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Mediating Effect of Agency Cost on the Relationship between Ownership Structure and Firm Value

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Abstract

In the absence of agency conflicts, firm management can pursue investments that maximize shareholders wealth. This paper sought to establish the mediating effect of agency costs on relationship between ownership structure and value of companies listed at the Nairobi Securities Exchange. The study population consisted of 64 listed firms as at 31st December 2017. Generalized least squares estimator was fitted for the analysis. The findings reveal that managerial ownership transmit a negative influence onto value of the firm through managerial discretionary expenses utilization. On the contrast, foreign ownership transmit a positive influence on the value of listed firms through efficacy in the utilization of managerial discretionary expenses. Institutional ownership enhance value directly but not indirectly via application of managerial expenses. The findings extend predictions beyond the direct link between ownership and firm value. The study support contemporary practices in corporate governance of designing costs control mechanism and setting target cost efficiency ratio to maximize shareholders value.

Keywords: Managerial Ownership, Foreign Ownership, Institutional Ownership, Firm Value, Agency Cost, Mediating Effect.

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1. Introduction

Corporate governance mechanisms has received tremendous attention in corporate finance literature. Vast studies document corporate governance practices and firm value conceptual link. Specifically, ownership structure aspect and its influence on value proposition continue to gain interest in academia and policy makers. Without doubt, the separation of ownership and control in firms radiate agency costs (Jensen & Meckling, 1976). When agency conflicts exist, firms engage in managerial monitoring so as to streamline the interest of owners and management and conserve value (Tirole, 2006). However, in the absence of agency conflicts, firm management can pursue shareholders wealth enhancing investments (Bradford, Du & Sokolyk, 2011). Accordingly, the presence or absence of costs of agency conditional on ownership structure can explain the connection to the firm value dynamics. Malik (2015) document that across the world there exist mixed evidence on the role of ownership structure in enhancing performance. In this case, the manner in which ownership structure channel its influence directly or indirectly through monitoring mechanisms that mitigate or otherwise magnify agency costs can reflect in firm value. The agency cost transmission mechanism insight can assist to improve the prediction precision of the link between ownership structure and value

Firm value is attributed to the present worth of anticipated future incomes generated by firm's assets (Damodaran, 2002).The value is synonymous with shareholders wealth. Similarly, enhancing firm performance also capture firm value. The maximization of shareholders wealth is a key objective of every firm (Demsetz & Villalonga, 2001). The value is denoted by both market and accounting measures. Firm value is important as it can be used to evaluate shareholders' investment return (Damodaran, 2002). Fahlenbrach and Stulz (2009) contend that mitigating inefficiency of agency costs can boost the shareholders' value.

Ownership structure is the distribution of firms' equity holdings dependent on capital contribution and voting rights (Tirole, 2006). The structure displays the interest of diverse constituents of shareholders in a firm (Welch, 2003). Ownership structure dimensions of owner identity include managerial, institutional and foreign shareholding (Thomsen, Pedersen & Kvist, 2006). Managerial holding relates to ownership by corporate insiders of board members and firm managers (McConnell, Servaes & Lins, 2008). Institutional shareholding is ownership by entities such as commercial banks, investment firms, insurance industries, mutual funds, pension funds and other institutions including government and foreign firms (McKnight & Weir, 2009). Foreign shareholding represents ownership by non-local investors (Thanatawee, 2014).

Agency costs are expenditures incurred by principals to limit managers from engaging in unwarranted actions (Jensen & Meckling, 1976). In addition, the costs consist of contractual bonding expenditures for an agent to assure principals that agents' actions are in the principals' best interest. Moreover, agency costs cover any residual loss of welfare experienced by the principal as a consequence of separation of control and ownership (Jensen & Meckling, 1976). Wellalage and Locke (2011)

consider agency costs contingent on the operational efficiency of managerial discretionary expenditures in a firm. The operating expenses-to-revenue ratio can reveal the magnitude to which discretionary expenditures are incurred with a motive to generate revenue. Agency conflicts manifest situations where controlling shareholders and executive managers channel firm resources in conducts that enrich themselves but are not in the finest interests of the other shareholders (Singh & Davidson III, 2003).

Firms listed at the Nairobi Securities Exchange trade their shares in an organized securities market (Nairobi Securities Exchange, 2018). The firms have separate ownership from management occasioning aspects of agency problems that affect firm value. The firms' shares are freely transferable through trading at the bourse resulting to varied ownership structures (Ongore, 2011). Further, owners activate monitoring to streamline management interest and influences efficiency of resources utilization that affects the firms' cash flows.

The contribution of this article arises in addressing the effect of agency costs on the relationship between ownership structure and value of companies listed at the Nairobi Securities Exchange. The remainder of this article is designed as follows. It starts with the theoretical foundation and a review of literature on the relationship among ownership structure, agency costs and firm value. Subsequently, the objective and hypothesis of the study are highlighted. Thereafter, methodology framework follows and then the results and discussion. The last section outline the conclusions and recommendation and limitation and possible further research areas**.**

2. Literature Review

Jensen and Meckling (1976) espoused the agency theory which explains the conflict that exists between listed firms principals (shareholders) and agents (managers) arising from separation of ownership and firm management. While shareholders always strive to maximize the firm value, managers might seek to pursue their own interests. On other view, stewardship theory by Donaldson and Davis (1991) advance the view that steward management teams are only inspired by commissioning optimal investment choices and optimal resource utilization that are in the best interest of the firm.

Existing empirical studies comprehensively document the relationship between ownership structures and corporate performance. The reported results are not uniform in agreement on the direction of the relationship. Some studies findings by Fahlenbrach and Stulz (2008) and Demsetz and Villalonga (2001) reveal no relationship between managerial ownership structure and firm performance. Other, studies outline positive link between ownership and firm performance. For instance, Ahmad and Jusoh (2014); and Ongore (2011) report positive impact of institution ownership on the firm performance. In other occurrence, finding by Saleh, Zahirdin and Octaviani (2017) document negative link between institution ownership and value while Haniffa and Hudaib (2006) report a negative relationship managerial ownership and firm performance. In addition, Thanatawee (2014) and Ferreira and

Matos (2008) show a positive link between foreign ownership and firm value. However, Malik (2015) document insignificant negative relationship between foreign institutional shareholding and financial performance. Besides, McConnell, Servaes and Lins (2008) and Bradley and Wallace (2009) conclude a curvilinear relationship between the ownership structures and firm value. The mixed findings puzzle scholars and thus governance mechanisms continue to attract numerous recent studies. An attempt to resolve the mixed evidence can involve tracking the channel through which the ownership structures channel influence to firm value.

In contrast to aforementioned research on the relation between ownership and value, other studies dimensions explore the impact of ownership structures on agency costs. For instance, Chinelo and Yiegbuniwe (2018) evaluate the role of governance mechanism and ownership structure in mitigating agency cost for listed manufacturing firms on the Nigerian Stock Exchange. The results show that higher managerial ownership, operating expense and free cash flow significantly influence agency cost. Yet another study by Owusu and Weir (2017) investigate the relationship between agency costs, ownership structure and governance mechanisms in Ghana from 2000 to 2009. The estimation results depict that the existence of remuneration and audit committees, decreased agency costs and that that larger firms manifest more agency costs. The studies do not extend the estimation to show the transmission channel of agency costs onto the firm value.

Ownership and control separation exacerbate the conflict of interest between the owners and managers (Jensen & Meckling, 1976). Herein, Rashid (2016) document a negative but not a significant influence of managerial and institution ownership on the agency costs proxied as a ratio of operating expense among listed firms in Bangladesh. Truong and Heaney (2013) model agency costs as a function of institutional shareholding and insider ownership and establish negative coefficient of institutional shareholding and insider ownership in the determination of agency costs for 500 Australian listed firms. On the contrast, although, Florackis and Ozkan (2009) consider only managerial ownership based on dynamic panel data analysis, the results show that there is a positive relationship between managerial entrenchment and agency costs captured as operating expenses; a sign that low managerial ownership levels signal a low expense ratio.

McKnight and Weir (2009) while adopting agency costs inform of assets-to-sales ratio for 350 UK non-financial firms, confirm that reduced agency costs is associated with increased board shareholdings but higher institutional ownership may not mitigate agency costs due to ineffectiveness in monitoring board actions. Further, Singh and Davidson III (2003) analyze the relationship between ownership structure and agency costs for large US firms from 1992 to 1994. The findings indicate that managerial ownership does not serve as a significant deterrent to excessive discretionary expenses. Ang, Cole and Lin (2000) evaluate the corporate ownership structure and agency costs measured in terms of asset utilization and operating expenses for 1,708 U.S. small firms. Agency costs were higher when outsiders managed firms. There were no available studies that appear to show the mechanism through which the costs of agency are passed on the link between

ownership structure and firm value.

The motivation for this article emanates from the documented reviews on link between ownership structure and firm value. Vast existing studies documents either positive, negative or no relationship between ownership structure and firm value. Other studies only attempt to predict agency costs inherent in firms but do not show the pathway of agency costs to eventually influence value dynamics. Yet in other studies, agency costs is included in ownership and value relationship model as a mere control variable. The efficacy of the monitoring mechanism adopted to mitigate the conflicts that exist due to separate control and ownership can enrich existing corporate governance literature. Therefore, this paper offer extension in the Kenya context on the mechanism that connect ownership structure to value. Specifically, this paper enrich ownership-value link by exploring the role of agency costs on the relationship between ownership and value for listed companies in Kenya. The following null hypothesis was tested: H_0: The mediating effect of agency costs on the relationship between ownership structure and value of companies listed at the Nairobi Securities Exchange is not significant.

3. Methodology

This section presents key aspects of methodology of datasets, research variables and proxies and mediating model specification.

3.1 Data

The study population consisted of 64 listed firms as at 31st December 2017. Data was collated from listed firms' annual integrated financial reports, licensed Share Registrars, Capital Markets Authority statistical bulletins, firms' websites, and periodic circulars to shareholders. In cases where missing reports were encountered, data was directly obtained in some cases from respective company offices. Panel data models were preferred for the analysis as it enables to allow the double dimensionality of multiple observation for each firm unit and thus reveal more accurate and reliable results. (Wooldridge, 2013). Complete data set was available from 2 to 8 year for 54 firms and thus yielded 397 firm year observations of short and unbalanced panels.

3.2 Research Variables and Proxies

The measurement of the variables in the study is adopted from previous literature. The dependent variable is the firm value while the independent variable is the ownership structure and agency costs (managerial discretionary expenditures turnover ratio) as the mediator. Table 1 present the summary of variable definitions in incorporated in the regression models.

Table 1: Research Variable Measurement

Variable	Abbreviation	Proxy
Foreign Ownership	FO	Ratio of foreign share ownership
Institutional Ownership	IO	Proportion of institutions share ownership
Managerial Ownership	MO	Ratio of Board members and CEO Ownership
Managerial Discretionary Expenses	MDE	Ratio of Selling, distribution and administrative expenses to sales
Firm Value	TQ	Ratio of market to book value of equity

3.3 Model Specification

Mediation represent the underlying mechanisms that link independent and dependent variable (Hayes, 2013). A mediating variable carries the effect of an independent variable onto a dependent variable. In this case, effect of agency costs on the relationship between ownership structure and value of firm. The testing steps as adopted from Baron and Kenny (1986) and Hayes (2013) are outlined as follows; the initial model fitted assess the direct relationship between ownership structure and value of listed firms. The subsequent step of the analysis target ownership structure predicting agency costs (mediating variable). The ultimate step involved expressing firm value as a function of agency costs in presence of ownership structure. Moreover, this step establishes the change of the direct effect of ownership holdings on value of firm on introducing agency costs so as to confirm or disapprove existence of any indirect path of mediation.

Baron and Kenny (1986) and Hayes (2013) mediation approach involves the following set of regression equations concerning ownership structure, agency costs and value for firm.

Step 1: $TQ=\beta_{10} +\beta_{11}MO_{it}+\beta_{12}IO_{it}+ \beta_{13}FO_{it}+\varepsilon_{it}$

Step 2: $MDE=\beta_{20} +\beta_{21}MO_{it}+\beta_{22}IO_{it}+ \beta_{23}FO_{it}+\varepsilon_{it}$

Step 3: $TQ=\beta_{30} + \beta_{31}MDE_{it} +\beta_{32}MO_{it}+\beta_{33}IO_{it}+ \beta_{34}FO_{it}+\varepsilon_{it}$

In confirming the indirect effect, the regression of direct relationship of model 1 must be significant. Similarly, the betas of ownership structure while predicting agency costs in model 2 must be significant. Moreover, model 3 ought to reflect reduction (diminishing) in effect of the relationship between ownership structure and value in presence of agency costs (Baron & Kenny, 1986; Hayes, 2013).

4. Results

The section documents the descriptive and inferential analysis.

4.1 Descriptive Analysis

The summary descriptive statistics to show data distributions are summarized in Table 2.

Table 2: Descriptive statistics

	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Firm value	0.10	7.40	1.51	1.30	1.96	4.58
Managerial ownership	0.00	0.82	0.13	0.20	1.70	1.88
Institutional ownership	0.01	0.95	0.48	0.25	-0.19	-1.21
Foreign ownership	0.00	0.94	0.28	0.28	0.61	-1.10
Managerial discretionary expenditures	0.01	0.80	0.30	0.20	0.57	-0.43

As per Table 2, the listed firms Tobin's Q value varies from 0.10 to 7.40, revealing a significant variation in valuation among the listed firms. The firms mean value was 1.51 with a standard deviation of 1.30. Tobin's Q maximum and minimum values were 7.40 and 0.10, a pointer to heterogeneity in value among firms. Tobin's Q is positively skewed at 1.96. The distribution is more fairly peaked with a kurtosis of 4.57 revealing that some listed firms were highly valued.

The minimum value of managerial ownership was zero an indication that some board members which do not own any shares in the firms which they manage. The maximum value of 0.82 reveals that some managers held a significant number of shares in the listed companies. Managerial share interest positive skewness of 1.7 denote that substantial firm managers hold small number of shares in many listed firms. A kurtosis value of 1.88 reveals a fairly mesokurtic distribution of members of the board interest in entities ordinary shares.

The institutional equity holding mean value is 0.48 while the minimum value is 0.01. The maximum shareholding by institutional investors was at 95 per cent an indication that some firms were owned almost exclusively by the institutional equity holders. Institutional equity holding skewness score of -0.18 while the kurtosis score was -1.21. The maximum equity holding by foreign investors stood at 94 per cent, a sign that the ownership structure of listed firms is greatly concentrated in the hands of foreign shareholders. On average the ownership by foreign investors was at 29 per cent of total equity holding for the listed corporates. The minimum value of zero reveals that some firms were not owned at all by foreign investors. The skewness score is 0.61 for the foreign ownership while the kurtosis score of -1.10.

The mean MDE turnover ratio is 0.30 which signifies that every 30 cents of managerial discretionary costs incurred generated a revenue of a shilling to the firms. The minimum value of 0.01 and maximum MDE turnover ratio of 0.80 denotes the proportion of discretionary costs to generate revenue for the firms. The MDE

turnover ratio is positively skewed at a score 0.57. The kurtosis of MDE turnover ratio is peaked at -0.43.

4.2 Correlation Analysis Matrix

The nature and strength of the relationship between firm value and study variables is summarized in correlation matrix Table 3.

Table 3: Correlation matrix

	TQ	MO	IO	FO	MDE
TQ	1				
MO	-.235**	1			
	.000				
IO	-0.36	.352**	1		
	.470	.000			
FO	0.126*	-.374**	-.802**	1	
	.012	.000	.000		
MDE	-.131**	-.132*	-.038*	.125*	1
	.007	.000	.035	.001	
* Significant at $\rho < 0.05$ level					
** Significant at $\rho < 0.01$ level					

Table 3 results show statistically significant negative link between firm value and managerial ownership (r=-.235, p=00). On the contrary, there was a positive correlation between value and foreign equity holding (r=.126, p=0.00), indicating that value of firm improved as foreign holding increased. The institutional equity holding demonstrated an inverse but insignificant association (r=- 0.36, p=.400) with the value of firms. The results further show a significant positive association (r=-0.131, p=.007) between managerial discretionary expenditures turnover ratio (agency costs) and value of firms.

4.3 Hypothesis Testing

The panel diagnostic tests for the linear regression analysis were estimated to enable determine the appropriate model specification to be fitted. Heteroscedasticity was evaluated based on the Breusch-Pagan test (Breusch & Pagan, 1979) while auto correlation check relied on the Wooldridge Chi-square test Heteroscedasticity test was conditional on the null hypothesis of constant variance while auto correlation was tested by hypothesizing that no autocorrelation exist (Wooldridge, 2013). The summary results of assumptions test are displayed in Table 4.

Table 4: Breusch-Pagan and Wooldridge Tests Results

	Model 1	**Model 2**	**Model 3**
Breusch-Pagan Test	20.21	40.848	35.083
P-value	0.0005	0.0002	0.0000
Wooldridge Test (χ2)	177.51	262.55	174.56
P-value	0.000	0.000	0.000

Table 4 results show that the p-value for both heteroskedasticity and serial correlation tests were less than 0.05, thus implying that the null hypothesis were rejected. The heteroskedasticity test confirm that variance of the error terms of the variables was not constant. Therefore null hypothesis of constant variance was rejected. In addition, the autocorrelation test affirm that the errors in different variable observations were related. In this case, the null hypothesis that no autocorrelation exist was also rejected. The alternative hypotheses confirming presence of heteroskedasticity and autocorrelation was adopted. Subsequently, general least squares was adopted for the regression analysis since heteroskedasticity and serial correlation assumptions were violated (Baltagi, 2005).

The test results on the mediating effect of agency costs on the relationship between ownership structure and value of firm results are presented in Table 5.

Table 5: Feasible General Least Squares Regression Results

Coefficients	**Model 1**	**Model 2**	**Model 3**
Dependent variable	TQ	MDE	TQ
Intercept	1.2758***	0.1890***	1.4044***
	(0.000)	(0.000)	(0.000)
MO	-1.4745***	0.2233***	-1.3334***
	(0.0001)	(0.000)	(0.0006)
IO	0.8687	0.04872	0.7862**
	(0.00578) **	(0.27686)	(0.0027)
FO	0.9836	0.14902**	0.8651**
	(0.02624) *	(0.0237)	(0.02708)
MDE			-0.4881*
			(0.01919)
R-Squared	0.596	0. 6562	0.6599
Wald statistic	59.6	40.815	70.9091
Pr(>Chisq (χ^2)	0.000	0.000	0.000
Observations	397	397	397
Signif. Codes: '***' 0.001 '**' 0,01 '*' 0.05			

5. Findings and Discussions

Table 5 model 1 presents the test results of the direct effect of ownership structure on firm value. The results of feasible generalized least squares estimation in Table 4 show that managerial indicator of ownership structure (β =-1.2758, p=0.0001) had a statistically significant negative effect on firm value while foreign (β =0.8687, p=0.0000) and institutional ownership structure (β=0.9836, p=0.0264) have a significant positive effect on firm value. The statistically significant direct relations depicted in model 1, fulfills the first necessary condition of testing for mediation. Model 2 the estimate of the effect of ownership structure on managerial discretionary costs turnover ratio (agency costs). Managerial and foreign equity holding manifest a positive effect on utilization of managerial discretionary expenses. The link between institution equity holdings and managerial discretionary expenses was positive but not statistically significant. The relationship of ownership structure with agency costs is significant (Wald statistic= 40.82, p value = 0.00) hence the analysis progress to next step of mediation. The third step involved modelling firm value as a function of managerial discretionary expenses in presence of ownership structure.

The results reveals that managerial discretionary expenses and ownership variable of managerial exhibit statistically significant negative relationship with value of firm. On the contrast, foreign ownership and institutional equity holding reveal a significant positive effect on firm value. Moreover, the testing of the mediating effect of agency costs on the relationship between ownership structure and value of firm also evaluates the effect of ownership structure on firm value in presence of managerial discretionary expenses. The significant coefficients of managerial changed from (β= -1.4745 to β= -1.334); institutional holdings changed from (β =0.8636 to β =0.7862) and foreign holdings changed from (β=0.936 to β = 0.8651). In this case, the results for this step reflects a diminishing managerial and foreign ownership indicators effect on value in presence of managerial discretionary expenses. Thus, the null hypothesis on the mediating effect of managerial discretionary expenses turnover ratio on the relationship between managerial ownership and firm value; and foreign ownership and firm value was rejected. However, since institutional ownership does not predict agency costs, the null hypothesis of the effect of agency costs on the relationship between institutional ownership and firm value was confirmed.

As per model 1, the direct effect findings that managerial ownership reduce firm performance is similar to Haniffa and Hudaib (2006) assertion. Moreover, consistent with Ahmad and Jusoh (2014) and Ongore (2011), institutional ownership improves firm value. In the same vein, the positive relationship between foreign ownership and firm value output, is in congruence to Thanatawee (2014) and Ferreira and Matos (2008) findings. The findings is a notable exception from Malik (2015) who suggest insignificant negative relationship between foreign shareholding and financial performance. Overall, the findings of management ownership influence on value of firm being transmitted through the efficiency

mechanisms in the utilization of managerial discretionary expenses in an entity, is in line with the entrenchment of interest proposition. Moreover, the findings are consistent with the study by Ang, Cole, and Lin (2000) who argue that discretionary expenses varies inversely with managerial equity holding. Nevertheless, the findings are inconsistent with the results of Sign and Davidson III (2003) who report that managerial equity holding is positively related efficient resource utilization. Further, the findings on mediating effect of utilization of managerial discretionary expenses show that foreign ownership transmit a positive influence on the value of listed firms through efficacy in the utilization of managerial discretionary expenses. Institutional ownership does not predict firm value via agency costs. This is contrary to McKnight and Weir (2009) analysis that institutional ownership mitigate agency costs perhaps due to the fact that they can effectively monitor management.

6. Conclusion and Recommendations

Managerial Ownership depict negative influence on value of firm that is transmitted through agency costs. In this case, any instances of imprudent utilization and deficiency of cost control mechanisms of managerial discretionary expenses allow executives to expropriate resources. The positive effect of foreign ownership on value is explained by efficacy in the utilization of managerial discretionary expenses. This signify that the capability by foreign investors to set up discretionary expense control mechanisms. This in return translates into efficient income to cost ratio that maximize the value. Institutional ownership directly enhance firm value but not indirectly through monitoring mechanisms of discretionary expense.

The findings extend predictions beyond the direct link between ownership and firm value. Indeed, it enriches existing corporate governance knowledge on the agency costs chain connecting ownership structure and firm value. In this case, the monitoring interventions in practice adopted by firms support existence of indirect path connecting ownership and value dynamics. The implication of the effect of discretionary expenses provides support for contemporary practices of designing costs control mechanism and setting target cost efficiency quotients. The aim is to boost the efficacy of management to maximize value for investors. Besides the indirect effect, a subsidiary managerial implication reckon policy refinement and practice appraisal of shareholding by firm management since it is negatively related to firm value.

The mediation effect considered in this study was limited to the sequential causal framework outlined by Baron and Kenny (1986) that require manifestation of significant direct link between condition of ownership and value. In this case, study refinement and corroborations can consider simultaneously analyzing mediation premised on structural equation modelling. Moreover, alternative research extensions can model the effect of other agency cost proxies on the ownership-value relationship.

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