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Impact of Corporate Ownership Structure on Agency Costs: Evidence from Sri Lankan Listed Firms

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Abstract

Over the last decade, the corporate ownership structure and agency cost has been an important topic and discussion among research and business community. However, to what extent the ownership structures matter for mitigating agency costs still needs to be resolved. This study empirically investigates the role of different ownership structures in dealing with agency issues for Sri Lankan non-financial firms from 2015 to 2019. The panel data method was used to examine the impact of agency cost on ownership structure. The authors found a consistent view of the relationship between agency cost and ownership structure. Accordingly, the results explained that managerial ownership facilitates mitigating agency issues. The authors also noticed that larger firms could reduce agency costs by having sizable institutional or concentrated ownership. While in the case of small firms, foreign ownership alleviates agency costs. The study would help firms' stakeholders, particularly managers, owners and investors, make the right investment decisions.

Keywords: Agency Theory, Agency Cost, Corporate Ownership Structure, Sri Lanka

1. INTRODUCTION

The concept of agency cost was brought to the attention of seminal contributors, namely, Jensen and Meckling, in 1976. "Separation of Ownership and Control" was one of the main concerns in the corporate finance literature, which later brought agency relationship, agency problems and agency costs. The manager's involvement in non-value-adding activities that may not improve the firm's value will generate agency problems and agency costs. They defined agency cost as a sum of the monitoring expenditure by the principal, the bonding expenditure by the agent and the residual loss. According to their argument, an agency problem will directly raise agency costs to the firm. Consequently, several empirical studies support that the existence of agency conflicts and the degree of agency cost significantly influence firm value, for example, Morck et al. (1988); McConnell and Servaes (1990); Agrawal and Knoeber (1996), among others.

Agency issues are inevitable due to the separation of ownership and management. In such a way, agency cost is a significant concern in the current business world and can be minimized through internal and external corporate governance

mechanisms. Corporate governance gives prominence to addressing power distribution as a critical issue in any country and to business firms to maximize their performance. Formerly, corporate governance mechanisms were established to improve the negative consequences – importantly agency conflicts and the costs resulting from these conflicts – of the separation between ownership and control. Agency costs usually vary with the extent of the relationship between ownership and control of a firm and the level of ownership dilution (Ang et al., 2000). Firms' ownership structure reflects the decisions made by those who own and those who would own shares. Therefore, whether concentrated or diffused, the ownership structure shows the profit-maximizing interests of the shareholders (Demsetz & Villalonga, 2001). Ownership is concentrated when the largest shareholder of the company holds more than 10% of the voting rights (Hamadi & Heinen, 2015). Following the agency theory, concentrated ownership could increase the firm value by reducing the agency cost.

Further, on the other way, Shleifer and Vishny (1997) mentioned that if a company has large shareholders, they will take decisions that provide their benefits at the expense of the small shareholders. Increasing ownership to a point where managers become entrenched will increase agency costs (Schooley & Barney, 1994; Morck et al., 1988). Accordingly, there are different ownership structures in firms where agency costs can impact differently to each firm.

There is an ongoing debate about ownership structure on owners' wealth maximization in Asian settings which differs from developed countries. Many studies have sought to evaluate the effect of agency costs on ownership structure empirically. However, the reported findings are not consistent among scholars. Furthermore, only a few studies (Ang et al., 2000; Singh & Davidson, 2003; McKnight & Weir, 2009; Belghitar & Clark, 2015) have examined the relationship between a few variables related to corporate governance and agency cost alternatives. However, most of these studies are adopted from other countries perspectives and are different from the Asian context (Florackis, 2008). They supported this argument, Claessens and Fan (2003) renowned that the lack of protection for minority rights in Asia has been the primary corporate governance issue. Subsequently, corporate governance mechanisms needed to be more vital to mitigate agency problems. Moreover, it is broadly accepted in the governance literature that institutional settings and the governing framework significantly influence the decision of a firm on the choice of ownership structure. In the case of Sri Lanka, the collapse of Pramuka Bank, Vanic Incorporation in the 1990s, the Golden Key Credit Card Company (GKCC) in 2008 and the recent bankruptcy of finance companies such as ETI Finance, The Finance Company PLC and Swarnamahal Financial Services PLC are evidenced in the context over the last three decades. In Sri Lanka, there is no clear regulatory

framework linked to corporate governance and agency costs. However, all listed firms at Colombo Stock Exchange (CSE) should disclose the mandatory code of practices and their compliance. On the other hand, several corporate controversies in Sri Lanka have created considerable uncertainty among business firms. Ownership is concentrated in most Sri Lankan listed companies with controlling shareholders (Senaratne & Gunaratne, 2008). Wellalage and Locke (2012) revealed that concentrated ownership, Foreign Ownership and Institutional Ownership are mainly dominant in Sri Lankan firms. Further, Chandrasena and Kulathunga (2015) stated the existence of minority disputes in Family owned firms in Sri Lanka. It is also acknowledged by Kalainathan (2014), and suggests the need for investor protection laws in this context. Therefore, there is a need to explore the various types of ownership, and their effects on agency costs in Sri Lanka, inspired by the authors to carry out this study.

Most of the prior studies on corporate ownership analyzed under the highly regulated environment of countries like US, UK and other mature markets. Investigating how different ownership structures may affect on agency costs in different institutional and country settings is also essential. Still, the impact of corporate ownership structure and its impact on agency costs remain uncultivated in developing countries. Therefore, the primary purpose of this study is to fill the empirical gap in the existing literature to investigate the impact of different corporate ownership structures on the agency cost of listed firms in Sri Lanka. To the best of the authors' knowledge, this is one of the early studies that have made an attempt to point out the corporate ownership structure of listed firms in Sri Lanka related to agency cost and thus contributes greatly to the extant corporate governance literature.

The remainder of this paper is prepared as follows. It begins with reviewing prior literature on agency costs and the role of ownership structures. In Section 2, the research methodology and method are discussed. After which, the empirical results and discussion are presented in section 3 and 4. At last, concludes the study.

1.1 Review of Literature and Hypothesis development

Agency Theory is proposed by Jensen and Meckling (1976). Accordingly, an agency relationship is there when a principal (Owner) engages another person (Agent) to perform some activities on their behalf, which involves providing the decision-making authority to the agent. Further, in 1986, Jenson added that when firms generate substantial free cash flows, agency conflict between principal-agent becomes severe. While the purpose of agency theory is to minimize principals' agency costs by establishing internal controls that maintain the agent's self-servicing actions in check (Jensen & Meckling, 1976). Moreover, Agency theorists recommend numerous governance mechanisms to protect shareholder interest, diminish agency cost and ensure agent-principal interest

configuration. Thus, separation of ownership and control has resulted in agency conflict between shareholders and management of the company. Shareholders of organizations with widely dispersed ownership appoint managers to manage the organizational activities on their behalf of themselves because all of them cannot be engaged in the management of the organization. Owners of an entity appoint management to look after owners' funds invested, thus managers should act to maximize shareholder wealth. However, in the real-world, managers can prioritize their goals instead of achieving shareholders' goals. These two parties have a conflict of interest; due to that, agency cost arises.

Further, the firms incur a high amount of agency cost to mitigate the agency problem, which can be effectively allocated to the furtherance of organizational results. Agency cost comprises monitoring costs, bonding costs, and residual loss (Jensen & Meckling, 1976). These agency costs originate from the detachment of firm ownership and control. Magnitudes of these agency costs depend upon how well the owners and other delegated third parties monitor the actions of the managers (Ang, Cole & Lin, 2000). Moreover, agency problems contrast over firms in different industries and probably different cultures (Kole, 1995; Himmelberg, Hubbard & Palia, 1999). Therefore, an effective control and monitoring mechanism should exist to minimize agency costs and maximize the firm value. Different approaches are discussed in the prior literature. Accordingly, some internal methods are available in the firms. One of the potential methods is to have relevant ownership structures for a specific firm, and its context would facilitate reducing agency costs. In the extensive prior literature, agency cost and ownership structure have been empirically examined together by scholars, and mixed pieces of evidence are reported in a different context.

1.2 Ownership structure and Agency cost

Jensen and Meckling (1976) describe the ownership structure as the proportion of equity held by the managers, other outsiders, and debt owned by anyone outside the firm. In Asia, most firms are controlled by a family-based ownership structure. Controlling power can be explained as having more than 50% of ownership shares. Sri Lanka is not an exception to this scenario. In most Sri Lankan companies, family ownership, institutional ownership, and managerial ownership are present (Kulathunga & Azeez, 2016). The following section discusses the important corporate ownership structure variables and their relationship to agency cost.

1.2.1. Managerial Ownership and agency cost

Managerial ownership includes shares owned by the corporate board members, the CEO, and top management (Demsetz & Villalonga, 2001). In 1976, Jensen and Meckling proved that a firm's value and performance increase with the level of insider ownership through their 'Convergence of Interest' hypothesis. Besides, managerial ownership can align the interest between two parties and minimize the firm's agency cost.

Their model depicts a linear relationship between managerial ownership and agency cost. The existence of the linear relationship between managerial ownership and agency cost is endorsed by some authors (Jensen, 1993, Ang et al.; 2000 & Singh and Davidson III; 2003). In contrast, entrench hypothesis explains that managers have more power and interest, leading to higher agency costs. Consistent with the entrenchment hypothesis, some studies (Florackis & Ozkan; 2009, Morck et al.; 1988, among others) propose a non-linear relationship between managerial ownership and agency cost. Therefore, previous studies depict mixed results for the relationship between managerial Ownership and Agency cost. Following the above discussion, the hypothesis of this study is proposed and given below.

H1: Managerial ownership is positively related to agency cost.

1.2.2 Ownership Concentration and agency cost

Ownership concentration is another type that generates agency problems for firms. Initially, Shleifer and Vishny (1986) discussed the value of a large shareholder. They explained that when there are large shareholders, they have the motivation to monitor the firm to protect their interests. It was recognized as ownership concentration later by many researchers (Wellalage & Locke, 2012; Hamadi & Heinen, 2015; Singh & Davidson III, 2003). When a firm has concentrated ownership, shareholders with a high stake try to supervise the management and monitor their behaviours to carry out its operations more effectively. The high amounts of investments that they hold become an incentive for shareholders to monitor appropriately to protect their investment (Shleifer&Vishny, 1997). On the other hand, larger shareholders' control might create conflict with minority shareholders, which would produce some other costs. Accordingly, the hypothesis is formulated as follows.

H2: Ownership concentration is negatively related to agency cost.

1.2.3 Institutional Ownership and agency cost

Institutional ownership means that the shares owned by institutions include banks, insurance companies, pension funds, and mutual funds. Institutional shareholders are large, and they can monitor and control management more than other shareholders (Shleifer & Vishny, 1997). Findings related to institutional investors and agency costs are mixed in the review. Institutional investors like pension funds have a more professional way of monitoring the firms and attaining profits from their investments. Equally, institutional shareholders, like financial institutions, have a business interest in the firm and primarily support management's desires (Brickley et al., 1988). Cornett et al. (2007) also reported that higher institutional shareholders on the board would force managers to implement good decisions and reduce agency costs. Understanding the different characteristics of institutional investors on firm performance is essential to mitigate agency costs. Therefore, a hypothesis is developed as follows.

H3: Institutional ownership is

positively related to agency cost.

1.2.4 Foreign Ownership and agency cost

Foreign ownership means the shares owned by foreign investors. Firms were holding foreign ownership help firm to more active and proper monitoring actions, which could lower the agency cost. Many prior studies (Desender et al., 2016 & Jeon et al., 2011) explored that foreign investors can improve the corporate governance of countries with weak shareholder protection. They can control managers in a better way with their international experience in investments. In addition, foreign ownership improves a firm's quality by reducing information asymmetry (Lin & shiu, 2003). Also, firms with greater foreign investment reduce the overinvestment problem. Moreover, most of them are institutional foreign investors in the context of Sri Lanka and can enhance the cash flow while dipping costs by effective way of monitoring (Aggarwal et al., 2011). Therefore, foreign ownership plays a vital role in extenuating agency costs in a firm and hypothesizes

H4: Foreign ownership is positively related to agency cost.

2. METHODS

2.1 Conceptual model

Based on the above discussion of the literature review, the following conceptual model is proposed in the study, which shows the relationship between dependent, independent, and control variables in figure 1.

2.2 Data and sample

This research is based on purely secondary data. They are extracted from the published annual reports of the listed companies. The population for this study is all companies registered in the CSE. The sample selection criteria are;

- The availability of ownership structure information will be the basis of the selection of samples. Entities that do not provide proper notes regarding the ownership structures will be omitted from the sample.
- Listed companies in the financial sector will be omitted due to high regulations.
- Companies listed after 1st April 2012 and companies with a year ending other than 31st March were also excluded from the sample.

After analyzing the secondary data from the CSE database under the above exceptions, 70 companies (350 firm years) representing 17 business sectors were selected for the study. Data were collected from 2015 to 2019, recent financial years (5 years) before the influence of Covid 19.

2.2.1 Measurement of variables

The measurement of variables of the study is based on the prior studies and shown in the following table1.

2.3 Method of analysis

This empirical study examines the impact of ownership structure on agency cost using quantitative data. Panel regression would be constructed to test the impact of ownership structures (i.e. independent variables) on agency cost proxies (i.e. dependent variables). This study also

employed the Hausman test (1978) to determine which estimation model, either fixed or a random effect, best explains our empirical results.

The following panel OLS regression model is used to examine the study objective.

$$AC(AU)_{it} = \propto + \beta_1 \text{OWNCON}_{it} + \beta_2 \text{MGROWN}_{it} + \beta_3 \text{INSTOWN}_{it} + \beta_4 \text{FOROWN}_{it} + \beta_5 \text{FSIZE}_{it} + \beta_6 \text{LEV}_{it} + \varepsilon i \quad \text{(Model 1)}$$

Where AC is for Agency cost, OWNCON is for ownership concentration, MGROWN is for managerial ownership, INSTOWN is for institutional ownership, FOROWN is for foreign ownership, FSIZE is for firm size, and LEV is for financial leverage. i stands for the firm and varies from 1 to n; t is the year; β1 is the constant that does not vary over time; β1 to β6 are the coefficients in the regression; ε i,t it is the residual variable that varies with time; and natural log firm size is used.

Furthermore, companies divided into two based on a median of the total assets as large and small firms. The regression model runs separately for a group of larger firms as model 2 and smaller firms as model 3.

3. RESULTS

3.1 Descriptive statistics

Table 2 shows the descriptive statistics of the study. The mean value of the agency cost was 0.647, which indicates a positive value of less than 1 that Sri Lankan companies have a middle level of asset utilization. Maximum and minimum values are 3.394 and 0.032, respectively. The mean value of ownership concentration is marked as 78.3%, which proves that the top 5 % of shareholders have concentrated ownership in Sri Lankan companies. The maximum, minimum, and standard deviation are 98.4%, 43.69% and 12.04, respectively. The mean managerial ownership in listed Sri Lankan companies is 9.78%, which is more incredible than the UK results are reported by Sudha et al. (2016). The maximum is 70.6%, the minimum is 0%, and the standard deviation is 17.81. The mean value of institutional ownership in Sri Lanka is 98.18%, whereas this result is higher than the UK results at 34.14 %(Sudha et al., 2016). The mean value of foreign ownership is 13.19%, while maximum and minimum values are 92 % and 0.02 %.

3.2 Correlation analysis

Table 3 indicates the relationship between study variables, notably ownership variables and agency costs. All the correlation values show less than 0.8, which explains the less possibility of multicollinearity (Gujarati, 1995). Further, Agency Cost (Asset Utilization Ratio) shows positive relationships with foreign ownership and institutional ownership. At the same time, there is a negative relationship between managerial ownership and concentrated ownership.

3.3 Diagnostic tests

The sample data were tested for stationarity by using Levin-Lin-Chu (LLC) test (Levin, Lin, & Chu, 2002) and displayed in table 4. Besides, multicollinearity VIF less than 10

confirms before estimating the coefficients of the model. Results are presented in table 6. All the variables are found to be stationary, ensuring the residual normality and also free from multicollinearity. Further, the panel effect of the data set is tested by the Breusch-Pagan Lagrange Multiplier test. Table 5 summarizes the results of the Chi-Square Statistic and P-value. Accordingly, the chi-square Statistic indicates a high and statistically significant (p-value < 0.01) at 1% level. Therefore, it is concluded that each model has a panel regression effect.

3.4 Empirical findings of the impact of ownership structure on agency costs

According to Table 5, Hausman test results show a significant chi-square value for models 1 and 2 indicating, that the fixed effect model is suitable. On the other hand, in model 3, an insignificant chi-square value explains the appropriateness of the random effect model. Further, R-squared values are significant and show an amount of variation of nearly 86%, 66% and 22% in the dependent variable is explained by the independent variables in the model 1, 2 and 3, respectively. In addition, the VIF value and Durban Watson values are within the expected range and prove the absence of multicollinearity and serial correlation in all models.

4. DISCUSSION

In Table 6, the result reveals that managerial ownership is only positively significant at 5%. In line with this finding, hypothesis (H1) is supported in the study. This evidence suggests that the more extensive managerial ownership aligns the interest of the shareholders and management and that reduces the agency costs in the companies by reflecting better decisions on maximizing the firm value. Also, this result discovered that the greater the managerial ownership, the higher alignment of interest between shareholders and management, which would minimize the agency costs. This finding supports Jenson and Meckling's (1976) argument that managerial ownership solves agency conflicts and lowers agency costs. It is also consistent with the agency theory. Moreover, the result of this study aligns with the findings of Ang et al. (2000) and Singh and Davidson III (2003). However, other types of ownership structures, viz, ownership concentration, foreign ownership and institutional ownership, do not significantly influence agency cost, but they positively affect agency cost. These findings proved that hypotheses H2, H3 and H4 cannot be supported by this study and they do not have a significant relationship with agency cost in the Sri Lankan setting. In larger companies, ownership concentration and institutional ownership have a significant negative impact on agency costs. These findings clearly explain that larger firms have more effect on the asset utilization of the companies. Ownership is concentrated; shareholders can closely monitor the managers and save their investments in larger firms, ultimately reducing agency costs.

A negative relationship between concentrated ownership and agency cost is evidenced by a few studies

(Jensen & Meckling, 1976, Li et al.; 2017 & Sajid et al.; 2012). Similarly, a high condition of institution ownership in large firms contributes to reducing agency conflict and agency cost, as the negative relationship explored in the study. On the other hand, foreign ownership indicates a significant positive impact on agency costs in smaller firms. This empirical result explains that foreign ownership improves asset utilization and lowers agency costs by aligning more with corporate governance and financial transparency. However, findings are mixed in the existing literature since agency theory would result in inconsistent shreds of evidence in an inefficient market (Sundaramurthy &Lewis, 2003).

Furthermore, the control variable of firm size significantly negatively influences agency cost in the overall sample. However, it positively affects larger firms due to efficient asset utilization. At the same time, leverage positively affects agency costs except in larger firms. Since greater leverage generates a higher agency cost of debt would result in a negative impact on the agency cost of bigger firms.

5. CONCLUSION

This study focused on analyzing the impact of ownership structure on agency cost in Sri Lankan listed companies. Insights generated by this study will enrich the understanding of the importance of corporate ownership structures and their influence over minimizing a firm's agency costs. Particularly, managerial ownership among the different structures can help to lower the agency costs for Sri Lankan firms while avoiding the entrenchment problem. Moreover, the firms with large and smaller sizes were investigated separately to see the unique concerns and deliberations. Accordingly, institutional or concentrated ownership is the practical mechanism in larger firms, while foreign ownership prefers smaller firms to lower agency cost. Finally, the current study provides valuable inputs to managers, owners and investors on minimizing agency costs by making appropriate decisions aligned with the firm's ownership pattern and size. Moreover, the findings of this study have managerial implications that agency cost mitigation depends on the ownership structure mechanism to work more effectively in a firm operating in a country with an explicit corporate governance setting.

This study has a few limitations. Restrictions related to the secondary data are constraints to the study. Further, the study is limited to seventy companies and the recent five years from 2015 to 2019. In addition, high regulated sector of financials is excluded from the study. Regarding the direction for further studies, similar work can be extended to various industries from other south Asian countries. Future work can also enrich by incorporating other types of ownership, viz, percentage of ownership and family ownership with the association of agency cost by using an alternative proxy.

APPENDIX

Independent Variables

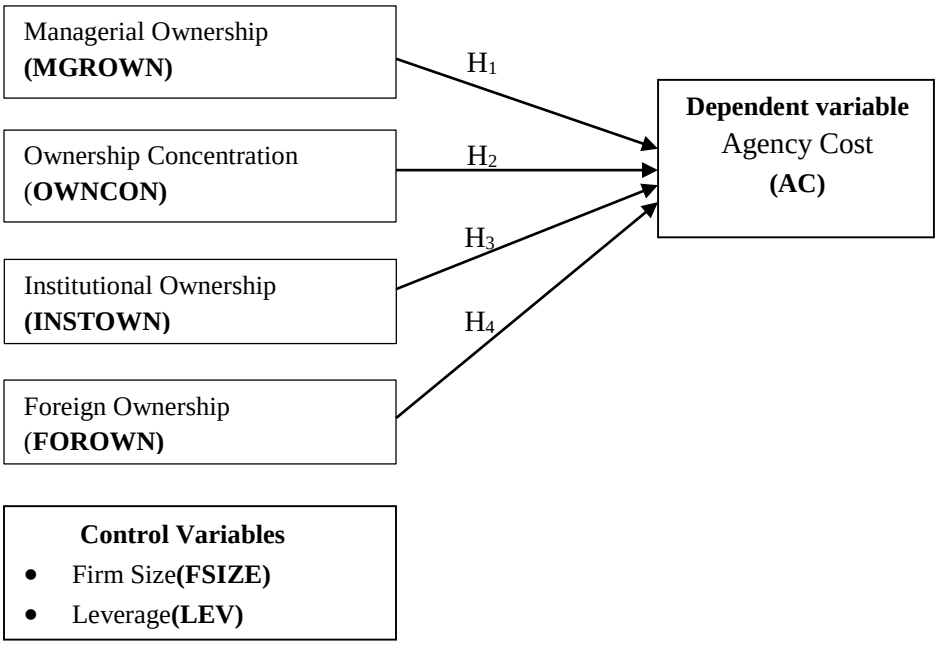

Figure 1: Conceptual Framework

Table1: Measurement of variables

Variable	Definition	Evidence
Independent Variable		
Agency cost (AC)	Agency cost is a sum of the monitoring expenditure by the principal, the bonding expenditure by the agent and the residual loss. It is measured using a proxy of the asset utilization ratio (AU) of a firm.	Ang, Cole and Lin (2000); Singha & Davidson III (2003)
Dependent Variables		
Ownership Concentration (OWNCON)	The total percentage of common stock is owned by the top five largest shareholders.	Guo and Ma (2015)
Managerial Ownership (MGROWN)	The total percentage of common stock is directly owned by a board of directors and their family.	Singh and Davidson III (2003); Guo and Ma (2015)
Institutional Ownership (INSTOWN)	Total percentage of common stock held by Institutional Shareholders	Wellalage and Locke (2012) ;Guo and Ma (2015)

Foreign Ownership (FOROWN)	The total percentage of common stock is owned by Foreign (Non – Resident) Shareholders.	Wellalage and Locke (2012)
Control Variables		
Firm Size (FSIZE)	Natural logarithm of total assets	Singh and Davidson III (2003); Ang et al.(2000)
Firm Leverage (LEV)	The ratio of Total Liabilities to total asset	Singh & Davidson III, 2003); Wellalage and Locke (2012)

Source: Authors' compiled

Table 2: Descriptive statistics of dependent and independent variables

Variables	Mean	Median	Maximum	Minimum	Standard Deviation
Agency Cost	0.647	0.553	3.394	0.032	21.73
Ownership Concentration	78.3	79.86	98.40	43.69	12.04
Managerial Ownership	9.78	0.640	70.600	0.00	17.81
Institutional Ownership	73.06	83.27	98.18	0.91	25.01
Foreign Ownership	13.19	2.70	92.000	0.020	21.73
Firm Size (Ln)	15.88	15.81	19.261	12.65	1.42
Leverage (Ratio)	39.63	38.34	96.740	0.87	22.26
Observations 350					

Table 3: Correlation Analysis

	Agency cost	Foreign ownership	Institutional ownership	Managerial ownership	Ownership concentration	Firm size	Leverage
Agency cost	1.000						
Foreign ownership	0.292	1.000					
Institutional ownership	0.0005	-0.054	1.000				
Managerial ownership	-0.101	0.089	-0.704	1.000			
Ownership concentration	-0.004	0.022	0.272	-0.189	1.000		
Firm size	0.153	0.334	0.035	0.050	0.002	1.000	
Leverage	0.208	0.072	-0.052	0.014	-0.162	0.289	1.000

Table 4: Unit Root Test of LLC

Variable	Statistic (LLC)
Agency Cost	-11.3604*** (0.0000)
Ownership Concentration	-521.81*** (0.0000)
Managerial Ownership	-72.9567*** (0.0000)
Institutional Ownership	-32.7237*** (0.0000)
Foreign Ownership	-491.203*** (0.0000)
Firm Size	-9.3157*** (0.0000)
Leverage (Ratio)	-14.0282*** (0.0000)

*** denotes the 1% significant level; ** denotes the 5% significant level

Table 5: Breusch-Pagan Lagrange Multiplier test

	Model 1	Model 2	Model 3
Chi-square value	602.5603*** (0.000)	84.882*** (0.000)	157.567*** (0.000)

*** denotes 1% significant level; ** denotes the 5% significant level

Table 6: Panel OLS regression analysis of impact of agency cost of ownership structure variables

Explanatory Variables	Model 1 (Total firms) Fixed effect		Model 2 (Larger firms) Fixed effect		Model 3 (Smaller firms) Random effect	
	Coefficient	Standard Error	Coefficient	Standard Error	Coefficient	Standard Error
C	4.848***	0.4978	1.562	1.618	-0.961	0.580
Ownership Concentration	0.0008	0.0021	-0.012**	0.005	0.003	0.003
Foreign Ownership	0.001	0.001	0.062	0.07	0.003**	0.002
Managerial Ownership	0.0024**	0.0011	-0.0001	0.004	-0.003	0.002
Institutional Ownership	0.0007	0.0006	-0.008**	0.003	-0.002	0.002
Firm Size	-0.283***	0.0315	0.019	0.057	0.079**	0.04
Leverage	0.0039***	0.0009	-0.014***	0.003	0.008***	0.001
R-squared	0.8718		0.739		0.246	

Adjusted R-squared	0.864	0.661	0.218
S.E. of regression	0.0978	0.329	0.226
F-statistic	125.7*** (0.000)	9.421*** (0.000)	9.015*** (0.000)
Durbin-Watson stat	1.83	1.306	1.111
VIF	7.142	2.947	1.279
Hausman test – chi square value	45.980***	27.921**	9.089
No of observation	350	175	175

*** denotes the 1% significant level; ** denotes the 5% significant level

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