' MOWN * SIZE + c_4' RISK + c_5' MOWN * RISK + c_6' TATO * SIZE + c_7' TATO * RISK + bTATO + e_2 \quad (7)$$

Where:

i_1 and i_2 = constant; a, b, and c = coefficients; e_1 and e_2 = standard error.

4. Results and Discussion

The resulting regression coefficients, standard errors, p-values, and summary information can be seen in Table 1 below.

Table 1. Summary of Hypothesis Test Results 1 and 2 Mediation of TATO on the Effect of MOWN on FV

Model	Effect							
	TATO				FV			
		Coeff.	SE	P		Coeff.	SE	P
MOWN	a_1	-0.04309	0.01846	0.01984	c'_1	0.02542	0.02642	0.33619

TATO		-	-	-	b	-2.97970	0.53237	< 0.001
SIZE	a_2	-0.26861	0.02831	< 0.001	c'_2	0.40795	0.05387	< 0.001
MOWN*SIZE	a_3	0.00331	0.00158	0.03661	c'_3	-0.00218	0.00226	0.33562
TATO*SIZE		-	-	-	c'_6	0.28097	0.04606	< 0.001
RISK	a_4	0.00015	0.00003	< 0.001	c'_4	0.000004	0.00012	0.97088
MOWN*RISK	a_5	0.0000006	0.000002	0.78336	c'_5	0.00001	0.000003	0.00158
TATO*RISK		-	-	-	c'_7	-0.00003	0.00009	0.70206
Constant	i_1	4.02497	0.34277	< 0.001	i_2	-3.93666	0.65128	< 0.001
		$R^2 = 0.10586$				$R^2 = 0.31260$		
		$F(5,874) = 20.69593, p < 0.001$				$F(8,871) = 49.51111, p < 0.001$		

Based on the results from Table 1, it can be expressed in the form of two equations, the TATO and FV models.

$$M = 4.02497 - 0.04309MOWN - 0.26861SIZE - 0.00331MOWN * SIZE + 0.00015RISK + 0.0000006MOWN * RISK + 0.34277 \quad 8$$

$$Y = -3.93666 + 0.02542MOWN + 0.40795SIZE - 0.00218MOWN * SIZE + 0.000004RISK + 0.00001MOWN * RISK + 0.28097TATO * SIZE - 0.00003TATO * RISK - 2.9797TATO + 0.65128 \quad 9$$

Macro PROCESS will calculate the conditional direct and indirect effects and conduct moderation tests on the indirect effect of MOWN and because the moderators are continuous, PROCESS selects the 16th, 50th, and 84th percentiles of the SIZE and RISK moderator distributions. For SIZE, the 16th percentile distribution (SIZE= 11.01) reflects small companies, the 50th percentile (SIZE= 11.97) reflects medium companies, and the 84th percentile (SIZE= 13.24) reflects large companies. For RISK, the 16th percentile distribution (RISK= 12.87) reflects a small risk level, the 50th percentile distribution (RISK= 55.66) reflects a moderate risk level, and the 84th percentile distribution (RISK= 422.80) reflects a high risk level.

Measuring Indirect and Direct Effects

The indirect effect in this research model is the product of these effects, namely MOWN on TATO and the effect of TATO on FV controlling for MOWN. And the direct effect is the effect of MOWN on FV controlling for TATO. However, in this model, both effects are set as moderated effects and become a function of SIZE and RISK.

Table 2 shows the conditional indirect effects and conditional direct effects for the values of SIZE and RISK corresponding to the 16th, 50th, and 84th percentiles of distribution in the data.

Table 2. Inference for Conditional Direct and Indirect Effects in Managerial Ownership Studies

		Indirect Effect		Direct Effect		
SIZE	RISK	$(a_1 + a_3SIZE + a_5RISK) * (b + c'_6SIZE + c'_7RISK)$	95% Bootstrap CI	$c'_1 + c'_3SIZE + c'_5RISK$	SE	p
11.00542	12.87130	-0.00075	-0.00206 till 0.00009	0.00199	0.00277	0.56633
11.00542	55.65765	-0.00074	-0.00205 till 0.00010	0.00198	0.00277	0.47488
11.00542	422.80116	-0.00063	-0.00231 till 0.00035	0.00536	0.00303	0.07716
11.97485	12.87130	-0.00134	-0.00275 till -0.00011	-0.00052	0.00245	0.83115
11.97485	55.65765	-0.00132	-0.00274 till -0.00011	-0.00013	0.00239	0.95717
11.97485	422.80116	-0.00120	-0.00277 till -0.00006	0.00325	0.00214	0.12821
13.24417	12.87130	0.00053	-0.00237 till 0.00407	-0.00329	0.00428	0.44300
13.24417	55.65765	0.00055	-0.00229 till 0.00401	-0.00289	0.00420	0.49164
13.24417	422.80116	0.00069	-0.00161 till 0.00345	0.00049	0.00361	0.89174

The results in Table 2 above show for conditional indirect effects, if the confidence interval (CI) does not cross zero then this is a clue that the conditional indirect effect is different from zero (A F Hayes, 2017). For a relatively small firm size (SIZE = 11.00542) with a relatively low risk factor (RISK = 12.87130) the conditional indirect effect is estimated to be - 0.00075 but the bootstrap 95% confidence interval covers zero (-0.00206 to 0.00009). The same condition also occurs for small companies with moderate relative risk levels (SIZE = 11.00542; RISK = 55.65765) to at relatively high risk levels (SIZE = 11.00542; RISK = 422.80116).

For medium-sized companies (SIZE = 11.97485) with low risk (RISK = 12.87130), moderate risk (RISK = 55.65765), and high risk (RISK = 422.80116), each indirect effect value is negative and the 95% bootstrap confidence interval is also negative (-0.00275 to -0.00006). These results suggest that medium-sized firms, with all the competitive risks they face, are significantly less efficient in managing their assets. Even though the managerial ownership structure is increased, the indirect impact is that it can actually reduce the value of the company. The exact same condition can also be found in small companies, except that the effect of mediating efficiency tends to be weak (95% bootstrap confidence interval is not significant).

For large firms (SIZE= 13.24417) for all risk levels, the conditional indirect effect is positive meaning that managerial shareholding will add value to the firm by increasing efficiency, but there is no significance in the 95% bootstrap confidence interval (-0.00161 to 0.00345) as it covers zero.

In indirect effect, the majority shows a confidence interval that is at zero, this means that the mediation is not significant. Both based on company size (small, medium, and large) and based on the level of risk (low, moderate, and high) both do not function as moderators on the effect of managerial share ownership on firm value mediated by efficiency in managing company resources (H1 rejected).

For the direct effect of the model, the measured values do not tend to decrease but vary considerably. The positive direct effect occurs in small companies (SIZE = 11.00542) for all risk levels (low: RISK = 12.87130; moderate: RISK = 55.65765; high: RISK = 422.80116), and this also occurs in medium companies (SIZE = 11.97485) and large companies (SIZE = 1.24417) but each is only specific to the high risk level. However, both positive and negative direct effects are not significant (p-value > 0.05, hence H2 is rejected).

Figure 2 represents a visualization of the indirect and conditional direct effects of managerial ownership on firm value by firm size and risk level.

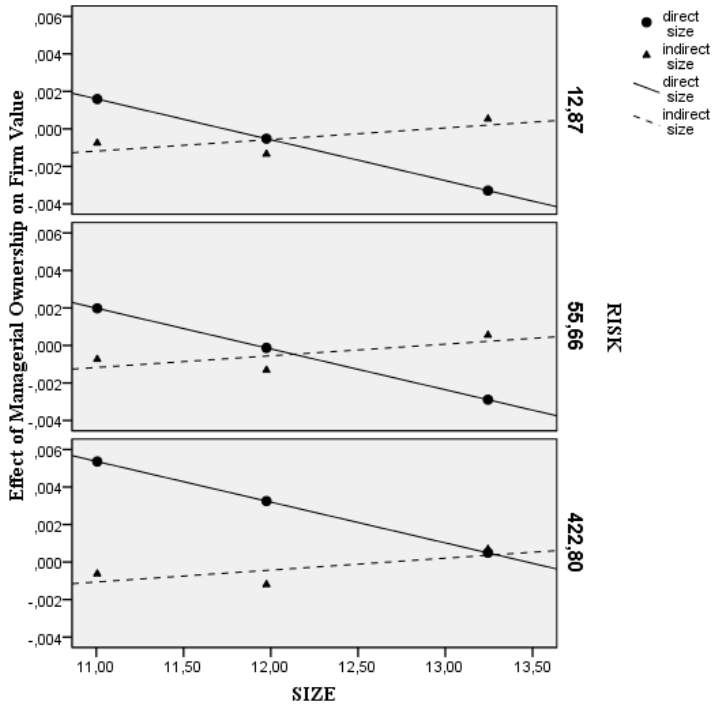

Figure 2. Visualization of the indirect and conditional direct effects of managerial ownership on firm value

Combined, the trend or direction of the line for the indirect effect of efficiency mediation effect tends to increase (positive trend) with increasing firm size at all risk levels for the relationship of managerial share ownership to firm value. In contrast, the trend or direction of the line for the direct effect of managerial shareholding on firm value tends to decrease (negative trend).

The main finding of this empirical study of indirect effects is that the efficiency of the company has its own role pattern that tends to move towards an increase in value and this is found in all sizes

of companies regardless of the level of risk. The mediation of efficiency has a real (significant) negative indirect impact on medium-scale companies with all levels of risk, but not on large and small companies. In small-scale companies, although the indirect impact is weak, the pattern is similar to that of medium-sized companies, which is negative. Meanwhile, in large companies, the indirect impact is the same as in small companies, which is weak but the direction of the relationship is positive. This finding when compared with the results of other studies for the same topic and phenomenon also shows both conformity and contradiction. The conformity of the findings is in the aspect of small and large company size, while the conflicting findings lie in the aspect of the scale of medium-sized companies.

It was found that most public companies in Indonesia tend to have relatively the same pattern. The similarity of the pattern in question is that the ratio of managerial ownership is not necessarily able to boost one of the indicators of the success of a business entity, namely company value. This study also shows that the orientation of the role of efficiency tends to be linear according to its proportion, meaning that negative indirect impacts can be found in small (insignificant) and medium (significant) companies even though their business competition risk is at a low, moderate or high level. This means that when small and medium-sized companies are managed inefficiently and faced with any level of risk (low-moderate-high), the managerial ownership structure has no effect on firm value. So it can be said that there is no benefit obtained by the company when providing stock incentives to the management. Even if you want to provide ownership options, it is enough proportionally. Small-medium companies can be assumed not to have an established pattern of efficiency compared to large companies [50], [51].

The positive indirect effects are found in large companies but interestingly, the pattern of the relationship is not significant. This fact indicates some interesting paradoxes especially in the efficiency strategy. Despite this result, it can be interpreted that in large companies that are managed efficiently regardless of the level of risk, whether it is small, moderate, or high, the managerial ownership structure can contribute to the value of the company.

The second finding is related to the effectiveness of efficiency. It can be assumed that companies strive to carry out their operations as efficiently as possible. For small and medium-sized firms, efficiency does not mediate positively, while for large firms it mediates positively but weakly. However, it is reasonable to assume that in large companies the efficiency efforts made can be said to be better than in small and medium-sized companies. The initial expectation from the results of this study is that efficiency can play a positive and strong role regardless of company size, but it turns out that only in large companies supports this hypothesis.

In small firms, the impact of managerial ownership on efficiency may differ from that of large firms. In this context, greater managerial ownership often leads to increased efficiency. When managers own a significant portion of the firm, they have a vested interest in its success and are more likely to be highly motivated and committed to improving performance. This dedication can manifest in careful decision-making, efficient resource allocation and proactive monitoring, all of which contribute to increased efficiency. Research by [52] on US companies in the Fortune 500 list, provides support for this claim.

In developing countries, small firms often face unique challenges such as limited access to capital, information and resources [53]. To overcome these unique challenges, decision-making by management must be strategic [54], [55]. And therefore it requires concentrated decision-making power, but it is not uncommon for greater ownership concentration to have different implications due to the lack of ownership diversification and the lack of checks and balances so that this can potentially allocate resources inefficiently [56]–[58].

Research conducted by [59] supports this argument, where they found a negative relationship between managerial ownership and firm value in small firms in developing countries. This suggests that when managerial ownership is higher in small firms, it may hinder efficiency and negatively impact firm performance.

Understanding the firm size-conditioned relationship between managerial ownership and firm efficiency is critical for effective financial management and sustainable organizational success. And the results of this study confirm what has been proposed by [11], [52], [60]–[62].

The third finding, which is related to the empirical study of the direct impact of managerial ownership on firm value, is that there is a weak negative relationship in medium and large companies, respectively, with a range of low to moderate competitive risk. The comparison of this finding with the results of previous studies generally has a different pattern ranging from medium-sized companies with moderate risk to large companies also ranging from risk levels to moderate. These results indicate that the ratio of share ownership by managers in medium and large companies in Indonesia is when in conditions of relatively low and moderate competitive risk, high ownership will actually reduce the value of the company and can trigger agency problems.

Small firms may experience a more pronounced impact of managerial ownership on firm value compared to large firms. This is due to the higher concentration of managerial power in smaller entities, where managerial decisions have a greater impact on firm outcomes. In contrast, in larger firms, the impact of managerial ownership may be diluted (a decrease in the percentage of shareholding that occurs as the total number of shares increases) due to complex governance structures and the presence of other significant shareholders.

Reference [63] explain similarly, larger firms tend to have greater resources, economies of scale, and market power, leading to higher firm value. As a result, the effect of managerial ownership on firm value may vary across firms of different sizes. In small firms, managerial ownership has a stronger positive impact on firm value compared to large firms, and these findings suggest that the impact of managerial share ownership on firm value is moderated by firm size [64], [65]. Smaller firms may exhibit different dynamics compared to larger firms due to variations in resources, risk exposure and market conditions.

Different results were found in the research of [66] who analyzed a data set of companies in various industries, empirically the relationship between managerial share ownership and firm value is stronger in larger companies. Johnson's research shows that firm size moderates the impact of managerial share ownership differently, which indicates the need for further investigation.

For firms in developing countries, some empirical findings have provided valuable insights. Retrieved from [63], [67] in their research in Asian and Latin American countries explain that the positive relationship between managerial ownership and firm value generally occurs in small firms. In small firms, higher managerial ownership may have a more pronounced positive effect on firm value [9].

The fourth finding related to the direct impact of managerial ownership on firm value is that there is a positive relationship although it is weak in small firms for the entire spectrum of competitive risk, medium and large firms for the high level of competitive risk, respectively. The comparison of this finding with the results of previous studies also has a different and diverse pattern. In Indonesia, small firms tend to benefit from high managerial ownership as it can lead to an increase in firm value. With a relatively short bureaucratic chain supported by sufficient access to information, managers are able to anticipate competition at all levels so that it is expected that company management will be better which will lead to an increase in firm value. High managerial ownership is also able to provide additional firm value for medium and large companies, but with a note when these managers are faced with the risk of business competition which is considered quite tight.

Compared to US firms, managers in Japanese firms have a smaller managerial ownership ratio [68]. Using an Ordinary Least Square (OLS) regression model, they were able to prove (albeit monotonously) that there is a negative (positive) relationship in firm value when the level of managerial ownership is low (high). Riskier firms require a higher level of internal control provided by managerial ownership (due to asymmetric information).

The situation in developing countries, especially in the East African region, which has a unique political, social, cultural, and economic environment, [69] research shows that managerial ownership has an inverse and significant impact on the relationship between leverage and firm value. That is, leverage has a significantly negative impact on firm value in East Africa (lowering value), and managerial ownership has a significant positive impact on firm value. Companies whose capital is funded by debt are faced with financial risk (the higher the value of debt, the greater the risk that must be accepted, potentially defaulting for example). If the owner doubles as a manager and his ownership level is large, he can use debt capital more effectively to increase firm value than non-owner managers.

Risk here is proxied as debt (leverage), the higher the risk, the stronger the influence of managerial ownership on firm value if the manager is also the owner of the business entity.

China as the largest developing country in the world, [70] observed a sample of companies from the period 2009 - 2019 in the country regarding the relationship of ownership and managerial ability to idiosyncratic risk. The subsample analysis reveals that the positive relationship between managers and idiosyncratic risk is more pronounced when there is greater earnings pressure and/or when there is an information gap, whereas such a positive relationship is less pronounced at higher levels of innovation due to less earnings pressure in the short term and a greater focus on long-term growth through technological innovation. In addition, managerial ownership has a positive impact on firm value, but this positive effect weakens at higher levels of idiosyncratic fluctuations.

Managerial ownership has a positive influence on firm value if managerial ownership is at a moderate level, but if managerial ownership is too high, it can have an impact on reducing firm value [15] . Meanwhile, [71] link managerial ownership with risk, stating in their findings that high managerial ownership can also increase company risk. Reference [72] concluded that high managerial ownership can increase corporate risk because managers have the motivation to make risky decisions in an effort to increase the value of their own shares. From the results of the three studies, it can be concluded that the effect of risk on the effect of managerial ownership on firm value is non-linear.

Various studies have explored the impact of risk factors on the relationship between managerial ownership and firm value, with a large number favoring the moderation hypothesis. However, there are also a number of studies that show that risk does not significantly affect the relationship between managerial ownership and firm value. The types of risk that do not moderate here are: (i) market volatility and industry-specific risk in public companies [73]; (ii) financial risk [74]; (iii) operational risk [75].

Overall, this research model on the direct impact of managerial ownership on firm value with conditional conditions in the form of firm size and risk level, the interaction results obtained tend to increase and individually towards a positive correlation (especially in medium and large companies and for all risk levels). However, due to the small value of the interaction coefficient and at the predetermined significance level, the results confirm that the direct impact of managerial ownership on firm value is not significantly moderated by firm size and risk level.

5. Conclusion

Conditional Process Analysis (CPA) with PROCESS macro to test the model shows the fact that efficiency in public companies in Indonesia is dominantly carried out by large companies. Although in small and medium-sized companies the role of efficiency has not been felt clearly, but as the risk of competition increases, with the incentives of managerial ownership received by the management, they still make efforts to bring the company towards a better value increase. The role of this indirect impact further supports the agency theory that by incentivizing ownership shares at the managerial level will stimulate them to better manage company assets efficiently along with increasingly complex business competition. Although agency costs arise, the interests of the principal can still be prioritized and this is also in line with the theory of the firm, namely prospering the welfare of the owner while increasing the value of the company. Second, the findings in this study confirm the condition of public companies in Indonesia that there is no direct impact of managerial ownership on firm value, whether it is in small-medium-large companies with any level of risk.

Departing from the existing limitations, the complexity of business processes in real life cannot be fully represented in this research model. No less important is to consider the approach of institutional ownership, government ownership, and foreign ownership in addition to the proxy of managerial ownership. In addition, the involvement of risk elements can be in the form of categorization, namely systematic risk and non-systematic risk. The efficiency variable as a mediator can be considered in the form of parallel and complex mediation such as dividend policy, leverage, and corporate governance so that it can provide a more in-depth contribution.

Acknowledgment

Thank you to the Telkom University - School of Economic and Business for providing various facilities for this research, and also many thanks to The Indonesian Stock Exchange for supplying the data materials.

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