Entrenchment Hypothesis and Insider Institutional Ownership: Empirical Evidence from Indonesia Capital Market

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Abstract: *The aim of this study is to examine the effect of insider institutional ownership on firm value. Indonesian firms have unique characteristic ownership structures which are dominated by insider institutional ownerships rather than managerial ownerships. This study develops model of entrenchment hypothesis that explain the behavior of insider institutional ownership and value of firm. Data for this study are financial ratios and stock price with period of 1994-2008 from non-financial firms that listed on Indonesia Stock Exchange. Using three-stage least squares in the equation system, this study found there is M-shaped relationship between insider institutional ownership and firm value. The research finding is parallel with Hermalin and Weisbach (1991) that found M-shaped relationship between managerial ownership and firm value.*

Keywords*: insider institutional ownership, entrenchment hypothesis*

I. Introduction

Institutional ownerships of public firms in Indonesia have unique characteristics. First, they are commonly as part of the firm founders and actively manage the firm called insider institutional ownership. For this purpose, they restrain the share more than 50% in order to control the firm. Table 1 shows insider institutional ownership and managerial ownership for nonfinancial firm listed at Indonesia Stock Exchange from 1994 to 2008. Mean percentage of total insider institutional ownership are dominant from 58.95% in 1995 to 67.21% in 2005. While aggregate mean of total insider institutional ownership is 64.59%.

Second, insider institutional ownership are also dominated by the largest institution ownership which has share proportion ranging from 44.16% in 2006 to 50.90% in 2001. Aggregate mean of the largest insider institutional ownership is 47.64%. While managerial ownership only hold small portion with ranging from 0.45% in 1998 to 4.37%, and aggregate mean of managerial ownership is 1.17%. It is difficult to track inside the ultimate shareholders in Indonesia. Some ultimate shareholders may also personation of firm manager. Therefore, it is also difficult to count the exact number of real managerial ownership.

Third, public ownership only hold small proportion ranging from 23.38% in 2008 to 30.08% in 2000. Aggregate mean of public ownership is 27.70%. Mahadwartha (2004) suggested that manager and insider institutional ownerships in Indonesia have inline interest to maximize their wealth. The conflict of interests are not between principal-agent but between principal-principal, more spesifically between insider institutional ownership and public ownership.

Several empirical evidences found non linear relationship between insider ownership and firm value that express managerial entrenchment behavior, but the shape types of relationship are mixed. Morck et al. (1988) estimated piecewise regression to test the effect of managerial ownership on Tobin's Q. They found *N*-shaped relationship between manager ownership and firm value (Tobin's Q). Short and Keasey (1999) used nonlinear regression of Tobin's Q also found *N-shaped* relationship. Other studies found inverted *U*-shaped

relationship (Chen & Steiner, 2000; McConnel & Servaes, 1990); *M*-shaped relationship (Hermalin & Weisbach, 1991); and *W*-shaped relationship (Cui & Mak, 2002).

Other empirical evidences found there are no relationships between ownership structure and firm value in associated with: multi-dimensional and endegenous variable of ownership (Demsetz & Villalonga, 2001); using adjustment cost approach (Cheung & Wei, 2006); earning quality (Mokhtari & Makerani, 2013; Najjar, 2015); domestic and foreign institutional ownership (Thanatawee, 2014). These findings consistent with diffuse ownership hypothesis.

Regarding the uniqueness ownership structure of the Indonesia firms, this study concern on institutional ownership rather than managerial ownership. The aims of this study is to develop and test empirical model of relationship between institutional ownership and firm value. This study examines whether agency control mechanism of dividend, ownership structure, and leverage does exist. Furthermore, this study also analyzes the impact of the agency control mechanism on firm value.

Chen and Steiner (2000) argued ownership structure is endegenous variable. Other studies argued ownership structure, leverage, and dividend are endogenous variables that represent mechanism tools of agency control (Chen & Steiner, 1999; Crutchley et al., 1999; Jensen et al., 1992). This study develops interelationship between the three endogenous and its impact on firm value. Using nonlinear simultaneous equation model, this research finds *M*-shaped relationship between insider institutional ownership and firm value as entrenchment hypothesis predicted.

Rest of this paper is organized as follows. Section 2 discusses institutional ownership model in Indonesia. Section 3 develops hypothesis and empirical model. Section 4 discusses the research method, including sample, data, variable and technique. Section 5 reports and discusses the empirical data analysis. Finally, Section 6 concludes the research result.

2. Institutional Ownership in Indonesia

Institutional ownership in Indonesia can be classified into two major groups: external institutional ownership and internal institutional ownership (Mahadwartha, 2004). External institutional ownerships are institutions who buy the firm share through stock exchange, such as pension fund, mutual fund, treasury managers, insurance companies, and many other institutions. It is difficult to search exact number of external institutional ownership in Indonesia capital market. Both the stock exchange and firms do not publish the detail data of public ownership structure. Internal institutional ownerships, however, are publicly reported both by the stock exchange and firms. They are part of firm founders which restrain large shares, commonly more than 50%, when they decided to go public. Although it cannot track down ultimate shareholders, it is commonly believed that the ultimate shareholders play role important in managing the firm (Usman & Setyawan, 2008), called insider institutional ownership.

Figure 1 illustrates the mechanism of insider institutional ownership in Indonesia. Mr. Agus owns 100% share of both firm X and firm Z. Through the two institutions, Mr. Agus owns 51% share of firm Y, while 49% share are owned by public investors. Firm X and firm Z vote Mr. Agus as chief executive officer. In this context, Mr. Agus, as ultimate shareholder, does not explicitly reported as owner of firm Y.

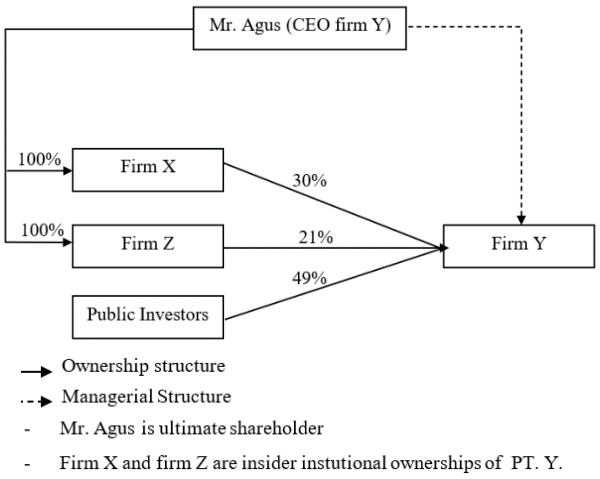

Figure 1: Scheme of Insider Institutional Ownership

Table 1. Insider Ownership Structure of Nonfinancial Firms Listed on Indonesia Stock Exchange

Year	Statistic	Insider Institutional Own.		Managerial Own.	Public Own.
		Total	The Largest		
1994	Mean (%)	59.73	45.54	4.37	27.05
	Std. Dev	25.88	24.07	13.01	12.08
1995	Mean (%)	58.95	47.53	4.35	29.46
	Std. Dev	24.40	27.48	12.93	14.08
1996	Mean (%)	59.71	50.36	3.33	30.03
	Std. Dev	23.47	35.15	11.30	14.73
1997	Mean (%)	66.09	49.09	1.20	28.71
	Std. Dev	16.46	19.66	7.04	12.65
1998	Mean (%)	66.70	50.35	0.45	29.82
	Std. Dev	15.84	19.27	1.96	14.00
1999	Mean (%)	65.99	49.23	0.48	30.28
	Std. Dev	16.74	19.57	2.07	14.96
2000	Mean (%)	65.30	49.39	1.26	30.08
	Std. Dev	21.40	22.13	6.83	18.76
2001	Mean (%)	66.46	50.90	0.53	28.88
	Std. Dev	20.79	21.12	2.13	18.60
2002	Mean (%)	66.49	48.84	0.48	27.97
	Std. Dev	21.29	21.12	1.74	18.46
2003	Mean (%)	63.76	48.38	0.46	28.57
	Std. Dev	22.58	21.35	1.75	19.41
2004	Mean (%)	65.89	46.04	0.51	26.64
	Std. Dev	21.02	23.42	1.91	18.67
2005	Mean (%)	67.21	45.86	0.47	27.89
	Std. Dev	20.64	22.12	1.89	19.61
2006	Mean (%)	64.63	44.16	0.53	25.21
	Std. Dev	24.86	24.38	2.53	21.51
2007	Mean (%)	63.76	44.36	0.50	25.03
	Std. Dev	25.34	23.84	2.06	21.98
2008	Mean (%)	64.51	47.39	1.14	23.38
	Std. Dev	26.06	24.30	3.73	20.33
Total	Mean (%)	64.59	47.64	1.17	27.70
	Std. Dev	22.30	23.46	5.87	18.24

3. Hypothesis Development and Empirical Model

At too low level of insider institutional ownership, managers will take more risky investment. Managers concern on firm growth to get more perquisite from the larger size of firm; such as higher incentive, compensation, and salary (Murphy, 1985). At this level, insider institutional ownership has lack of power to control the management of firm Y. In other words, insider institutional ownership have no strong tools to shifting the wealth of firm Y to firm X and firm Z.

Increasing insider institutional ownership will increase the control power of firm Y by promote and vote Mr. Agus as chief executive officer (CEO). Suppose firm X supplies input to firm Y; and firm Y supplies input to firm Z; it will lead Mr. Agus to maximize his wealth by expropriating assets of firm Y from those transactions. At this level, increasing insider institutional ownership may lead decreasing firm value. The conflict of interest between principals still arise because insider hold less than 100% of the residual claim (Harris & Raviv, 1991; Jensen & Meckling, 1976). Mr. Agus has strong incentive to get entrenched as long as he has higher proportion of ownership at firm X and firm Z than firm Y. Table 1 ilustrate this assumption that level of insider institutional ownership is higher than level of public investor. From this point of view, higher insider institutional ownership potentially decreases firm value. This view is parallel with hypothesis that higher insider ownership allows manager to become entrenched (Chen & Steiner, 2000; McConnel & Servaes, 1990).

At the moderate-high level of insider institutional ownership, there is strong incentive for Mr. Agus to improve the value of firm Y. Some previous studies support the hypothesis that there is *N*-shape relationship between managerial ownership and firm value (Morck et al., 1988; Short & Keasey, 1999). At this stage, from insider institutional ownership' perspective, there two motives that explain Mr. Agus should spent more time and control to increase the performance of firm Y. First, he want firm Y increase both in size and value because it will directly impact on the performance of firm X and firm Z. Second, Mr. Agus now concern on the performance of firm Y due to considerable proportion of insider ownership. Mr. Agus has incentive again to converge his interest with public investors, mean that higher insider institutional ownership higher firm value. However, when shares of the insider institutional ownership continue to increase closed to 100% of residual claim, Mr. Agus has equal incentive to protect firm Y, X, and Z. At this level, Mr. Agus will entrench firm Y by shifting his risk taking behavior from risky investment to less risky investment decisions.

Figure 2 shows M-shaped relationship hypothesis between insider institutional ownership (Inst_own) and firm value (V_F). The model is parallel to Hermalin and Weisbach (1991) that find *M*-shaped relationship between managerial ownership and firm value.

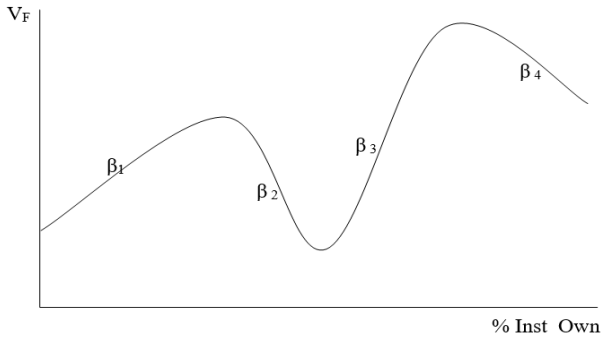

Figure 2: *M*-shaped relationship between insider institutional ownership and firm value

However, this study provides different argument and explanation in developing concept and hypothesis that related with insider institutional ownership rather than managerial ownership. The symbols of β_1, β_2, β_3, and β_4 are coefficient of paramaters of nonlinear insider institutional ownership that represent the sign hypotheses of +, –, +, and –,for β_1, β_2, β_3, and β_4 respectively.

4. Research Method

4.1. Data and Sample

Data of insider institutional ownerships are obtained from Annual Indonesian Capital Market Directory from 1994 through 2008. Financial data of firms and stock price are obtained from Indonesia Stock Exchange and financial statement reports provided annually by non-financial firms that listed at Indonesia Stock Exchange. It is difficult to obtain consecutive years of financial data for all sample firms due to unavailability data

sources from representative institution. Table 2 reports sample size per year from 1998 to 2008. Some missing and outlier data from 2000 to 2008 are also reported in the table. The total samples in this study are 1446 firm-year observations.

4.2. Variables

4.2.1. Endogenous Variables

Chen and Steiner (1999) proposed four equations that explain relationship between managerial ownership, debt, dividend policy, and risk. They found that there is negative relationship between managerial ownership, debt, and dividend. The result confirms hypothesis of substitute agency control mechanism.

Table 2. Sample and Firm Year

Year	N	Missing & Outlier Data	Year	N	Missing & Outlier Data
1998	155	0	2004	137	4
1999	146	0	2005	139	5
2000	150	4	2006	126	22
2001	154	5	2007	116	28
2002	153	3	2008	121	20
2003	144	4	Total	1541	95

This study develops model to examine the effect of the three-agency control mechanism on firm value. There are four endogenous variables in system of equations. Market to book value of capitals (Mbv) is used as a proxy of firm value. Mbv is calculated as (number of common share x stock price + book value of interest bearing debt)/(book value of equity + book value of interest bearing debt). Insider institutional ownerships are part of founders of firm that retain a number of their shares when they decided to go public. Insider institutional ownership (Inst_own) is calculated as number of shares of the largest insider institutional ownership/total number of shares. The proxy of leverage is interest bearing debt to total assets (Ibd_ta). Noninterest bearing debt is excluded in this measurement in order to isolate the effect of accounting bias due to window dressing. This proxy represents public investors' interest who wants to control risk taking behavior of insider ownership through increasing riskier debt. Dividend payout ratio (Div) is calculated as dividend payment/net income. All endogenous variables are calculated as follows:

$$MBV_t = \frac{(Number\ of\ outstanding\ share\ x\ Stock\ Price)_t}{(Book\ value\ of\ equity)_t} \quad (1)$$

$$Inst\_own_t = \frac{(Share\ number\ of\ largest\ insider\ institutio}{(Total\ number\ of\ shares)_t} \quad (2)$$

$$Ibd\_ta_t = \frac{(Interest\ bearing\ debt)_t}{(total\ assets)_t} \quad (3)$$

$$Div_t = \frac{(Dividend\ payment)_t}{(Net\ Income)_t} \quad (4)$$

4.2.2. Exogenous Variables

There are seven instruments' variables in the equation system. Those are return on investment (Roi), firm size (F_size), operating cash flow to total capital (Ocf_tc), business risk (B_srisk), dummy of dividend payment (Div_dum), foreign ownership (Frg_own), mean Roi (M_roi), and Operating cash flow to total capital (Ocf_tc). All exogenous variables are calculated as follows

$$Roi_t = \frac{(Operating\ Income)_t}{(Total\ Assets\ )_t} \quad (5)$$

F_size_t = logarithm natural of net fixed assets (6)

$$Ocf\_tc_t = \frac{Operating\ \ Cash\ Flow}{(Book\ Value\ of\ Equity + Int.Bearing\ Debt)} \quad (7)$$

$$B\_risk_t = \sqrt{\frac{\sum_{t=0}^{n=-4}\left(OPM_t - \overline{OPM}\right)^2}{n-1}} \quad (8a)$$

Where OPM is operating profit margin that calculated as follows: (8b)

$$OPM_t = \frac{(Operating\ Income)_t}{(Sales)_t} \quad (8c)$$

$$\overline{OPM} = \frac{\sum_{t=1}^{n=5} OPM_t}{n}$$

Div_dum = 1 for increasing dividend payout ratio; = 0 for otherwise (9)

$$Frg\_own = \frac{\text{Shares number of foreign ownership}}{\text{Total number of shares}} \quad (10)$$

$$M\_roi = \overline{ROI} = \frac{\sum_{t=1}^{n=5} ROI_t}{n} \quad (11)$$

4.3. Empirical Model

Based on previous studies, and the hypothesis development of the endogeneity of firm value, leverage, dividend, and insider institutional ownership, this study develops empirical nonlinear simultaneous equation model. The model will be run in the equation system using Three-stage least squares (3SLS). Basic model in the equation system can be represented as:

Mbv = *f* (Div, Ibd_ta, Inst_own, Ocf_tc, Roi, F_size) (12)

Ibd_ta = *f* (Div, Inst_own, B_risk, M_Roi) (13)

Div = *f* (Ibd_ta, Inst_own, M_roi, Div_dum) (14)

Inst_own = *f* (Div, Ibd_ta, M_roi, F_size, Frg_own) (15)

5. Research Result and Discussion

Table 3 reports descriptive statistics for all endogenous and exogenous variables based on sample firms with 1446 observations. It shows that the average Market to book value (Mbv) is 1.3415 with a standard deviation of 1.6635. The average debt to interest bearing debt to total asset (ibd_ta) is 0.6439. The dividend payout ratio (Div) has a mean value of 0.1256. The percentage of the largest share of insider institutional ownership is 0.4833 for the average firm. The average ROI is 0.0737 with standard deviation is 0.1244. The measure of firm size defined as logarithm natural of net fixed assets (F_size) is 26.0604 (average absolute IDR is 207.9 billion). Operating cash flow to total capital and business risk have mean values of 0.0558 and 0.1013, respectively. Dividend dummy (Div_dum) has mean value of 0.2517 with 390 firms-year payout dividend and 1056 firm-year did not payout dividend. Finally, the average value of foreign ownership is 0.2150 and the average Mean ROI (M-roi for 5 years) is 0.0734.

Table 3. Descriptive Statistics of Variables

Mbv is market to book value of total capital; Ibd_ta is interest bearing debt to total assets; Div is dividend payout ratio; Inst_own is the largest institutional ownership; Roi is operating income to total assets; F_size is logarithm natural of net fixed assets; Ocf_tc is operating cash flow to total capital; B_risk is five years deviation standard of operating profit margin; M_roi is mean of five years roi; Div_dum is 1 for dividend increase and 0 for otherwise; and Frg_own is proportion of foreign institutional investor.

Variable	Mean	Max.	Min.	Std. Dev.
Mbv	1.34	18.32	-37.49	1.66
Ibd_ta	0.64	8.56	0.01	0.63
Div	0.13	8.94	-3.70	0.51
Inst_own	0.48	0.99	0.00	0.21
Roi	0.07	0.75	-1.02	0.12
F_size	26.06	32.39	7.24	2.12
Ocf_tc	0.06	2.80	-28.42	0.80
B_risk	0.10	8.57	0.00	0.28
Frg_own	0.22	0.98	0.00	0.29
M_roi	0.07	0.53	-5.40	0.17
Div_dum		1.00	0.00	
		(390)	(1056)	

Table 4 presents the parameter estimates from using 3SLS for the equation system defined by equation 12-15. Column 1 in Table 4 shows results for variable Mbv. All variables, including insider institutional ownership have significant impact on Mbv.

Table 4. Simultaneous Equation Regression for Value of Firm and Agency Control Mechanism

Three-stage least squares is used to estimate coefficients of parameter in the equation system. Variable definitions are presented at Table 3.

Exo-genous Variable	Endogenous Variable							
	1. Mbv		2. Ibd_ta		3. Div		4. Inst_own	
	Co-ef.	t-value	Co-ef.	t-value	Co-ef.	t-value	Co-ef.	t-value
Intercept	-8.17	-8.36 ***	1.76	9.03 ***	0.56	3.31 ***	0.34	4.96 ***
Div	2.16	4.37 ***	-1.05	-6.05 ***			-0.22	-4.16 ***
Ibd_ta	3.72	5.72 ***			-0.40	-6.54 ***	-0.19	-7.83 ***
Inst_own	5.21	3.63 ***	-2.06	-4.86 ***	-0.46	-1.58		
Ocf_tc	1.23	32.38 ***						
Roi	3.57	3.67 ***						
F_size	0.15	7.57 ***					0.01	4.52 ***
B_risk			0.04	1.69 *				
M_roi			0.01	0.06	0.04	0.43	0.09	2.58 ***
Div_dum					0.18	5.43 ***		
Frg_own							0.09	4.95 ***

*, **, and *** indicate significant at 10%, 5%, and 1% level of confidence, respectively

There is negative relationship between dividend (Div) and leverage (Ibd_ta). This result supports substitution-monitoring for agency control mechanism hypothesis (Chen & Steiner, 1999). While Inst_Own has significant impact on Ibd_ta, but it has no significant impact on Div

Table 5 reports the results of the nonlinear 3SLS estimates for the equation system which expand the basic model defined by equation 12-15. Column 1 in Table 5 shows results for variable Mbv. All variables, including insider institutional ownership have significant impact on Mbv. Ibd_ta has nonlinear impact on Mbv. The positive and significant sign on Ibd_ta suggests that over low levels of debt, as debt increases, the market to book value increase to reduce agency cost of equity. The negative and significant parameter estimate for Ibd-ta^2 indicates that at high levels of debt, bankruptcy risk becomes important to investors and market to book value is decreased.

Table 5. Simultaneous Equation Regression for Value of Firm and Agency Control Mechanism

Three-stage least squares is used to estimate coefficients of parameter in the equation system. Variable definitions are presented at Table 3.

Exo-genous Variable	Endogenous Variable							
	1. Mbv		2. Ibd_ta		3. Div		4. Inst_own	
	Co-ef.	t-value	Co-ef.	t-value	Co-ef.	t-value	Co-ef.	t-value
Intercept	-7.25	-7.78 ***	0.70	3.97 ***	0.18	1.72 *	-0.04	-0.54
Div	2.51	4.28 ***	-1.24	-7.82 ***			0.03	0.67
Ibd_ta	4.59	6.30 ***			-0.43	-22.93 ***	0.03	3.07 ***
Ibd_ta^2	-0.34	-2.84 ***						
Inst_own	4.90	3.36 ***	0.15	0.40	0.41	1.83 *		
Ocf_tc	1.21	24.75 ***						
Roi	3.18	7.01 ***						
F_size	0.11	3.64 ***					0.02	6.67 ***
B_risk			0.48	4.88 ***				
B_risk^2			-0.06	-4.43 ***				
M_roi			-0.32	-2.51 **	-0.14	-1.65 *	0.17	5.62 ***
Div_dum					0.13	4.20 ***		
Frg_own							0.12	6.93 ***

*, **, and *** indicate significant at 10%, 5%, and 1% level of confidence, respectively

Furthermore, column 2 in Table 5 also reports nonlinear relationship between B_risk and Ibd_ta. The positive and significant sign on B-risk suggests that over low levels of risk, as risk increases, the debt increase to get tax shield advantage. The negative and significant parameter estimate for B_risk^2 indicates that at high level of risk, bankruptcy risk becomes important to stakeholders and debt is reduced. This result supports trade-off hypothesis. Columns 2 and 3 in Tables 4 and 5 report inconsistent results for the effects of Inst_own on Ibd_ta and Div.

Table 6 presents the results of the nonlinear 3SLS estimates for the equation system that develops model from equations in Table 5. Column 1 in Table 6 shows results for variable Mbv. The quadratic equations for Inst_own and $Inst\_own^2$ have no impact on Mbv. In this equation system, Inst_own has positive and significant impact on both Ibd_ta and Div.

Table 6. Simultaneous Equation Regression for Value of Firm and Agency Control Mechanism

Three-stage least squares is used to estimate coefficients of parameter in the equation system. Variable definitions are presented at Table 3.

Exo-genous Variable	Endogenous Variable							
	1. Mbv		2. Ibd_ta		3. Div		4. Inst_own	
	Co-ef.	t-value	Co-ef.	t-value	Co-ef.	t-value	Co-ef.	t-value
Intercept	-5.71	-7.19 ***	0.49	9.27 ***	0.16	4.64 ***	-0.07	-0.95
Div	1.79	5.00 ***	-1.37	-9.69 ***			0.12	2.72 ***
Ibd_ta	3.12	8.48 ***			-0.43	-23.50 ***	0.07	6.46 ***
Ibd_ta^2	-0.18	-3.11 ***						
Inst_own	0.37	0.12	0.60	6.06 ***	0.45	7.29 ***		
$Inst\_own^2$	0.16	0.05						
Ocf_tc	1.24	32.67 ***						
Roi	2.76	8.07 ***						
F_size	0.17	10.70 ***					0.02	6.44 ***
B_risk			0.56	5.78 ***				
B_risk^2			-0.06	-5.11 ***				
M_roi			-0.26	-2.15 **	-0.09	-1.14	0.16	4.54 ***
Div_dum					0.11	3.85 ***		
Frg_own							0.13	6.88 ***

*, **, and *** indicate significant at 10%, 5%, and 1% level of confidence, respectively

Tables 7 and 8 present the results of the nonlinear 3SLS estimates for the equation system that develops model from equations in Table 6. There are nonlinear relationship between inst_own and Mbv. Tables 7 and 8 provide consistent results in both significance and sign of parameter estimates for all other variables. Tables 7 and 8 report the cubic and quartic parameter estimates for Inst_own, respectively. Column 1 in Table 8 shows that there is *M*-shaped relationship between Inst_own and Mbv as predicted. These results support entrenchment hypothesis.

There is hyperinflation of parameters estimated using cubic and quartic for Inst_own in the 3SLS system equation. This study run reduced form of market value. The magnitudes of parameters for Inst_own are in range -5.73 to 6.81. This study also run Hausman specification test for simultaneous problem in the equation system. The residual value of reduced form is statistically significant at 1%. These results are not reported in table.

Table 7. Simultaneous Equation Regression for Value of Firm and Agency Control Mechanism

Three-stage least squares is used to estimate coefficients of parameter in the equation system. See Table 3 for variable definition.

Exo-genous Variable	Endogenous Variable							
	1. Mbv		2. Ibd_ta		3. Div		4. Inst_own	
	Co-ef.	t-value	Co-ef.	t-value	Co-ef.	t-value	Co-ef.	t-value
Intercept	-12.27	-4.65 ***	0.38	7.49 ***	0.09	2.78 ***	-0.07	-0.96
Div	2.36	4.90 ***	-1.37	-9.74 ***			0.17	3.88 ***
Ibd_ta	4.60	6.68 ***			-0.43	-23.68 ***	0.09	8.56 ***
Ibd_ta^2	-0.38	-3.45 ***						
Inst_own	49.72	2.72 ***	0.86	9.01 ***	0.61	10.32 ***		
$Inst\_own^2$	-115.91	-2.87 ***						
$Inst\_own^3$	77.42	3.00 ***						
Ocf_tc	1.19	22.71 ***						
Roi	3.96	6.41 ***						
F_size	0.18	8.83 ***					0.02	6.17 ***
B_risk			0.50	5.28 ***				
B_risk^2			-0.06	-4.78 ***				
M_roi			-0.42	-3.32 ***	-0.17	-2.24 **	0.16	4.69 ***
Div_dum					0.11	3.76 ***		
Frg_own							0.13	6.56 ***

*, **, and *** indicate significant at 10%, 5%, and 1% level of confidence, respectively

Table 8. Simultaneous Equation Regression for Value of Firm and Agency Control Mechanism

Three-stage least squares is used to estimate coefficients of parameter in the equation system. Variable definitions are presented at Table 3.

Exo-genous Variable	Endogenous Variable							
	1. Mbv		2. Ibd_ta		3. Div		4. Inst_own	
	Co-ef.	t-value	Co-ef.	t-value	Co-ef.	t-value	Co-ef.	t-value
Intercept	-8.60	-5.19 ***	0.38	7.43 ***	0.09	2.64 ***	-0.07	-0.93
Div	1.98	4.92 ***	-1.41	-10.04 ***			0.18	4.01 ***
Ibd_ta	3.81	7.33 ***			-0.43	-23.63 ***	0.09	8.62 ***
Ibd_ta^2	-0.27	-3.27 ***						
Inst_own	31.59	2.11 **	0.86	9.08 ***	0.61	10.50 ***		
Inst_own^2	-126.00	-2.18 **						
Inst_own^3	177.66	2.12 **						
Inst_own^4	-81.03	-1.99 **						
Ocf_tc	1.23	28.72 ***						
Roi	3.03	7.54 ***						
F_size	0.20	9.44 ***					0.02	6.14 ***
B_risk			0.51	5.38 ***				
B_risk^2			-0.06	-4.92 ***				
M_roi			-0.33	-2.75 ***	-0.14	-1.80 *	0.16	4.52 ***
Div_dum					0.10	3.59 ***		
Frg_own							0.13	6.53 ***

*, **, and *** indicate significant at 10%, 5%, and 1% level of confidence, respectively

6. Conclusion

Entrenchment hypothesis explains the behavior of managerial ownership in pursuing value of firm. The hypothesis is fit for advance capital markets which are less dominated by block holders and typically have very disperse ownership structures. However, the explanation does not fit in Indonesia capital market due to disclose report statements that do not provide clearly information about the ultimate shareholders for institutional ownership. This study develops model that explain the behavior insider institutional ownership in pursuing value of firm in Indonesia capital market. Using nonlinear 3SLS in the equation system, this study provides evidence that support entrenchment hypothesis of insider institutional ownership. The empirical model provides evidence that here is *M*-relationship between insider institutional ownership and firm value. The model controls the nonlinear effect of debt on firm value. The model also supports substitution hypothesis for agency control mechanism between dividend and debt policies.

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