THE MEDIATING ROLE OF THE INVESTMENT EFFICIENCY IN THE EFFECT OF MANAGERIAL OWNERSHIP ON FIRM VALUE

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Abstract

The effect of managerial ownership on firm value mediated by Investment Efficiency is the focus of this research, resulting in a model to fill the research gap. The timeframe analysis is 2015-2020, observation data uses panel data of 2,724 observational data on public companies in Indonesia, to estimate the research model using Macro for SPSS V3.4. Research findings: managerial ownership has a negative effect on firm value and investment efficiency, these findings strengthen the entrenchment hypothesis. Researchers also found that managerial ownership of firm value is more effective through investment efficiency, investment efficiency becomes agency cost mitigation, which ultimately impacts firm value, this reinforces the agency cost theory of free cash flow.

Keywords: Investment Efficiency, Managerial Ownership, Firm Value

Introduction

Research in the field of financial management in the last few decades has experienced significant developments, both in terms of theory and methodology used in solving various problems. The latest approach used by researchers to fill the research gap uses a mediation, moderation, or combination of mediation and moderation analysis model approach which is commonly called Conditional Process Analysis (Igartua & Hayes, 2021; Hayes, 2022).

Various studies show that managerial ownership structure influences firm value either directly or indirectly. Insider ownership, such as managerial ownership and its relationship to firm value, the higher the share ownership, the greater the role or monitoring within the company (Demsetz & Lehn, 1985), (Shleifer, A; Vishny, 1986), (McConnel, J.J., Servaes, 1990), (C. R. Chen & Steiner, 1999), (Demsetz & Villalonga, 2001), (De Miguel et al., 2004), (García-Meca & Sánchez-Ballesta, 2011).

However, managerial ownership does not necessarily have a direct effect on firm value, investment decisions are also an important part of increasing firm value (M Jensen & Meckling, 1976), in line with various previous studies showing that the effect of managerial ownership on firm value can be predicted/transmitted through indirect processes such as investment policy (M. H. Cho, 1998, Iturriaga & Sanz, 2001), sustainable productive investment based on financial constraints (R. Hidayat et al., 2020); investment efficiency (Vijayakumaran, 2021), management policies in managing company operational expenses (Mukaria et al., 2020), and corporate governance practices (Panda & Leepsa, 2017).

The insider ownership structure has a role in creating effective corporate governance and reducing agency cost problems, so that it can respond to internal cash flows from investing activities (MC Jensen, 1986; Attig et al., 2012; Alvarez et al., 2018). Ownership structure plays a direct role in company investment (N. Chen et al., 2017; Simanungkalit, 2017; Hidayat et al., 2020), increasing the efficiency of company investment (F. Jiang et al., 2018; Shahzad et al., 2019), optimizing high investment opportunities which will ultimately increase shareholder value (Iturriaga & Sanz, 2001; Rizqia et al., 2013). However, this is not the case with the results of research conducted by (Nor et al., 2017; Azhar et al., 2019; Anelia & Prasetyo, AB, 2020; Fajriani et al., 2021) that ownership does not have an effect on investment efficiency, possibly managers invest sometimes to maximize personal welfare and not the interests of shareholders (M Jensen & Meckling, 1976), excessive additional incentive income, when experiencing excess investment (over investment) (MC Jensen, 1986).

This research can contribute; first, the development of agency theory. Second, the development of a model that investment efficiency also transmits the effect of managerial ownership on firm value, is a mitigation of agency costs.

In order to make this article interesting for readers, the researcher presents it into several sections, namely: 1) Introduction, 2) development of research hypotheses, 3) research methods, 4) Results and Discussion, and 5) conclusions.

Theoretical And Hypothesis Development

Managerial Ownership and Firm Value

The development of research shows that the ownership structure systematically and consistently varies in maximizing firm value. Various previous studies have shown a variety of research results, the development of research in the US shows consistency that the ownership structure systematically and consistently varies in maximizing firm value (Demsetz & Lehn, 1985) period 1976-1980; (Morck et al., 1988) 1980 period; (Agrawal & Mandelker, 1990) period 1979-1985; (Hermalin & Weisbach, 1991) period 1971-1983; (Cho, 1998) period 1991; (Himmelberg et al., 1999) period 1982-1992; (Demsetz and Villalonga, 2001) period 1976-1980; (Fahlenbrach & Stulz, 2009) period 1988-2005; (C. R. Chen & Steiner, 1999; Adams & Santos, 2006), thus providing opportunities for increased corporate wealth (Loderer & Martin, 1997) which will ultimately provide the prosperity of shareholders. In line with the results of studies in various countries also show the same thing, the ownership structure provides benefits in increasing monitoring which ultimately increases the value of the company (Randøy & Goel, 2003) [Spain], (Munisi et al., 2014; Jumanne & Keong, 2018) [Africa], (Farrer & Ramsay, 1998) [in Australia].

Managerial Ownership on Firm Value through Investment Efficiency

Investment activities can be expected to reduce conflicts of interest between managers and shareholders, optimize cash owned so as to prevent over/under investment (Richardson, 2006; Biddle et al., 2009; N. Chen et al., 2017). Investment efficiency is an interesting topic for discussion, there is an increase in investment efficiency when implementing and improving sustainable corporate governance (N. Chen et al., 2017), as well as the role of controlling shareholders who can reduce excess potential investment (Jiang et al., 2018).

(Jensen, 1986) predicts a positive relationship between investment and cash flow, because managers tend to invest freely in the company's free cash flow (overinvestment), which makes sense because they perceive internal cash flow as cheap capital. Company policy to carry out investment activities positively affects firm value (Cho, 1998; McConnell & Muscarella, 1985), (Jensen, 1986) predicts a positive relationship between investment and cash flow, because managers tend to invest freely in the company's free cash flow (overinvestment).), plausibly because they regard internal cash flow as cheap capital.

Based on this research, it shows that managerial ownership does not necessarily have a direct effect on firm value, but it is effective when there is an increase in firm value through investment made by the company (M Jensen & Meckling, 1976). Corporate value can be created through 2 (two) stages of the process, first; ownership structure affects investment decisions, second; investment decisions affect firm value, in line with the results of research conducted (Cho, 1998; Iturriaga & Sanz, 2001; Rini et al., 2017) that firm value is influenced through indirect processes such as investment policy (Cho, 1998; Iturriaga & Sanz, 2001; Rini et al., 2017), sustainable productive investment based on financial constraints (R. Hidayat et al., 2020), corporate governance practices (Panda & Leepsa, 2017). More details as shown in Figure 1 which shows the conceptual model of research on the direct and indirect effects of managerial ownership on firm value through investment efficiency.

The development of research shows that the development of research hypotheses is an interesting discussion at this time. Memo et al. (2018) explains that there is no strong enough reason not to make changes and developments in the methodological aspects, including in terms of formulating research hypotheses, the transmittal hypothesis approach is the basis of this research, formulating research hypotheses without the need to articulate or explore the effects of predictor variables on mediating variables. as well as mediating variables on outcome variables, so that a single hypothesis is sufficient (M. Rungtusanatham et al., 2014), a variable that transmits the causal effect of other variables, testing the direct and indirect effects of predictor variables on outcome variables (Mackinnon et al., 2007; Memon et al., 2018), based on previous research, the research hypothesis can be formulated "Investment Efficiency mediates the effect of Managerial Ownership on Firm Value".

Research Methods

The method used in this study uses a descriptive and explanatory approach, this is in line with the research objectives to be achieved. Observation data uses non-financial public companies listed on the Indonesia Stock Exchange (IDX), 615 companies during the 2015-2020 period which consistently present financial reports and annual reports, using a purposive sampling approach to produce 2,724 pooled time series data, namely a combination of cross and time series data. Research observation data as shown in table 1.

Table 1. Research Sample

Deskription	Observation Data				
Total primary sampel (2015-2020)	615 Emiten public				
	615 x 6 annual report				
	: 3.690 data observasi				
Less					
Observations with incomplete data	966				
Total Data	2.724				
G F P I IDV 2020					

Source: Fact Book, IDX. 2020

In line with the research objectives, the operational variables of the research are presented below, so that it is hoped that the reader can easily understand the description of the research variables.

Table 2. Operational Variabel

Variable	Deskription
Outcome	
variable	
Firm Value	The ratio of the sum market capitalization plus debt divided the total assets (Yermack, 1996);
(TbQ)	(Bhagat & Bolton, 2013); (Vafeas & Vlittis, 2019); (Rashid, 2020)
Prediktor	
Variable	
Managerial	Managerial ownership is the number of shares or the percentage of shares owned by the
Ownerhsip	company's management (M Jensen & Meckling, 1976; Cho, 1998; Chen & Steiner, 1999; Ang
(MgOwn)	et al., 2000; Iturriaga & Sanz, 2001; Mollah et al, 2012; A. Rashid, 2016; M. M. Rashid, 2020)
Mediation	Investment efficiency is an investment activity that does not eover/under investment (Biddle
Variable	et al., 2009; N. Chen et al., 2017; Jiang et al., 2018)
Investment	
Efficiency (EFI)	

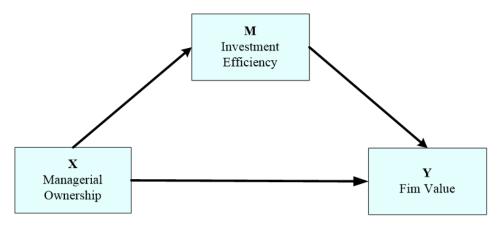
Based on the model developed, this study uses Mediator variables to mediate the relationship between the independent/predictor variable and the dependent/outcome variable, the mediator variable as a process variable or as a variable that bridges or transmits the relationship between the independent/predictor variable and the dependent/outcome (Hayes, 2018; Hayes, 2022), the inclusion of mediator and moderator variables into research is an attempt to address the research gap (Baron & Kenny, 1986; Preacher et al., 2016; Kusnendi, 2019; Igartua & Hayes, 2021; Hayes, 2022).

Several steps were carried out as an effort to answer the research hypothesis (Hayes, 2022), are as follows:

1. Building a Research Concept Diagram

Figure 1 shows the Conceptual Model Diagram which is a visual representation of the research model, the mediation effect conceptual model diagram is aligned with model 4 (Hayes, 2022).

Figure 1. **Research Conceptual Model Diagram**



2. Translate the Conceptual Model into a Statistical Model

Figure 2 is a statistical model diagram which is a translation of the research conceptual model, resulting in a research mathematical equation.

Gambar 2. **Research Statistical Model Diagram**

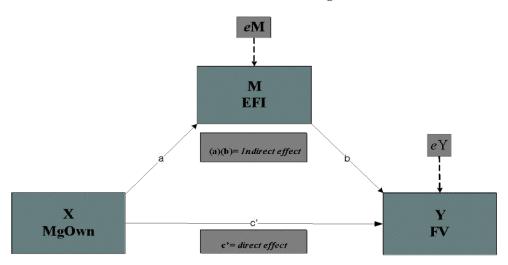


Figure 2 explains the direct and indirect effects of Managerial Ownership (MgOwn) variables mediated by Investment Efficiency (EFI), the direct effect is the effect of managerial ownership (MgOwn=X) on firm value (TbQ=Y), the indirect effect of X on Y through M is the product of; the effect of Managerial Ownership (MgOwn = X) on Investment Efficiency (EFI = M) and the Effect of Investment Efficiency (EFI = M) on Firm Value (TbQ = Y), while the total effect is a combination of direct and indirect effects and (Hayes, 2022).

The research hypothesis formulation uses a transmittal hypothesis approach, without the need to articulate or explore the effects of predictor variables on mediator variables and the effects of mediator variables on outcome variables, so that it is sufficient to formulate a single hypothesis (M. Rungtusanatham et al., 2014; Memon et al., 2018). in table 3 presents a summary of the research hypotheses, statistical hypotheses, and test criteria, as follows:

Table 3.
Summary of Research Questions, Hypotheses, Statistical Tests, and Test Criteria

Research question	Research Hypothesis	Statistical Hypothesis	Statistics and Test Criteria
Does Investment Efficiency mediate the influence of managerial Ownership on Firm Value	mediates Managerial	$\begin{aligned} &H_o:a_1b_1=0\\ &H_a:a_1b_1\neq 0 \end{aligned}$	Bootstrapping test results. Ho is rejected if (95% CI[LLCI,UCLI]). The mediating effect coefficient a1b1 is not zero

Source: adoption from various research journals

3. Estimating the Statistical Model

Based on predetermined equations, answering the statistical hypotheses in this study using model 4 which was developed (Hayes, 2018; Hayes, 2022), in estimating the parameters of the Mediation model using Process Macro for SPSS V3.4., so that the indirect effect can be known (indirect) effect) and direct (Direct effect) (Hayes, 2018; Hayes, 2022).

Result And Discussion

Descriptive Analysis Results

Table 4. Summary of Descriptive Analysis results

Dogo	Average	Min	Max	St. Dev	High		Low	
Desc.					Total	%	Total	%
Managerial Ownerhsip (MgOwn)	.0568	.0000	.4300	.1071	670	24.60	2054	75.40
Investment Efficiency	.0728	-84.2282	64.5724	5.2826	1688	61.97	1036	38.03
Firm Value_TbQ	2.65	.00	14.01	3.1306	721	26.47	2003	73.53

Source: Research data processing, 2022., n=2.724

Based on table 4 it can be explained that; managerial ownership in public companies in Indonesia with an average value of 5.68% (min 0% and max 43.00%), in the high category of 670 (24.60%) and in the low category of 2054 (75.40%)). These results indicate that managerial ownership in Indonesia is mostly in the low category. A low level of managerial ownership will encourage and the tendency of management to make investment decisions to gain benefits through excessive consumptive behavior to improve personal and group welfare (MC Jensen, 1986; Rocca et al., 2007; Biddle et al., 2009; Gomariz & Ballesta, 2013; N. Chen et al., 2017; Azhar et al., 2019). The results of the study show that managerial ownership in public companies in Indonesia has an average value of 5.68%, in line with research results in Indonesia, namely 5.26% by (Sutrisno, 2020), 6.79% by (Sahrul & Novita, 2020), slightly different, namely 8.308 (Nathaniel; & Sansaloni, 2016), close to India at 3.66 (Agarwal, 2020), Nigeria at 4.19% (Sani, 2020), in Jordan 10.21% (Al Amosh & Khatib, 2022).

Based on table 4 it can be explained that the residual value of Investment Efficiency level in public companies in Indonesia is in accordance with the research sample with an average value of .0728 or 7.28% (min -84.22 and max 64.57), high/over category investment of 1688 (61.97%), the category of low/under investment of 1036 (38.03%). The results of the analysis show that most of the public companies in Indonesia are in the over investment category. The results of the analysis show agreement with various previous research results by (Biddle et al., 2009; Richardson, 2006) and (Jiang et al., 2018) that the value of positive investment efficiency is .0728 or 7.28%, and .0262 or 2.62%,

which means over investment, but less than 10% which is getting lower and towards investment efficiency (no over/under investment).

Based on table 4, it can be explained that the company value of public companies in Indonesia is in accordance with the research sample which is proxied by the Tobins-Q value with an average value of 2.65 (min .00 and max 14.01), the high category is 721 (26.47%), the high category is 721 (26.47%), the high category is low by 2003 (73.53%), when compared to the results of other studies in Indonesia there is a slight difference, the TbQ value is 1.499 (Nugroho & Stoffers, 2020), the TbQ value is 1.994 (Wati et al., 2019), and is close to the results of the study (Sahrul & Novita, 2020) of 2.61. The results of the analysis show that most public companies in Indonesia are below the average score, namely in the low category, however, overall the value of the company can be categorized as good because with a value of \geq 1. The results of this study are not much different from those in Malaysia, namely -an average of 2.185 (Zandi et al., 2020), in China it was 2.343 (Lin & Fu, 2017), in Bangladesh it was 1.5828 (Rashid, 2020), in India it was 1.90 (Mishra & Kapil, 2017), in Taiwan it was 1.336 (Kao et al., 2018), the average in South Africa is 2.26 (Doorasamy; M, 2021).

A. Hypothesis test

It is a prerequisite for testing the hypothesis that the data must be normally distributed and free from classical assumptions (classical linear regression model), the total observation data after the data normality test is 2,538 observational data, this is because there are some data that experience outliers, so the outlier data must be issued. The results of data analysis based on the results of model parameter estimation, indirect and direct effects are shown in Table 5.

Table 5.
Coefficient Results of Mediation Analysis

		M (Investment Efficiency)				Y (1	lue)	
		Coeff.	SE	р		Coeff.	SE	р
Konstanta	iM	13.714	.023	.000	iY	3.519	.306	< .000
MgOwn (X)	a	299	.070	.000	c	193	.079	<.015
EFI (M)		-	-	-	b	071	.022	< .001
\mathbb{R}^2			.007	.000			.006	.000
F			18.060				7.471	
Indirect effect						Direct effect		
	effect	LLCI	ULCI			effect	SE	p
Index of mediation	.021	.010	.036			193	.079	0.015

Source: Research data processing, 2022. *5% significance. n=2,538

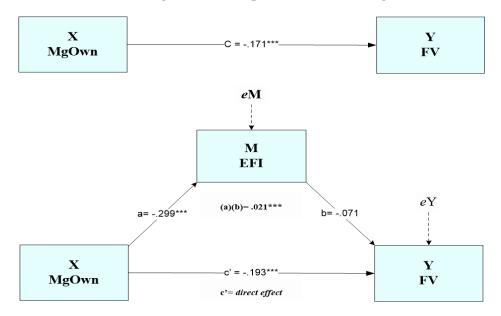
Based on table 5 it can be explained that: The indirect effect of managerial ownership on firm value through investment efficiency is the product of two (2); In the Investment Efficiency model (M), a constant value of 13,714 is obtained, the regression coefficient a=-.299, p-value $0.000 \le 0.05$, the test results are significant, indicating that Managerial Ownership (MgOwn) has a negative and significant effect on Investment Efficiency (EFI) .

Firm value model (Y) obtained a constant value of 3.519, regression coefficient c=-.193, p-value $0.015 \le 0.05$, significant test results showing that Managerial Ownership (MgOwn) has an effect on Firm Value (TbQ), and investment efficiency has an effect significant on firm value, it can be seen that the regression coefficient of investment efficiency (b = -.071, p-value 0.001), there is a non-linear relationship between investment efficiency and firm value.

Bootstrapping test results: (95% CI[0.10, 0.036]). The 95% confidence interval for the estimation of the indirect effect coefficient of investment efficiency ranges from 0.10 (BootLLCI) to 0.036 (BootULCI). The estimation results do not give a zero number, so the test results are significant. Proving that investment efficiency mediates managerial ownership of firm value, there is an increase in the effect of 15.0% from -.171 to .021.

The direct effect of managerial ownership on firm value, the test results show that Managerial Ownership has a significant negative effect on Firm Value as evidenced by the coefficient value (c = -.193, p-value 0.015≤ 0.05 which means that managerial ownership has a negative effect on the value of the company.

Figure 3. Direct and indirect effect Managerial Ownership on Firm Value through Investment Efficiency



Result and Discussion

The direct effect of managerial ownership on firm value, research results show that there is a non-linear effect of managerial ownership on firm value, consistent with the results of previous studies that managerial ownership is inversely related to firm performance (Morck et al., 1988; Lins, 2003) in Emerging Markets; in Nigeria (Sani, 2020), Australia (Shan, 2019), and in Indonesia (Haruman, 2008; Sukirni, 2012; Suriawinata & Nurmalita, 2022). The results of this study are in line with the entrenchment hypothesis, there are indications and tendencies to maintain management power, to carry out acts of expropriation for personal or group interests because they feel that their rights to control are protected as shareholders and of course related to agency costs, thus the need for an independent board to reduce conflict this interest and the implication is an increase in monitoring costs.

The indirect effect of managerial ownership on firm value through investment efficiency is the product effect; The first product is the effect of managerial ownership on investment efficiency, the results of the analysis show that there is a nonlinear relationship between managerial ownership and investment efficiency, in line with (Iturriaga & Sanz, 2001) that investment is affected by managerial ownership, the same thing also happens in other emerging market countries by (Zheka, 2005) in Ukraine for the 200-2001 period, (N. Chen et al., 2017) in China for the 2006-2012 period, (Azhar et al., 2019) in Pakistan for the 2010-2015 period, and (Anelia & Prasetyo, AB, 2020) in Indonesia for the 2015-2017 period, but this is not the case in Malaysia (Nor et al., 2017) in Malaysia for the 2009-2011 period; (Rashed, 2018) in Egypt for the 2006-2015 period there was no significant relationship between managerial ownership and investment efficiency, managers who are also owners of the company will carry out and ensure optimal investment and returns, there is a alignment of interests between increased managerial ownership and shareholders (Hidthiir, M. H., Basheer, M. F., & Hassan, 2019; Basheer & Ahmad, 2018).

The second product is the effect of investment efficiency on firm value. The results of the analysis of the effect of Investment Efficiency (EFI) on firm value, are in line with research in Spain by (Iturriaga & Sanz, 2001) that firm value is obtained from the investment impact (PPE and intangible assets investment) made by the company, efficient investment decisions have effect on the company's market value (McConnell & Muscarella, 1985; Blose & Joseph, 1997; Titman et al., 2004), along with the development that the importance of investment both tangible and intangible (PPE and Intangible Asset investment), allocates more spending for investment when it has investment opportunities and can increase cash flow (Jiang et al., 2018) in China in the 2000-2014 period, investment efficiency (Al-hiyari et al., 2022) occurs in emerging market countries in the 2011-2019 period, with a level of optimism high management can increase the efficiency of a company's investment by reducing the occurrence of underinvestment (I. Chen & Lin, 2013), productive sustainable investment based on financial limitations plays a role in increasing so that it can increase firm value (R. Hidayat et al., 2020).

Empirical evidence that managerial ownership structure influences investment policy, institutional ownership (Firth et al., 2012); concentrated ownership (N. Chen et al., 2017; Soliman, 2020); managerial ownership (Cho, 1998; Iturriaga & Sanz, 2001; N. Chen et al., 2017; Azhar et al., 2019; Anelia & Prasetyo, AB, 2020) has an effect on the efficiency of a company's investment, thereby providing opportunities for an increase in the company's estimated the company's cash flow that has an impact on the value of the company.

Investment expenditure is positively related to an increase in cash flow which ultimately affects firm value (Firth et al., 2012), causing an increase in stock prices and vice versa (McConnell & Muscarella; 1985). Productive sustainable investment spending has a positive effect on the value of public companies in Indonesia (R. Hidayat et al., 2020), in line with research in China that there is a better alignment of insider ownership in companies to increase company investment (Vijayakumaran, 2021) which ultimately has an impact on increasing value for the company.

Proving that investment efficiency becomes part of the process or participates in transmitting managerial ownership of company value, becomes a mitigation in reducing conflicts of interest between management and principals, reduces agency costs which can ultimately increase company value and this is in line with the theory of agency costs from free cash flow (agency cost of free cash flow)

Conclusions, Limitation And Recommendations

Based on the results of the research and discussion in the previous section, the conclusions of this study are;

The results of the structural model show that the non-linear effect of managerial ownership on investment efficiency and firm value, low managerial ownership tends to make management over-invest, choose risky or unprofitable investment projects, this simply wants to get compensation or incentives. for the benefit of management and their group which ultimately has an impact on agency costs. and this aligns with the agency cost theory of the free cash flow and the entrenchment hypothesis.

Researchers also find that investment efficiency is a mitigation in reducing the occurrence of conflicts of interest between principal management, more effective managerial ownership of firm value through investment efficiency, this strengthens the agency cost theory of free cash flow (agency cost of free cash flow).

Limitations and research recommendations to be a concern for future researchers; first, limited to public companies in Indonesia, it is necessary to compare between other developing countries. Second, it is necessary to consider the institutional and concentrated ownership approach. Third, the mediating variable in this study is limited to investment efficiency, it is necessary to try and consider parallel mediating effects, for example the company innovation variable dividend policy.

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